Cutting Greenhouse Gas Emissions Is Only the Beginning: A Literature Review of the Co-Benefits of Reducing Vehicle Miles Traveled

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Introduction

Traditional evaluation of the transportation system focuses on automobile traffic flow and congestion reduction. However, this paradigm is shifting. In an effort to combat global warming and reduce greenhouse gas (GHG) emissions, a number of cities, regions, and states across the United States have begun to deemphasize vehicle delay metrics such as automobile Level of Service (LOS). In their place, policymakers are considering alternative transportation impact metrics that more closely approximate the true environmental impacts of driving. One metric increasingly coming into use is the total amount of driving or Vehicle Miles Traveled (VMT).

Since passing the seminal Global Warming Solutions Act (AB 32) in 2006, California has enacted two major laws over the past decade that are spurring efforts to reduce VMT: Senate Bill 375 (2008) and SB 743 (2013). SB 375 addresses regional GHG emissions reductions from passenger travel. For each region in the State with a metropolitan planning organization (MPO), the law requires the California Air Resources Board (ARB) to set and regularly update per capita GHG emissions reduction targets for 2020 and 2035. To achieve those targets, SB 375 requires each MPO to adopt a "sustainable communities strategy" (SCS) as part of its regional transportation plan. VMT reductions are a key strategy in SCSs.

Senate Bill 743 (2013) directs the Governor's Office of Planning and Research (OPR) to revise the guidelines for determining the significance of transportation impacts during analyses conducted under the California Environmental Quality Act (CEQA). SB 743 requires a replacement metric that will "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." It mandates that "automobile delay, as described solely by [LOS] shall not be considered a significant impact on the environment" under CEQA, except in "locations specifically identified in the guidelines, if any." VMT is OPR's currently recommended replacement metric (OPR, 2016).

While state goals for reducing GHG emissions have been one motivation for the shift to VMT measures, reductions in VMT produce many other potential benefits, referred to as "co benefits," such as reductions in other air pollutant emissions, water pollution, wildlife mortality, and traffic congestion, as well as improvements in safety and health, and savings in public and private costs. Such benefits may provide additional justification for reducing VMT. In this paper, we review the literature to explore the presence and magnitude of potential co benefits of reducing VMT, providing California specific examples where available.

Figure 1 shows the conceptual framework guiding our literature review. Items shaded in green indicate characteristics that can influence VMT. Items shaded in red indicate co benefits potentially sensitive to VMT.

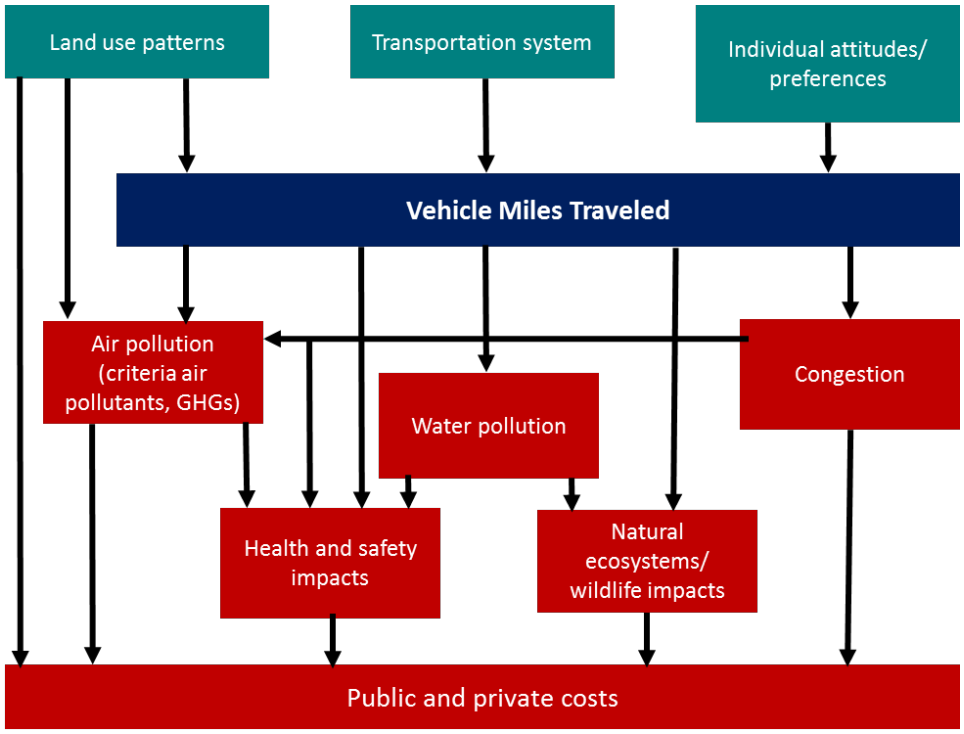

Figure 1. Conceptual Framework

Air Pollutant Emissions

GHG and Criteria Air Pollutant Emissions from Vehicular Operation

Motor vehicles emit pollutants into the atmosphere as by products of combustion (tailpipe emissions) and through other mechanisms such as fuel evaporation, tire and brake wear, and creation of road dust from the wearing of pavement. Emissions of major concern include greenhouse gases and criteria air pollutants, each of which is a major policy concern in California. Reducing the State's GHG emissions has been state priority for over a decade, as reflected by the aforementioned AB 32, SB 375 and SB 743. Criteria air pollutants are substances for which national and state standards have been set on the basis of human health. California has long standing air quality problems, with large areas of the state unable to attain national ambient air quality standards (NAAQS) for criteria pollutants. Of 52 counties, 39 are in non attainment for at least one pollutant. Four counties are in non attainment for five pollutants, and nine counties are in non attainment for four pollutants.

Transportation is a major source of emissions. Table 1 shows emissions of criteria air pollutants and GHGs from the operation of on road vehicles in California (not including life cycle emissions). For criteria air pollutants, operation of on road vehicles are the source for a majority of carbon monoxide (CO), a near majority of nitrogen oxides (NOx), and a double digit percent share of particulate matter (PM) 2.5. For greenhouse gases, approximately 33 percent of carbon dioxide equivalent (CO_2e) emissions comes from the operation of on road vehicles.

Estimates of vehicles nationwide project that the average passenger vehicle emits approximately 5.5 metric tons of CO_2e per year (US Environmental Protection Agency, 2005). This equates to approximately 1.01 pounds of CO_2e per mile.

Table 1. Criteria air pollutant/greenhouse gas emissions from on-road transportation operations in California and potential emissions reduction[1]

	Emissions (Tons/yr)							
	ROG	**CO**	**NOx**	**SOx**	**PM**	**PM 10**	**PM 2.5**	**CO_2e**
Total	634,596	2,690,886	768,555	38,354	928,560	532,849	152,574	486,670,304
From on-road transportation*	147,278	1,437,220	373,585	1,964	15,764	28,309	15,721	159,559,517
Share of emissions from road transportation*	23.2%	53.4%	48.6%	5.1%	1.7%	5.3%	10.3%	32.8%
If on-road transportation emissions decreased by...	**Emissions (tons/yr) would decrease by...**							
	ROG	**CO**	**NOx**	**Sox**	**PM**	**PM 10**	**PM 2.5**	**CO_2e**
1%	1,473	14,372	3,736	20	158	283	157	1,595,595
5%	7,364	71,861	18,679	98	788	1,415	786	7,977,976
10%	14,728	143,722	37,358	196	1,576	2,831	1,572	15,955,952
15%	22,092	215,583	56,038	295	2,365	4,246	2,358	23,933,927
If on-road transportation emissions decreased by...	**Total statewide emissions would drop by...**							
	ROG	**CO**	**Nox**	**Sox**	**PM**	**PM 10**	**PM 2.5**	**CO_2e**
1%	0.2%	0.5%	0.5%	0.1%	0.0%	0.1%	0.1%	0.3%
5%	1.2%	2.7%	2.4%	0.3%	0.1%	0.3%	0.5%	1.6%
10%	2.3%	5.3%	4.9%	0.5%	0.2%	0.5%	1.0%	3.3%
15%	3.5%	8.0%	7.3%	0.8%	0.3%	0.8%	1.5%	4.9%

*Includes tailpipe and other operational emissions (e.g. evaporation, brake dust, tire wear) from mobile transportation sources. Does not include other transportation-related lifecycle emissions (e.g. vehicle manufacturing, fuel refining)

Table 1 also shows potential mass reductions of pollutants if on road transportation emissions decreased by modest percentages. There could be reductions of up to millions of tons of reduced CO_2e emissions and up to hundreds of thousands of tons of criteria air pollutant emissions.

State targets for some emissions (e.g. CO_2) require a steep reduction over the coming years and decades. In order to reach those targets, improvements in vehicle efficiency, fuels, and VMT will each need to contribute substantially. If per capita VMT does not decline, VMT increases (through population growth) would likely preclude achieving GHG reduction goals by outweighing improvements in vehicle efficiency and fuel carbon content (California Air Resources Board, 2016). Thus, while improvements in vehicle efficiency and fuel pollutant content will mean each reduced mile of vehicle travel eliminates less pollution in an absolute

[1] Criteria air pollutant emissions from California Air Resources Board (2013) – California Almanac of Emissions and Air Quality [2012 data]
CO_2e emissions from California Air Resources Board (2016) – California Greenhouse Gas Inventory [2014 data]

sense, steeply reducing targets mean that, for the foreseeable future, VMT reduction will continue to provide a substantial share of the needed emissions reduction to hit targets. Vehicles which have no tailpipe emissions (e.g. plug in hybrid and fully electric vehicles) still lead to some air pollutant emissions, through the electricity generation required for charging. Emissions can be substantially less depending on the carbon content of the energy grid (McLaren, et al. 2016). California has a relatively high proportion of energy generated from renewables; however, a substantial (though shrinking) share of electricity used in California is generated from sources that emit GHGs or criteria air pollutants (California Energy Commission, 2016). Thus, reducing even the VMT driven by zero tailpipe emissions vehicles would reduce GHG and local air pollutant emissions.

A potential confounding factor when discussing potential emissions benefits of reduced VMT is travel speed, as emissions of several criteria air pollutants and GHGs are sensitive to travel speed (Transportation Research Board, 1995; Barth and Boriboonsomsin, 2009). In conventional vehicles, powered by internal combustion engines (ICEs), greater per mile emissions tend to take place at higher speeds (e.g. 60 mph or greater) where more energy is required to move a vehicle, as well as at lower speeds (e.g. less than 30 mph average travel speeds), where the stop and go conditions of congestion cause extra acceleration cycles, energy lost to braking, longer vehicle operation time.

The effect of speed is different on hybrid and battery electric vehicles. Nikowitz, et al. (2016) show that unlike ICEs, which have greatest energy use (and in turn emissions) at low and high speeds, hybrid and battery electric vehicles have greatest energy use under high speed and aggressive driving scenarios (see Table 2). Emerging advanced vehicle technologies such as regenerative braking recovers some of the energy lost in stop and go conditions. Electric motors in battery electric and hybrid vehicles shut off when the vehicle is stopped. Similar “start stop” technology is increasingly common in ICE powered vehicles. Increased deployment of technology points to a decreased sensitivity of emissions reductions to the speed of VMT in the future.

Table 2. Relative energy consumption for internal combustion, hybrid, and battery electric vehicles under different drive cycle scenarios[2]

		Scenario		
		City driving	**Highway driving**	**Aggressive driving**
Test cycle		UDDS	HWFET	US06
Test cycle parameters		19.59 mph average speed, frequent stops and starts	48.3 mph average speed, one start/stop	48.4 mph average speed, some stops, rapid acceleration
Make	**Vehicle type**	**Energy consumption relative to lowest energy consumption**		
2012 Ford Focus	Internal Combustion Engine	32% greater	Lowest	37% greater
2010 Toyota Prius	Hybrid	Lowest	4% greater	60% greater
2012 Nissan Leaf	Battery electric	Lowest	19% greater	72% greater

Life Cycle Emissions

Beyond reducing tailpipe emissions, VMT reduction also reduces life cycle emissions, such as those from fuel refining, vehicle manufacture, roadway construction, and roadway maintenance (Chester and Horvath, 2009; Chester and Madanat, 2010, Chehovitz and Galehouse, 2010; Hendriks, et al., 2004). These additional sources increase estimates of GHG emissions from road vehicles by approximately 63 percent over tailpipe emissions alone, and increase estimates of criteria air pollutant emissions from 1.1 to 800 times greater. To the extent that VMT reductions (1) reduce fuel purchases, (2) cause or are the result of decisions of would be drivers to sell their vehicles or forego purchasing an additional vehicle, or (3) reduce roadway repair burdens, they reduce life cycle emissions.

Emissions from Building-Related Energy Use

Compact development is a key VMT reduction strategy, as it leads to both shorter trip distances and greater use of alternative modes (Ewing and Cervero, 2010, Transportation Research Board 2009). Stone et al. (2007) estimate that building compact development to reduce VMT would also reduce criteria air pollutant and carbon dioxide emissions at a regional level between five and six percent over a conventional growth scenario, even when accounting for changes in travel speeds.

Compact development can also promote air pollutant and GHG emissions reductions through decreased building energy use. More compact housing units have a smaller volume of air to heat and cool. Additionally, attached housing units have less exposed surface area through which energy is lost. Overall, Ewing and Rong (2008), estimate households living in compact counties use approximately 20 percent energy than households living in sprawling counties, even while taking into account other factors such as income, and the urban heat island effect.

[2] Drive cycles – US Environmental Protection Agency (2016)
Energy consumption – Adapted from Nikowitz, et al. (2016)

Water Pollution

Motor vehicle travel can cause deposition of pollutants onto roadways, which can then be carried by stormwater runoff into waterways. Fuel, oil, and other liquids used in motor vehicles can leak from vehicles onto the ground (Delucchi, 2000). Brake dust and tire wear can further cause particles to be deposited onto the ground (Thorpe and Harrison, 2008). Brake pads and tire compounds are made out of compounds that include metal. One study estimates that approximately half of all copper in San Francisco Bay could have originated from brake pads (Nixon and Saphores, 2003). In California as a whole, up to 232,000 pounds of copper, 13,280 pounds of lead, and 92,800 pounds of zinc in stormwater are attributable to brake pad dust (Nixon and Saphores, 2003).

Motor vehicles require roadways for travel. Paved roadways are generally impervious surfaces which prevent infiltration of storm water in the ground. Impervious surfaces can increase the rate, volume, speed, and temperature of stormwater runoff (US Environmental Protection Agency, 2003), and can transport pollutants via that runoff into waterways. Wearing down of roadways can further cause particles to be deposited onto the ground (Thorpe and Harrison, 2008).

Most motor vehicles also consume liquid fuel, the storage and handling of which can result in fuel tank leaks and spills (Delucchi, 2000). California has had at least 38,000 confirmed cases of leaks from underground storage tanks (Nixon and Saphores, 2003). Reducing VMT cuts consumption of fuel and could reduce fuel spillage risks. These reductions would be additional to reductions gained through greater vehicle efficiency and adoption of alternative fuel vehicles.

The Victoria Transportation Policy Institute (2015) estimates that motor vehicle related water pollution from roadway runoff, oil spills, and road salting cost approximately 42 billion dollars per year or 1.4 cents per mile.

Health and Safety

Vehicle Collisions and Fatalities

A plurality of “unintentional injury deaths” (deaths not caused by old age, disease, suicide and homicide) are transportation related (Savage, 2013). According to the National Highway Traffic Safety Administration’s Fatality Analysis Reporting System (FARS), 32,675 individuals were killed in motor vehicle crashes in 2014 (NHTSA, 2015). 3,074 of these fatalities occurred in California, 7.9 fatalities per every 100,000 people per year. These fatalities are not just borne by motor vehicle occupants, but by other users as well. In California, more than one quarter of those killed in motor vehicle collisions are pedestrians, bicyclists, or users of other non motorized modes.

Where there is more driving, there are more vehicle related fatalities. Comparing motor vehicle fatalities by state from FARS and VMT data from the Bureau of Transportation Statistics (2015) shows a strong positive correlation (r = 0.82) between VMT per capita and fatalities from motor vehicle crashes per capita (authors calculation, see Figure 3).

Data also indicates that each mile driven is also more dangerous in areas with high VMT. Again comparing data from FARS and the BTS, there is a moderately strong positive correlation (r = 0.50) between VMT per capita and deaths per mile traveled (authors calculation, see Figure 4). If the number of vehicle related fatalities were purely a matter of exposure, every mile traveled should have the same amount of risk regardless of where that mile was driven. There would thus be no correlation between VMT per capita and fatalities per mile. However, states with higher VMT tend to have more motor vehicle crash deaths per mile than lower VMT states. Since increasing VMT is associated with more vehicle related fatalities per capita and per mile, residents of states where they can fulfill their travel needs with fewer or shorter vehicle trips (and thus with lower VMT) enjoy reduced transportation safety risks.

Using public transit alternatives is associated with less risk than motor vehicle travel. Savage (2013) estimates that drivers or passengers of cars or light trucks experienced 7.28 fatalities per billion miles traveled from 2000 2009. Comparatively, riders of Amtrak, commuter rail, urban mass transit rail systems, buses, and commercial aviation experience 0.43 fatalities per billion miles traveled or fewer.

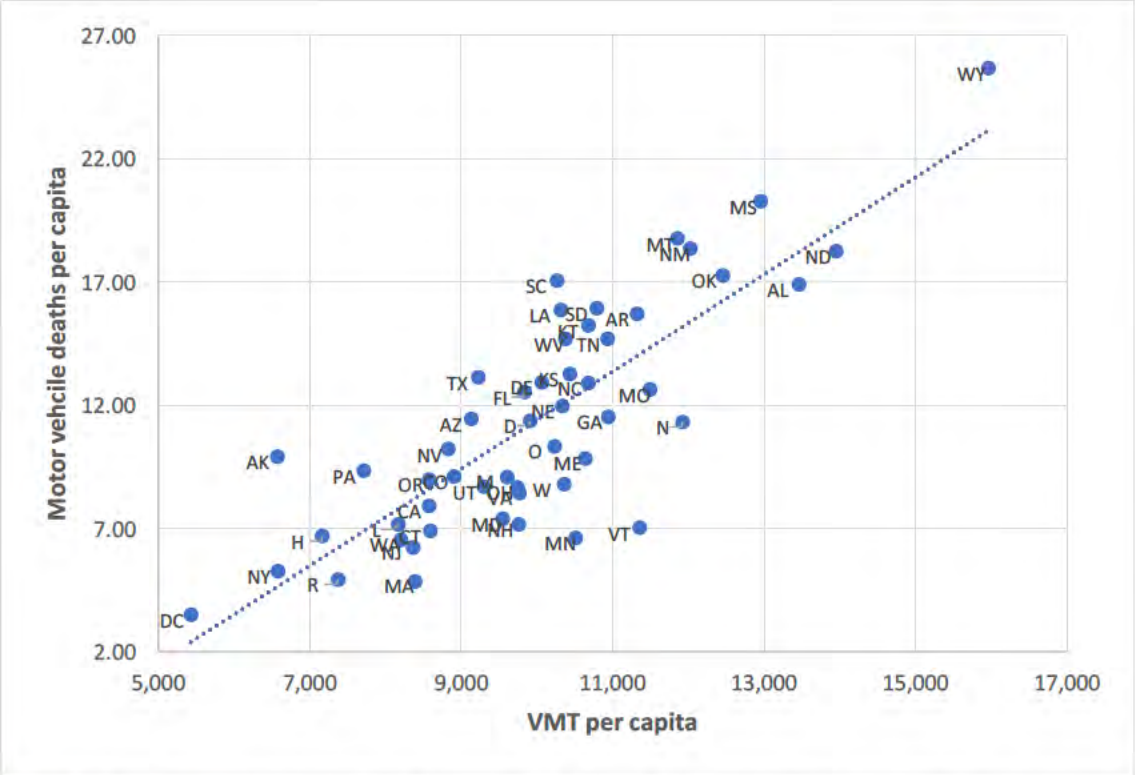

Figure 2. Motor-vehicle related deaths per capita increases as VMT per capita increases

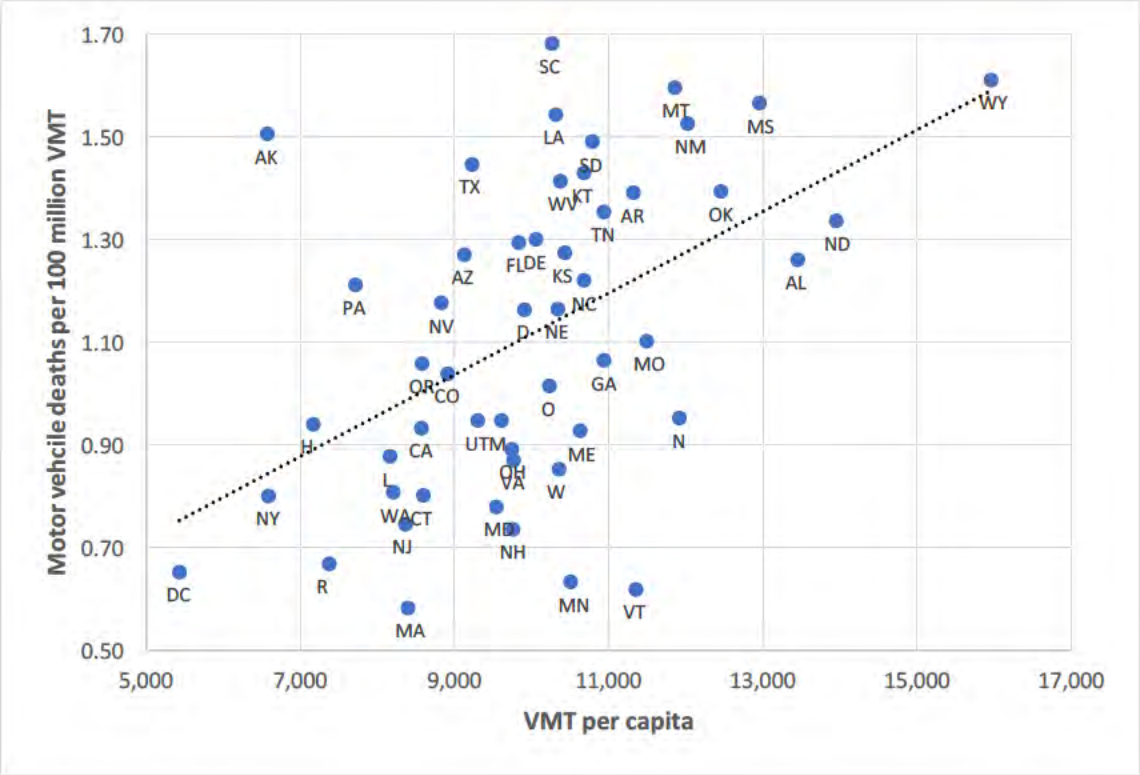

Figure 3. Motor-vehicle related deaths per mile increases as VMT per capita increases

Physical Health

Driving or riding in motor vehicles is a sedentary behavior. Several studies find associations between VMT and weight. For example, obesity and Body Mass Index (BMI) are positively associated with VMT per licensed driver (Jacobson and King, 2009; Behzad, King, and Jacobson, 2012). Geographic areas with high VMT per capita are also associated with poorer health outcomes resulting from reduced physical activity. Residents of counties in the United States with high VMT per capita are less likely to walk for leisure, more likely to be obese, have higher BMI levels, and have a greater prevalence of hypertension (Ewing, et al. 2003). Among California counties, those with the highest mean obesity also tend to have the highest mean VMT per capita (Lopez Zetina, Lee, and Friis, 2006). Potentially contributing to this pattern are more nights with insufficient sleep and higher smoking rates found with increased driving time (Ding, et al. 2014).

While transit users also ride in motorized vehicles, transit users are more likely to engage in significant physical activity, walking to and from transit stops. Besser and Dannenberg (2012) found that bus and rail users walk an average of 24 minutes per day to and from transit. More than a quarter of transit riders fulfill the US Surgeon General's recommendation of 30 minutes of physical activity per day just from walking to/from stops and stations. On the other hand,

increased time driving is significantly associated with not meeting the physical activity recommendation (Ding, et al. 2014).

Users of non motorized modes by definition engage in physical activity while traveling. The Caltrans Strategic Management Plan (CSMP) sets a goal of doubling 2010 walking and transit levels, and tripling bicycling levels by 2020. An epidemiological analysis of that CSMP describe that achieving this goal would reduce chronic disease and "would constitute a major public health achievement on par with California's successful efforts at tobacco control." (Maizlish, 2016, p. 5).

Health Impacts of Air Pollution

As discussed previously, road transportation and VMT contribute to air pollutant emissions. Criteria air pollutants can lead to a variety of health effects. For example, nitrogen oxides and volatile organic compounds react with oxygen in the air to create ozone, which can have several negative health effects including chest pain, coughing, throat irritation, airway inflammation, reduced lung function, and aggravation of other respiratory conditions (US Environmental Protection Agency, 2016a). Particulate matter poses particularly acute health impacts as small particulates (less than 10 µm in diameter) can enter the lungs or bloodstream and cause or exacerbate heart and lung issues, and even lead to premature death (US Environmental Protection Agency, 2016b). California has especially poor air quality attainment for both ozone and particulate matter.

Table 3 shows per mile estimates of the cost of motor vehicle related air pollution by McCubbin and Delucchi (1999). Costs range from several cents per mile for most ozone, carbon monoxide, nitrogen oxides, and air toxics, to more than 12 dollars per mile for particulate matter. The higher estimate for particulate matter reflects the greater health effects, including mortality, that can be triggered by particulate matter.

Table 3. Gasoline-powered motor vehicle air pollution cost per mile[3]

	PM	O_3	CO	NO_2	Air Toxics
Cost (2015 $)	12.60	0.08	0.08	0.65	0.05

*Original data in 1991 dollars. Data above is average of low/high estimate from original study. Costs include emissions from tailpipe, upstream fuel and vehicle production, and road dust.

Mental Health

In addition to physical health, long driving commutes can also have a negative impact on mental health. Hennessy (2008) identifies several examples from studies associating long driving commutes with poor mental health outcomes and related consequences, including stress, negative mood, poor concentration, driver error and traffic collisions. Hennessy also

[3] Based off McCubbin and Delucchi (1999)

finds that as stress drivers experience while driving increases, workplace hostility and obstructionism rise among men. Other studies corroborate Hennessy's findings. Gee and Takeuchi (2004), for example, find that traffic stress correlates with depressive symptoms. Ding, et al. (2014) find the more total time a person spends driving per day, the more likely they are to report a poor/fair quality of life, high/very high physiological distress, being stressed for time, and that their health interferes with social activities.

In addition to negative mental health outcomes for drivers, VMT can also cause worse mental health for people in the neighborhoods where that driving occurs or originates. A review of literature by Pohanka and Fitzgerald (2004) notes that residents of dispersed, and thus generally auto dependent, suburban areas can face increased blood pressure, headaches, and social isolation, which is disadvantageous as the presence of social relationships is positively correlated with health. Additionally, the aforementioned depressive symptoms identified by Gee and Takeuchi are significantly worse in neighborhoods with a high “vehicular burden”, which increases with motorized transport in an area. Built environments that reduce automobile dependence and promote walking can result in lower rates of dementia (Xia et al., 2013).

Wildlife Impacts

Many of the same roadway impacts that affect the health of people can also affect wildlife. Forman and Alexander (1998) outline several potential ecological impacts of roads. For instance, vehicles can directly harm wildlife in “roadkill” events, with an estimated one million vertebrates killed per day on US roads. Shilling and Waetjen (2016) discuss that in California, 5,950 wildlife related incidents were reported to the California Highway Patrol from a one year period between 2015 and 2016. Additionally, about 7,000 reports of animal carcasses are made annually to the volunteer California Roadkill Observation System. Overall, Shilling and Waetjen estimate that reported and unreported animal vehicle collisions cost California approximately $225 million per year. Due to varying avoidance of roadways, impacts differ by species types. Amphibians and reptiles are especially at risk on narrow, low traffic roads, larger mammals are at risk on narrow, high speed roads, and birds and small mammals at risk on wide, high speed roads, Forman and Alexander (1998).

Roadway avoidance is itself an impact, with lower populations of species adjacent to roadways Forman and Alexander (1998). Species can be affected and deterred by characteristics such as road noise, air pollution, altered or polluted water runoff, and nighttime lighting. Roadway avoidance tends to be higher adjacent to higher speed and higher traffic roads. Due to the impacts of roadkill and road avoidance, roadways also act as barriers for species movement. Roadways cutting through habitat can isolate populations of species into smaller groups. Isolated populations have a higher risk for extinction and can have negative impacts on genetic diversity (Coffin, 2007; Holderegger and DiGiulio, 2010).

More compact development patterns that are associated with lower VMT would consume less land and conceivably subject less territory to road avoidance and potential habitat fragmentation. A comparison of various development scenarios across the Sacramento and San Francisco Bay Areas predicted that the most compact growth scenario would save nearly 50 percent of agriculturally sensitive land acreage and steep sloped areas, and close to 100 percent of wetland areas (Landis, 1995).

Congestion and Accessibility

Broadly, congestion occurs when the free flow capacity of a roadway is either exceeded by demand (e.g. freeways entering central business districts during peak hour commutes) or impeded (e.g. when there are auto accidents, roadwork or other road closures). In either case, congestion increases as more vehicle travel is loaded onto the roadway (Falcocchio and Levinson, 2015; Downs, 2004). Conversely, reducing total VMT in a region can reduce congestion on the regional road network, albeit subject to temporal and spatial caveats.

From a temporal standpoint, unless there is an explicit cost imposed on using congested roadways (e.g. a congestion charge) or driving passenger vehicles in general, congestion reductions on those roadways will commonly increase the demand for using them and ultimately cause congestion to rebound to near preexisting levels in the long term. This is called the "Principle of Triple Convergence" – some trip makers in the region change their travel locations (routes), times and/or modes to take advantage of the reduced congestion on the roadways in question (Downs, 2004). This "triple convergence" is the reason why roadway expansions often do not reduce congestion in the long term (Handy and Boarnet, 2014), and why, according to Downs (2004, p. 22]), "building light rail systems or subways rarely reduces peak hour traffic congestion."

However, recent research indicates that transit may cause a more sizeable and enduring reduction in peak hour congestion than previously thought. Anderson (2014) used a choice model, calibrated using data from the Los Angeles metro area, that unlike most previous studies accounted for the heterogeneity in congestion levels on roadways in the region, which increased the predicted congestion reducing effects of transit by six times. As Anderson (2014, p. 2764) explains, since "drivers on heavily congested roads have a much higher marginal impact on congestion than drivers on the average road," and since transit riders are often those who would have to drive on "the most congested roads at the most congested times," transit has a "large impact on reducing traffic congestion."

Spatially, VMT reductions alleviate congestion in the specific locations where net vehicle travel is curtailed. And even where urban (or suburban) densification increases net localized vehicle travel and congestion despite reducing per capita (or even net regional) VMT, it generally increases local *accessibility* to jobs and other desired destinations, decreasing the time and cost of reaching those destinations. In a study of congestion and accessibility in the Los Angeles

region, Mondschein et al. (2015, p. v) found that "high density areas in the region provide better access to jobs than those areas where traffic conditions are relatively less congested." Similarly, for Los Angeles firms, they found that "physical proximity to other firms, rather than area congestion levels, is the primary component of firms' ability to access other similar firms" (Mondschein et al., 2015, p. viii).

In sum, increasing regional VMT, all else equal, will increase regional congestion. And conversely, reducing regional VMT can reduce regional congestion, though congestion levels may rebound somewhat in the long term. Even where VMT reducing densification increases local congestion, it tends to improve local accessibility.

Fiscal Matters

Reducing VMT also has major fiscal impacts. It has both direct and indirect impacts on both household and public costs. VMT can also have major impacts on governmental revenues.

Household Costs – Direct Impacts

American households pay more for transportation than any other category of household expenditures except housing (Haas et al., 2013). According to Bureau of Labor Statistics data, households spent nearly 20 percent of their income on transportation on average in both 2000 (18%) and 2010 (16%) (Moeckel, 2017; Haas et al., 2013). A major reason for that is auto ownership and use are expensive – "the most expensive component of transportation cost is auto ownership" – and many U.S. households live in suburban and exurban areas with poor accessibility and transit connectivity (Haas et al., 2013, 20). Reducing household VMT (and car ownership) can thus reduce total household costs both directly and indirectly.

The direct cost reductions of driving less are well known, and include reduced fuel use and parking costs, lower maintenance costs averaged over time, and, for those households that reduce their VMT enough to sell one of their vehicles, license, registration, insurance, and additional maintenance cost savings (Levinson and Gillen, 1998; Cui and Levinson, 2016). The cost of alternatives to driving vary greatly by location, alternative, value of time, and other factors Active transportation options like walking and bicycling can be much cheaper for shorter trips than driving because they have lower capital and operating costs (e.g. the cost of walking shoes or a bicycle versus the cost of a vehicle and gasoline). And transit (e.g. buses and commuter rail) can be cheaper than driving for longer trips. Keeler et al. (1975), for example, estimated the comparative costs of a hypothetical commute in the San Francisco Bay Area by driving (1.5 passengers per auto), riding Bay Area Rapid Transit (BART), and riding a bus. They concluded that both bus and rail transit can be cheaper for the user on an average basis than driving at sufficiently high passenger densities. However, the potential for a given household to reduce its transportation costs by reducing VMT largely depends on availability of sufficient regional transit connectivity, accessibility to jobs and other amenities (Haas et al., 2013; Haas et al., 2008; Renne and Ewing, 2013).

Household Costs – Indirect Impacts

As is frequently discussed in both the academic literature and California policy circles, one way to reduce VMT – and achieve the associated household cost savings – is to increase residential and employment densities within existing urban areas, and especially near transit stations (Ewing and Cervero, 2010). For residences, a benefit of this type of "smart growth" is that it can substantially reduce household costs, particularly transportation costs. Haas et al. (2008), for example, developed a model for estimating average household transportation costs by Census block based on annual household VMT, household car ownership and annual household transit use. They tested their model in the Minneapolis St. Paul metropolitan region and found that reductions in average annual household transportation costs correlated with decreasing VMT, decreasing auto ownership, increasing transit trips and denser, more transit and job accessible areas. From that original model, the Center for Neighborhood Technology (CNT) developed the Housing + Transportation Index. CNT has since expanded and refined the model, but its results continue to show that residential density is the single largest predictor of auto ownership and use, and thus household transportation costs (Haas et al., 2013).

Households in denser and more accessible urban areas often also demand less energy and water because they have smaller units and lots (Litman, 2016; Busch et al., 2015). When all the cost savings of living in denser urban areas are combined, the available evidence shows that they "more than offset" the increased housing costs in those areas (Litman, 2016, p. 19; Ewing and Hamidi, 2014). In other words, when all costs are considered, rather than just housing costs, living in smart growth communities is generally less expensive than living elsewhere.

With specific respect to California, one recent study estimated that if 85 percent of new housing and jobs added in the state until 2030 were located within existing urban boundaries, it would reduce per capita VMT by about 12 percent below 2014 levels (Busch et al., 2015). That combination of reduced VMT and more compact development would, in turn, result in an estimated $250 billion in household cost savings cumulative to 2030 (with an average annual savings per household in 2030 of $2,000) (Busch et al., 2015). Household costs analyzed in the study include auto fuel, ownership and maintenance costs, as well as residential energy and water costs.

Public Costs – Indirect Impacts

In addition, denser development usually reduces the per capita costs of providing many types of public infrastructure and services. Denser development can, among other things, reduce road and utility line lengths, and in turn reduce travel distances needed to provide public services like police, garbage collection, emergency response and transporting school children (Litman, 2016; Busch et al., 2015; Burchell and Mukherji, 2003). Indeed, in his review of the literature, Litman (2016) found that "[n]o credible, peer reviewed studies demonstrate that comprehensive Smart Growth policies fail to significantly reduce public infrastructure and service costs."

With specific respect to California, the recent Busch et al. (2015) study estimated that if 85 percent of new housing and jobs added in the state through 2030 were located within existing urban boundaries, it would result in $8.2 billion in avoided public health costs and $18.5 billion in infrastructure cost savings cumulative to 2030 (Busch et al., 2015). Public health costs considered include those related to passenger vehicle air pollutant emissions, such as respiratory related ER visits, mortality, etc. Infrastructure costs estimated include "one time capital costs for building local roads, water and sewer infrastructure; and ongoing annual operations and maintenance costs" (Busch et al., 2015). All cost savings estimates are in 2015 dollars.

Government Revenues – Direct Impacts

VMT reduction can reduce public revenues from volumetric gas taxes or VMT fees, if those fees are held constant per gallon or mile. As VMT declines, so does the volume of gas consumed or miles tolled, and, correspondingly, the amount of revenue received. However, decreases in gas tax or potential future VMT tax revenue could be made up by increasing the tax rates. And as between volumetric gas taxes and VMT based taxes, revenue stability would likely be more easily achieved with a VMT based fee, given the rapidly advancing shift to electric and more fuel efficient vehicles that are reducing liquid fuel consumption (National Highway Traffic Safety Administration, 2014; California Energy Commission, 2016). That is one reason states including California have been studying VMT fees (California Department of Transportation, 2016). A VMT fee would also be one of the "most effective way[s] to change behavior" to reduce VMT (Chapple, 2015). However, fees, like taxes, are commonly politically unpopular, even those with immense social benefit (Bedsworth et al., 2011).

Government Revenues – Indirect Impacts

As with household and governmental costs, VMT reducing "smart growth" land use patterns also impact governmental revenues. Litman (2016) surveyed the literature and found that "Smart Growth tends to increase economic development, including productivity, business activity, property values and tax revenue." For example, the Chicago Metropolitan Agency for Planning (CMAP) (2014) concluded, based on a comparison of Chicago area residential project case studies, that "denser projects drive higher revenues." Per capita gross domestic product (GDP) also tends to decline with rising VMT and increase with per capita transit ridership, which in turn can increase tax revenues (Kooshian and Winkelman, 2011).

Most studies look primarily at either the cost impacts or the revenue impacts of smart growth and reducing VMT, not both. But in two recent studies of Madison, Wisconsin and West Des Moines, Iowa, respectively, Smart Growth America (SGA) did a more comprehensive fiscal impact analysis (SGA, 2015a, 2015b). In the studies, SGA calculated both costs and revenues – the net fiscal impact – to the cities and their associated school districts across a range of high and low development density scenarios.

The West Des Moines study assessed the fiscal impact of the estimated residential and commercial growth in the city over 20 years using four different density scenarios (holding the

product mix constant), and estimated that the net fiscal benefit for the city and the local school district would be 50 percent greater for the most compact development scenario as compared to the base density scenario (current West Des Moines density) (SGA, 2015a).

The Madison study was narrower in scope. It analyzed the fiscal impact of developing a 1,400 acre site across a range of development densities and product mixes. Comparing the baseline density and product mix scenario to the more compact development scenario with the same product mix, the study estimated that the latter – compact development – would have a slightly greater (about 5 percent) net fiscal benefit. However, the authors also concluded that their model likely underestimated the net fiscal benefit of the more compact scenario (SGA, 2015b).

Conclusion

Reducing VMT can provide many additional benefits beyond reducing GHG emissions. Studies show a broad array of co benefits including environmental, human, and fiscal health. VMT reductions can provide these co benefits directly (e.g. lowering air pollutant emissions and operating costs of vehicles with reduced use) and indirectly (e.g. realizing the benefits of alternatives to driving). As noted, there are some variations in the depth of these benefits (e.g. spatial differences in impacts, and impacts dependent on other factors in addition to VMT), but the evidence is clear that, overall, VMT reductions can help forward multiple goals in addition to GHG reduction. Additional research measuring costs and benefits of transportation on a per distance traveled basis, which was not yet available for all impacts reviewed in this paper, would be helpful in further ascertaining the depth and breadth of potential co benefits of VMT reductions.

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Exhibit 5

Inequity in consumption of goods and services adds to racial–ethnic disparities in air pollution exposure

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Fine particulate matter ($PM_{2.5}$) air pollution exposure is the largest environmental health risk factor in the United States. Here, we link $PM_{2.5}$ exposure to the human activities responsible for $PM_{2.5}$ pollution. We use these results to explore "pollution inequity": the difference between the environmental health damage caused by a racial–ethnic group and the damage that group experiences. We show that, in the United States, $PM_{2.5}$ exposure is disproportionately caused by consumption of goods and services mainly by the non-Hispanic white majority, but disproportionately inhaled by black and Hispanic minorities. On average, non-Hispanic whites experience a "pollution advantage": They experience ∼17% less air pollution exposure than is caused by their consumption. Blacks and Hispanics on average bear a "pollution burden" of 56% and 63% excess exposure, respectively, relative to the exposure caused by their consumption. The total disparity is caused as much by how much people consume as by how much pollution they breathe. Differences in the types of goods and services consumed by each group are less important. $PM_{2.5}$ exposures declined ∼50% during 2002–2015 for all three racial–ethnic groups, but pollution inequity has remained high.

air quality | environmental justice | fine particulate matter | input output | life cycle assessment

Fine particulate matter ($PM_{2.5}$) exposure is a major health risk factor in the United States, responsible for 63% of deaths from environmental causes and 3% of deaths from all causes (1). It is a risk factor that is inequitably distributed among demographic groups, including racial ethnic groups, owing in part to differences in pollution concentrations at locations of residence (2, 3). The extent to which differences in consumption of goods and services by racial ethnic groups contribute to observed disparities in exposure is unknown, as is whether racial ethnic groups have benefited equitably from recent improvements in $PM_{2.5}$ air quality.

Here, we explore racial ethnic disparities in the causation and effect of exposure to $PM_{2.5}$ in the United States. We do this by investigating links among pollution, the parties responsible for its emission, and the health impacts that result. First, we estimate mortality from $PM_{2.5}$ for all emission sources in the United States. Next, we attribute these emissions to the end use activities and to the end user parties ultimately responsible for their generation. Finally, we compare results among racial ethnic groups to explore what we term "pollution inequity": the extent to which groups disproportionately contribute to or bear the burden of pollution.

We estimate mortality impacts in the United States from $PM_{2.5}$ exposure using spatially explicit emissions data from all pollutant emission sources (4), the Intervention Model for Air Pollution (InMAP) air quality model (5), and spatially explicit population and health data (ref. 6; see *Materials and Methods*). We consider emissions of primary $PM_{2.5}$ and of secondary $PM_{2.5}$ precursors, both of which contribute to increased atmospheric $PM_{2.5}$ concentrations. Our approach yields estimates of premature deaths caused by $PM_{2.5}$ exposure in the United States for each year during 2003–2015, disaggregated by 5,435 emissions source types, at a spatial resolution varying between 1 and 48 km depending on population density. We aggregate impacts into 15 emitter groups. (See *Materials and Methods*; *SI Appendix*, Tables S1–S14 show the largest emitter types in the 14 anthropogenic and domestic emitter groups.)

We estimate a population weighted average ambient $PM_{2.5}$ exposure concentration of 7.7 $\mu g \cdot m^{-3}$ for the United States in 2015, causing 131,000 premature deaths (Fig. 1 and *SI Appendix*, Fig. S1; see *SI Appendix*). Of these, 102,000 are caused by US anthropogenic emissions and 29,000 by other sources, largely wildfires and natural biogenic emissions (26,000), with minor contributions from Canadian and Mexican emissions (3,000). The total number of deaths reported here is higher than a commonly cited estimate of 93,000 (1), but at the low end of the range of a recently published estimate of 121,000–213,000 deaths (7), which uses a concentration–response relationship similar to the one employed here (6). (*SI Appendix*, Table S15 reports estimates of $PM_{2.5}$ mortalities using several concentration–response functions.)

Responsibility for air pollution is typically assigned to its emitters (8) (e.g., a factory), but it can also be ascribed to end uses (e.g., the purchase and use of manufactured goods) by end users (e.g., individual consumers) that ultimately result in its release (Fig. 1). Here, we connect $PM_{2.5}$ air pollution and its health impacts to end uses

Significance

Racial–ethnic disparities in pollution exposure and in consumption of goods and services in the United States are well documented. Some may find it intuitive that, on average, black and Hispanic minorities bear a disproportionate burden from the air pollution caused mainly by non-Hispanic whites, but this effect has not previously been directly established, let alone quantified. Our "pollution inequity" metric is generalizable to other pollution types and provides a simple and intuitive way of expressing a disparity between the pollution that people cause and the pollution to which they are exposed. Our results are timely, given public debate on issues relating to race, equity, and the regulation of pollution.

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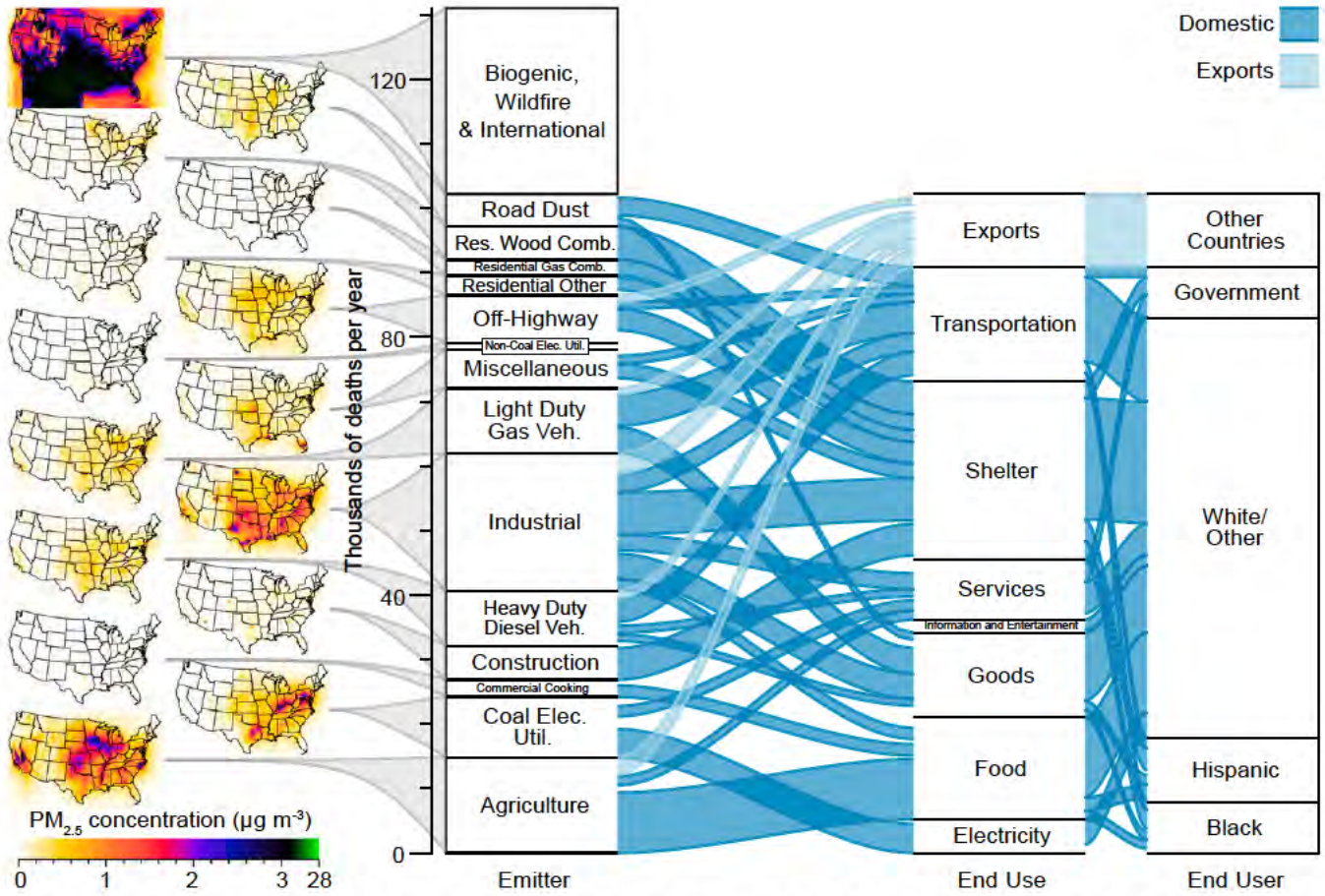

Fig. 1. Sources of US mortality from $PM_{2.5}$. $PM_{2.5}$ concentrations resulting from emissions from each emitter group [maps on *Left*; color scale contains a discontinuity at the 99th percentile of concentrations (i.e., 3.1 $\mu g \cdot m^{-3}$)] and relationships among $PM_{2.5}$ health impacts as attributed to emitters (*Left* bar), end uses (*Middle* bar), and end users (*Right* bar). The height of the bar on the *Left* shows the number of $PM_{2.5}$ attributable premature deaths caused by the physical production of emissions from each group of emitters, the height of the *Middle* bar shows the number of deaths caused by demand for each group of end uses, and the height of the bar on the *Right* shows the number of deaths caused by different types of end users. The blue connecting lines show relationships among emitters, end uses, and end users; connecting lines representing <1,000 deaths are not shown. (Detailed relationships between end uses and emitters for each racial ethnic end user group are shown in Fig. 2; time trends are shown in *SI Appendix*, Fig. S4.)

and end users by coupling economic input output relationships to pollution emission sources (https://www.bea.gov/industry/io_annual.htm). Our approach allows us to attribute responsibility to (*i*) emitter entities that physically emit air pollutants; (*ii*) end uses that lead to air pollution emissions, often through intermediate economic transactions; and (*iii*) end users. We track 19 end user types, which we aggregate here into four groups (personal consumption by each of three racial ethnic groups, as well as government consumption), and 389 end use categories, which we aggregate here into seven groups (electricity, food, goods, information and entertainment, services, shelter, and transportation).

Of 102,000 premature deaths from domestic anthropogenic emissions, we estimate 11,000 (11%) are caused by demand for goods that are exported (Fig. 1). Of the remaining 91,000 premature deaths caused by end uses within the United States, 83,000 (91%) are attributed to personal consumption (i.e., individual consumers); the remaining 8,000 (9%) are caused by pollution related to governmental expenditures.

To determine racial ethnic inequity, we disaggregate personal consumption and exposure to $PM_{2.5}$ by race ethnicity. Here, "exposure" is the population weighted average ambient concentration at places of residence. We focus on the subset of impacts (83,000 premature deaths) that we can attribute to consumption by individuals in the United States, excluding the 48,000 premature deaths caused by governmental end uses, exports, and nonanthropogenic sources. (Racial ethnic disparities in overall exposure to $PM_{2.5}$ from all sources are shown in *SI Appendix*, Fig. S2.) We consider persons self identifying as black or African American (hereafter, "black"; 12% of the population), Hispanic or Latino ("Hispanic"; 17% of the population), and the remainder [non Hispanic white (62% of the population) plus all other race ethnicity groups (8% of the population); hereafter, "white/other" (70% of the population)].

We define and quantify pollution inequity for a group g (I_g) as the fractional difference between a racial ethnic group's exposure to $PM_{2.5}$ caused by all groups (E_g) and that group's population adjusted contribution to the overall $PM_{2.5}$ exposure of all groups (C_g) (Eq. **1**):

$$\left[I_g = \frac{E_g}{C_g} \; 1 \right]. \qquad [1]$$

Positive values for pollution inequity indicate that a group experiences more exposure than it causes (on average and after adjusting for population sizes); negative values indicate the opposite.

We find that blacks are exposed to 6.0 $\mu g \cdot m^{-3}$ of $PM_{2.5}$ (E_g), which is 21% greater than the overall population average exposure of 5.0 $\mu g \cdot m^{-3}$, while their population adjusted consumption causes $PM_{2.5}$ exposure of 3.8 $\mu g \cdot m^{-3}$ to the overall population (C_g), which is 23% less exposure than average (Fig. 2). We therefore estimate for blacks a pollution inequity of 56% (Fig. 3*A*; $6.0\,\mu g \cdot m^{-3} / 3.8\,\mu g \cdot m^{-3} - 1 = (1 + 0.21)/(1 - 0.23) - 1 = 56\%$). Hispanics are exposed to 12% more $PM_{2.5}$ than average (5.5 $\mu g \cdot m^{-3}$),

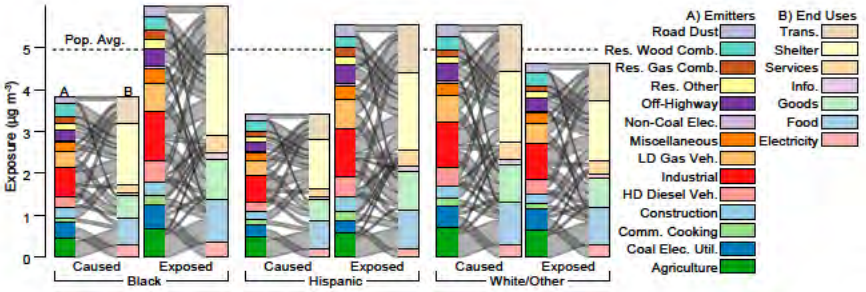

Fig. 2. Average $PM_{2.5}$ exposure experienced and caused by racial ethnic groups. Total exposure to $PM_{2.5}$ caused by population adjusted group consumption ("caused," or C_g) and group exposure to $PM_{2.5}$ caused by total personal consumption ("exposed," or E_g), stratified by racial ethnic group. Pollution inequity is the percent difference between a group's "exposed" and "caused" bars. Each group of bars shows the (*A*) emitters and (*B*) end uses responsible for the exposure, with gray connecting lines showing relationships among emitters and end uses. Connecting lines rep resenting <0.04 μg·m ^{3} are not shown.

but cause 31% less exposure than average (3.4 $\mu g \cdot m^{-3}$), for a pollution inequity of 63%. Whites/others are exposed to 7% less $PM_{2.5}$ than average (4.6 $\mu g \cdot m^{-3}$), but cause 12% more exposure than average (5.5 $\mu g \cdot m^{-3}$), for a pollution inequity of –17%.

Blacks are more exposed than whites/others to pollution from every emitter group (Fig. 2). The same holds for Hispanics, with the exceptions of $PM_{2.5}$ originating from agriculture, from coal electric utilities, and from residential wood combustion, for which they are exposed to 11%, 40%, and 14% less, respectively, than whites/ others. Those three types of emissions are concentrated in regions of the United States with relatively low Hispanic populations (Fig. 1). Whites/others consume more and cause more exposure than do blacks and Hispanics across all seven end use categories; the end uses representing the greatest differences in consumption caused exposure are food (for which whites/others cause 61% and 49% more exposure than blacks and Hispanics, respectively), transportation (74% and 93%), and services (118% and 114%).

Differences in consumption across groups are comparable or larger contributors to pollution inequity than are differences in exposure across groups. Consumption differences account for 52%, 73%, and 63% of overall pollution inequity for blacks, Hispanics, and whites/others, respectively (Fig. 3*A*). Previous analyses have found that when considering only differences in locations of residence, exposure disparities by race are much larger than disparities by income (9, 10). Our results suggest that income, to the extent that it correlates with consumption, is an important factor in determining how much pollution a person causes, even if it may be statistically less important as a deter minant of exposure. We also find that differences in racial ethnic groups' contribution to exposure are driven more by differences in their overall amount of consumption (magnitude effect) than by differences in the types of goods and services they consume (composition effect) (Fig. 4 and *SI Appendix*, Fig. S3).

Exposure to $PM_{2.5}$ caused by personal consumption by all three racial ethnic groups decreased by an average of 51% during 2003 2015 (Fig. 3*B*, *SI Appendix*, Fig. S4, and Movie S1), even as personal consumption expenditures increased (*SI Ap pendix*, Fig. S4 and Tables S16 S18). Furthermore, absolute dif ferences in exposure caused by overall consumption decreased among groups, as did absolute differences in overall exposure caused by each group's consumption (Fig. 3*B*). Pollution inequity has remained high, however, decreasing by 23% for blacks (from 73% in 2003 to 56% in 2015) but increasing by 5% for Hispanics (from 60% in 2003 to 63% in 2015; Fig. 3*C*). Increases in consumption during 2003 2015 were larger for blacks than His panics for most sectors of the economy; two notable examples are spending on shelter (17% and 2% increases, respectively) and goods (21% and 6%, respectively) (*SI Appendix*, Tables S16 S18). Decreases in absolute exposure differences were primarily caused by decreases in the $PM_{2.5}$ concentrations where blacks and His panics live, rather than by blacks and Hispanics moving to loca tions with lower $PM_{2.5}$ concentrations (*SI Appendix*, Fig. S2).

Here, we have described linkages between human end use activi ties and air pollution and the racial ethnic disparities therein. We find that, in the United States, $PM_{2.5}$ air pollution is disproportion ately induced by the racial ethnic majority and disproportionately inhaled by racial ethnic minorities. All have benefited from recent reductions in atmospheric $PM_{2.5}$ concentrations. Our analysis shows for the first time how pollution inequity is driven by differences among racial ethnic groups in both exposure and the consumption that leads to emissions. Still, questions remain about the spatial context of pollution inequity, its underlying causes, how best to ad dress it, and its generalizability. For example, little is known about the "spatial scale" of inequity, such as whether consumers tend to live near to or far from the people exposed to the pollution resulting from their consumption. Further information on this issue would clarify whether this inequity could best be investigated and addressed at the city, state, or national level. Another open question is whether the patterns of pollution inequity described here are observed for other pollutants, times, or locations (e.g , in other countries). The pollution inequity metric defined here could be used to explore such questions and to inform discussion of inequity in other environmental burdens, including climate change, for which inequities can occur across continents and generations, in addition to across race ethnicities.

Materials and Methods

Environmentally extended economic input output analysis has been used to track air pollutant and greenhouse gas emissions induced by economic de mand within and among national economies (11 16). Fewer studies have reported air quality related health impacts induced by domestic (17, 18) and international trade (19 21). Here, we explore relationships among human end use activities in the United States, $PM_{2.5}$ related health impacts caused by those activities, the corresponding consumption exposure inequity among race ethnicity groups, and related temporal trends.

Unlike analyses of greenhouse gas emissions for use in climate change impact assessment, analyses of health impacts from non greenhouse gas air pollution strongly benefit from spatial differentiation. For example, within the United States, health impacts per unit of emissions of $PM_{2.5}$ and its precursors

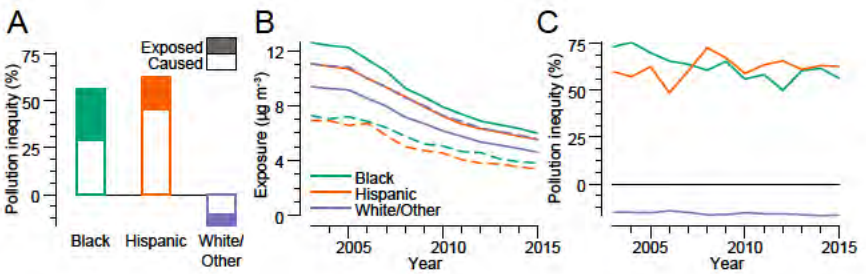

Fig. 3. Pollution inequity contributions and trends. (*A*) Contributions of differences in consumption (caused, or C_g) and location of residence (exposed, or E_g) to pollution inequity. (*B*) Exposure of each racial ethnic group to $PM_{2.5}$ caused by the total combined personal consumption of all groups (exposed or E_g; solid lines) and total population exposure to $PM_{2.5}$ caused by each group's population adjusted con sumption (caused, or C_g; dashed lines), 2003 2015. (*C*) Pollution inequity levels, 2003 2015.

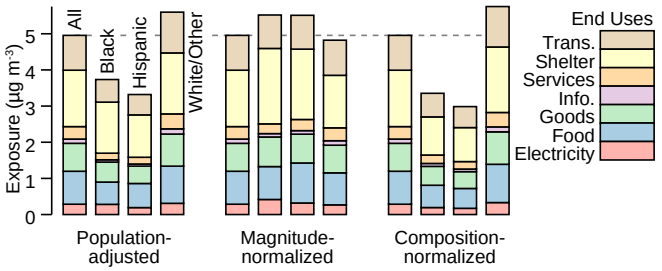

Fig. 4. Effect of magnitude and composition of consumption on $PM_{2.5}$ exposure. Population adjusted $PM_{2.5}$ exposure (*Left*): actual population adjusted exposure (as seen in Fig. 2). Magnitude normalized $PM_{2.5}$ exposure (*Middle*): hypothetical exposure in which the overall magnitude of per capita consumption for each race ethnicity is adjusted to match "All" without changing the composition of goods and services consumed. Composition normalized $PM_{2.5}$ exposure (*Right*): hypothetical exposure where the composition of goods and services consumed by each race ethnicity is adjusted to match All without changing the overall magnitude of consumption.

vary greatly across emission locations (22, 23). Spatial resolution is especially important when quantifying disparities in exposure among demographic groups (9). Therefore, to create a spatially explicit environmentally extended economic input output model for the United States, we couple economic input output (https://www.bea.gov/industry/io annual.htm) and consumption (https://www.bls.gov/cex/) data with spatially explicit emissions data (4), the InMAP air quality model (5), and spatially explicit population and health data (ref. 6; https://www.census.gov/programs surveys/acs/technical documentation/table and geography changes/2015/5 year.html; https://www.cdc.gov/nchs/data access/cmf.htm). The resulting model relates air pollution emissions, concentrations, and health impacts with economic activity in the United States at a spatial scale varying between 1 and 48 km, depending on population density and emissions density. We refer to the model as the Extended InMAP Economic Input Output (EIEIO) model, which is freely available at the Zenodo repository (24). InMAP is able to spatially resolve both the entire contiguous United States and within city concentration gradients, which is critical for quantifying within and among city differences in exposure.

EIEIO uses economic data to trace human end use activities that directly and indirectly cause air pollutant emissions and the resulting human exposure to $PM_{2.5}$. The model tracks relationships between final "end users," the activities or "end uses" they are participating in (or "final demand for commodities," in economic input output terminology) that induce air pollution emissions, and the "emitter" entities that are physically releasing air pollutant emissions. EIEIO also tracks "intermediate uses." Intermediate uses are purchases by businesses to produce something that they are selling, whereas end uses are purchases or activities for reasons other than producing something to be directly sold. For example, the purchase of electricity to heat a home is an end use, whereas the purchase of electricity to manufacture fertilizer is an intermediate use. Our analysis includes both the emissions caused by an end use itself (e.g., tailpipe emissions from driving a car) and the emissions from economic activities in support of the end use (e.g., emissions from the production of gasoline to fuel the car).

EIEIO tracks 19 end user types, 389 end use categories, and 5,434 categories of emitters. For ease of display and communication, we present results here in groups of four users, seven uses, and 14 emitters; further details are in *SI Appendix*. Mappings from the use and emitter categories to corresponding groups are in Tessum et al. (24). Unless otherwise noted, all results are for year 2015.

Methods are described below and in Tessum et al. (24). The model source code includes a graphical interface that can be used for exploratory analysis and visualization. Results here were generated using a 2018 vintage Google Compute Engine instance with 32 CPU cores, 208 GB of RAM, and a 500 GB hard drive.

Economic Production. To relate final economic demand for commodities to economic activity or production in individual industries, we use the following US Bureau of Economic Analysis (BEA) Input Output Accounts Data (https://www.bea.gov/industry/io annual.htm):

i) Final demand (d_f): Economic activity that leads to the final consumption of a good or service and that is not induced by economic activity in another sector of the economy. This can include demand for exports.
ii) Import final demand (d_{fi}): Economic activity that leads to the final consumption of an imported good or service and that is not induced by economic activity in another sector of the economy.
iii) Total requirements (R_t): Direct plus indirect purchases from an industry required to produce a dollar of output of a commodity (25).
iv) Total domestic requirements ($R_{t,d}$): Domestic (i.e., within the United States) direct plus indirect purchases from an industry required to produce a dollar of output of a commodity.
v) Total import requirements ($R_{t,i}$): Calculated as $R_{t,i} = R_t \quad R_{t,d}$.

where d_f and $d_{f,i}$ are vectors with one entry for each of 389 commodity sectors, and R_t, $R_{t,d}$, and $R_{t,i}$ are matrices with one row for each of 389 industry sectors and one column for each of 389 commodity sectors.

We calculate economic production, ρ, caused by final demand as in Eq. **2**:

$$\rho = Rd_f, \qquad [2]$$

where R is one of R_t, $R_{t,d}$, or $R_{t,i}$ depending on whether total, domestic, or international economic production is desired. For imports, d_f is replaced with d_{fi}. ρ is a vector with one entry for each industry sector.

BEA input output data are disaggregated to the detailed level of 389 industries and 389 commodities for year 2007, and to the summary level of 71 industries and 73 commodities for years 1997 2015. To perform calculations for years other than 2007, we scale the detailed 2007 data as in Eq. **3**:

$$v_{d,i,c,y} = \frac{v_{d,i,c,2007}\, v_{s,i,c,y}}{v_{s,i,c,2007}}, \qquad [3]$$

where $v_{d,i,c,y}$ is a value at the detailed level of aggregation for industry i and commodity c for the year of interest, $v_{d,i,c,2007}$ is the corresponding value at the detailed level of aggregation for year 2007, and $v_{s,i,c,y}$ and $v_{s,i,c,2007}$ are values for the corresponding summary level of aggregation for the year of interest and 2007, respectively.

Some negative values for final demand exist in the BEA input output data tables. These typically relate to divestments or reductions in amounts of stocks. Because our objective is to use economic relationships to model air pollution emissions and impacts, and divestments or stock reductions do not cause negative emissions in the same way that investments and increases in stocks can be said to cause positive emissions, we set all negative final demand values to zero.

Demographic Specific Personal Consumption Demand. BEA input output data report final demand from personal expenditures, but the data do not disaggregate consumption by racial or ethnic groups. To calculate demographic specific consumption, we match categories in the US Bureau of Labor Statistics Consumer Expenditure Survey (CES) (https://www.bls.gov/cex/) to the BEA input output sectors, then use the demographic information in the CES data to allocate BEA personal expenditures among demographic groups. The CES data report expenditures separately for the following: Hispanics or Latinos; Not Hispanic or Latino: whites and all other races; and Not Hispanic or Latino: blacks or African Americans.

As of this writing, CES data are available for the years 2003 2015. EIEIO does not account for geographic variation in consumption amounts or in the proportions of goods and services consumed.

Augmented Personal Consumption. In addition to personal consumption (causing 46,000 premature deaths from $PM_{2.5}$), we also attribute BEA private expenditure final demand categories to individual end users and allocate the expenditures among demographic groups. We do this by directly adding final demand for "Residential private fixed investment" (16,000 premature deaths from $PM_{2.5}$) to personal consumption, as individuals are the ultimate end users of residential buildings. The remaining private expenditure categories include expenditures on nonresidential structures (9,400 deaths), nonresidential equipment (9,400 deaths), and intellectual property (500 deaths), as well as changes in inventory (1,700 deaths). Because consumption activities provide the revenue streams that organizations use to make capital investments and to generate inventory, albeit with time lags that we do not account for here, we consider these expenditures and the resulting air pollution to be caused by personal consumption. Therefore, we attribute these additional categories of demand to demographic groups proportionate to each group's overall fraction of combined personal consumption and residential investments. Although government expenditures are also ultimately funded by individuals, the taxes that fund the government are compulsory, and relationships between individual tax contributions and government spending decisions are uncertain. Therefore, we do not attribute government expenditures to individuals, but instead track and display them as their own category.

Emission Factors. We create spatially explicit emissions factors in units of mass per time of emissions of primary $PM_{2.5}$ and secondary $PM_{2.5}$ precursors [oxides of nitrogen (NO_x), oxides of sulfur (SO_x), ammonia (NH_3), and volatile

organic compounds (VOCs)] per dollar for each of the 5,434 EPA source classification codes (SCCs) in the year 2014 US National Emissions Inventory (NEI), version 1 (4). Each emissions record in the NEI contains an SCC that specifies the type of source creating the emissions. First, we match each SCC to one or more of the 389 BEA industries. Some sources of emissions cannot be directly matched to BEA industries because they do not result from economic transactions. We match these sources to the BEA industry to which it is most closely related. The largest source of these nontransactional emissions is the personal use of light duty vehicles, which we match to the "automobile manufacturing" industry based on the assumption that the individuals and entities that drive light duty vehicles and create the resulting emissions are the same as the individuals and entities that purchase automobiles. Other nontransactional sources of emissions include leisure activities such as barbecuing and operating recreational vehicles, which we attribute to relevant residential or recreational industries. The cross walk between SCCs and BEA industries can be found in Tessum et al. (24). We use this cross walk to map the economic production vector, ρ, which has one element for each BEA industry, to vector $\hat{\rho}$, which has one element for each SCC equal to the sum of economic production in the BEA industry or industries that the SCC is matched to. $\hat{\rho}$ double counts economic production in some cases, but is used in a way that ensures emissions are not double counted.

Next, we process the NEI emissions (excluding emissions occurring in Canada and Mexico, which are tracked separately) using the InMAP Air Emissions Preprocessor program, also included in Tessum et al. (24). We assign each emissions record to the BEA industry or industries it belongs to and allocate the emissions to a spatial grid with cell edge lengths varying between 1 and 48 km, depending on population density and emission density. [The grid employed by InMAP is described further by Tessum et al. (5).] We allocate county specific emissions to grid cells within counties using spatial surrogates, as described by the US EPA (4).

Finally, we calculate spatially explicit emissions factors by dividing the emissions from each SCC by the total domestic economic production in the matched industry or industries (i.e., $\hat{\rho}$) resulting from domestic and export final demand. The result is a series of emissions factor matrices, E_p, where p is one of the pollutants in (primary $PM_{2.5}$, NO_x, SO_x, NH_3, VOC). Each emissions factor matrix has one row for each spatial grid cell, one column for each SCC, and dimensions of [mass·time ^{1}.$ ^{1}]].

For analysis years other than 2014, we adjust the 2014 NEI emissions according to state and source group specific annual trends in emissions published by the US EPA (https://www.epa.gov/air emissions inventories/air pollutant emissions trends data). To quantify health impacts from non human related emissions sources, we also include combined biogenic and wildfire emissions from year 2005, as processed by Tessum et al. (26). Further information is in *SI Appendix*. We calculate spatially explicit emissions of a pollutant p (e_p) induced by human activity (using economic final demand as a surrogate for human activity) as shown in Eq. **4**:

$$e_p = E_p\hat{\rho}, \quad [4]$$

where e_p is a vector with length equaling the number of spatial grid cells and dimensions of [mass·time ^{1}].

$PM_{2.5}$ Concentrations. Primary $PM_{2.5}$ and secondary $PM_{2.5}$ precursors are emitted into the atmosphere where they are transported by wind, transformed by chemistry, and ultimately inhaled by humans or otherwise removed. We account for these phenomena using InMAP, version 1.2.1 (5); InMAP creates spatially explicit estimates of ambient $PM_{2.5}$ concentrations caused by the emissions estimated by EIEIO. For computational expedience, we use InMAP to create a set of source receptor matrices, which describe linear relationships between (*i*) emissions in each of many source locations and (*ii*) concentrations in each of many receptor locations. We create the InMAP source receptor matrix (ISRM) by running separate InMAP simulations that estimate the ground level changes in $PM_{2.5}$ concentrations of emissions of SO_x, NO_x, VOCs, NH_3, and primary $PM_{2.5}$ in each of ~50,000 InMAP grid cells. This is repeated three times to consider emissions plume height ranges of 0 57, 240 380, and 760 1,000 m, for a total of ~150,000 simulations. The result can be represented as a rank four tensor describing independent linear relationships between emissions and $PM_{2.5}$ concentrations for discrete combinations of pollutant emitted, emissions source location, emissions plume height, and concentration receptor location. By using linear interpolation to calculate impacts for sources with plume heights that do not fall within the modeled height ranges, ISRM can quickly calculate $PM_{2.5}$ concentrations resulting from arbitrary combinations of emissions sources and locations. ISRM model performance evaluation is in *SI Appendix*.

Ground level concentrations of $PM_{2.5}$ depend on the height and location of emissions; therefore, instead of directly using the E_p matrices to calculate concentration impacts, we create a separate series of matrices for the concentration factor, C_p, for each emitted pollutant, p, by using the ISRM to calculate total concentrations from the NEI emissions records associated with each SCC while accounting for individual plume heights from each emissions record and dividing the result by the total transformed domestic economic production, $\hat{\rho}$. The resulting matrices, C_p, have one row for each spatial grid cell, one column for each SCC, and units of micrograms per cubic meter per dollar. Total $PM_{2.5}$ concentration impacts (c) of economic final demand are calculated by summing impacts from each emitted pollutant as in Eq. **5**:

$$c = \sum_p \{C_p\hat{\rho}\}, \quad [5]$$

where c is a vector with length equaling the number of spatial grid cells and units of micrograms per cubic meter.

Health Impacts. Air pollution related health impacts from economic final demand are a function of population counts, underlying incidence rates, and concentration response relationships, in addition to the $PM_{2.5}$ concentrations themselves.

Population counts. Population counts are based on data from the US Census Bureau American Community Survey (ACS) 5 Year Estimates (https://www.census.gov/programs surveys/acs/technical documentation/table and geography changes/2015/5 year.html) for midpoint years 2007 2014, plus the year 2000 decennial census, downloaded from the National Historical Geographic Information System (27) at census block group spatial resolution. We calculate health impacts for several race ethnicity categories:

i) Total population (314 million people in our study domain, as of 2014).
ii) People of all races who are Hispanic or Latino; we refer to this group as Hispanic (54 million people).
iii) People who are not Hispanic or Latino and are black or African American alone; we refer to this group as black (39 million people).
iv) All people who are not in the Hispanic or black groups; we refer to this group as white/other; this group includes 196 million whites, 15 million Asians or Pacific Islanders, 2 million American Indians, and 8 million Others/Multiple Races.

Population counts for years 2001 2006 are estimated using spatially explicit interpolation with 2000 and 2007 as the endpoints, years 1997 1999 use year 2000 population counts without modification, and year 2015 uses year 2014 population counts without modification. Data for years 2007 2014 are directly available from ACS. We use the total population count to calculate total health impacts, and we use the separate counts for each demographic group to calculate inequity in $PM_{2.5}$ exposure. The racial ethnic groups used here were chosen to align with the demographic groups in the Consumer Economics Survey (https://www.bls.gov/cex/). We use population counts for people of all ages, rather than restricting the analysis to a specific age range. One reason for this is that publicly available US Census data do not include both race ethnicity and age information at the block group spatial resolution. We allocate population counts to spatial grid cells, using area weighting for census block groups that overlap more than one grid cell. The resulting vectors, p_g, where g is the set of demographic groups above, have one row for each grid cell and units of [persons].

Underlying incidence rates. We use county specific data for baseline all cause mortality rates from the US Centers for Disease Control and Prevention (https://www.cdc.gov/nchs/data access/cmf.htm) for years matching the population years above. We use mortality rates for the full population, rather than for a specific age range. Following Apte et al. (28), we calculate the county average underlying mortality incidence rate, I_o, as in Eqs. **6** and **7**:

$$I_{o,c} = \frac{I_c}{\overline{\mathrm{HR}}_c}, \quad [6]$$

$$\overline{\mathrm{HR}}_c = \frac{\sum_{i\ 1}^{N_c} P_i \times \mathrm{HR}(C_i) f_{i,c}}{\sum_{i\ 1}^{N} P_i}, \quad [7]$$

where I_c is the reported mortality rate in a given county; $\overline{\mathrm{HR}}_c$ is the average mortality hazard ratio caused by $PM_{2.5}$ in county c; i is one of N_c grid cells in county c; P_i is population count in grid cell i; $\mathrm{HR}(C_i)$ is the result of the concentration response relationship described below for total $PM_{2.5}$ concentration C_i, calculated as described in *$PM_{2.5}$ Concentrations*; and $f_{i,c}$ is the area fraction of grid cell i that overlaps with county c. The term $I_{o,c}$ represents a hypothetical mortality incidence rate in the absence of ambient $PM_{2.5}$. For health impact calculations, we assume that the underlying incidence rate for all racial ethnic groups is the same as the population average. We calculate a US population average $I_{o,c}$ of 763 deaths per 100,000 people per year in 2014.

Concentration response relationship. We represent the effect of changes in $PM_{2.5}$ concentration on mortality rates using the relationship described by Nasari et al. (6) and Burnett et al. (7), as in Eq. **8**:

$$\mathrm{HR}(C) = \exp\left(\frac{\gamma * \ln(C+1)}{1+\exp[\ (C \quad \delta)/\lambda]}\right), \qquad [8]$$

where $\mathrm{HR}(C)$ is the hazard ratio of mortality incidence at $PM_{2.5}$ concentra tion C in units of micrograms per cubic meter compared with a hypo thetical underlying incidence rate, I_o, in the absence of ambient $PM_{2.5}$. γ, δ, and λ are empirically determined constants. Nasari et al. use an ensemble version of Eq. **8**, where γ, δ, and λ take many combinations of values and the prediction of each combination is weighted by its performance in predicting health outcomes in the American Cancer Society cohort. To reduce model complexity and computational expense, we use a deterministic version of the relationship, where $\gamma = 0.0478$, $\delta = 6.94$, and $\lambda = 3.37$ are determined us ing nonlinear regression to predict the expected value of the ensemble prediction. The relationship used here and by Nasari et al. (6) differs from the relationship presented by Burnett et al. (7) in that it is derived from the US based American Cancer Society cohort rather than from 41 global cohorts.

The term $\mathrm{HR}(C)$ is a nonlinear function; therefore, the impact of a change in concentration depends on the initial concentration. It follows that if a number of emissions sources are consecutively added or subtracted from an area, their health impact per unit emission will depend on the order that they were added or subtracted. We assume that the impact of each unit $PM_{2.5}$ is equal to the average per unit impact of $PM_{2.5}$ in a given location, as in Eq. **9**:

$$\overline{\mathrm{HR}_i} = \frac{\mathrm{HR}(C_{t,i})}{C_{t,i}}, \qquad [9]$$

where $\overline{\mathrm{HR}_i}$ is the average per unit concentration hazard ratio at location i, and $C_{t,i}$ is the total concentration at location i.

As a sensitivity analysis, we also use three other hazard ratio models based on the work of Krewski et al. (29) and Lepeule et al. (30), which all take the form shown in Eq. **10**:

$$\mathrm{HR}(C) = \exp(\beta \times \max[0, C \quad C_o]), \qquad [10]$$

where β is an empirically determined constant. We use two β values reported by Krewski et al. (29): $\beta = \ln(1.06)/10$ and $\beta = \ln(1.078)/10$. We also use $\beta = \ln(1.14)/10$ as reported by Lepeule et al. (30). C_o represents the lowest observed concentration: 5 $\mu g \cdot m^{-3}$ for Krewski et al. (29) and 8 $\mu g \cdot m^{-3}$ for Lepeule et al. (30); our method assumes that for concentrations below this threshold, the risk of $PM_{2.5}$ caused premature mortality is zero.

Health impact calculation. We calculate the health impacts of air pollution using Eq. **11**:

$$M(C_i) = p_i \sum_{c}^{n} I_{o,c} f_{i,c} \overline{\mathrm{HR}_i}, \qquad [11]$$

where $M(C_i)$ is the number of mortalities caused by the concentration of pollution (C_i) at location i, p_i is the population count in grid cell i, $I_{o,c,i}$ is the underlying incidence rate for one of n counties (c) overlapping grid cell i, and $f_{i,c}$ is the fraction of grid cell i that overlaps county c. We then calculate the $PM_{2.5}$ health impacts, d, of economic final demand by combining Eqs. **5** and **11** in Eq. **12**:

$$d = M \ \sum_{p}\{C_{p\hat{\rho}}\}\Big), \qquad [12]$$

where d is a vector with length equaling the number of spatial grid cells and units of [deaths].

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National Center for Sustainable Transportation

POLICY BRIEF

Environmental Reviews Fail to Accurately Analyze Induced Vehicle Travel from Highway Expansion Projects

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Issue

Induced travel is a well-documented effect in which expanding highway capacity increases the average travel speed on the highway, which in turn reduces the perceived "cost" of driving and thereby induces more driving.[1] This increase in vehicle miles traveled (VMT) increases congestion (often back to pre-expansion levels) and air pollutant emissions, reducing or eliminating the purported benefits of the expansion (Figure 1). Yet highway expansion projects continue to be proposed across California, often using congestion relief—and sometimes greenhouse gas reductions—as a justification for adding lanes. These rosy projections about the benefits of highway expansion projects indicate that the induced travel effect is often not fully accounted for in travel demand models or in the projects' environmental review process.

With this problem in mind, researchers at the University of California, Davis developed an online tool to help agencies estimate the VMT induced annually by adding lanes to major roadways in California's urbanized counties. The Induced Travel Calculator estimates project-induced VMT using the project length (in lane miles) entered by the user, lane-mile and VMT data from Caltrans, and estimates of elasticities (the percentage change in VMT that results from a 1% increase in lane miles) from peer-reviewed studies.

The researchers also applied the calculator to estimate the vehicle travel induced by five highway expansion projects in California that had gone through environmental review within the past 12 years. They then compared their estimates with the induced travel analysis completed for the projects' actual environmental impact assessments. The five projects include (1) the U.S. Highway 101 High-Occupancy Vehicle (HOV) Widening (Marin-Sonoma Narrows), (2) the State Route 1 Corridor Analysis of HOV Lanes (Santa Cruz), (3) the State Route 210 Mixed-Flow Lane Addition (San Bernardino), (4) the State Route 99 South Stockton Six-Lane Project, and (5) the Interstate 405 HOV Widening.

Key Findings

Environmental reviews of highway expansion projects include inconsistent, if any, analysis of induced vehicle travel. The environmental analysis documents for the five projects varied wildly in their discussion of induced vehicle travel impacts. Two documents did not discuss the induced travel phenomenon at all. And the only two documents to analyze it in detail did so in responses to comments, not in the original analysis. Even when the documents did analyze induced travel in detail, the discussion of the effect was contradictory within the documents and inconsistent with the induced travel literature.

Projects' environmental review documents underestimate induced vehicle travel. Only three of the five documents reported estimates of induced VMT. All three estimates were lower than what the researchers estimated using the

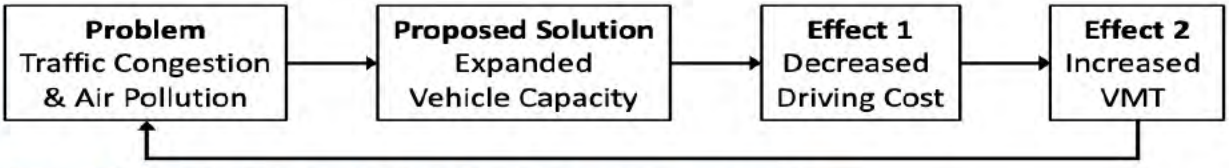

Figure 1. Induced vehicle travel effect of highway capacity expansions

Induced Travel Calculator. In two of the three cases, the estimates were an order of magnitude lower (Figure 2).

Policy Implications

The results provide additional evidence that environmental analyses often fail to consistently and accurately discuss—let alone estimate—the induced travel effects of highway capacity expansion projects. Going forward, the Induced Travel Calculator can help agencies consistently quantify induced travel by using elasticity-based estimates of VMT levels derived from the project's lane-mile changes. Indeed, Caltrans' 2020 Transportation Analysis Framework recommends that the Induced Travel Calculator be used where possible to estimate or at least benchmark induced VMT for California state highway system projects.

More Information

This policy brief is drawn from "Induced Vehicle Travel in the Environmental Review Process," a paper in the *Transportation Research Record: Journal of the Transportation Research Board* by Jamey M.B. Volker, Amy E. Lee, and Susan Handy of the University of California, Davis. The article is available at https://ncst.ucdavis.edu/research-product/induced-vehicle-travel-environmental-review-process.

NCST's Induced Travel Calculator can be accessed at https://ncst.ucdavis.edu/research-product/induced-travel-calculator.

For more information about the findings presented in this brief, please contact Jamey Volker at jvolker@ucdavis.edu.

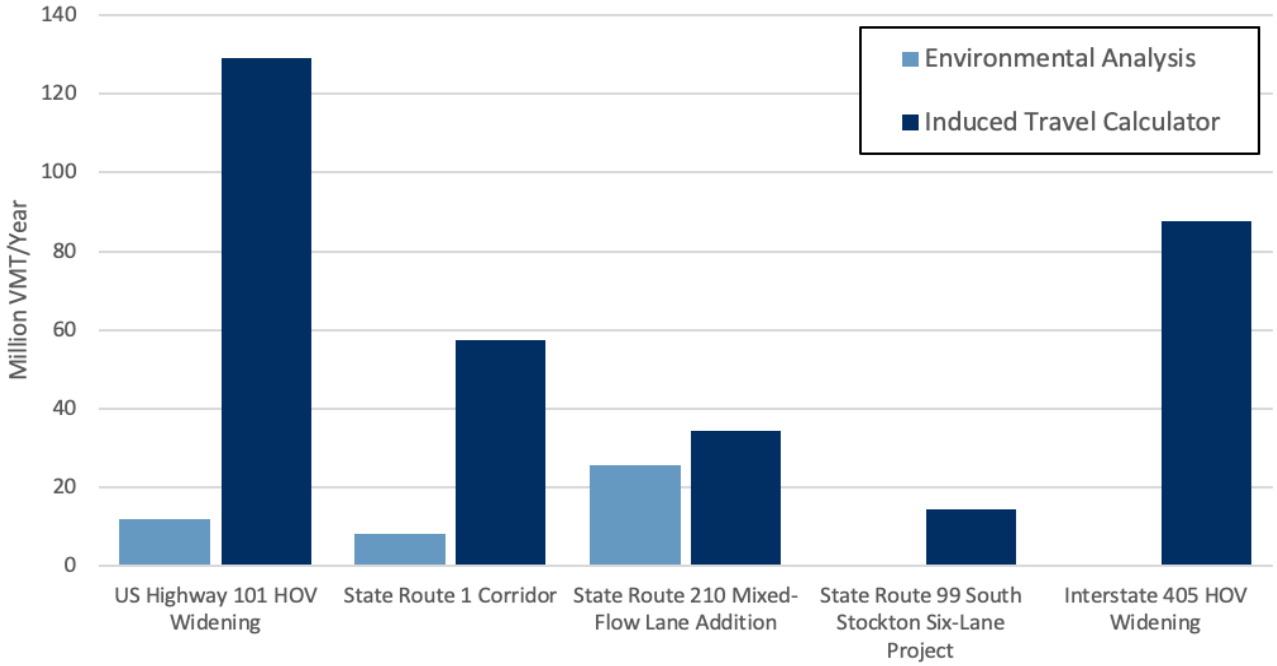

Figure 2. Comparison of induced VMT estimates in highway expansion project environmental analyses versus the Induced Travel Calculator (analyses for the State Route 99 and Interstate 405 projects did not estimate induced travel)

[1] *Handy, S. (2015). Increasing Highway Capacity Unlikely to Relieve Traffic Congestion. UC Davis: National Center for Sustainable Transportation. https://escholarship.org/uc/item/58x8436d*

Research presented in this policy brief was made possible through funding received by the University of California Institute of Transportation Studies (UC ITS) from the State of California through the Public Transportation Account and the Road Repair and Accountability Act of 2017 (Senate Bill 1). The UC ITS is a network of faculty, research and administrative staff, and students dedicated to advancing the state of the art in transportation engineering, planning, and policy for the people of California. Established by the Legislature in 1947, the UC ITS has branches at UC Berkeley, UC Davis, UC Irvine, and UCLA.

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Draft Transportation Analysis Framework:

Induced Travel Analysis

March 2020

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INTRODUCTION

In response to recent state laws, revisions to CEQA regulations, CEQA case law, and in order to achieve better alignment with state objectives on greenhouse gas emissions reduction, preservation of the environment, and betterment of human health, Caltrans has determined that Vehicle Miles Traveled (VMT) is the most appropriate primary measure of transportation impacts for capacity-increasing transportation projects on the State Highway System (SHS). The determination of significance of VMT impact will require a supporting induced travel analysis methodology for capacity-increasing transportation projects on the SHS when Caltrans is lead agency or when Caltrans designates another entity as lead agency. The Governor's Office of Planning and Research (OPR) has prepared a Technical Advisory on Evaluating Transportation Impacts in CEQA (California Governor's Office of Planning and Research, 2018) to assist agencies in VMT analysis for both land use and transportation projects. Caltrans recommends using the VMT analysis approaches recommended in OPR's advisory when evaluating the transportation impacts of projects on the State Highway System (SHS).

PURPOSE OF THE TRANSPORTATION ANALYSIS FRAMEWORK

The purpose of this Transportation Analysis Framework is to assist Caltrans Districts in identifying the best approach for analyzing VMT (induced travel) under CEQA in various settings and for projects on the SHS. It provides Caltrans District engineers and planners additional information and recommendations to enable analysts to successfully and consistently implement the new CEQA guidelines in the analysis of transportation impacts. The guidance supports robust, context-sensitive approaches that may in some cases streamline the project delivery process. This framework may also be useful to others assessing the transportation impacts of transportation projects on the SHS. The Framework is not intended to be used for NEPA analyses or other CEQA analyses (such as air and noise). Those analyses have their own distinct requirements.

CONSIDERING INDUCED TRAVEL UNDER CEQA

CEQA requires assessing and disclosing environmental impacts resulting from a project, i.e. impacts that would not occur but for the project. Therefore, under CEQA, the transportation impact of a roadway capacity project is the overall increase in VMT that is attributable to the project, distinct from any background changes in VMT due to other factors such as population or economic growth. The VMT impact is the difference in VMT with the project and without the project.

With a hypothetical project, Figure 1 illustrates the induced travel effect unfolding over time. The baseline trend, shown in the figure by the line labeled "VMT Without Project", shows VMT on the network growing over time, perhaps the result of population and/or economic growth. As described above, an increase in capacity generally leads to an increase in vehicle travel on the network, as shown by the line labeled "VMT With Project". The VMT attributable to the project, or induced travel is the difference in VMT on the network with the project and without the project, counted in the horizon year.

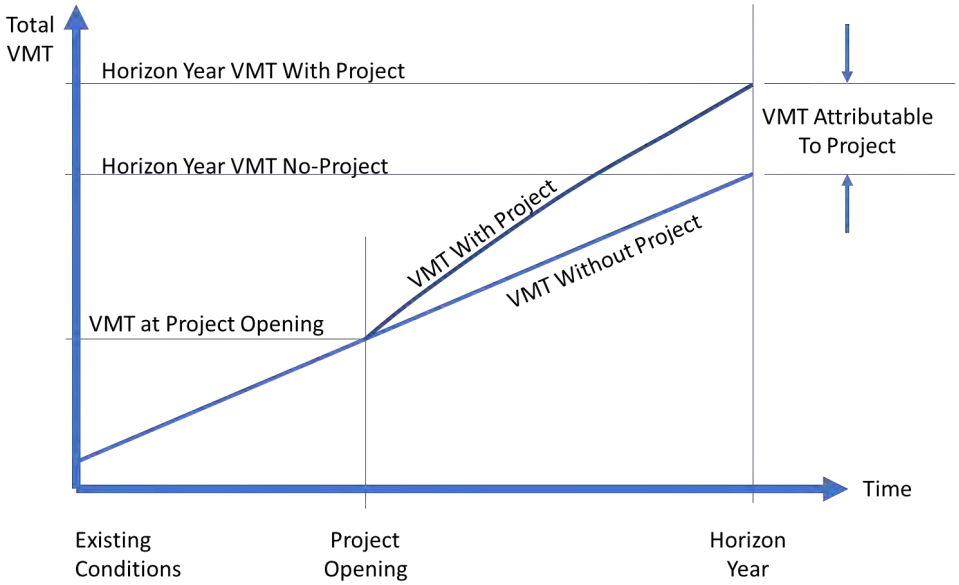

Figure 1: Identification of VMT Attributable to a Transportation Project

METHODS FOR ASSESSING INDUCED VMT

In general, two approaches exist for induced travel assessment. The first is the empirical approach, which applies elasticities from empirical studies that quantify the induced travel effect (the National Center for Sustainable Transportation (NCST) Induced Travel Calculator applies this approach (Susan Handy[1]). The other is the travel demand model-based approach. The general guideline is to use both methods and disclose both induced travel numbers wherever applicable.

The OPR Technical Advisory states that induced travel is generally most accurately assessed by directly applying the "empirical research". OPR also states that the "empirical approach" is also the simplest and most transparent approach for assessing induced travel. For these reasons, the OPR Technical Advisory recommends the empirical approach be used (pp 23-24) where applicable. The NCST has developed a tool to apply this approach, and a project that falls within its scope of application, as stated in the "About" tab of the NCST tool website (https://blinktag.com/induced-travel-calculator/), should employ it for induced VMT assessment. The Department endeavors to use the empirical approach or the NCST induced travel calculator as the primary tool where applicable. For most General Purpose (GP) or High Occupancy Vehicle (HOV) lane addition projects on the SHS, the NCST tool can be applied to assess induced travel.

Where the NCST tool is not applicable, a travel demand model-based approach supplemented with off-model post-processing and/or iteration may be called for. For example, when a project and/or project alternative involves more than just GP/HOV lane facilities, or when in a single environmental document, a consistent set of VMT information is needed to enable the evaluation of air quality conformity or noise level analysis together with induced travel analysis, including a travel demand model-based approach

may be necessary. Figure 2 provides a selection matrix for choosing the applicable VMT assessment method(s) for various locations and project types.

<table>
<tr><th>Project Location*</th><th>Add Capacity (GP or HOV) Lane to Interstate Freeway</th><th>Add Capacity (GP or HOV) to Other State Routes</th><th>Other Potentially VMT Inducing Projects on a State Route</th><th>Non-VMT Inducing Projects</th></tr>
<tr><td>Urban counties in MSA with Class I facilities**</td><td colspan="2">- Use NCST Induced Travel Calculator for proposed project.
- Use travel demand model (with off-model post processing and/or iteration.
- Report both results.</td><td rowspan="2">Use travel demand model (off-model post processing and/or iteration) for induced VMT analysis of proposed project, alternatives, and mitigations (as appropriate).</td><td rowspan="4">Brief description about why the project is not likely to result in substantial induced travel.</td></tr>
<tr><td>Other Urban Counties***</td><td>Use travel demand model (with off-model post processing and/or iteration) for induced VMT analysis of proposed project, alternatives, and mitigations (as appropriate).</td><td>- Use NCST Induced Travel Calculator for proposed project.
- Use travel demand model (with off-model post processing and/or iteration).
- Report both results.</td></tr>
<tr><td>Rural counties with existing or forecasted congestion at or near project site****</td><td colspan="2">Use travel demand model (off-model post processing and/or iteration) for induced VMT analysis of proposed project, alternatives, and mitigations (as appropriate).</td><td>Use travel demand model (off-model post processing and/or iteration) for induced VMT analysis of proposed project, alternatives, and mitigations (as appropriate).</td></tr>
<tr><td>Rural county with <u>No</u> existing or forecasted congestion at or near project site</td><td colspan="3">Qualitative assessment of likely VMT effects.</td></tr>
</table>

Figure 2: Induced VMT Assessment Method Selection Matrix

*Note that this chart applies only to the forecasting of state highway project induced VMT attributable to the project (induced travel) for CEQA transportation impact analysis. Other methods and tools are necessary to forecast total VMT in the horizon year for other CEQA and NEPA (when applicable) impact analysis purposes. Consult with Caltrans Division of Environmental Analysis (DEA) and Division of Transportation Planning (DOTP) for details.

** According to its technical documentation, the NCST Induced Travel Calculator can be applied to mainline general-purpose lane additions and mainline HOV lane additions on Class 1 facilities (Interstate freeways) and Class 2/3 facilities (Other Freeways, Expressways, and Other Principal Arterial state routes) as defined by FHWA (see Appendix C). Freeway ramps and minor arterials or collector-distributor roads associated with a freeway fall outside the scope of application for the NCST Induced Travel Calculator. The VMT inducing effects for ramp, minor arterial, and collector-distributor road capacity projects should be evaluated as "Other Potentially VMT Inducing Project" in this matrix.

Urban counties located within metropolitan statistical areas (MSA's) with sufficient Class I facilities for application of NCST Induced Travel Calculator tool are: Alameda, Contra Costa, Fresno, Imperial, Kern, Kings, Los Angeles, Marin, Merced, Orange, Placer, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Francisco, San Joaquin, San Mateo, Santa Cruz, Shasta, Solano, Stanislaus, Sutter, and Yolo.

*** Urban counties where the NCST Induced Travel Calculator is limited to Class 2 and 3 facilities are: Butte, El Dorado, Madera, Monterey, Napa, San Luis Obispo, Santa Barbara, Santa Clara, Sonoma, Tulare, Ventura, Yuba.

**** Rural counties where the NCST Induced Travel Calculator should not be used for forecasting induced VMT are: Alpine, Amador, Calaveras, Colusa, Del Norte, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Plumas, Sierra, Siskiyou, Tehama, Trinity, Tuolumne.

PROCESS FOR RECONCILING VMT ASSESSMENT METHODS FOR PROJECTS ON THE STATE HIGHWAY SYSTEM

SB 743 calls for a modernization of transportation impact analysis. With this modernization comes a necessary recognition that the current methods have known limitations with estimating the induced VMT phenomenon. Current practice for estimating project-generated VMT is about to undergo a necessary evolution, and Caltrans will adapt its recommendations to stay in step with the state of the science and the technical practice as methods evolve and improve.

This draft guidance document puts forward two possible methods for assessing induced VMT from state highway projects, and acknowledges that both methods (i.e., the elasticity approach and the travel demand modeling-based approach) have limitations. Ultimately, an impact determination is required, so a single estimate of project-generated VMT will be necessary.

To advance this discussion, Caltrans plans to convene a panel of expert practitioners that specialize in induced VMT estimation. This panel will prepare recommendations on how to select the best method, or reconcile multiple methods, to obtain a defensible, full accounting of induced VMT from different transportation project types. The expert panel's recommendations will be made available for stakeholder review and incorporated into subsequent versions of Caltrans' guidance.

In the meantime, projects that are currently undergoing environmental review and analysis should follow the framework in Figure 2 to assess project-generated VMT. This way, projects can continue to move forward with scoping and analysis while additional expertise is collected. Because the NCST tool is free and straightforward to use, reporting the elasticity-based result in combination with a travel demand model-generated result should not increase the cost of the analysis.

EMPIRICAL APPROACH

As stated above, many past studies investigated the induced travel effect, quantifying it in terms of elasticities (the percent increase in VMT resulting from a given percent increase in lane miles). The studies apply various approaches to controlling for confounding factors such as population and economic growth, and for simultaneity bias[1], so they capture only the VMT caused by the roadway capacity expansion (i.e. the induced travel). Using various approaches, they reported the average magnitude of the induced travel effect per lane mile of additional capacity in each county or Metropolitan Statistical Area (MSA). Many of these studies are summarized in the California Air Resources Board's Policy Brief, *Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions* (Handy

[1] Simultaneity bias can arise from the simultaneous effects of (1) added lane miles inducing VMT and (2) growth in VMT leading to the adding of lane miles. Most recent induced travel studies apply methods to control for it.

and Boarnet, 2014). Note that the results of these studies are generally limited in applicability to roadway expansions on freeways, expressways, and principal arterials (but not on minor arterials, collector or local streets).

To assess induced travel using the empirical approach, simply use the formula for an elasticity, and solve for the final VMT:

$$\frac{\%Change\ in\ VMT}{\%Change\ in\ Lane\ Miles} = Elasticity$$

In its VMT Technical Advisory, OPR provides the algebraic form of this equation that can be used directly, and lists the required inputs:

> **To estimate VMT impacts from roadway expansion projects:**
>
> 1. Determine the total lane-miles over an area that fully captures travel behavior changes resulting from the project (generally the region, but for projects affecting interregional travel look at all affected regions).
> 2. Determine the percent change in total lane miles that will result from the project.
> 3. Determine the total existing VMT over that same area.
> 4. Multiply the percent increase in lane miles by the existing VMT, and then multiply that by the elasticity from the induced travel literature:
>
> **[% increase in lane miles] x [existing VMT] x [elasticity] = [VMT resulting from the project]**
>
> A National Center for Sustainable Transportation tool can be used to apply this method: https://ncst.ucdavis.edu/research/tools

Technical Advisory on Evaluating Transportation Impacts in CEQA, OPR 2018.

While the assessment is straightforward, it is important to apply the appropriate data. Specifically, it is important to choose VMT and lane mile data to match the federal functional facility classifications used in the research from which the elasticity is taken. And, it must be applied to facility types and geographies that match the studies from which the elasticities are taken. NCST's Induced Travel Calculator is designed to automatically address these issues. Advantages of using the tool include that it has assembled all the needed data, it automatically chooses an elasticity appropriate for the location and functional classification of the facility, it automatically pulls the correct VMT and lane-mile information to undertake the calculation, and it is free and publicly available.

The empirical approach has the advantage of being based directly on the best available science; it entails a direct application of empirical studies that quantify induced travel. It also has the advantage over travel demand models that it captures the full induced travel effect, including the effect of the project on land use, which is required for analysis under CEQA. Note that the NCST tool assesses induced travel by

applying county- or MSA-level total lane miles and VMT and an elasticity applicable to the facility's functional classification. It may not be sensitive to localized circumstances. The current release of the NCST Tool is based on the 2016 VMT and lane mile data from the Caltrans Highway Performance Monitoring System (HPMS) Program. Effort is underway to make sure the tool is updated using the most current data available.

The NCST tool assesses induced travel for the horizon year. It does not distinguish between GP and HOV lanes, so the tool cannot be used to assess the difference in induced travel between those two project types.

TRAVEL DEMAND MODEL-BASED APPROACH

A travel demand model-based approach may be used to assess induced VMT in conjunction with off-model post-processing and/or iteration. Note that OPR's technical advisory recommends checking results from a travel demand model-based approach using the empirical approach (i.e. the elasticity-based approach) wherever possible (OPR Technical Advisory, p. 34).

Travel demand models assess travel between land uses explicitly, applying mathematical functions to predict travel between locations. They are not, however, able to assess changes in land use that will result from the project, and some are unable to assess increases in trips resulting from the project, each of which can lead to an underestimation of induced vehicle travel if that effect is not addressed off-model. Also, models employing static trip assignment may fail to constrain modeled vehicle flows along links, impeding ability to assess the difference in vehicle travel with and without a capacity-increasing project (Marshall 2018).

As noted by the OPR Technical Advisory (Appendix 2, page 33):

"Proper use of a travel demand model can capture the following components of induced VMT:

- *Trip length (generally increases VMT)*[2]
- *Mode shift (generally shifts from other modes toward automobile use, increasing VMT)*
- *Route changes (can act to increase or decrease VMT)*
- *Newly generated trips (generally increases VMT)*
    - *Note that not all travel demand models have sensitivity to this factor [newly generated trips], so an off-model estimate may be necessary if this effect could be substantial.*

However, estimating long-run induced VMT also requires an estimate of the project's effects on land use…If a lead agency chooses to use a travel demand model, additional analysis would be needed to account for induced land use." An add-on approach, such as use of a land use model (if an accurate one is available) or the input of an expert panel, should be applied to assess the land use change component of the induced travel effect, and that should be fed back into the travel demand model for VMT

[2] The Advisory is here speaking of road capacity projects and not transportation projects in general.

assessment. OPR's technical advisory recommends checking the results using the empirical approach (i.e. the elasticity-based approach) described above (p. 34).

For projects, alternatives, or mitigations for which the NCST Induced Travel Calculator is not applicable, a travel demand model can be used so long as off-model post processing and/or iteration with an add-on approach is applied to cover any known deficiencies (e.g. land use, trip generation).

Where a travel demand model is used, generally the regional travel demand model will be the most appropriate. However, near a model boundary, a regional travel demand model may truncate the VMT assessment, which may result in an underestimate of induced VMT. This truncation can be addressed by adding exterior "halo zones" to the model to extend its geographical reach, or with an off-model estimate of VMT (for example, multiplying gateway volumes provided by the California Statewide Travel Demand Model (CSTDM) with distance to the next major destination or job center, and adding that to the model's assessment).

In some cases, a regional travel demand model may not be available. In those cases, a qualitative assessment may be appropriate.

No sensitivity to trip generation (some travel demand models). If the trip generation sub-model is not sensitive to travel time and cost, then the analyst will need to provide for a manual intervention in the trip generation stage of the model to adjust the trip generation rates in the model for off-line computed induced travel effects of the project, its alternatives, and potential mitigation measures.

The analyst can employ activity based travel model parameters borrowed from a similar region to manually estimate off-model the effects of the project, its alternatives, and potential mitigation measures on trip generation with and without the project for the desired forecast years (with the land use linkage described above activated) and noting the predicted percentage change in trip generation by purpose predicted by the activity based travel demand model parameters. These percentages, which will vary by project alternative, may then be applied to the output of the trip generation stage of the trip-based model.

No sensitivity to land use (all travel demand models). Any travel demand model used to assess induced travel must be paired, or iterated, with an approach for predicting changes in land use caused by the project.

OPR's VMT Technical Advisory (*Appendix 2, Induced Travel Mechanisms, Research, and Additional Assessment Approaches*, p. 34) lists options for incorporating land use effects in a travel model-based assessment:

"*Options for estimating and incorporating the VMT effects that are caused by the subsequent land use changes include:*

1. *Employ an expert panel. An expert panel could assess changes to land use development that would likely result from the project. This assessment could then be analyzed by the travel demand model*

to assess effects on vehicle travel. Induced vehicle travel assessed via this approach should be verified using elasticities found in the academic literature.

2. *Adjust model results to align with the empirical research. If the travel demand model analysis is performed without incorporating projected land use changes resulting from the project, the assessed vehicle travel should be adjusted upward to account for those land use changes. The assessed VMT after adjustment should fall within the range found in the academic literature.*
3. *Employ a land use model, running it iteratively with a travel demand model. A land use model can be used to estimate the land use effects of a roadway capacity increase, and the traffic patterns that result from the land use change can then be fed back into the travel demand model. The land use model and travel demand model can be iterated to produce an accurate result."*

Model forecast year doesn't match project horizon year. If the model forecast years do not match the needed project analysis assessment years, then the analyst may:

- Run the model for the project analysis forecast year with and without the project with new interpolated or extrapolated socio-economic and network data inputs to the model.
- Run the model with and without the proposed project for the model's original forecast years and manually extrapolate or interpolate the results to the desired project analysis years.

Lack of coverage. The analyst should ensure assessment of VMT impacts is not truncated geographically. Also, the analyst should ensure a model assesses VMT for an appropriate day of the week or season of the year.

Geographical Coverage: Using a select link analysis, the analyst should check whether links that run up to the model's edge show increased volumes as a result of the project. If they do, that indicates VMT increases likely continue outside the model's boundary. Where that is the case, one of three approaches can be used to capture that VMT. First, "halo zones" can be added to capture the additional VMT within the model. Second, a reasonable assumption can be made about length of the missing portion of the trip (e.g. use the distance to next major jobs or population center, if trips are likely headed there), and that distance can be multiplied by the volume. Third, a model with greater coverage, such as the CSTDM, can be used.

Temporal Coverage: The analyst should examine the peaking of traffic flows in the area served by the project to determine the needed temporal coverage of the model (weekday peak hours, peak periods, daily, weekends and holidays, recreational seasons, full year), and then check to ensure the model assesses those time periods.

The VMT attributable to a project is the difference between the project and no-project network-wide VMT for the same forecast year.

Additional model checks for trip-based models

Many trip-based model operators provide for the feedback of congested travel times and costs to the trip distribution stage. This feedback is not often equilibrated, so the analyst should check that origin-

destination travel times at the end of traffic assignment are similar to those input into the trip distribution stage. The comparison should be on a cell by cell basis of the travel time skim matrix used to distribute trips. The analyst should use their judgement as to how close the two sets of times must be on a cell-by-cell basis and overall (such as average trip time across all the cells of each matrix).

Many trip-based model operators provide for the feedback of congested travel times and costs to the mode choice stage. This feedback is not often equilibrated, so the analyst should check that origin-destination travel times by mode at the end of traffic assignment are similar to those input into the mode choice stage. The comparison should be on a cell by cell basis of the modal travel time skim matrices used to split trips between modes of travel. The analyst should use their judgement as to how close the two sets of times for each mode must be on a cell-by-cell basis and overall (such as average trip time across all the cells of each mode's travel time matrix).

Trip-based models employing equilibrium traffic assignment automatically incorporate route choice induced travel effects. Analysts should review the model documentation for models employing alternate traffic congestion sensitive traffic assignment methods to assess the sufficiency of the method for the analyst's needs.

Trip-based models employing all-or-nothing assignment, assigning all trips to the shortest path do not capture the demand inducing effects of a project on route choice. If congestion is likely with or without the project, then the analyst should consider adding a congestion sensitive traffic assignment method to the model.

PROJECTS SCREENING

The OPR Technical Advisory (California Governor's Office of Planning and Research, 2018) lists (starting on page 20 of that document) many categories of highway projects "that would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis". The list includes:

- *"Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts; Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity.*
- *Roadside safety devices or hardware installation such as median barriers and guardrails.*
- *Roadway shoulder enhancements to provide "breakdown space," dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as automobile vehicle travel lanes.*
- *Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety.*
- *Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes.*

- *Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit.*
- *Conversion of existing general-purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel.*
- *Addition of a new lane that is permanently restricted to use only by transit vehicles.*
- *Reduction in number of through lanes.*
- *Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles.*
- *Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features.*
- *Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics designed to optimize vehicle, bicycle, or pedestrian flow.*
- *Timing of signals to optimize vehicle, bicycle, or pedestrian flow.*
- *Installation of roundabouts or traffic circles.*
- *Installation or reconfiguration of traffic calming devices.*
- *Adoption of or increase in tolls.*
- *Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase.*
- *Initiation of new transit service.*
- *Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes.*
- *Removal or relocation of off-street or on-street parking spaces.*
- *Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs).*
- *Addition of traffic wayfinding signage.*
- *Rehabilitation and maintenance projects that do not add motor vehicle capacity.*
- *Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way.*
- *Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve nonmotorized travel.*
- *Installation of publicly available alternative fuel/charging infrastructure.*
- *Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor."*

APPENDIX A. BACKGROUND: INDUCED TRAVEL

When capacity is increased on a congested roadway, vehicle travel times dip, making vehicle travel quicker and easier, which in turn leads to more vehicle travel. This additional vehicle travel induced by the added roadway capacity is called "induced travel". The chart below, from Milam et al., (2017), illustrates how the effect unfolds over time:

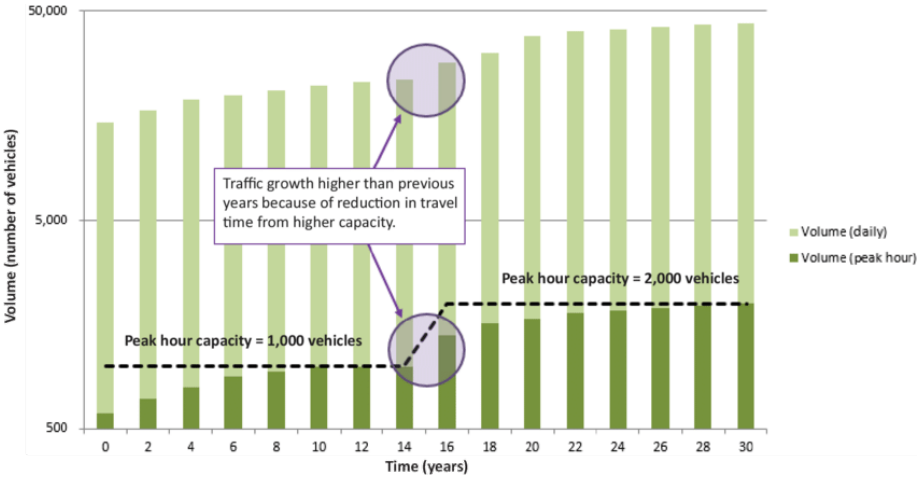

Figure A-1 Example of Induced Travel: Influence of Capacity Expansion on Vehicle Traffic Growth

Adding capacity to an existing roadway generally causes traffic congestion to dip, reducing the "time-cost" of travel. That reduction leads to more vehicle travel, as shown in the following figure from Milam et al., (2017). Much like any public utility (e.g. electricity or water), more is used when the impedance or cost is reduced.

Adding a new road where there wasn't one before has a similar effect. It opens new and more distant areas to development. This increases vehicle travel regardless of the volume to capacity ratio after the new link is opened.

Induced travel occurs via five mechanisms:

- Route changes (may increase or decrease overall VMT)
- Mode shift (increases overall VMT)
- Longer trips (increases overall VMT)
- More trips (increases overall VMT)
- More disperse development (increases overall VMT)

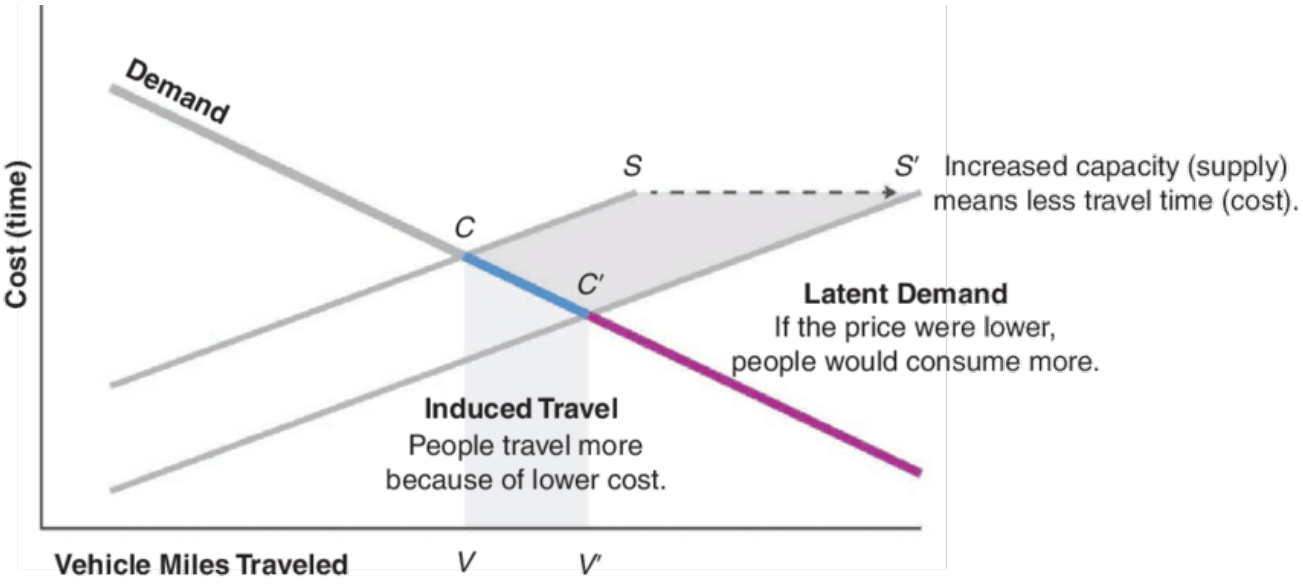

Figure A-2 Supply and Demand Relationships for Induced Travel (C=initial cost; C'=new cost; S=initial supply/capacity; S'=new supply/capacity; V=initial VMT; V'=new VMT)

APPENDIX B. A CASE STUDY

There will be one comprehensive case study covering the entire gamut of the CEQA document development process, using both TAF and Transportation Analysis under CEQA (TAC). To be added!

APPENDIX C. THE NCST INDUCED TRAVEL CALCULATOR

The UC Davis National Center for Sustainable Transportation (NCST) Induced Travel Calculator is designed to enable the estimation of *"the VMT induced annually as a result of adding general-purpose or high-occupancy-vehicle (HOV) lane miles to roadways managed by the California Department of Transportation (Caltrans) in one of California's urbanized counties (counties within a Metropolitan Statistical Area (MSA))."*

The NCST calculator predicts only those changes in regional annual VMT that are due to capacity improvements. In order to isolate those effects, it purposefully excludes changes in VMT due to land use changes, population, employment, income, tolls, price of gasoline, or other travel cost changes.

The calculator applies only to Caltrans-managed facilities with Federal Highway Administration (FHWA) functional classifications of 1, 2 or 3, which respectively corresponds to interstate highways (Class 1), other freeways and expressways (Class 2), and other principal arterials (Class 3).

The tool and additional documentation on the tool are available at: https://blinktag.com/induced-travel-calculator/index.html . The "About" tab at the website provides the technical documentation.

CONCEPTS

Handy and Boarnet (Handy & Boarnet, Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions Policy Brief, 2014) define "induced travel" as an "increase in vehicle miles traveled (VMT) attributable to increases in capacity."

According to Handy and Boarnet, "*Increased highway capacity can lead to increased VMT in the short run in several ways: if people shift from other modes to driving, if drivers make longer trips (by choosing longer routes and/or more distant destinations), or if drivers make more frequent trips. Longer-term effects may also occur if households and businesses move to more distant locations or if development patterns become more dispersed in response to the capacity increase. Capacity expansion can lead to increases in commercial traffic as well as passenger travel.*"

"*The induced-travel impact of capacity expansion is generally measured with respect to the change in VMT that results from an increase in lane miles, determined by the length of a road segment and its number of lanes (e.g. a two mile segment of a four-lane highway equates to eight lane miles). Effect sizes are usually presented as the ratio (elasticity) of the percent change in VMT associated with a one percent change in lane miles.*"

According to a survey of the literature by Handy and Boarnet, *"Elasticity estimates of the short-run effect of increased highway capacity range from 0.3 to 0.6. Estimates of the long-run effect of increased highway capacity are considerably higher, mostly falling into the range from 0.6 to just over 1.0."*

RESEARCH BASIS

Handy and Boarnet (Handy & Boarnet, Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions Technical Background Document, 2014) provides some of the technical background for six of the studies they included in their policy brief. Key characteristics shared by many of the research studies upon which the elasticity estimates are based are:

- They measure changes in regional, county, or statewide VMT and lane-miles of road in most cases only on freeways. Some focused on state owned highways. One used samples from the US DOT Highway Statistics database for all road types in that database.
- Data on changes in capacity and traffic volumes for non-freeways, minor roads and arterials was not available to the researchers in most cases so they could not account for diversion effects, where traffic shifts to and from minor roads and arterials in the region to the freeways. The background documentation for the UC Davis NCST Induced Travel Calculator states that Duranton estimated this unmeasured diversion effect to be between zero and 10% (which would have no effect or reduce the reported elasticity).
- The long-term time frames considered varied from 14 years to 22 years.
- They fitted log-linear regression models with lane-miles as one of various explanatory factors for observed changes in regional or county VMT.
- They all included changes in population as one of the explanatory factors but varied in what additional variables impacting VMT were included. Some included income, some employment density, some fuel cost. The additional explanatory factors usually lowered the elasticity with respect to lane-miles.
- They used different approaches to control for demand driven capacity construction, called simultaneity bias.
- Three of the studies used only California data. Three used data from around the United States.

CALTRANS/FHWA HPMS FUNCTIONAL CLASSIFICATION SYSTEM

The Caltrans/FHWA functional classification system used in the UC Davis NCST Induced Travel Calculator is defined in an FHWA memorandum (https://www.fhwa.dot.gov/policy/ohpi/hpms/fchguidance.cfm):

Functional Class 1 = Interstate
Functional Class 2 = Other Freeways and Expressways
Functional Class 3 = Other Principal Arterial
Functional Class 4 = Minor Arterial
Functional Class 5 = Major Collector
Functional Class 6 = Minor Collector
Functional Class 7 = Local

Note that according to the technical documentation for the NCST Induced Travel Calculator, functional classes 1, 2, and 3 are within the scope of the NCST tool provided that they are state highways.

The FHWA memorandum states in Section 5, Ramps and Other Non-Mainline Highways*: "Note that at this time, there is no change to the status of ramps with respect to public road mileage or lane mileage or vehicle-miles traveled for apportionment purposes; they are not considered mainline and are not included in those public road mileage inventories."*

Regarding other non-mainline roadways, the memorandum states: *"At their option, States may collect data and assign functional classifications to other kinds of non-mainline roadways. These may include other collector-distributor roads, other turning movement facilities not associated with a grade-separated interchange, and other auxiliary roadways. In general, such roadways within the interchanges should be assigned the same functional classification as the highest facility served. However, since many configurations exist, States may assign the functional classification as they deem appropriate. While data for other non-mainline roadways is not required for HPMS, States have the option of reporting it beginning with the 2009 HPMS data reported in 2010."*

SCOPE OF NCST INDUCED TRAVEL CALCULATOR

The technical documentation for the NCST Induced Travel Calculator defines the scope of application for the tool (see *https://blinktag.com/induced-travel-calculator/about.html accessed October 31, 2019):*

- *"The calculator is limited to use for capacity expansions. It cannot be used to estimate VMT effects of capacity reductions or lane type conversions.*
- *The calculator is limited to use for additions of general-purpose and high occupancy vehicle lanes.*
    - *It should not be used for additions of toll lanes or high occupancy-toll (HOT) lanes.*
    - *Hundreds of both general-purpose and HOV lane mile additions were included in the two studies used to derive the elasticities for the calculator* (Duranton & Turner, 2011)*;* (Cervero & Hansen, 2002)*;* (Long & Curry, 2000)*. By contrast few toll and high-occupancy toll (HOT) lanes were added to Caltrans-managed roadways before the end of the data collection periods for the two studies. The studies' estimated elasticities therefore might not reflect – and this calculator should not be used to estimate the induced travel impacts of toll and HOT lanes.*
- *The calculator is limited to use for lane additions to Caltrans-managed roadways with FHWA functional classifications of 1, 2 or 3. See Caltrans' California highway system map with functional class delineations.*
- *The calculator is limited to use in California's 37 urbanized counties (counties within MSAs). The calculator cannot be used to assess the VMT effects of roadway expansions in California counties outside of MSAs, or in any geography outside California.*
- *Please also be aware that there are 10 MSAs in which there are no interstate highways. In addition, sufficient data are not available on baseline VMT for interstate lane miles in the Napa MSA to calculate induced VMT from interstate capacity expansions there.*
- *The calculator produces long-run estimates of induced VMT, the additional annual VMT that could be expected 5 to 10 years after facility installation.*
- *All estimates account for the possibility that some of increased VMT on the expanded facility is traffic diverted from other types of roads in the network. In general, the studies show that*

"capacity expansion leads to a net increase in VMT, not simply a shifting of VMT from one road to another" (Handy & Boarnet, Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions Policy Brief, 2014)

- *The calculator currently uses 2016 lane mileage and VMT data. The data will be updated periodically as new data become available.*
- *Knowledge of local conditions can help contextualize the calculator's estimates."*

Table C-1 lists the California counties where according to the technical documentation on the NCST Induced Travel Calculator website the NCST tool can be applied. There are eleven counties which have insufficient interstate freeway mileage or interstate VMT data for the NCST tool's elasticities to be applied to interstate freeways (Class 1) within the county. In these eleven counties the tool can be used only for Class 2 and 3 state highway lane additions. There are 21 rural counties where the tool cannot be used for any state highway project, according to its technical documentation.

Table C-1: California Counties Where NCST Induced Travel Calculator Can be Used

County	OK to Use?	County	OK to Use?
1. Alameda	Classes 1, 2, and 3	**30. Orange**	Classes 1, 2, and 3
2. Alpine	No	**31. Placer**	Classes 1, 2, and 3
3. Amador	No	**32. Plumas**	No
4. Butte	Classes 2, 3	**33. Riverside**	Classes 1, 2, and 3
5. Calaveras	No	**34. Sacramento**	Classes 1, 2, and 3
6. Colusa	No	**35. San Benito**	Classes 1, 2, and 3
7. Contra Costa	Classes 1, 2, and 3	**36. San Bernardino**	Classes 1, 2, and 3
8. Del Norte	No	**37. San Diego**	Classes 1, 2, and 3
9. El Dorado	Classes 1, 2, and 3	**38. San Francisco**	Classes 1, 2, and 3
10. Fresno	Classes 1, 2, and 3	**39. San Joaquin**	Classes 1, 2, and 3
11. Glenn	No	**40. San Luis Obispo**	Classes 2, 3
12. Humboldt	No	**41. San Mateo**	Classes 1, 2, and 3
13. Imperial	Classes 1, 2, and 3	**42. Santa Barbara**	Classes 2, 3
14. Inyo	No	**43. Santa Clara**	Classes 2, 3
15. Kern	Classes 1, 2, and 3	**44. Santa Cruz**	Classes 1, 2, and 3
16. Kings	Classes 1, 2, and 3	**45. Shasta**	Classes 1, 2, and 3
17. Lake	No	**46. Sierra**	No
18. Lassen	No	**47. Siskiyou**	No
19. Los Angeles	Classes 1, 2, and 3	**48. Solano**	Classes 1, 2, and 3
20. Madera	Classes 2, 3	**49. Sonoma**	Classes 2, 3
21. Marin	Classes 1, 2, and 3	**50. Stanislaus**	Classes 1, 2, and 3
22. Mariposa	No	**51. Sutter**	Classes 1, 2, and 3
23. Mendocino	No	**52. Tehama**	No
24. Merced	Classes 1, 2, and 3	**53. Trinity**	No
25. Modoc	No	**54. Tulare**	Classes 2, 3
26. Mono	No	**55. Tuolumne**	No
27. Monterey	Classes 2, 3	**56. Ventura**	Classes 2, 3
28. Napa	Classes 2, 3	**57. Yolo**	Classes 1, 2, and 3
29. Nevada	No	**58. Yuba**	Classes 2, 3

Source: See text and links embedded in https://blinktag.com/induced-travel-calculator/about.html

APPENDIX D. GLOSSARY

Capacity	The Sixth Edition of the Highway Capacity Manual defines capacity as: The maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report (state)
EIS	Environmental Impact Statement (federal)
Elasticity	The percentage change of something divided by the percentage change in something else. In transportation forecasting, we can apply studies that provide the percent change in regional VMT divided by the percent change in regional lane-miles of state highways as elasticity.
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
Induced Travel (VMT)	Induced travel or the VMT attributable to a transportation capacity increase is the increased amount of vehicle travel on the transportation network that is caused by the highway capacity increase. Over the short run, travel behavior changes including longer trips, more trips, mode shift, and route shift all tend to occur as a result of a highway capacity increase. Over the long run, these effects intensify (e.g. as people shift job or residential location to benefit from the infrastructure), and also land use development may become more dispersed, adding additional vehicle travel; for these reasons, long run induced travel is generally greater than short run induced travel. Additionally, other factors, such as population growth, economic growth, and changes in the price of vehicle travel may also add to the amount of vehicle travel on the transportation network; however, these additions in vehicle travel are not part of induced travel and are not attributable to the project.

Latent Demand	Latent demand is the travel that would occur on the transportation network if travel times (or costs) were reduced. Much like any public utility (e.g. electricity or water), consumers will use more of it when its cost or impedance of use is reduced or made free. Note that unless the current price of travel is zero (instantaneous travel at will at no cost), there is always latent demand.
NEPA	National Environmental Protection Act
Network	The connectivity of a transportation system. Changes in connectivity may change travel time and cost. Travel demand models will usually represent network connectivity within modes and across modes through a set of links connecting nodes.
OPR	Governor's Office of Planning and Research
Travel Demand Model	A travel demand model is any relatively complex computerized set of procedures for predicting future trip making as a function of land use, demographics, travel costs, the road system, and the transit system. These models often cover an entire metropolitan area or the entire state, but may also focus on a single city or county.
Transit	Transit generally includes all forms of shared common carrier passenger ground transportation in moderate to high capacity vehicles ranging from dial-a-ride vans to buses, trolleys, light rail, commuter rail, and intercity rail transportation. Less common modes of travel, such as employer provided buses, charter buses, taxis, and transportation network company (TNC) services, have historically not been modeled as explicit transit modes in MPO travel demand models.
Trip-Based Model	Trip-based travel models use the individual person trip as the fundamental unit of analysis. Trip-based models are often referred to as "4-step" models because they split the trip making decision process into 4 discrete steps: trip generation by time of day, destination choice, mode choice, and route choice (traffic assignment).

Trucks	Trucks are a subtype of the heavy vehicles category which includes trucks, intercity buses, and recreational vehicles. This Framework follows the Highway Capacity Manual definition of what constitutes a heavy vehicle: "A vehicle with more than four wheels touching the pavement during normal operation." This is consistent with the Caltrans Traffic Census definition of a truck: "The two-axle (truck) class includes 1-1/2-ton trucks with dual rear tires and excludes pickups and vans with only four tires."
Vehicle Miles Traveled (VMT)	The number of miles traveled by motor vehicles on roadways in a given area over a given time period. VMT may be subdivided for reporting and analysis purposes into single occupant passenger vehicles (SOVs), high occupancy vehicles (HOV's), buses, trains, light duty trucks, and heavy-duty trucks. For example, an air quality analysis may require daily VMT by vehicle class and average speed or vehicle operating mode (idle, acceleration, cruise, deceleration, etc.). For a CEQA compliant transportation impact analysis, automobile VMT (cars and light trucks) may be evaluated.
VMT Attributable to a Project	In the context of a CEQA analysis, the OPR Technical Advisory suggests that the VMT attributable to a transportation project, or induced travel, is the difference in VMT between the with project and without project alternatives. The OPR Technical Advisory also suggests that heavy duty trucks might be excluded from the VMT attributable to a project.

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APPENDIX E. REFERENCES

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STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Transportation and clean air

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[redacted] Fri, Oct 8, 2021 at 4:43 PM

To: dot_rules@state.co.us

“If you build it, they will come ” It’ no urpri e that the more convenient you make driving, the more car will be on the road. This has been documented many times in many cities in our country. We also know that more protected bike paths encourage biking for short distance trips. So that, coupled with reliably efficient and extensive public transportation, will take many vehicles off the roads. All of these facts have been proven over and over.

Transportation money needs to go into building safe bike lanes and good public transport. It’s a no brainer. Our terrible air quality is strong evidence that we must do this ASAP. There’s not another valid choice.

Plea e re pon ibly Time i of the e ence We can wait any longer

Sent from AOL Mobile Mail

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Colorado Proposed Greenhouse Pollution Reduction Standards for Transportation Planning

1 message

[redacted] Sun, Oct 10, 2021 at 9:31 AM

To: dot_rules@state.co.us

Dear Madam or Sir,

Thank you for the opportunity to comment on the captioned rules on greenhouse gas reduction. We have lived North of Durango by Purgatory Ski Resort for about 10 years and have vacationed in Durango since the early 1970s.

We will not recount all the cience ba ed data upporting climate change in the world and e pecially here in Southwe t Colorado (and the devastating and costly effects thereof which we are all living with and which have been exponentially amplified by our inaction). We sincerely appreciate the Rules that have been thoughtfully put together to combat climate change.

Although we have had our net zero solar home and EVs since 2012, and 2013, respectively, it truly takes a village to combat this formidable foe. And our window to successfully have a meaningful effect on climate change is ever-shrinking. Here in the SW corner of Colorado, there are many things that could be done and incorporated into the Regional Tran portation Commi ion' plan for the Southwe t Tran portation Planning Region (a well a other the other regions in Colorado). These include but are certainly not limited to:

1) Implement a statewide vehicle emission testing program for all cars, trucks, and motorcycles. So many vehicles (e pecially pickup truck) have e hau t y tem that have been modified by removing the catalytic converter and other pollution control devices. There are so many older vehicles that have high mileage and create significant pollution that should be removed from the transportation grid by offering owners incentives to retire them. See #5 below.

2) Unlike the Gunni on Valley, A pen Valley, and many other re ort area that are ble ed with impre ive ma tran it, La Plata County literally has no mass transit that runs from the edge of Durango to the La Plata County line in any direction. Housing in Durango is prohibitively expensive for most residents so they need to live in outlying areas and commute into Durango. Resultingly, La Plata County residents must own a car to do anything - including traveling to Durango to work, hopping for grocerie in Durango, etc We all know that vehicle emi ion (e pecially in SW Colorado that has no emission testing requirements) are the #1 contributor to greenhouse gases. It's imperative that La Plata County develop a basic mass transit system to serve outlying residents - which system would also include transportation to Durango's regional airport and Purgatory Ski Area, neither of which currently are served by any regularly cheduled/daily ma tran it y tem open to the public

3) The road roads within Durango (and especially those roads leading into Durango) suffer from a dearth of bike lanes making it dangerous and difficult for one to commute on a bike (or E-bike) to and from Durango. That lack of bike lanes force re ident to again get in their polluting car to perform countle ta k that could be done an a non polluting bike or E-bike. The growth of E-bikes has been explosive (240% versus traditional bicycle growth of 15% for the 12 month period ending 7/31/21). See npd.com. We must give residents options (such as developing a robust bike lane network by paving shoulders on arterials feeding Durango) so they can get out of their cars to travel to their jobs, perform errands, etc A CDOT bid out their contract for road work, developing and e tending houlder hould be a core requirement of every bid.

4) Finally, as another way to reduce the #1 source of greenhouse gases (vehicles), Colorado and La Plata County should incentivize internal combu tion engine vehicle owner to purcha e both new and u ed EV by offering rebate , di count to annually register the EV, etc. Our governments have unfortunately supported and propped up the oil and gas industry for decades with billions of dollars in subsidies which has in part created our current climate change crisis. It's time for government to support the transition away from oil and gas and to more environmentally benign forms of transportation.

Thank you for taking the time to read our letter and hopefully give it consideration as you finalize these rules.

Yours very truly,

[redacted]

Sent from my iPad

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

DRCOG Comments: Proposed GHG Rule

1 message

[redacted] Mon, Oct 11, 2021 at 2:35 PM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc: [redacted] "shoshana.lew@state.co.us" <shoshana.lew@state.co.us>, Herman Stockinger <herman.stockinger@state.co.us>, Rebecca White <rebecca.white@state.co.us>, "Takushi - CDOT, Theresa" <theresa.takushi@state.co.us>

Good afternoon,

Please find attached a letter conveying comments from the DRCOG Board of Directors on the proposed Rule for Greenhouse Gas Pollution Reduction for Transportation Planning. The comments were unanimously adopted by the Board at their October 6, 2021 meeting.

Also attached are comments and questions from DRCOG staff on the Cost Benefit Analysis prepared by CDOT related to the proposed Rule.

Please contact me if you have any questions or need additional information.

Best,

[redacted] | **Division Director | Transportation Planning and Operations**

[redacted]

drcog | DENVER REGIONAL COUNCIL OF GOVERNMENTS

[redacted]

2 attachments

DRCOG Board GHG Rule Comment Letter - signed[1].pdf
465K

cdot-cost-benefit-analysis-for-ghg-rule-sept-2021-DRCOG comment.pdf
381K

COLORADO

Department of Transportation

Cost-Benefit Analysis For Rules Governing Statewide Transportation Planning

In performing a cost-benefit analysis, each rulemaking entity must provide the information requested for the cost-benefit analysis to be considered a good faith effort. The cost-benefit analysis must be submitted to the Office of Policy, Research and Regulatory Reform at least ten (10) days before the administrative hearing on the proposed rule and posted on your agency's web site. For all questions, please attach all underlying data that supports the statements or figures stated in this cost-benefit analysis.

Department:	Colorado Department of Transportation		**Agency**:	Transportation Commission

CCR:			**Date:**	August 31, 2021

Rule Title or Subject:
Rules Governing statewide transportation planning process and transportation planning regions

1. The reason for the rule or amendment;

The proposed "RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS" will set a greenhouse gas standard for state and regional transportation plans. The purpose of the Proposal is to ensure ongoing greenhouse gas emissions reductions from Colorado's transportation sector, which helps achieve the reduction goals set by HB19-1261. This rule also responds to a requirement in SB21-260, directing CDOT and the Transportation Commission to address GHGs through transportation planning.

Analysis Background

This analysis assumes that capital dollars for transportation will always be finite -- based on available federal, state, and local resources -- and that the parameters and modeling requirements established in the rule will help transportation planning agencies to prioritize those dollars in ways that better balance air pollution reduction needs with other factors such as improving safety and reducing congestion, and ideally selecting a portfolio of projects that achieve all of those ends. All of these factors, and others, tend to increase economic competitiveness, and render transportation investments of all modes good economic investments.

In terms of the overall economic and societal benefits of the rule, which are described in more detail below, it assumes that the public sector budget for transportation investment is relatively fixed and that this rule will likely result in some meaningful yet nuanced and regionally tailored shifts in the nature of which projects are prioritized.

The baseline for this analysis assumes a status quo that tallies the sum of regional transportation plans (RTPs) across all five metropolitan planning areas. These RTPs include state projects that are within the Metropolitan Planning Organization (MPO) boundaries For example: all CDOT projects within the Denver metropolitan area are also included in the RTP for the Denver Regional Council of Governments (DRCOG). These long range plans typically extend out for about 30 years, so unlike the more proximate plans established at both the state and MPO levels, many of the projects included in these plans are notional and far away from delivery. Generally speaking, these RTPs are inclusive of capital investments but do not include maintenance budgets, which are typically paid for separately by the state and local governments respectively, without engagement by the MPOs.

As these plans are not fully fiscally constrained, meaning that in actuality they contain more projects than can be paid for with resource constraints, they typically fluctuate significantly before projects are transferred to nearer term, fiscally constrained plans (e.g. the first four years of the state's "ten year plan" and the MPO transportation improvement plans or TIPs). The current sum of the long range RTPs for all five MPO areas is approximately $28 billion of projects, many of which are not fully funded or planned. Notably, this baseline does not include the state's many planned projects in rural Colorado, outside of the boundaries of the MPO areas and represented by rural transportation planning regions (TPRs). Virtually none of these rural projects would trigger the need for GHG Mitigation Measures under this rule because, with rare exception, they do not add capacity or change land use patterns. Rather, they are generally focused on state of good repair (e.g. repaving projects), safety and resiliency improvements like adding shoulders and passing lanes, and increasingly, supporting the economic vitality of communities by investing in revitalizing main streets across the state.

Using the sum of the RTPs as the baseline for the size of the transportation capital program that could be subject to mode shift, the analysis below assumes that, over several periods of performance, it is estimated that between a quarter and a third of resources would need to be shifted towards transportation project types that have air quality mitigation benefits -- as well as many societal co-benefits -- in order to achieve the targets set in the rule (and notably, if total spending shifted either higher or lower than in the scenario described here, it is likely that the proportions would be fairly similar). As explained in the table below, which assumes that spending is roughly consistent across the periods of time identified, this number is significantly lower in the immediate years and increases in the outyears. This, in large part, is because the early year projects are assumed to add significant transit service, which carry operating costs that aggregate. However, while the modeling assumes that about 20% of transit costs are paid back by farebox revenue, it does not factor in other revenue sources that often become available as a transit system grows. For example, federal formula funds for transit are allocated partially on the basis of existing ridership, so more ridership tends to result in more federal funding.

Table 1
Net Neutral Investment Levels and Dollars Shifted to Multimodal Transportation and other Environmentally Beneficial Transportation Investments
(net present value, millions of 2021 dollars)

Years	Total RTPs + 10-Year Plan	Total Shift to Mitigation	Percent Shift
2022-2025	$3,842.07	$417.90	11%
2026-2030	$4,802.59	$974.90	21%
2031-2040	$9,605.17	$2,655.80	28%

2041-2050	$9,605.17	$2,691.50	28%

Importantly, the scenario described above means that important capacity projects remain, but that these are balanced out with other types of projects with offsetting impacts, like adding bus infrastructure to highway projects, improving crosswalks to make them safer for pedestrians, opening up main streets for communities to utilize downtowns with less car travel, improving first-and-last-mile connections to transit facilities, and more. There is already precedent for adding these types of complementary features to highway projects. For example, construction of a managed lane on US36 included bus infrastructure for the flatiron flyer service. In a similar vein building on that model, CDOT is currently constructing a series of "mobility hubs" as part of capacity expansion along I-25 North in preparation to run bus rapid transit service in those managed lanes. In another example, design for the Floyd Hill expansion project includes plans to build out both a new microtransit service operated by CDOT, as well as park-and-ride facilities to facilitate operation of that service.

Incorporating mitigation features into high priority capacity expansion projects is expected to complement investment in project types that do not require mitigation measures -- such as repaving broken roads and fixing bridges that are in poor or fair condition before they become worse and more expensive to fix. Thus, all dollars shifted away from certain capacity projects are assumed to fund worthy transportation investments that improve competitiveness, quality of place and life, safety, economic vitality, public health, air quality, and more. A breakdown of these specific benefits is tabulated below.

An important aspect of this rule is that it does not require a specific set of measures to be implemented by the State and its MPOs to achieve the rule's targets. Those decisions are left to the implementing agencies who will also have ongoing opportunity to propose new mitigation measures for modeling to ensure that they result in emission reductions. Thus, in order to conduct this analysis, CDOT developed illustrative policy choice packages that assume implementation of three broad categories of VMT reduction measures: (1) expansion of transit service; (2) policies to encourage compact land use that reduces the need to drive by making it possible for travelers to access more of their preferred destinations easily within denser areas, in a manner that also facilitates strong and economically vibrant downtowns; and (3) various programs that expand travel choices through a variety of different approaches that could include investing in bicycle and pedestrian infrastructure and micro mobility services that assist with "first and last mile" connections to transit facilities; investments (e.g. in digital infrastructure) that help support tele-travel as an alternative to physical travel and also offer more workplace flexibility to employees in many work environments; or programs that encourage non-work travel by modes other than a single occupancy vehicle (e.g. a jurisdiction that provides transit passes to its residents).

The projected cost of these policy choice packages is assumed to be absorbed into current transportation plan budgets (a net neutral approach).

Per the provisions of 24-4-103(2.5)(a), Colorado Revised Statutes, the cost-benefit analysis must include the following:

2. **The anticipated economic benefits of the rule or amendment, which shall include economic growth, the creation of new jobs, and increased economic competitiveness;**

Anticipated Economic Benefits

Full implementation of this rule is expected to result in significant economic benefits in the form of cost savings to travelers and to the general public. Travelers will benefit from reductions in vehicle operating costs as a

result of expanded travel options (e.g., transit service, tele-travel, walking and bicycling), travel time savings, and the need to use personal vehicles less because of being provided with more options through state and regional transportation planning. Implementation of the rule will also reduce economic costs associated with carbon emissions, air pollution, motor vehicle crashes (road safety), and the health consequences of physical inactivity.

Businesses are also expected to receive a share of the economic benefits. Examples include congestion reduction that saves travel time for "on-the-clock" business travel, and reduced health care costs for employees as a result of reduced air pollution, motor vehicle crashes, and physical inactivity. They may also experience increased worker retention and satisfaction as a result of employees having expanded commute or work from home options.

Additionally, policies that facilitate and reward downtown density tend to have a markedly positive impact on "main street" small businesses such as restaurants and locally-owned retail. While these benefits can be somewhat difficult to quantify in the aggregate and are thus not fully accounted for in this analysis, results from the Colorado Department of Transportation's "Revitalizing Main Street" program indicate that they are significant and widespread across the state. Well over 100 grants awarded to more than 70 communities have largely supported projects including downtown street repurposing and parklets, sidewalks and crosswalks, park and street improvements, shared streets between cars and pedestrians, and wayfinding and signage improvements. Many recipients have affirmed to CDOT that these grants significantly improved business and saved jobs during the COVID-19 pandemic, and, when surveyed, 67 percent of respondents said they would not have implemented these innovations without the program. Though grants supported many projects on a pilot basis, survey results showed that 81 percent of projects are likely to be maintained or repeated on a seasonal basis given their success. This data provides qualitative indication of the economic development benefits associated with many of the project types that this policy would encourage.

Table 2 shows the projected change in social costs through 2025, 2030, 2040, and 2050 respectively, for full implementation of the proposed rule using the illustrative mix of strategies. The net benefits reflect the effects of reduced highway investment as well as increased investment in GHG-reducing projects. Negative values (shown in parentheses) represent a net cost savings. Future savings are discounted at a rate of 2.5 percent, consistent with Colorado Senate Bill (SB) 21-260 which requires use of the social cost of carbon dioxide (CO_2) and other pollutants using a discount rate of 2.5 percent or less. The most substantial benefits are from reduced crashes and reduced vehicle operating costs, resulting from reduced VMT. The net present value of total social benefits is roughly $8 billion in the 2026-2030 timeframe and $17 billion between 2031 and 2040.

Table 2
Economic Benefits (Cost Savings)
(Net Neutral Investment Levels after Mode Shift)
(net present value, millions of 2021 dollars)

Timeframe	Vehicle Operating Cost	Social Cost of Carbon	Air Pollution	Safety (Crashes)	Traffic Delay	Physical Inactivity	Total Social Cost Savings
2022 - 2025	$(372)	$(60)	$(21)	$(481)	$(774)	$(17)	$(1,724)

2026 - 2030	$(1,781)	$(258)	$(82)	$(2,332)	$(3,098)	$(75)	$(7,626)
2031 - 2040	$(4,670)	$(589)	$(125)	$(7,183)	$(4,693)	$(237)	$(17,497)
2041 - 2050	$(4,210)	$(323)	$(42)	$(9,027)	$397	$(289)	$(13,494)

A brief description of each of these economic benefits and how they were quantified is provided below. With the exception of physical inactivity, which is related to increased bicycling and walking, all of these economic benefits are derived from reductions in VMT and/or traffic delay. As described earlier, many of these benefits accrue to businesses as they do to individuals (e.g. a reduction in crashes leads to less lost work time). Additional detail on the assumptions underlying these estimates of economic benefits is provided in Appendix A.

- Vehicle operating cost – Fuel and maintenance costs per mile driven. Costs per mile change over time consistent with projected changes in fuel prices and the mix of the vehicle fleet including conventional fuels (e.g. gasoline and diesel) versus zero emission vehicles (e.g. electric and hydrogen). Vehicle cost savings provide travelers with more out-of-pocket money that they can spend on other goods and services of higher value to them. Businesses also save money for work travel and goods movement expenses. These savings benefit the state's economy.

- Social cost of carbon – Global climate change is expected to result in a variety of negative economic effects to the world and national economy, including Colorado. Examples include costs of flood prevention and mitigation, health care costs associated with excessive heat, and fire prevention, control, and damages. Carbon emissions are valued based on guidance issued by the Biden Administration[1] at a discount rate of 2.5 percent, consistent with Colorado Senate Bill (SB) 21-260. The social cost increases over time, from $83 per metric ton of CO_2 emissions for emissions occurring in 2025 to $116 per metric ton of CO_2 for emissions occurring in 2050.

- Air pollution – Costs associated with air pollution include higher health care costs, as well as damage to structures and natural systems. Values per ton of particulate matter (PM) and oxides of nitrogen (NOx) reduced are based on modeling conducted in support of Federal rulemakings on vehicle tailpipe emission standards.

- Safety (crashes) – Costs associated with crashes resulting in fatalities or injuries include higher medical costs, insurance costs, vehicle property damage, and lost workplace productivity. These costs impact Colorado's economy. Motor vehicle crash reductions are estimated based on national average fatality and injury crash rates per VMT, and are valued based on federal guidance on the value of a statistical life and average value of injury crashes.

- Traffic delay -- Traffic delay results in increased travel time for "on-the-clock" business travel and freight movement, as well as more time spent traveling for commuting, errands, and other personal travel. These time losses negatively impact Colorado's economy. To estimate delay reduction associated with

[1] "A Return to Science: Evidence-Based Estimates of the Benefits of Reducing Climate Pollution." The White House, 2021. https://www.whitehouse.gov/briefing-room/blog/2021/02/26/a-return-to-science-evidence-based-estimates-of-the-benefits-of-reducing-climate-pollution/

emissions-reducing transportation investments, hours of traffic delay reduced (per VMT reduced) are derived from Texas Transportation Institute studies of national traffic congestion and mitigation measures including transit expansion. For highway capacity expansion projects, which reduce delay, hours of delay reduced are based on modeled relationships between volume, capacity, and travel time. Capacity expansion projects consider the effects of "induced demand", or increased traffic that is observed to result over time after roads are expanded. This increased traffic may lead to net increases in greenhouse gas emissions as a result of the project, and may offset to some degree the delay reduction benefits.

- Physical inactivity -- A lack of physical activity is associated with increased mortality and other negative health outcomes, increasing health care costs. Investments in walking and bicycling infrastructure and transit services increase physical activity, reducing those associated costs. Physical inactivity in this analysis is valued based on health care cost savings per mile of walking and bicycling activity.[2]

Additionally, there are several categories of benefits from mitigation measures that are real, and may be quite large, but are difficult to quantify and therefore are not reflected in the chart above. These include:

- Reduced vehicle ownership costs - to the extent that areas comply with the GHG requirements by making land use decisions that reduce the need to travel long distances, make areas more walkable and bikeable, and add transit service, it is likely that this will enable more households to reduce their vehicle ownership, for example going from from a 2 car to a 1 car family. This is particularly true for land use changes, where there is a strong correlation between average number of vehicles per household and land use types. While the analysis above captures reduced vehicle operating costs, it does not capture the reduced costs from lower levels of vehicle ownership, including depreciation of vehicle value due to reduced use per vehicle owned, lower cost due to owning fewer vehicles, etc.. Nationwide, researchers have found that households within 1/2 mile of transit stations own on average 0.9 cars, while households in the rest of the metropolitan regions owned, on average, 1.6 vehicles.[3] According to AAA, the annual fixed cost to own a vehicle - including depreciation, insurance, license and registration fees, and finance charges - was on average $6,200 in 2019, though these costs can range based on the cost and type of the vehicle, and household size.[4]

- Downtown/main street economic revitalization - policies that support dense, walkable downtowns and main streets tend to spark significant economic vitality in those areas, providing customers for restaurants and small businesses. Investments in transit also spur economic benefits such as

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[2] An alternative estimate of physical activity benefits was conducted using estimates of deaths prevented and the value of a statistical life based on U.S. Department of Transportation guidance. This method showed a much higher value of benefits -- nearly $23 billion in the 2031-2040 timeframe in addition to benefits shown above. This alone is greater than the value of all other social benefits combined and could be considered as a consistent approach relative to other transportation modeling, since the cost benefit analysis for highway projects including capacity expansion projects typically incorporates the value of a statistical life on the benefits side when considering the safety impact of that project, for example safety improvements resulting from adding improved level of safety service at a chokepoint with an accident history. However, in the cases presented in the tables above, the value of benefits is based only on health care cost savings deriving from active transportation, and therefore represents a very conservative estimate of benefits.

[3] Dorn, J. (2004). Hidden in plain sight: capturing the demand for housing near transit. Oakland, CA: Center for Transit-Oriented Development. https://ctod.org/pdfs/2004HiddenPlainSight.pdf

[4] Average Cost of Owning and Operating an Automobile, Bureau of Transportation Statistics. https://www.bts.gov/content/average-cost-owning-and-operating-automobilea-assuming-15000-vehicle-miles-year
Polzin, S. E., Chu, X., & Raman, V. S. (2008). Exploration of a shift in household transportation spending from vehicles to public transportation (No. NCTR 576-02). https://www.nctr.usf.edu/pdf/77722.pdf

increased property values and agglomeration benefits from more efficient land use. These benefits are real[5], but difficult to quantify and are not included in this analysis.

- Increased access to jobs - Because Colorado already has a very complete roadway network, households that have access to cars have the ability to access employment by driving. By contrast, for residents who do not own cars or have disabilities that preclude driving, many jobs are essentially inaccessible. A more robust transit network will increase access to jobs for these residents, and will provide a larger pool of potential employees for businesses. As an example, within the DRCOG region 6% of households do not have cars and 9% of residents have mobility disabilities[6]. While it is not quantified in this analysis, greater access to employment for these individuals could bring significant economic and equity benefits.

3. The anticipated costs of the rule or amendment, which shall include the direct costs to the government to administer the rule or amendment and the direct and indirect costs to business and other entities required to comply with the rule or amendment;

Direct costs to the government to administer the rule

In terms of regulatory implementation, one reason why the Transportation Commission, rather than the Air Quality Control Commission, is pursuing this rule is in order to optimize overhead and streamline implementation resources within the organizations that already house transportation planning functions and expertise.

However, there will be some administrative costs associated with implementing this policy change, especially within the initial years of implementation. Within the state, the Colorado Department of Transportation (CDOT) is largely relying on existing staff positions to support the Transportation Commission's rulemaking, however, CDOT expects to hire three new positions to focus on functions related to implementation. This likely amounts to a cost of up to $350,000 per year including employee benefits and other costs. Over time, it is possible that the Colorado Department of Public Health and the Environment's Air Pollution Control Division could hire an additional staff modeler to support confirmation and verification of pollution reduction analytics. This cost would amount to roughly another $125,000-$150,000 (including benefits).

Moreover, it is expected that some metropolitan planning organizations (MPOs) may require additional staff members dedicated to emissions modeling, as well as additional modeling software. CDOT is exploring options to streamline these overhead expenses and achieve economies of scale, especially as relates to centralizing certain modeling and software capabilities for use as shared services between the state and MPOs. The recently passed state legislation, SB 260, updates the Multimodal and Mitigation Options Fund (MMOF) to allow funds directed into this program to be used for modeling support.

[5] See for example, Liu and Shi, Understanding Economic and Business Impacts of Street Improvements for Bicycle and Pedestrian Mobility: A Multi-City, Multi-Approach Exploration, National Institute for Transportation and Communities, April, 2020, available at https://ppms.trec.pdx.edu/media/project_files/NITC-RR-1031-1161_Understanding_Economic_and_Business_Impacts_of_Street_Improvements_for_Bicycle_and_Pedestrian_Mobility.pdf, which found significant increases in retail and food service income and employment associated with bicycle and pedestrian access improvements.

[6] Denver Regional Active Transportation Plan, DRCOG, 2019, available at https://drcog.org/sites/default/files/resources/DRCOG_ATP.pdf

Costs to business and other entities required to comply with the rule

As described in detail in the background section above, it is assumed that costs to implementing agencies are net neutral -- representing some shift in how dollars are prioritized rather than an overall change in the amount of spending on transportation. For example, some, but by no means all, dollars would shift from highway capacity expansion projects to other types of transportation investment including but not limited to bus rapid transit lanes or queue jumps as part of road projects; walking and bicycling facilities; additional transportation services, including expanded transit service and ridesharing options; and/or consumer incentives to reduce travel or encourage travel by more efficient, lower-emissions modes (such as ridesharing or telecommuting incentives). Importantly, it is anticipated that all costs shifted towards these types of investments will themselves result in mobility benefits and economic development, as well as improvements to air quality and pollution reduction.

Importantly, as described above, it is assumed that only a portion -- roughly a third -- of capital program dollars are shifted towards projects that also serve as mitigation, in addition to providing mobility benefits of their own. This means that the most critical capacity projects are assumed to advance, likely paired with mitigation and significant investment in achieving and maintaining a state of good repair for roads, bridges, tunnels, and other transportation infrastructure assets across Colorado.

It is worthy of note that additional federal investment could augment overall resources, and especially those resources geared towards transit and multimodal investments. For example, the Senate-passed Infrastructure Investment and Jobs Act would expand transit formula funds over the next five years by about $39.5 billion, a 43% increase over the FAST Act. Under current FTA funding formulas, Colorado could receive more than $900 million over the course of 5 years, an increase of approximately $40 million a year. The Act also contains $66 billion for Amtrak while Colorado continues to work towards passenger rail along the front range.

Businesses are not expected to incur significant direct costs to comply with the rule under the proposed implementation of the rule. As noted previously, there are a variety of social benefits (cost savings) that will be realized by the rule, some of which will accrue to Colorado's businesses. Importantly, this rule does **not** require that businesses implement trip reduction strategies that would have been required in a separate rulemaking recently withdrawn by the Air Quality Control Commission (AQCC). While businesses are encouraged to pursue employee trip reduction on a voluntary basis, and MPO's and CDOT through their Travel Demand Management (TDM) programs are able to help and encourage businesses in this effort, nothing in this rule requires it.

Lastly, both the benefit and cost assumptions within the rule assume that implementing agencies come into full compliance with the rule over the period of performance. However, the way that the rule is structured, the enforcement mechanism for non-compliance requires that a portion of an agency's capital funds -- which for MPOs are only those funds sub-allocated via the state as well as those specifically noted in Senate Bill 260 as being conditioned in this manner -- become restricted to projects that are demonstrated to reduce pollution and improve mobility. The recipient retains discretion over what pollution reducing investments are made, so long as those investments are approved as mitigations pursuant to the process set forth in the proposed rule. No entity would lose funds as a result of the enforcement provisions becoming effectuated by not hitting the targets in totality. The goal of this policy is to perpetuate serious conversation and planning for how the choices that planning entities make can provide consumers with the choices that are needed to reduce pollution and

improve quality of life, not to diminish the ability of any entity to invest these dollars in mobility solutions for Coloradans.

4. Any adverse effects on the economy, consumers, private markets, small businesses, job creation, and economic competitiveness; and

The proposed measures will affect Colorado industries in varying ways depending upon how spending increases or decreases for different types of vehicles, fuels, and equipment. Multipliers from the IMPLAN model were used to translate changes in spending for two industries directly affected by reductions in VMT -- gasoline and diesel sales and automotive maintenance and repairs -- into changes in direct gross state product (GSP) for those industries. IMPLAN is an economic input-output model that contains data on how spending in any one particular industry will directly and indirectly affect output, jobs, and other metrics in that industry and other industries. The IMPLAN multipliers used are $0.18 million GSP change per $million spending change on gasoline, and $0.67 million GSP change per $million spending change on automotive maintenance and repairs. The different impacts reflect the fact that more of the money spent on maintenance and repairs stays within the state of Colorado than money spent on gasoline and diesel fuel.

Table 3 shows the anticipated GSP effects for the combined VMT reduction measures for those directly affected industries, compared to baseline projected GSP levels for each industry in each year. The estimated effects are similar for both Comparison A and Comparison B since they reduce VMT to similar degrees to meet the same GHG reduction targets.

Table 3
Impacts on Directly Affected Industries
(Gross State Product, 2021 $millions)

Spending Category	2022 - 2025	2026 - 2030	2031 - 2040	2041 - 2050
Gasoline and diesel sales	($54)	($231)	($479)	($288)
Automotive maintenance and repairs	($133)	($589)	($1,380)	($1,177)

These impacts should not be taken as a bottom line impact to Colorado's economy as a whole. The changes in costs and benefits described above will impact Colorado's economy in a variety of different ways. As shown in Table 2, Colorado's residents will save on vehicle operating costs as a result of increased travel options and the need to travel less by personal vehicle. The other social benefits resulting from the rule are also expected to result in economic impacts that may affect different sectors of the economy in a variety of ways. For example, reduced traffic crashes and air pollution will reduce spending in the health care sector, but provide consumers with correspondingly more money to spend on other goods and services that are of greater value to them. These various indirect effects are not quantified in this analysis.

Jobs Impact

Generally speaking, research shows that state and local infrastructure investment, along with other forms of government purchase of goods and services, rank[7] amongst the highest categories of spending in terms of yielding a "fiscal multiplier" -- with that multiplier ranging between 0.4 and 2.5. The macroeconomic impact of

[7] https://www.brookings.edu/wp-content/uploads/2019/05/AutoStabilizers_framingchapter_web_20190506.pdf

infrastructure spending, particularly when considering its impact as part of fiscal stimulus, does not tend to differentiate between the mode of transportation investment, largely because these impacts tend to be measured in terms of jobs created through fields like construction, engineering, and trucking which have more to do with the amount of work done than the substance of the end product. To that end, a rule that results in some shifting between project types should not have a significant net impact on jobs or the fiscal multiplier.

To the extent that there could be some shift in terms of how the modality of transportation spending impacts jobs, this might reflect in the breakdown between capital and operating expenses. For instance, if some portion of programmed transportation dollars shift to transit spending, that would likely entail a larger percentage of dollars spent on operating expenses relative to capital expenses -- as the analysis below shows. This might entail some shift in job type or classification, but should not result in a significant net change in jobs because, much like capital expenses, operating expenses translate directly into jobs in fields such as equipment operation (e.g. bus drivers), repair of both infrastructure and rolling stock (e.g. construction and mechanical work), technology operations (e.g. software and logistics and mapping systems, etc). Notably, there is significant overlap between the job types associated with capital versus operations. In sum, job impacts, much like the fiscal multiplier, are assumed to be strong and consistent so long as they are invested in transportation and irrespective of the specific type of transportation project that they support.

Table 4
NAICS Job Classifications for Transportation

NAICS Job Classifications[8]	NAICS CODE
Heavy and Civil Engineering Construction The Heavy and Civil Engineering Construction subsector comprises establishments whose primary activity is the construction of entire engineering projects (e.g., highways and dams), and specialty trade contractors, whose primary activity is the production of a specific component for such projects. Specialty trade contractors in Heavy and Civil Engineering Construction generally are performing activities that are specific to heavy and civil engineering construction projects and are not normally performed on buildings. The work performed may include new work, additions, alterations, or maintenance and repairs.	237
Highway, Street, and Bridge Construction	2373
Other Heavy and Civil Engineering Construction	2375
Transit and Ground Passenger Transportation Industries in the Transit and Ground Passenger Transportation subsector include a variety of passenger transportation activities, such as urban transit systems; chartered bus, school bus, and interurban bus transportation; and taxis. These activities are distinguished based primarily on such production process factors as vehicle types, routes, and schedules.	485
Urban Transit Systems	4851
Other Transit and Ground Passenger Transportation	4859
Interurban and Rural Bus Transportation	4852

5. At least two alternatives to the proposed rule or amendment that can be identified by the submitting agency or a member of the public, including the costs and benefits of pursuing each of the alternatives identified.

Two alternative implementation scenarios for the rule were considered, including:

[8] https://www.bls.gov/iag/tgs/iag_index_naics.htm

Alternative 1: A lower level of pollution savings based on modeling assumptions that only factored in savings associated with travel choices: Programs to encourage non-work travel by non-single occupancy vehicle modes; programs to support and encourage tele-travel (e.g., on-line health care, education, and shopping) as a substitute for physical travel; investment in bicycle and pedestrian infrastructure and micromobility services; and reduction of transit fares. Essentially, this regulatory alternative achieves the lowest cumulative pollution reduction targets and assumes fewer illustrative choices by agencies to meet them.

Alternative 2: A pollution reduction scenario at a level where the model assumed an illustrative set of actions including travel choices and expanded transit service. Notably, since most of the costs assumed in the rule relate to the ongoing cost of transit operations, this scenario would reflect most of the costs associated with the current proposal.

In contrast to the illustrative package of policy choices used to evaluate the proposed rule, these alternatives do not include additional land use policies to reduce vehicle travel. As a result, they are less likely to achieve the required greenhouse gas reduction targets and therefore to support overall state goals for GHG reduction and climate change.

The economic benefits (reductions in social costs) from these alternatives are presented in Table 5. The “travel choices” alternative (Alternative 1) achieves the lowest greenhouse gas emission reductions. The “travel choices + transit” alternative (Alternative 2) results in additional social cost savings and greenhouse gas reductions. The proposed alternative for this rule (which includes travel choices, transit, and land use policies) results in a further increase in greenhouse gas benefits. These considerations resulted in proposing this alternative to analyze the effects of the final rule. As with the base alternative, the net costs of implementing the rule to the public sector would assume similar levels of overhead (staffing) at implementing agencies but would otherwise assume that topline funding remains the same with some portion shifted from planned highway expansion into other, emissions-reducing modes and services.

Table 5
Net Present Value of Economic Benefits (Cost Savings) for Alternatives ($millions)

Scenario	Alternative 1: Travel Choices	Alternative 2: Travel Choices + Transit
2022 - 2025	$(1,527)	$(1,644)
2026 - 2030	$(6,776)	$(7,268)
2031 - 2040	$(14,852)	$(16,102)
2041 - 2050	$(10,603)	$(11,397)

Appendix A. Detailed Analysis of Economic Benefits and Costs

This appendix provides detailed information and assumptions supporting the estimates of economic benefits and costs for the proposed Colorado transportation greenhouse gas (GHG) reduction rule. Information is presented for each of the illustrative measures that are assumed to be implemented to achieve the targets set forth in the rule. This information includes a description of the measure and how it is expected to affect economic benefits and costs; a table showing the various estimated costs and benefits of the measure; and additional details about the key assumptions and data sources.

Some effects of the measures will show up as economic benefits to one party and costs to another party. For example, reduced transit fares are an additional cost to the public sector (lost fare revenue), but a benefit to consumers.

The social benefits were estimated based on the estimated reductions in vehicle-miles traveled (VMT) and GHG emissions from each measure. VMT and GHG reductions, and the associated economic benefits, were estimated cumulatively for the entire set of measures anticipated to be implemented under the proposed rule and its two alternatives, rather than individually for each measure. VMT, GHG, and associated cost changes are discussed in a separate section following the discussion of public sector implementation costs.

Analysis Timeframe

Implementation of measures is assumed to start in 2022 or 2023 depending on the measure. The year in which measures are assumed to be fully implemented varies depending upon the measure.

The analysis considers impacts of the proposed rule in four timeframes: 2022-2025, 2026-2030, 2031-2040, and 2041-2050. Economic benefits and costs were estimated based on a time-stream of costs incurred between 2022 and 2050, expressed as net present values (NPV) for each timeframe. Costs are expressed in 2021 dollars.

Public Sector Costs

Travel Choices: Household-Based Trip Reduction

This set of measures includes programs combining information, incentives, and services to encourage non-work trip reduction and mode shifting away from SOV travel. Trips may include school trips, shopping, personal business, recreation, etc. This set of measures includes what are sometimes called “individualized marketing” programs and incentive-based rideshare or trip reduction apps.

Individualized marketing programs and similar information/incentive-based programs were piloted in a number of cities in the early 2000’s and some continue to be implemented today, with some evolution of the programs (for example, to a focus on app-based incentives). One example is the Portland (OR) SmartTrips program, operated by the Portland Bureau of Transportation since 2003. In recent years this program has pivoted to focus on new households moving to the city and is now known as SmartTrips New Movers. Other agencies implementing programs have included Bellevue and King County, WA; Cambridge, MA; Chicago; Salt Lake City; San Francisco, and the Southern California Association of Governments. Washington State has proposed to create a voluntary “all trips” grant program funded at $10 million per year that would expand on the success of the state’s Commute Trip Reduction program to address non-work trips.

These types of measures entail public sector investment in the form of staff time and materials for marketing, information, and outreach. The program may also provide consumer cost savings as a result of reduced VMT and associated vehicle operating costs, although consumers may also incur some additional costs for expenditures on transit fares, bikeshare services, etc. All of these examples are illustrative of what implementing agencies might select as part of their implementation strategies. Importantly, as noted above, this rule does **not** require any employer-based trip reduction programs that would have been required by a proposed rule that was recently withdrawn by the Air Quality Control Commission (AQCC).

Table A.1 shows the estimated public sector implementation costs for this measure.

Table A.1
Costs for Household-Based Trip Reduction Programs (millions of 2021 dollars)

Description	$ Value per Unit	2022-2025	2026-2030	2031-2040	2041-2050
Program costs	$30 per HH per year	$2.9	$6.2	$13	$13

Basis for cost estimates:

- Programs that have been in operation in the U.S. have typically reported administrative costs of around $15 to $30 per year per household targeted. The Portland SmartTrips New Movers program is funded at $250,000 per year at a cost of just under $30 per household.[9]
- The total cost is based on the assumed participation of 3.2 percent of Colorado households (77,300 households in 2030) as described in the discussion of VMT reduction estimates for this measure below.

Travel Choices: Tele-Travel

This set of measures includes programs to encourage the substitution of "virtual" travel for commute trips as well as for non-work activities such as shopping, medical appointments, and education. Examples of state and MPO policies and actions to support virtual travel may include but would not be limited to programs to encourage and support employers in developing work from home policies; revision of health care regulations, if needed, to permit or encourage remote services to the degree feasible and appropriate; and directives to publicly funded post-secondary educational institutions to support distance learning.

Tele-travel will also be supported by investments to expand broadband infrastructure to cover all households in the state. The Colorado Broadband Office is already supporting broadband expansion with the aid of Federal grant programs as well as state funds. In the long run to maximize broadband use by all residents of Colorado, support may also be needed for low-income households that cannot afford service even if it is available. For this analysis it is assumed that additional state costs beyond ongoing infrastructure investment measures are minimal and limited to program support to encourage tele-travel and broadband adoption.

Table A.2 shows the estimated public sector implementation costs for this measure.

Table A.2
Costs for Tele-Travel Programs (millions of 2021 dollars)

Description	$ Value per Unit	2022-2025	2026-2030	2031-2040	2041-2050

[9] Portland Bureau of Transportation, "About Smart Trips", https://www.portlandoregon.gov/transportation/

Program administration costs	$131,000 / staff person	$0.7	$0.8	$0.6	$0.5

Basis for cost estimates:

- Program administration - Two additional full-time staff people through 2030 including fringe and overhead for development and implementation of tele-travel programs, one staff person after 2030.

Travel Choices: Bicycle, Pedestrian, and Micro-Mobility Facilities, Policies, Initiatives

This set of measures includes bicycle and pedestrian infrastructure investment as well as incentives to support micro-mobility services such as shared or privately owned electric bicycles and scooters.

Public sector costs include infrastructure costs for pedestrian and bicycle facilities, and subsidies for low-income households to increase their participation in electrified micromobility options.

The costs for consumers who choose to purchase equipment like bicycles is subtracted from what those consumers might be expected to save by not operating vehicles. Importantly, though, micro-mobility options do not in any way require specific individuals to use those options; they merely expand the universe for personal choice. It is also assumed that the public sector provides an income-targeted subsidy in order to increase participation by low-income households.

Table A.3 shows the estimated public sector implementation costs for this measure.

Table A.3
Costs for Bicycle, Pedestrian, and Micro-Mobility Facilities, Policies, Initiatives (millions of 2021 dollars)

Description	$ Value per Unit	2022-2025	2026-2030	2031-2040	2041-2050
Infrastructure costs – sidewalk	$170,000 / mile	$100	$112	$187	$32
Infrastructure costs – bicycle	$25,000 / mile of lane $250,000 / mile of special facility	$46	$50	$84	$15
Maintenance	10% of capital	$46	$145	$496	$566
Electric micromobility equipment subsidy	$250 / HH / year	$0.4	$1.5	$5.9	$8.4

Basis for cost estimates:

- Data from the Denver region was used to estimate that there are about 18,800 miles of sidewalk in this region. The DRCOG regional travel demand model includes data on sidewalk density for each traffic analysis zone (TAZ). The model includes six area types, from central business district (CBD) to rural. The number of miles of sidewalk in each area type was estimated by multiplying the sidewalk density in each TAZ by the area of the TAZ, as shown in Table A.9, totalling nearly 19,000 existing miles. For illustrative purposes, it is assumed that 1,900 new or improved miles of sidewalk are added by 2030 and 4,700 new or improved miles of sidewalk are added by 2050 in metro areas and smaller communities across the state. These values represent 10 and 25 percent of the Denver region supply, respectively. It is assumed that this work may include upgrading deficient sidewalks as well as

constructing new sidewalks where none are currently provided. It is further assumed that this work occurs over a 20-year period (2022 – 2041) at a cost of $170,000 per mile based on Florida DOT data.[10]

Table A.4
Existing Sidewalk Estimates, Denver Region

Area Type	Sidewalk Miles
1 = Denver CBD	51
2 = CBD Fringe & Outlying CBD (ex. Boulder CBD)	448
3 = Urban Neighborhood	3,031
4 = Suburban Neighborhood	15,004
5 = Rural Area (Non-Mountainous)	224
6 = Rural Area (Mountainous)	37
Total	**18,795**

- Bicycle facilities: Construction is assumed of 2,500 linear miles of new bike lanes at $25,000 per mile and 2,500 linear miles of new separated bike lanes and shared-use paths at an average cost of $250,000 per mile, over a 20-year period, based on cost estimates from Cambridge Systematics (2020).[11] The estimate of the added length of facilities is described in the section on VMT reductions below and would occur in metro areas and smaller communities across the state.
- Sidewalk and bike facility maintenance: 10 percent annually of cumulative construction costs, based on industry estimation rules.
- Cost per e-bike: eBikesHQ.com (2019), assumed to decline from $2,000 in 2019 declining to $1,500 by 2025. Bicycle lifetime of 6 years from ITF (2020).[12]
- Number of new e-bikes purchased: Change in annual bike-miles traveled based on e-bike speed increase as described in the section on VMT reductions below, divided by 1,500 miles per bike per year (1 round-trip, 3 days a week, average length 5 miles, or per ITF (2020)).
- To estimate a subsidy value (public sector share of e-bike costs), it is assumed that 11 percent of households purchasing an e-bike are low-income (per statewide model) and receive a purchase voucher from the state.

Transit – Expansion of Service Coverage, Frequency, and/or Hours

This measure includes expansion of transit service, including fixed-route and demand-responsive buses as well as rail transit. It is also assumed that buses are electrified over time. However, the costs and benefits of bus electrification are not considered here, since bus electrification is not a VMT reduction measure. The costs shown in this section represent the incremental costs of adding service using existing technologies.

[10] Florida DOT (n.d.). "Cost Per Mile Models for Long Range Estimating", https://www.fdot.gov/programmanagement/estimates/lre/costpermilemodels/cpmsummary.shtm.
[11] Cambridge Systematics, Inc. (2020) "Transportation and Climate Initiative - 2019/2020 TCI Investment Strategy Tool Documentation." Prepared for Georgetown Climate Center.
[12] International Transport Forum (ITF). (2020). "Good to Go? Assessing the Environmental Performance of New Mobility."

The public sector costs include additional operating costs for the expanded service, as well as additional capital investment for vehicles to provide the service. These added costs are partially offset by added fare revenue resulting from increased ridership (shown as a negative cost).

Travelers may incur some additional costs in the form of fares paid for new trips taken. These are subtracted from the vehicle operating cost savings for this measure.

Table A.5 shows the estimated annual public sector implementation costs for this measure.

Table A.5
Costs for Transit Service Expansion (millions of 2021 dollars)

Description	$ Value per Unit	2022-2025	2026-2030	2031-2040	2041-2050
Vehicle costs	$435,000 per bus	$38	$136	$394	$452
Operating costs	See below	$200	$718	$2,083	$292
New transit fare revenue	$0.75 per trip	($68)	($243)	($706)	($809)

Basis of cost estimates:

- It is assumed that vehicle revenue-miles (VRM) are increased by 6 percent annually statewide between 2022 and 2030, with an annual increase of 2 percent between 2030 and 2050.
- Vehicle costs – $435,000 per new bus (NREL, 2017); An average of 3.11 buses are needed per 100,000 VRM of service, the average for the "motor bus" mode for all Colorado operators, from the 2019 National Transit Database (NTD).
- Operating costs – Average operating costs are assumed to be $5.96 per VRM. This is the average cost for "rapid bus" service operating in Colorado as of 2019 according to reporting for the 2019 NTD. For comparison, the cost per VRM for regular motor bus service is in the range of $3.89 to $6.28 for the state's smaller MPOs and is $9.20 for the Denver region. It is assumed that funds for additional transit expansion under this rule would be directed into services such as bus rapid transit that are more cost-effective from a GHG reducing perspective.
- New transit fare revenue/expenses – Public agencies recoup some of their operating costs through increased fare revenue. The estimate is based on an average fare per trip of $0.75 based on 2019 NTD data for all Colorado operators. Transit ridership is assumed to increase in proportion to service levels, meaning that higher quality and frequency service results in more individuals choosing to use transit.

Transportation-Efficient Land Use

This measure includes policy changes and incentives, such as funding for planning and potential changes to transportation project selection criteria, to encourage transit-supportive land use and walkable neighborhoods that reduce vehicle-travel per household.

Land use measures are assumed to be achieved mainly through the operation of market forces responding to market demand for mixed-use neighborhoods that are supported by changes to local plans and zoning regulations. Therefore only minimal costs to the public sector are assumed for making administrative changes to plans and zoning.

Table A.6 shows the estimated annual public sector implementation costs for this measure.

Table A.6
Costs for Land Use Measures (millions of 2021 dollars)

Description	$ Value per Unit	2022-2025	2026-2030	2031-2040	2041-2050
Administrative costs	$50,000 per municipality	$7	$8	$13	$11

Basis for cost estimates:

- Administrative costs – 272 municipalities in Colorado at an average of $50,000 in planning costs per municipality per five-year period for updating and revising plans and zoning.

Reduced Investment in Adding Additional Roadway Capacity

This analysis assumes a reduction, but by no means an elimination, in spending on roadway capacity expansion relative to the "baseline" scenario of what is forecasted in long range regional transportation plans (RTPs) over the next several decades. That investment is anticipated to shift to other public investment in transportation mobility, illustrating a "net revenue neutral" implementation of the rule.

Table A.7 shows the estimated annual public sector implementation costs saved as a result of implementing fewer highway capacity expansion projects. These costs saved are assumed to be re-directed to other investments that reduce GHG and help offset the inclusion of other roadway capacity expansion projects remaining in the plans.

Table A.7
Assumed Cost Reduction for Roadway Capacity Expansion (millions of 2021 dollars)

Description	$ Value per Unit	2022-2025	2026-2030	2031-2040	2041-2050
Construction costs	$5 million per lane mile (freeway) $1.5 million per lane mile (arterial)	$418	$985	$2,656	$2,692

Key assumptions in this analysis include:

- Freeway and arterial expansion costs average $5.0 million and $1.5 million per lane-mile, respectively.
- Mix of investment is 75 percent for freeway capacity and 25 percent for arterial capacity (on a dollar basis).
- There is a lag of 2 years (for freeways) and 1 year (for arterials) between "spending" the funds and realizing the benefits (i.e., roadway open to service).

Economic Benefits (Social Cost Savings)

The various social cost savings estimated in this document rely on estimated changes in vehicle-miles of travel, traffic delay, and person-miles of walking and bicycling as a result of each measure. General modeling

tools used in this analysis are first discussed, followed by a discussion of assumptions specific to each measure. The social cost savings analysis also draws on key assumptions documented above in the assessment of public sector implementation costs.

Modeling Tools

To estimate VMT reductions, the Colorado Department of Transportation statewide travel demand model and the Colorado implementation of the Energy and Emissions Reduction Policy Analysis Tool (EERPAT) were used, along with off-model spreadsheet-based analysis where needed to prepare model inputs and process model outputs.

The Colorado statewide travel demand model is a network-based model that predicts changes in traffic flows by mode and location based on future changes in demographics, job locations, costs, transportation networks, and other factors. At the time of the analysis the statewide model was set up for 2015, 2030, and 2045. Results from 2030 and 2045 runs were interpolated to obtain 2040 estimates. Results from 2045 runs were extrapolated to represent 2050.

EERPAT is a tool developed by the Federal Highway Administration and designed specifically for analysis of greenhouse gas reduction measures. EERPAT models policies at the regional level. In the Colorado application of the model, five regions are defined corresponding to the state's MPOs:

- DRCOG (Denver Regional Council of Governments) – Greater Denver area.
- GVMPO (Grand Valley MPO) – Grand Junction area.
- NFRMPO (North Front Range MPO) – Fort Collins area.
- PACOG (Pueblo Area Council of Governments) – Pueblo area.
- PPACG (Pikes Peak Area Council of Governments) – Colorado Springs area.

The statewide model and EERPAT each have strengths for evaluating different measures, so the best model for each measure was selected and the results then combined. Only personal light-duty vehicle travel within Colorado is considered, along with emissions from bus service that changes as part of the scenarios. To ensure a consistent baseline of VMT, percent VMT reductions from EERPAT for measures modeled in EERPAT were applied to total VMT from the statewide model.

GHG emissions were modeled using the U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES3) emission factor model, based on VMT changes from the statewide model and EERPAT. The GHG modeling was conducted by the Colorado Department of Public Health and Environment – Air Pollution Control Division. The MOVES model accounts for Colorado-specific factors such as the age of the vehicle fleet, the distribution of VMT by different vehicle types and road types, and the speeds at which vehicles travel. MOVES provides GHG emissions in carbon dioxide equivalents (CO_2e) considering tailpipe emissions of CO_2, methane, and nitrous oxide. VMT changes for each measure, estimated as described below, were summed for all measures and used to revise MOVES inputs.

Travel Choices: Tele-Travel

This strategy is evaluated using adjustments to statewide travel demand model inputs and outputs assuming that through incentives and voluntary options, more telework becomes feasible. Note that the model does not assume a policy that requires businesses to limit employee trips.

- Telework is modeled by increasing the fraction of workers choosing to telework compared to the base

year level.
- Tele-school is modeled by adjusting the mode-specific constant for higher education trips so that home schooling meets a target percentage.
- Other tele-travel is modeled by making adjustments to model output VMT to reflect an assumed market size of households reducing their travel and percent reduction in "personal business" travel per household.

The assumed effects of tele-travel policies are as follows:

- Telework (telecommuting): The percentage of workers teleworking at least part-time is increased by a factor of 3, from 6.3 percent to 18.9 percent, compared to baseline levels, reflecting a continuation of trends observed during the COVID pandemic.[13]
- Online participation in postsecondary education: The statewide model includes school trips. It is assumed that higher education students "tele-commute" 40 percent of the time, or on average about 2 days a week for a full-time course load. This is applied as a post-model adjustment to the statewide activity-based model (ABM) trip roster. The model would reflect similar values from an emissions perspective if students walked to class rather than participating virtually.
- Other substitution of travel: Other types of trips (medical, retail, etc.) are not individually modeled but are included as part of a personal business trip type. The number of households reducing their "personal business" travel is estimated using the following assumptions:
    - Expansion of broadband infrastructure – The Colorado Broadband office tracks broadband coverage and supports programs to expand coverage, including tracking Federal grant programs. An overlay of 2021 broadband coverage on household data from the 2019 American Community Survey (ACS) estimates that 1.97 million of 2.39 million households in Colorado (82.6 percent) currently are in broadband service areas.[14] It is assumed that infrastructure expansion by 2030 will reach nearly all (97 percent) of the state's households with broadband access, or an additional 344,000 households.
    - It is also assumed that an additional 5 percent of Colorado households already served by broadband expand their use of teletravel in the future.
- Newly participating households are estimated to take 10 percent fewer "personal business" trips as a result of tele-travel options.[15] This is applied as a post-model adjustment to the ABM trip roster.

<u>Travel Choices: Bicycle, Pedestrian, and Micro-Mobility Facilities, Policies, Initiatives</u>

This strategy is evaluated using a variety of adjustments to the statewide model, including increasing intersection density to represent expanded/more connected pedestrian networks; increasing walk and bike speeds to represent improved transit access and increased use of e-bikes and e-scooters; and adjusting various model parameters to reflect overall conditions that encourage walking and biking by all demographic

[13] During the height of the pandemic (May 2020), work-at-home rates were as high as 35 percent. More recently (October 2020 to January 2021), the rate stabilized around 22 percent. Source: Data from Bureau of Labor Statistics, Current Population Survey Supplement, as analyzed by University of Colorado Leeds School of Business and presented to Denver Regional Transit District, April 13, 2021.

[14] Per the Colorado Broadband Office, broadband is defined as a minimum of 25 megabits per second (Mbps) download and 3 Mbps upload. See https://broadband.co.gov/ for a map of broadband coverage. The overlay was done at the Census block group level, assuming that households are evenly distributed within a block group.

[15] While the statistics will vary for Colorado, the 2017 National Household Travel Survey shows an average annual VMT per U.S. household of 19,642, of which 31.8 percent is for shopping or other personal business (McGuckin and Fucci 2018, Table 6a). A 10 percent reduction in personal business travel would be a 3.2 percent reduction in overall travel for these households or 642 VMT per year. The Colorado statewide model may show different results, as changes in personal business travel may affect other types of travel.

groups. The model was adjusted so that the increase in bicycling matched a target estimate of total bicycle-miles of travel based on increasing bicycle travel related to additional bicycle infrastructure (new annual bike-miles traveled per new lane/path mile) as observed in other U.S. cities.

Pedestrian and Bicycle Improvements

To model improved pedestrian conditions, intersection density was increased 10 percent in 2030 over the baseline, or 25 percent in 2050, in the "suburban" area type, representing the application of policies to increase street network connectivity. Numerically this is equivalent to an increase of 16 four-way intersections in each zone. This was applied only to area types 2 (outlying CBD & fringe), 3 (urban), and 4 (suburban). While the statewide model does not include data on sidewalk density, the relative increase in intersection density is consistent with the increase in sidewalk density assumed for cost estimation above. Intersection density was increased by 5 percent in 2030 and 15 percent in 2050 for the "urban" area type, with the smaller increase reflecting the generally more connected nature of streets in urban areas.

The total miles of bicycle facilities needed to achieve a complete network in all of the urbanized land area of Colorado (census-defined urbanized areas) was estimated by assuming a build-out of separated bike lanes or shared-use paths at one-mile intervals, along with on-street bike lanes every ½ mile in between. Previous research, considering literature and models on the effectiveness of bike investment in the U.S., has estimated the number of new bicycle-miles of travel per year per mile of new facility in urban and suburban neighborhoods of various densities (Cambridge Systematics, 2020). The values used in that analysis are shown in Table A.8. These are applied to the proportion of land in CBD or "CBD fringe", "urban", and "suburban" area types as defined in the statewide model. Values from that study are multiplied by the required length of facilities to build out a network.

Table A.8
New Bicycle Travel per New Facility-Mile

Area Type:	Core/High Urban	Medium Urban	Suburban	
Statewide Model Area Type:	CBD (1) or CBD Fringe (2)	Urban (3)	Suburban (4)	Average
New annual bike-miles per new facility mile	146,000	82,000	26,000	64,000
% of urban land area in Colorado MPO areas	14%	39%	48%	

To estimate the extent of bike network added, a build-out of bike lanes and paths is assumed at ½ mile spacing for the entire urbanized area within Colorado (1,256 square miles) over a 20-year period between 2022 and 2041. This corresponds to 5,000 new miles of facility or 250 new miles per year. This is assumed to be split equally between on-street bike lanes and specialized facilities including physically separated bike lanes, bike boulevards, and off-street paths. The resulting increase in bicycle-miles of travel (BMT) compared to baseline conditions as estimated by the statewide model for years 2030 and 2045 is shown in Table A.9.

Table A.9
Bicycle Travel Increase From Facility Investment

Year	Baseline BMT (millions)	New Facility-Miles	Additional BMT (millions)	Total BMT (millions)	% Over Base

2030	346	2,250	144	474	37%
2045	405	5,000	320	717	77%

Additional statewide model adjustments to estimate the effects of improved walking and bicycling conditions included:

- Gender-specific constants for walking and biking: zeroing out negative terms for females; transferring positive coefficient for males to the bike or walk constant.
- Zeroing out negative terms for under age 20 other tour purposes.
- Reduction of disutility (negative interaction term) equivalent to 1.5 miles for rural area type term for bike to school tours.
- Walking interaction terms related to age 35 and age 50 thresholds changed to age 75 for work walk tours, other walk tours, other bike tours, and walk trip mode.
- Vehicular speed reduction of 2 to 11 mph, typically 6 mph, for access-oriented (versus mobility-oriented) facility types. Only applied in non-rural area types; applied to facility types 3 (principal arterial), 4 (minor arterial), and 5 (collector & local); peak and off-peak input speeds also adjusted if they would exceed the new free-flow speed.
- Walking speed (through perception of walking time) on transit access links increased to 5 mph from a base of 3 mph.
- Biking speed on transit access links increased from 12 to 13 or 14 mph.

Electric Bicycles

It is assumed that with a connected network of infrastructure in place to serve walk and bike trips, electric bicycle (e-bikes) will become more widely used. To represent electrification, the average speed of bicycling in the statewide model was increased by 33 percent.[16] The share of bikes that are e-bikes was assumed to be 25 percent in 2030 and 50 percent in 2050, so the average speed increase across all bicycle trips is modeled as 8 percent in 2030 (from 12 to 13 mph) and 16 percent in 2050 (from 12 to 14 mph).

Transit: Expansion of Service Coverage, Frequency, and/or Hours

The VMT effects of transit expansion are modeled in EERPAT using the following inputs:

- **Transit_growth.csv**: Ratio of future transit revenue miles to base year transit revenue miles, as well as proportion of transit revenue miles that are electrified rail transit.

In 2019, based on data reported by Colorado's transit operators to the National Transit Database, 81 million vehicle revenue-miles of service were provided by all modes in Colorado's five metro areas. For this measure it is assumed that transit revenue-miles will increase by 6.0 percent per year between 2022 and 2030 (69 percent total growth between 2019 and 2030), and by 2.0 percent a year between 2030 and 2050 (151 percent total growth between 2019 and 2050) compared to base year (2019) service levels. This compares with a statewide growth in transit VRM of 2.9 percent annually (76 percent) between 2000 and 2019 (3.1 percent for the Regional Transit District, 1.2 percent average for other operators in the state).

[16] On average, e-bikes require 24% less total EE (kcal/kg/min) than conventional bicycles - Langford, B. C., Cherry, C. R., Bassett, D. R., Jr., Fitzhugh, E. C., & Dhakal, N. (2017). Comparing physical activity of pedal-assist electric bikes with walking and conventional bicycles. Journal of Transport & Health, 6, 463–473. 1/(1 – 0.24) ~= 1.33.

The VMT reduction percentage was carried over into the statewide model by reducing the ABM trip roster by the same percentage for trips by residents of MPO zones.

Transportation-Efficient Land Use

This strategy is modeled in EERPAT using the following input:

- **metropolitan_urban_type_proportions.csv**: proportions of households in urban mixed-use areas.

Urban mixed-use areas are defined for this analysis as statewide model TAZs categorized as "urban" or higher area type (*AreaType* = 1, 2, or 3) with a population density of at least 2,000 per square mile and a retail/service job density (*Entertainmentemployement* + *Retailemployement* + *Restaurantemployement*) of at least 500 per square mile. This was the density threshold used in the Carbon-Free Boston study (Cambridge Systematics, 2019) which was based on evaluation of different thresholds and qualitative comparison against community characteristics such as walkability.

The base year (2015) number and percent of households in mixed-use urban areas was estimated using statewide model estimates of households and the mixed-use variable. This calculation was repeated for 2030 and 2045 to estimate the number of households in mixed-use areas under baseline forecast growth conditions in the future. The 2015 and 2030 data were interpolated to estimate 2023 values as the start year for additional land use policy implementation.

The 2023 percent of households in mixed-use areas ranges from 11 percent in the GVMPO region to 33 percent in the Denver region. Between 2023 and 2030, the fraction of growth in mixed-use areas ranges from 10 percent in the NRFMPO region to 43 percent in the Denver region. Under the policy scenario, this is assumed to increase to 75 percent in the Denver region and to 50 percent in other MPO regions between 2023 and 2050.

It is also assumed that some areas of existing households redevelop over time into mixed-use areas, through infill commercial development in neighborhood business districts. It is assumed that 4 percent of existing households per decade are in areas that change from non-mixed use to mixed-use. The resulting values of baseline and scenario projections for the percent of households in mixed-use areas, including new households and redeveloped areas, are shown in Table A.10..

Table A.10
Households in Mixed-Use Areas

	Households in Mixed-Use Areas					% of 2023-2030 Growth in Mixed-Use Areas		% of 2030-2045 Growth in Mixed-Use Areas	
MPO Region	2023	2030 Base	2030 Scenario	2045 Base	2045 Scenario	Base	Scenario	Base	Scenario
DRCOG	32.5%	33.5%	38.5%	33.8%	47.1%	42.9%	75.0%	35.7%	75.0%
GVMPO	11.2%	12.4%	18.7%	16.8%	29.9%	20.3%	50.0%	34.7%	50.0%
NFRMPO	18.3%	17.1%	25.5%	16.2%	36.8%	10.0%	50.0%	13.4%	50.0%
PACOG	14.5%	16.0%	20.5%	14.7%	29.6%	28.9%	50.0%	6.1%	50.0%
PPACG	21.6%	20.9%	26.4%	21.9%	34.5%	13.9%	50.0%	27.3%	50.0%

The VMT reduction percentage was carried over into the statewide model by reducing the ABM trip roster by the same percentage for trips by residents of MPO zones.

Reduced Investment in Roadway Capacity

Capacity additions can increase GHG emissions and other social costs related to vehicle-travel in the long term as a result of induced demand effects. Reducing spending on these capacity projects is likely to provide social benefits in the form of reduced GHG emissions, air pollution, vehicle operating costs, and crash costs associated with vehicle-travel. However, it is likely to increase costs related to travel time and delay. It is important to note that the alternative investments provided by funding made available for other projects will help offset the impacts of any roadway travel time increases.

Key assumptions to estimate the social costs and benefits of reduced road capacity investment include:

- Expanded roads have a base VMT of approximately 20,000 VMT per lane-mile for freeways and 10,000 VMT per lane-mile for arterials. This assumes a freeway lane capacity of 2,000 vehicles per lane per hour with 10 percent of daily traffic in the peak hour. Arterial capacities are reduced by half to account for intersection delay. Analysis of modeling conducted by Cambridge Systematics for a hypothetical freeway widening project in Virginia confirms that 20,000 VMT per lane-mile is a reasonable value.
- The long-run demand elasticity is assumed to be 0.67 for freeways and 0.5 for arterials. This elasticity represents the ratio of percent growth in VMT to percent growth in lane-miles. An elasticity of 0.5 means that a 10 percent increase in lane-miles in a given area would result in a 5 percent increase in VMT in that area. The value of 0.67 is consistent with recent modeling of corridor highway expansion projects conducted by Cambridge Systematics and is at the low end of recent values reported in a literature review, which found values ranging from 0.67 to 1.06 in the U.S.[17] That report also estimated that induced demand elasticities for arterials are 75 percent those of freeways. Since some of the induced demand in corridor studies may be due to growth being shifted from other locations in the same state, it is likely that overall induced demand for a statewide program of investments (such as is being evaluated in the Colorado analysis) is lower than levels found in corridor-specific studies.
- It is assumed that it takes five years to reach full response to induced demand, with effects in years 1-4 scaled up linearly between 0 and the final value.
- Delay savings (minutes saved per base VMT) are estimated based on modeling conducted by Cambridge Systematics. The value is 0.20 minutes per VMT at a demand elasticity of 0.67, which corresponds to a 3 mph average speed increase compared with a base speed of 30 mph. The delay savings are scaled to be zero at an induced demand elasticity of 1.0, and to increase in inverse proportion to the elasticity.
- Fuel savings per hour of delay are estimated at 0.44 gal/hour (mixed traffic – autos and trucks) for 2012 vehicles based on data from the 2012 Texas Transportation Institute Urban Mobility Report. These are scaled for 2022 and future vehicles based on actual and projected changes in fuel efficiency (mpg) and levels of fleet electrification. Energy use and GHG emissions from EVs are assumed not to be sensitive to the level of congestion or delay.

[17] Volker, J.M.B., and S. L. Handy (2021). The Induced Travel Calculator and Its Applications. University of California Institute of Transportation Studies, UC-ITS-2021-04.

- Delay reduction from highway expansion is valued at $16.50 per hour per the 2016 U.S. DOT benefit-cost analysis guidance and is calculated after induced demand effects.

Total VMT and Vehicle Operating Cost Savings

Table A.11 shows baseline forecast VMT emissions for light-duty vehicles and the total projected VMT reductions for the illustrative implementation of the proposed rule and the two alternatives considered.

Table A.11
VMT by Year, Light-Duty Vehicles

	Vehicle-Miles of Travel (millions)		
Scenario	**2030**	**2040**	**2050**
Baseline VMT Estimate	63,551	71,069	78,587
Change from Baseline			
Proposed Rule Implementation: Travel Choices + Transit + Land Use	(6,943)	(8,378)	(9,814)
Alternative 1: Travel Choices	(5,876)	(6,197)	(6,146)
Alternative 2: Travel Choices + Transit	(6,633)	(7,593)	(8,138)

Vehicle operating costs are based on gasoline and electricity consumption rates (miles per gallon equivalent) for conventional and electric vehicles from NREL (2017)[18] and fuel and electricity costs from the U.S. Department of Energy Outlook Annual Energy Outlook (AEO) 2021 Reference Case. For conventional and electric vehicles, a "weighted average" fuel efficiency is estimated based on the split of light duty vehicles and light duty trucks. Vehicle maintenance costs are also sourced from NREL (2017) and weighted by the LDV/LDT split. Table A.12 displays fuel prices, energy efficiency, and fuel and maintenance cost per mile for both conventional and electric vehicles from 2020 through 2050.

Table A.12
Light-Duty Vehicle Operating and Maintenance Costs (2021 $)

Operating Cost Inputs	2020	2025	2030	2040	2050
Gasoline Price ($/gge)	2.22	2.37	2.58	2.91	3.06
Electricity Price ($/gge)	3.91	3.80	3.69	3.60	3.31
Conventional Energy Efficiency (mpgge)	32.9	33.7	33.4	33.6	34.1
EV Energy Efficiency (mpgge)	104.7	109.7	111.6	116.9	125.2
Conventional Vehicle Cost – Fuel ($/mi)	0.067	0.070	0.077	0.087	0.090
EV Cost – Fuel ($/mi)	0.037	0.035	0.033	0.031	0.026
Conventional Vehicle Cost – Maintenance ($/mi)	0.036	0.038	0.040	0.041	0.041
EV Cost – Maintenance ($/mi)	0.029	0.030	0.032	0.033	0.033

To calculate total per-vehicle operation and maintenance costs, an annual VMT of 10,450 per vehicle is assumed. This is based on the number of vehicles forecast in 2030 (vehicles growing from current levels in

[18] Wood, E., et al. (2017). National Plug-In Electric Vehicle Infrastructure Analysis. National Renewable Energy Laboratory.

proportion to population) multiplied by miles per vehicle to match the VMT estimates provided by the statewide model.

The total electrified light duty fleet each year is estimated based on state targets, including around 940,000 vehicles in 2030 and 100 percent EV sales by 2040. Using projections from the AEO 2021 Reference Case on vehicle stock growth through 2050, as well as a vehicle turnover model, the EV vehicle stock for 2025, 2030, 2040, and 2050 is estimated alongside vehicle sales, as shown in Table A.13.

Table A.13
Light-Duty Vehicle Electrification Projections

Vehicle Category	2020	2025	2030	2040	2050
All Light-Duty Vehicle Stock	5,090,968	5,585,484	6,080,000	6,546,667	7,590,000
EV Stock	39,908	221,357	943,318	3,739,278	6,290,115
EV Sales %	5%	17%	50%	100%	100%
EV Sales	17,818	66,858	21,800	458,267	531,300
EV% of Stock	1%	4%	16%	57%	83%

GHG Emission Reductions and Social Cost of Carbon Savings

Table A.14 shows projected total GHG emissions from on-road sources for the rule and alternatives, while Table A.15 shows the expected GHG reductions in 2025, 2030, 2040, and 2050 respectively, for the rule and alternatives. As noted above, the results assume a high level of electrification of the future vehicle fleet. As a result, the absolute GHG reductions from VMT measures are substantially lower in 2050 than in 2030, even though the cumulative effects of the measures on VMT will increase over time and be greatest in 2050.

Table A.14
GHG Emissions by Year and Alternative, All On-Road Vehicles

	GHG Emissions (million metric tons)		
Scenario	2030	2040	2050
Proposed Rule Implementation: Travel Choices + Transit + Land Use	18.1	12.5	7.9
Alternative 1: Travel Choices	18.4	12.8	8.1
Alternative 2: Travel Choices + Transit	18.2	12.6	8.0

Table A.15
GHG Emissions Change from Baseline Forecast by Year

	GHG Emissions Change in Year (million metric tons)		
Scenario	**2030**	**2040**	**2050**
Proposed Rule Implementation: Travel Choices + Transit + Land Use	(1.70)	(1.20)	(0.70)
Alternative 1: Travel Choices	(1.43)	(0.88)	(0.44)
Alternative 2: Travel Choices + Transit	(1.62)	(1.09)	(0.59)

To estimate the social cost of carbon savings, greenhouse gas emissions in years between 2030 and 2050 were interpolated, and annual emissions savings before 2030 were ramped up from zero in 2022 to the 2030 level. The social cost of carbon value in each year was then applied to the greenhouse gas emissions in that year. The values used for the social cost of carbon based on the Biden administration guidance are shown in Table A.16 (The White House, 2021).

Table A.16
Social Cost of CO_2, 2020-2050 (in 2020 dollars per metric ton of CO_2)

Emissions Year	2.5% Discount Rate
2020	76
2025	83
2030	89
2035	96
2040	103
2045	110
2050	116

Other Social Benefits

Other social benefits were valued based on the following data sources and key assumptions.

Air Pollution

These costs are associated with human health impacts – including mortality and morbidity – as well as crop and forest damage, ecosystem damage (e.g., from acid deposition, ozone damage, and particulate matter deposition), damage to buildings and materials, and reduced visibility. The costs of air pollution are primarily driven by human health.

Changes in emissions of particulate matter (PM) and oxides of nitrogen (NOx) were estimated based on tailpipe emission rates (grams per mile) in each future year, multiplied by changes in light-duty vehicle VMT. Emission rates for internal combustion engine vehicles were sourced from runs of the U.S. EPA MOVES2014 model conducted by Cambridge Systematics in June 2021 for years 2032 and 2040. Emission rates for years prior to 2032 were interpolated with 2017 rates from analysis for the Carbon Free Boston study (2019) conducted by Cambridge Systematics. Emission rates for 2033-2039 were interpolated between 2022 and 2040 rates, and the 2040 rate was used for years after 2040. Tailpipe emissions from electric vehicles were assumed to be zero.

Damage values ($/kg) are based on the U.S. EPA regulatory impact analysis for light-duty vehicle fuel economy and GHG standards (U.S. EPA, 2010), as reviewed by CS in 2012 for use in the Federal Transit Administration (FTA) New Starts Environmental Benefits Template. Table A.15 shows the damage values used. The damage values are the same as used by FTA in its most current (FY 2021) version of the New Starts and Small Starts reporting templates, with the exception that 2010 dollars have been converted to 2016 dollars using a consumer price index multiplier of 1.1. The EPA values are based on nationwide modeling using county-scale data on emissions, air pollution, and population exposure. The EPA and FTA sources list different damage values for mobile vs. electricity generation sources; the mobile source values are used here. The values used are an average of those provided by FTA for years 2025 and 2035.

Table A.17
Pollutant Damage Values ($/kg)

Pollutant	Damage Value ($/kg)
$PM_{2.5}$	$976
NO_x	$17.69

Safety

Safety costs represent costs associated with crashes resulting in fatalities or injuries. To estimate safety benefits, fatality and injury motor vehicle crashes are assumed to be reduced in proportion to VMT reduced. Average rates of 0.013 fatalities and 0.195 injuries per million vehicle-miles are used, based on Fatality Analysis Reporting System (FARS) fatality data from 2000-2009 and injury rates reported by the Bureau of Transportation Statistics (BTS) in National Transportation Statistics (Table 2-17: “Motor Vehicle Safety Data”). These rates were recommended by Cambridge Systematics for the FTA in 2012 and are still being applied by FTA for use in New Starts and Small Starts project evaluation.[19]

Crash reduction benefits are valued at $9.6 million per fatality based on the latest (2016) U.S. DOT guidance on value of a statistical life. Disabling injuries are valued at $490,000 based on the value provided in FTA’s latest (FY 2021) New Starts and Small Starts reporting templates. The injury value has been inflated by FTA since the original 2012 work (when it was $323,000) and is applied to the fatality and injury rates stated in the previous paragraph.

Traffic Delay

[19] See: Federal Transit Administration, New Starts Environmental Benefits Template, available at http://www.fta.dot.gov/12304.html.

Hours of traffic delay reduced per VMT reduced are derived from data in the Texas A&M Transportation Institute (TTI) 2012 Urban Mobility Report (UMR). This report estimated potential nationwide reductions in VMT due to shifting to transit, and associated savings in travel delay. These values were used to estimate an average delay savings of 0.015 hours per mile of vehicle-travel reduced, representing a weighted average across metro area sizes. Delay savings were valued at $16.50 per hour based on U.S. DOT 2021 Benefit-Cost Analysis Guidance.

Physical Inactivity

A lack of physical activity is associated with increased mortality and other negative health outcomes. investments in walking and bicycling infrastructure and transit services increase physical activity, reducing those associated costs. Physical inactivity is valued based on health care cost savings of $0.21 per mile of walking and bicycling activity based on Gotschi (2011). Gotschi analyzed three investment plans in Portland, Oregon. Bicycle health benefits are estimated using a per-capita health care costs of $544 annually attributable to inactivity (i.e., less than 30 minutes of activity per day), which he derives from three literature sources, with values adjusted for inflation. New bicyclists are assumed to realize these benefits by increasing physical activity from 15 to 45 minutes daily. Gotschi also cites the World Health Organization's Health Economic Assessment Tool (HEAT) for cycling, which uses a relative risk estimate for all cause mortality of 0.72 for 3 hours of bicycling to work per week, from a large Danish cohort study. Gotschi's resulting estimates of cumulative bike miles and cumulative health care savings between 1991 and 2040 equate to about $0.18 in benefit per additional bike mile of travel, which was inflated to $0.21 per mile for this study.[20]

An alternative estimate of physical activity benefits was conducted using estimates of deaths prevented and the value of a statistical life based on U.S. Department of Transportation guidance. Output from the HEAT developed for a study done by Cambridge Systematics in Massachusetts was used to estimate the benefits of increased bicycling and walking, along with additional analysis by Cambridge Systematics for use of this information in the Transportation and Climate Initiative Investment Strategy Tool.[21] HEAT provides estimates of benefits in terms of reduced mortality based on the daily increase in walk or bicycle person-kilometers traveled or walk or bicycle person-hours traveled.[22] The walk and bike PMT increases and deaths prevented were used to estimate an overall rate of 1.7 deaths prevented per million new walking PMT, and 0.5 deaths prevented per million new bicycling PMT. These factors were applied to the estimated increases in walking and bicycling due to active transportation and public transportation investments. (Due to data limitations the current analysis only includes new bicycle travel, as shown in Table A.7). Deaths prevented by physical activity were valued at the same $9.6 million value of a statistical life used in the safety analysis.

[20] Gotschi, T. (2011). "Costs and Benefits of Bicycling Investments in Portland, Oregon." Journal of Physical Activity and Health, 2011, 8(Suppl 1).
[21] Cambridge Systematics, Inc. (2020), *ibid.*
[22] The HEAT tool and documentation are available at: https://www.who.int/gho/health_equity/assessment_toolkit/en/

[redacted]

October 7, 2021

Colorado Transportation Commission
2829 W Howard Pl
Denver, CO 80204

VIA EMAIL SUBMITTAL to dot_rules@state.co.us

Dear Chair Hall and Commissioners,

I am writing on behalf of the Denver Regional Council of Governments' Board of Directors to provide comments on the proposed revisions to 2 CCR 601-22 to establish greenhouse gas (GHG) reduction transportation planning requirements.

As the designated Metropolitan Planning Organization (MPO) for the Denver region, DRCOG, in a cooperative process with CDOT and RTD, is responsible for transportation planning in the metropolitan area and is the venue for effective transportation decision making. Under federal law and regulation, DRCOG must:

- prepare and adopt a fiscally constrained, long-range, multimodal Regional Transportation Plan (RTP) that identifies specific transportation investments in projects, programs, and services to meet future needs and provide a safe and efficient transportation system that provides mobility while not adversely impacting the environment;
- prepare, adopt, and maintain a near-term Transportation Improvement Program (TIP) that identifies specific transportation investments in projects, programs, and services consistent with the RTP; and
- ensure the regional plans comply with all federal requirements, including air quality conformity, to maintain the region's eligibility to receive and expend federal transportation funding.

DRCOG and its partners must consider 10 specific planning factors throughout the transportation planning process. These factors include economic vitality, safety, security, accessibility and mobility of people and freight, protecting and enhancing the environment, transportation system connectivity, system management and operation, system preservation, system resiliency and reliability, and travel and tourism.

Beyond federal requirements, DRCOG supports the goal of reducing surface transportation GHG emissions. The unanimously adopted Metro Vision states that "We're working toward a future where the region has clean water and air, and lower greenhouse gas emissions," supported by objectives and initiatives to "[i]mprove air quality and reduce greenhouse gas emissions," with progress regularly measured against DRCOG's latest travel and air quality modeling results. Improving air quality is also one of the six overarching investment priorities identified in the 2050 RTP.

The following comments are offered in the spirit of clarifying and improving the proposed rule, maximizing the opportunity for the rule to help achieve state and region goals to reduce GHG emissions,

[redacted]

and balancing the rule with DRCOG's federal responsibilities. The comments are organized by section with specific suggestions and supporting discussion points.

Section 8.01 Establishment of Regional GHG Transportation Planning Reduction Levels

- Remove the Baseline Projections from Table 1 and adopt baselines in a Transportation Commission policy directive and reference them in the Rule to allow refinement based on MPO modeling and more frequent updates.

  There should be a reasonable mechanism outside of a formal rulemaking process to review and update the baseline projections to which the reduction levels will be applied. The baseline projections have been developed using the CDOT statewide travel model and then "allocating" GHG emissions to areas based on share of statewide VMT. The relationship between VMT and GHG emissions using this distribution method may not reflect the relative fleet mix or operating characteristics that also influence GHG emissions. Further, DRCOG is required by federal law to adopt a new Regional Transportation Plan every four years and must align growth expectations with the most recent available population and employment forecasts from the State Demography Office, which are updated annually. These annual changes in population and employment forecasts can have a significant impact on travel model results and represent just one example of myriad changes to model inputs and internal model improvements that can change regional baseline measurements.

- Include 2025 Reduction Level (MMT) Values for PPACG, GVMPO and PACOG in Table 1.

  All five MPOs should be subject to demonstrating compliance with the rule for the 2025 horizon year to give the state the best chance of achieving the overall GHG reduction targets.

Section 8.02 Process for Determining Compliance

- Revise §8.02.1 to state "Such analysis shall include the existing transportation network, ~~implementation of~~ future completed regionally significant projects, and all non-regionally significant transportation system investments included in the Plan."

  §8.02.5.1 states that the required GHG Transportation Report contain a "GHG emissions analysis demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1…" Since these Applicable Planning Documents also include non-regionally significant program and project investments that have impacts on travel demand and GHG emissions, the required analysis should include the full set of investment priorities in order to fully assess the plan's estimated total CO2e emissions.

- Revise §8.02.1 to state that "The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the ~~Baseline specified in Table 1~~value derived by subtracting the Reduction Level from the Baseline Projection for that same year."

  A comparison to the Baseline Projections by themselves is not meaningful in the context of the Rule. Determining compliance should be based on an assessment of the estimated GHG emissions of the Applicable Planning Document against reduced GHG emission value.

[redacted]

- Revise §8.02.1 to add the following before the last sentence of the section. "When adopting a TIP, the required emissions analysis will apply to one horizon year corresponding with the last year of the TIP, using interpolation between Table 1 horizon years if the last year of the TIP does not correspond to a designated horizon year in Table 1."

  Federal regulations require TIPs to be consistent with Regional Transportation Plans and represent a near- term investment plan for those priorities established in the RTP. TIPs shall "reflect the investment priorities established in the current metropolitan plan…" (CFR 450.326(a)) and "each project or project phase included in the TIP shall be consistent with the approved [regional] transportation plan." (CFR 450.325(i)). Further, since TIPs represent a near term investment strategy, there is no meaningful result from analyzing those investments against longer term horizon years well beyond the term of the TIP since such analysis will have been completed for the Regional Transportation Plan.

- Add §8.02.2.1 MPOs and CDOT shall prepare and publish a calibration and validation report for their respective travel model. The report shall document model components and key parameters and should address how models account for induced travel demand associated with changes to the transportation system.

  As part of the required modeling assumptions agreement in §8.02.2, the MPOs and CDOT should document and make publicly available the travel model components and parameters.

- Revise §8.02.3 to state "By April 1, 2022, CDOT shall establish an ongoing administrative process and guidelines, through a public process and in consultation with MPOs, for selecting, measuring, confirming, and verifying GHG Mitigation Measures.~~,~~ ~~so that~~ CDOT and MPOs ~~can~~ may incorporate one or more GHG Mitigation Measures into ~~each of~~ their plans in order to reach the Regional GHG Planning Reduction Levels in Table 1. Such a process and guidelines shall include, but not be limited to, how CDOT and MPOs should determine~~ing~~ the relative impacts of GHG Mitigation Measures, and measure~~ing~~ and prioritize~~ing~~ localized impacts to communities and Disproportionately Impacted Communities in particular. The mitigation credit awarded to a specific solution shall consider both aggregate and community impact.

  §8.02.3 states that CDOT shall establish an ongoing administrative process…for selecting…GHG Mitigation Measures…" A statewide process may not reflect that some measures may be more appropriate in one area or another and their relative impact will likely differ depending on the context. The Rule should allow flexibility for MPOs to select appropriate mitigation measures, through their decision-making processes, with guidance developed by CDOT.

- Revise §8.02.5.1.2 to state "In MPO areas that are in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the MPO utilizes some or all of those funds on ~~projects or approved~~ GHG Mitigation Measures that reduce GHG emissions, and CDOT utilizes some or all 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in that MPO area, on projects that reduce GHG emissions as necessary to achieve the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1.

  The language in §8.02.5.1.2 is not clear about whether all CMAQ and STBG funds would have to be used on "projects or approved GHG Mitigation Measures…". In addition, specific federal requirements and regulations apply to the use of CMAQ funds. Restricting the use of

all CMAQ funds as proposed in the Rule may limit nonattainment areas from meeting current federal air quality standards. Likewise, restricting the use of all STBG funds to projects that reduce GHG emissions may limit the ability of DRCOG to invest in important safety, operations, reconstruction, and other non-regionally significant projects necessary for the RTP to address all required federal planning considerations. The provisions in §8.02.5.1.2 should allow flexibility for the MPO to specify only those funds that are to be spent on additional mitigation measures necessary to achieve the GHG emissions levels.

Section 8.03 GHG Mitigation Measures

- Add a provision to require sponsors of regionally significant roadway capacity projects to identify and include GHG Mitigation Measures when including the project in a TIP or the STIP.

  Many of the what the Rule calls GHG Mitigation Measures are planned investments already identified in the DRCOG 2050 RTP. And in the context of a 30-year RTP, these investments are not "mitigations" and should not be reported annually. Mitigations are actions that are taken to avoid, minimize, or compensate for the impacts of a specific action (project). Therefore, the more appropriate application of many mitigation measures is in the context of a specific roadway project and should be documented and tracked as part of the project's implementation through the TIP or STIP.

Section 8.05 Enforcement

- Revise §8.05.2 to state "If the Commission determines, by resolution, the requirements of Rule 8.02.5 have not been met, the Commission shall restrict the use of all CMAQ, STBG, and 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in the area ~~funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, as applicable~~, to projects and ~~approved~~ GHG Mitigation Measures that reduce GHG.

  This clarification is necessary so that these funds are only fully restricted if compliance is not demonstrated under §8.02.5 are not met. If, however, the MPO demonstrates that it is using some CMAQ and/or STBG funds on mitigation measures as necessary to achieve the GHG reduction levels, then there should be no further restriction on the remaining funds.

- Revise §8.05.2 to state ~~"Prior to the enforcement of such restriction, an~~ An MPO in a Metropolitan Planning Area, or CDOT and/or a TPR ~~in a non-MPO~~ outside a Metropolitan Planning Area ~~area~~, may, within ~~thirty~~ sixty (~~30~~60) days of Commission action, ~~issue one or both of the following opportunities to~~ seek a waiver or ~~to~~ ask for reconsideration as provided for in Rule 8.05.2.1 or Rule 8.05.2.2. Enforcement of such restriction shall not begin until the Commission has taken action on such requests under Rule 8.05.2.3. ~~accompanied by an opportunity to submit additional information:"~~

  The language in §8.05.2 is unclear about whether CDOT on its own can seek a waiver for a project within an MPO area. We believe the intent is that waiver requests for projects within MPO areas must go through the MPO process prior to submittal. We also believe that 60 days is a more appropriate timeframe in which an MPO can deliberate and decide whether to seek a waiver or reconsideration.

[redacted]

- Revise §8.05.2.1 to state "Request a waiver from the Commission imposing restrictions on specific Regionally Significant projects not expected to reduce GHG emissions. The Commission may waive the restrictions on specific projects on the following basis:"
  The Rule as written requires a waiver for any "specific project not expected to reduce GHG emissions" (e.g., safety, operations, reconstruction, multimodal corridor planning, TDM, etc.). MPOs should not be required to seek a waiver from the Transportation Commission to invest federal CMAQ or STBG funds in otherwise eligible projects or programs that are not regionally significant, would not have an adverse impact on GHG emissions, and are important for the MPO to achieve other important transportation objectives.
- The Rule should either clarify the meaning of "substantial increase" in §8.05.2.1.2 or CDOT and the Transportation Commission should provide guidance that clarifies how "substantial increase" will be evaluated when considering waiver requests.
  The term "substantial increase" is vague. The Rule or guidance should provide clearer direction to ensure fair and equitable evaluation of waiver requests.
- In §8.05.2.3, strike "If no action is taken within this time period, the waiver or reconsideration request shall be deemed to be denied."
  The full consideration of these requests should be documented and acted upon by the Transportation Commission through a vote on the record. A default denial of a request should not be the result of no action by the Commission.

DRCOG appreciates the state's leadership in addressing climate change and air quality challenges. We also want to thank CDOT staff for the outreach efforts to the MPOs during the development of this proposed rule.

DRCOG acknowledges that meeting the ambitious targets set by the rule is predicated on a partnership with the state on several critical issues that are largely outside of an MPO's authority to directly implement. The feasibility of achieving the targes will require the state to take meaningful action through supportive policies and direct funding within the DRCOG region to fully achieve the desired GHG reductions. We stand ready to continue working with the state to identify and implement relevant policies and funding initiatives.

Respectfully,

[redacted]

c: DRCOG Board of Directors
Doug Rex, DRCOG Executive Director
Shoshana Lew, CDOT Executive Director
Herman Stockinger, CDOT Deputy Director
Rebecca White, CDOT Director, Division of Transportation Development

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse Gas Pollution Standard for Transportation Planning

1 me age

[redacted] Mon, Oct 11, 2021 at 5:08 PM

To: dot_rules@state.co.us

Hello CDOT Transportation Commission,

Thank you for taking some time out of your busy schedule to read some of the thoughts I and others have on the current Greenhouse Gas rule under consideration.

July was the hottest month ever recorded, our Earth is hotter than it's ever been since the beginning of the last ice age, and yet Colorado is not on track to meet its climate targets! **It is critical that our state agencies embrace bold, transformative policies that drive broad scale decarbonization.** The current draft rule is a good start, but should be more ambitious to ensure that we meet our emissions reduction targets.

As a matter of environmental justice, **disproportionately impacted communities and communities of color must be at the heart of any decision making process** to en ure acce to affordable, multimodal, transportation options that reduce toxic air pollution and traffic congestion. Please also develop an equity framework beyond thi rulemaking that en ure that individual from di proportionately impacted communities are given a real seat at the decision making table.

GHG reduction levels in the draft rules do not add up to the 12.7 million metric tons of CO2e reductions from Transportation by 2030 figure outlined in the state's GHG Pollution Reduction Roadmap issued by Governor Polis' Office in January of this year. Coloradans deserve a clear, enforceable, and equitable plan to reduce GHG emi ion from the tran portation ector not more account tricks.

The draft rules rely heavily upon optimistic electric vehicle (EV) adoption rates and provide no alternative proposals for achieving these GHG reductions if EV adoption is slower than anticipated. Therefore, this rule should adopt stricter carbon budgets that will allow us to meet our emissions reduction targets given the likelihood that EV adoption does not occur as fast as this rule anticipates.

Along with stricter carbon budgets to compensate for slower EV adoption, **instead of more highway expansion projects, Coloradans need more and better transportation alternatives to driving a vehicle** like electric bicycle and cooter for horter trip , affordable and efficient public tran it for longer trips, expanded light rail and bus rapid transit along major routes, and better land use decisions to provide more bike lane , idewalk , and pede trian centric urban center Thi rule hould impo e a moratorium on highway expansions, as this strategy has only been shown in all studies to increase traffic, air pollution and di place neighborhood

The draft rules do not account for all greenhouse gas sources from vehicles. Hydrofluorocarbons (HFCs) are not included in the definition of a greenhouse gas. This is a significant omission because HFCs from vehicle air conditioners and refrigeration trucks are powerful GHGs with Global Warming Potentials (GWPs) hundreds to thousands of times greater than that of CO2.

Transportation models, assumptions, estimates and **figures used to guide transportation policy by CDOT must be transparent for the public** to engage in decision making processes that impact public health, traffic congestion and our state's GHG emissions.

We all want a healthier Colorado, le impacted by mog and traffic jam We mu t make ure thi i not achieved at the cost of our vulnerable communities or future generations. Thank you for reading my thought on thi matter

--

[redacted]

"When people talk about traveling to the past, they worry about radically changing the present by doing something small, but barely anyone in the present really thinks that they can radically change the future by doing something small." ~Anonymous

"Nobody made a greater mistake than he who did nothing because he could do only a little." ~Edmund Burke

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Rulemaking Comments

1 me age

[redacted] Mon, Oct 11, 2021 at 2:44 PM

To: "DOT_Rules@state.co.us" <DOT_Rules@state.co.us>

Cc "White CDOT, Rebecca" rebecca white@ tate co u , [redacted]

Good afternoon,

Please see the attached letter and redline which presents the substantive comments of the North Front Range Metropolitan Planning Organization (NFRMPO) on the Transportation Commission's (TC's) proposed revision to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions.

I'd like to highlight one element of the letter, which is the NFRMPO's gratitude for all the time and effort CDOT staff have devoted to thi rulemaking, e pecially for the countle hour pent reviewing and an wering our que tion We really appreciate it!

Thank you,

[redacted]

North Front Range Metropolitan Planning Organization

[redacted]

NFRMPO GHG Comment Letter Final - signed.pdf
1701K

North Front Range Metropolitan Planning Organization

Date: October 11, 2021

To: Director Shoshana Lew, Hearing Officers Andrew Hogle and Christine Reece, and Transportation Commissioners (via email to dot_rules@state.co.us)

From: North Front Range Metropolitan Planning Organization (NFRMPO)

Re: NFRMPO Comments on the Proposed GHG Rule

Introduction

Thank you for the opportunity to submit comments on the Transportation Commission's (TC's) proposed revision to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions which identifies a process for addressing greenhouse gas (GHG) emissions and sets GHG standards for transportation plans. The North Front Range Transportation & Air Quality Planning Council, also known as the NFRMPO, is comprised of 15 elected officials representing portions of Larimer and Weld counties. As a Metropolitan Planning Organization (MPO), the NFRMPO will be responsible for demonstrating compliance with the proposed rule and NFRMPO staff have engaged extensively in the stakeholder process conducted by the Colorado Department of Transportation (CDOT) that began in January 2021. This comment letter presents the substantive comments of the NFRMPO on the GHG rule, which supplements comments submitted previously by the NFRMPO on September 8, 2021, and September 13, 2021.

The substantive comments presented below are not as comprehensive as they could be due to the inability to review two requested datasets. As explained in the comment letter submitted by the NFRMPO on September 13, 2021, there are four datasets that should be released during the public comment period to allow fully informed decision making and meaningful stakeholder involvement, all of which had been requested by the NFRMPO in July and/or August, prior to sending the letter. Several of the requested datasets have subsequently been provided to the NFRMPO; however, corrections to the GHG Reduction Levels and the technical report describing the modeling process have still not been provided.[1] As such, **the NFRMPO continues to recommend an extension of the public comment period** to provide at least 30 days of public comment past the delivery of requested datasets to allow for the submission of data-driven comments and development of a data-driven rule.

The NFRMPO strongly supports development of a data-driven, feasible, and effective rule to reduce GHG emissions resulting from implementation of transportation plans. The remainder of this comment letter is organized into two sections: Rule Context, which provides background on understanding the rule and the NFRMPO's recommendations, and Recommended Improvements, which identifies 13

[1] The reasons both datasets are important for developing data-driven comments are described in the NFRMPO's comment letter dated September 13, 2021, which is available on pages 61-63 at https://www.codot.gov/business/rules/documents/redacted-written-comment_ghg-pollution-standard.pdf.

[redacted]

recommendations for improving the rule. Please see the attached redline for the NFRMPO's specific wording suggestions for the GHG rule.

Rule Context

To develop a data-driven, feasible, and effective rule, it is important to understand the context of the rule. The following three fundamental concepts should inform the GHG rulemaking process and are explained further below:

1. Importance of developing a clearly written, procedurally sound GHG rule
2. Amount of emission reductions from the GHG Rule needed to achieve State GHG goals
3. The role of vehicle miles traveled (VMT)

For additional information on the provisions of the proposed rule and analysis of relevant datasets informing the NFRMPO's recommendations, recordings of three presentations by NFRMPO staff are available at https://nfrmpo.org/air-quality/ghg-rulemaking/. These recordings are available as a resource for decision makers and stakeholders who wish to develop a greater understanding of the proposed rule and its implications.

1. Importance of developing a clearly written, procedurally sound GHG rule

Rulemakings are significant undertakings that set regulations permanently unless a sunset provision is included. Once a regulation is in place, modification requires initiating a new rulemaking process, which takes substantial time and effort. Regulations may have associated policy documents, such as procedural directives and/or policy directives, to guide implementation and clarify processes, but it is important for rules to provide a clear framework that can stand the test of time. Rulemakings receive higher public scrutiny than associated policy documents and should address any contentious issues through the public rulemaking process rather than delegating those issues to supporting documents. Due to the permanence of regulations, many different staff members and Transportation Commissioners will be involved in implementing the proposed rule. By ensuring the rule is clear and procedurally sound, there is a greater likelihood of implementing the rule as envisioned by the TC.

2. Amount of emission reductions from the GHG Rule needed to achieve State GHG goals

The proposed rule under consideration by the TC is identified in the State's GHG Pollution Reduction Roadmap ("GHG Roadmap")[2] as one of seven near term strategies to reduce GHG emissions from the transportation sector. To achieve the State's statutory goal of cutting GHG emissions 50 percent by 2030, the GHG Roadmap proposed the transportation sector reduce GHG emissions by 12.7 million metric tons (MMT) in 2030. Fleet turnover and transportation electrification is expected to reduce GHG emissions by 8 MMT in 2030, leaving a GHG reductions gap of 4.7 MMT.

[2] Colorado Greenhouse Gas Pollution Reduction Roadmap, 1/14/2021, accessed on 10/4/2021 at https://drive.google.com/file/d/1jzLvFcrDryhhs9ZkT_UXkQM_0LiiYZfq/view.

The status of six of the seven near-term transportation strategies is identified in **Table 1**, as presented by the Colorado Energy Office (CEO) and Air Pollution Control Division (APCD).[3] Collectively, the strategies are intended to reduce GHG emissions by 4.7 MMT in 2030; there is no single strategy that is intended to close the gap on its own. Because the strategies are being developed through independent processes with varying timelines, it can be challenging to determine how much GHG emissions each strategy should be designed to reduce. It is vitally important that each strategy be designed to be feasible and cost effective so that it can successfully produce reductions in GHG emissions. If, however, a strategy is designed to reduce GHG emissions by an unachievably high amount, the likelihood of failing to meet the State's statutory GHG reduction goal could increase.

Based on Colorado's GHG Roadmap, there is no specific amount of GHG reductions that need to be achieved by this proposed rule to meet the State's GHG reduction goals. Designing the rule to be feasible and cost effective is the best way to support the State's GHG reduction goals.

Table 1: Status of GHG Roadmap's Transportation Sector Near Term Actions Intended to Reduce GHG Emissions by 4.7 MMT in 2030

Near Term Actions	Status
GHG Pollution Standards for transportation plans	In progress - CDOT TC Rulemaking – hearing 11/2021
Incentivize land use to increase housing near jobs and reduce VMT and pollution	HB 21-1271, HB 21-1117; CDOT stakeholder process; interim affordable housing committee
Clean trucking strategy - infrastructure, fleet incentives, consider regulatory tools such as advanced clean trucks and fleet rules	In progress - Study to be released October 2021 Stakeholder Engagement – Summer/Fall 2021; fleet investments from SB21-260
Participate in developing post 2025 vehicle standards (state and federal)	Federal and CARB processes
AQCC evaluation of indirect source rules	RAQC has convened committee to start developing proposals
Expansion of public transit, including setting the stage for Front Range Rail	In progress - SB21-238, SB 21-260, Main Streets investments, on-going multimodal emphasis

Source: Adapted from CEO and APCD presentation to the Air Quality Control Commission (AQCC) on 9/17/2021, accessed on 9/23/2021 from https://drive.google.com/drive/folders/1q91ZWsWD8KHvODzflOoSq5gKTOw_O2MJ. (See Slide 21)

3. The role of vehicle miles traveled (VMT)

As explained in the Preamble for the 2021 Rulemaking, SB21-260 requires CDOT and the TC to establish procedures and guidelines "to account for the impacts of transportation capacity projects on GHG pollution and Vehicle Miles Traveled and to help achieve statewide GHG pollution targets established in § 25-7-102(2)(g), C.R.S."[4] It is important to note SB21-260 has distinct requirements regarding GHG

[3] The seventh strategy, omitted from the table, is the Commute Trip Reduction Program, which was dismissed from an AQCC rulemaking in August 2021 but is currently being explored as a voluntary program.

[4] Preamble for 2021 Rulemaking, Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions, https://www.codot.gov/business/rules/documents/2-ccr-601-22_redline_8-13-21.pdf.

emissions and vehicle miles traveled (VMT) for the TC's procedures and guidelines. For GHG emissions, SB21-260 requires a *reduction* in GHG emissions to help achieve the statewide pollution targets. For VMT, SB21-260 requires an *accounting* of the impact of capacity projects on VMT; it does not require reductions in VMT.

Vehicle Miles Traveled (VMT) plays an important role in determining the amount of greenhouse gas emissions from transportation, but it is not the only factor. As explained in FHWA's "Handbook for Estimating Transportation Greenhouse Gases for Integration into the Planning Process" ("FHWA Handbook"), GHG emissions from each mile of travel vary based on vehicle type, classes within vehicle types, technology/fuel type, speeds, and operating conditions.[5] On a mile for mile basis, a transportation system with more congestion, starts and stops, and vehicle idling will have higher GHG emissions than a system with less congestion, starts and stops, and vehicle idling. Improving system operations, such as through Intelligent Transportation Systems (ITS), can provide net reductions in GHG emissions without reducing VMT.

As required by SB21-260, the proposed rule establishes targets for GHG emissions reductions. The proposed rule does not establish targets for VMT reductions, nor should it. However, the Cost-Benefit Analysis (CBA) inaccurately portrays the proposed rule as a VMT-reduction rule instead of as a GHG-reduction rule. The CBA states "CDOT developed illustrative policy choice packages that assume implementation of three broad categories of VMT reduction measures."[6] However, included in those measures is the electrification of buses, which is not a VMT-reduction measure. The CBA states the "costs and benefits of bus electrification are not considered here, since bus electrification is not a VMT reduction measure." In fact, the benefits of bus electrification are incorporated into the scenario used to set the GHG Reduction Levels, as evidenced by the GHG emissions reductions reported in Table A.15 of the CBA which match the emissions reductions reported in the CDOT presentation dated July 13, 2021.[7] Even though the benefits of bus electrification are included, the additional cost of purchasing electric buses are not considered, resulting in an incomplete assessment of the costs of the proposed rule.

Currently, the proposed rule includes two illustrative examples of GHG Mitigation Measures which reduce GHG through non-VMT strategies, including efforts to accelerate truck electrification in §8.03.7 and clean construction policies in §8.03.8. The rule would be strengthened by considering the full range of strategies available to CDOT and MPOs to reduce GHG emissions from transportation, including other types of fleet improvements such as alternative fuel transit buses, improving system operations through ITS, and any other type of operations improvement that results in reduced greenhouse gas emissions.

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[5] FHWA, "Handbook for Estimating Transportation Greenhouse Gases for Integration into the Planning Process," 2013, accessed on 10/4/2021 at https://www.fhwa.dot.gov/environment/sustainability/energy/publications/ghg_handbook/ghghandbook.pdf.

[6] CDOT, Cost-Benefit Analysis For Rules Governing Statewide Planning, 8/31/2021, accessed on 10/4/2021 at https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf.

[7] Permanent Rulemaking Exhibits, "Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions," GHG Pollution Standard GHG Reduction Targets & GHG Policy Paper, 7/13/2021, Exhibit 8, accessed on 10/4/2021 at https://www.codot.gov/business/rules/documents/00_2ccr60122_exhibits_redacted.pdf, See pages 270-278.

The Clean Air Act (CAA) identifies a wide range of transportation strategies that reduce emissions. The CAA includes 16 strategies, called Transportation Control Measures (TCMs), which reduce emissions by one of three mechanisms:

- reducing VMT (e.g. trip-reduction ordinances, improved public transit),
- improving operations (e.g. programs to control extended idling in vehicles, traffic flow improvement programs that achieve emission reductions), or
- fleet improvements (e.g. programs to voluntarily remove pre-1980 vehicles from use).[8]

As with the CAA, the GHG rule should allow for a wide range of effective strategies and not restrict the GHG Mitigation Measures or the strategies informing the GHG Reduction Levels to only those that reduce GHG through VMT reductions. As explained above, the rule already incorporates non-VMT reducing strategies into both the GHG Mitigation Measures and GHG Reduction Levels; however, there are additional non-VMT strategies such as operations improvements that should also be included. For more information on this topic, please see Recommendation #7 on page 10 of this comment letter.

Recommended Improvements

The NFRMPO offers the following recommendations for improving the clarity, effectiveness, and feasibility of the proposed rule, each of which are explained further below:

1. Remove or Update GHG Baselines
2. Set Per Capita GHG Reduction Levels
3. Develop Practicable GHG Reduction Levels
4. Correct Errors in GHG Reduction Levels
5. Require Reassessment of GHG Reduction Levels
6. Expand Implementers of GHG Mitigation Measures
7. Include Operations Strategies in the GHG Mitigation Measures
8. Require a Vote of the TC to Deny Waiver and Reconsideration Requests
9. Remove or Modify Requirement for TIPs
10. Remove Restrictions on CMAQ-Funded Projects
11. Allow Non-Regionally Significant Projects Funded with STBG to Proceed
12. Additional Clarifications to Processes
13. Clarify and Update Assumptions in the Cost-Benefit Analysis

The attached redline provides the specific wording suggestions for many of the recommended improvements, including Recommendations #5-#8 and #10-#12. The remaining recommendations are not included in the attached redline because they either require additional analysis to update the GHG

[8] Clean Air Act, 42 U.S.C. §7408(f) (1990).

emissions values in the rule, have multiple ways of being addressed, or are focused on the CBA. The NFRMPO will work cooperatively with CDOT to clarify and identify solutions for all recommended improvements.

1. Remove or Update GHG Baselines

There are three issues with the GHG Baseline Projections ("baselines") in Table 1 of the proposed rule:

- The baselines are estimated from the statewide travel model for each regional area,
- The baselines do not account for projected electric vehicle (EV) shares, and
- The baselines for each regional area were assigned by their share of statewide vehicle miles traveled (VMT) instead of their share of GHG emissions.

The proposed rule provides valuable flexibility by allowing MPOs to assess compliance with the rule using their own travel model or the statewide travel model. Because different models have different sensitivities, the GHG Baseline Projections should be based on MPO travel models for any MPO that will use its own model to assess compliance, thus allowing for an apples-to-apples comparison. The NFRMPO will be assessing compliance using its in-house travel model for several reasons, including the ability to quickly test different sets of strategies and to ensure the model reflects the latest planning assumptions for the region.

The GHG Baseline Projections do not account for projected EV shares; however, the scenarios used to develop the GHG Reduction Levels do account for projected EV shares[9]. Because of the difference in methodology, it is not possible to subtract the GHG Reduction Level from the GHG Baseline Projection to identify the amount of GHG emissions allowed for each regional area. Incorporation of projected EV shares is fundamental to understanding the amount of GHG emissions that can feasibly be reduced due to changes to transportation plans because transportation systems with higher shares of EVs have lower potential to reduce GHG emissions through project mix revisions. The baselines should account for the projected EV shares that are expected to result from current state requirements for vehicle electrification.

Lastly, the baselines for each regional area should be based on the GHG emissions resulting from each individual area and not based on an approximation assigned based on their share of VMT. Currently, the baselines in Table 1 are based on assigning the statewide GHG emissions estimate to each regional area according to their statewide share of Vehicle Miles Traveled (VMT), which fails to account for the GHG impacts of different operating conditions and fleet mix in each regional area.

Due to the issues listed above, the NFRMPO recommends removing the GHG Baseline Projections from the rule and placing them in a supporting policy document. Alternatively, if the GHG Baseline Projections are retained in the rule, they should be updated to values based on MPO travel models for any MPO that will use its own model to assess compliance, to account for projected EV shares, and to reflect GHG emissions in each regional area. For the NFRMPO, the updated baseline values are 2.35 MMT in 2025, 1.63 MMT in 2030, 1.18 MMT in 2040, and 0.77 MMT in 2050.

[9] To be clear, the projected EV shares do not increase the amount of GHG emissions in the GHG Reduction Levels; instead, they lower the amount of GHG emissions. Efforts to electrify the light duty fleet are anticipated to occur through other State requirements and do not count toward achievement of the GHG Reduction Levels for this rule.

2. Set Per Capita GHG Reduction Levels

The GHG Reduction Levels in Table 1 of the proposed rule were developed based on current MPO boundaries and current projections for population and employment growth, both of which are subject to change. MPOs may choose to expand their planning area or may be required to expand their planning area due to updates to Urbanized Areas after a Decennial Census. Per federal planning requirements, MPOs obtain the latest population and employment growth forecasts prior to updating the long-range transportation plan. The updated forecasts may be higher or lower than the previous forecast.

The NFRMPO recommends the rule account for these two sources of change by setting GHG Reduction Levels on a per capita basis, thus allowing the GHG Reduction Levels to remain relevant regardless of changes to MPO planning area boundaries and growth forecasts. The per capita approach is used in California, under SB 375, which requires MPOs meet GHG reductions in terms of percentage reductions in per capita emissions compared to 2005 levels.[10]

3. Develop Practicable GHG Reduction Levels

The GHG Reduction Levels in the proposed rule were developed from "illustrative policy choice packages"[11] intended to represent feasible reductions related to transportation policy/investment choices available to MPOs and CDOT. Some of the policy choices informing the GHG Reduction Levels include measures that are not within the control of MPOs or CDOT and/or reflect market forces instead of policy choices, such as:

- Changing land use to be more transportation-efficient. According to the CBA, this strategy is "assumed to be achieved mainly through the operation of market forces."[12] In addition to assuming the strategy will be implemented without any substantive policy changes, authority over land use decisions in the State of Colorado belongs to counties and municipalities, not to MPOs or CDOT. While there are some limited opportunities for MPOs and CDOT to encourage adoption of land use and zoning codes to reduce reliance on driving, such as through revised requirements or scoring criteria in Calls for Projects, these efforts should count in the GHG Mitigation Measure process instead of being factored into the GHG Reduction Levels. An additional benefit of removing the land use assumptions from the GHG Reduction Levels is it ensures the benefits from the two land use-related transportation strategies in the GHG Roadmap are not double counted (i.e. Indirect Source Rule and land use incentives).
- Increasing the share of workers teleworking by a factor of 3, from 6.3% to 18.9%. According to the CBA, this strategy "reflect[s] a continuation of trends observed during the COVID pandemic."[13] In addition to assuming the strategy will be implemented without any substantive policy changes, MPOs and CDOT do not have the authority to require employers to offer telework. Instead, the role of MPOs and CDOT is limited to providing information and grants to

[10] California Air Resources Board, "SB 375 Regional Plan Climate Targets", accessed on 10/4/2021 at https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets.

[11] CDOT, Cost-Benefit Analysis For Rules Governing Statewide Transportation Planning, 8/31/2021, accessed from https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf, page 2.

[12] IBID, page 15.

[13] IBID, page 18.

support telework efforts, the potential impact of which would be much less than tripling telework rates statewide.

- Expanding broadband access from 82.6 percent of households (as of 2019) to 97 percent of households by 2030, thus allowing households with new access to broadband to replace 10 percent of personal business trips such as banking or medical appointments with teletravel. The CBA states this strategy is anticipated to be implemented with federal and State funds and through the efforts of the Colorado Broadband Office.[14]
- Revising State health care regulations to permit or encourage more telehealth visits to the degree feasible and appropriate.[15]
- Expanding transit service by 151 percent between 2019 and 2050[16] (as compared with a population growth forecast of around 50 percent) and reducing transit fares by 50 percent.[17] Strategies to expand transit service and reduce transit fares are more closely related to the strategies available to MPOs and CDOT than the strategies listed above, but there are important caveats. MPOs and CDOT work cooperatively with transit agencies in the metropolitan and statewide planning process, respectively; however, service expansion and transit fare decisions are ultimately determined by each independent transit agency. Providing funding to transit agencies to expand transit service and reduce transit fares is a possibility through CDOT. In contrast, MPOs are severely restricted in the funding they can provide to transit agencies for those two strategies. None of the federal funding programs available through MPOs can provide ongoing transit fare subsidies and none can provide ongoing funding for transit operations.[18]

CDOT developed three scenarios to assess feasible ranges of GHG Reductions. The proposed rule uses the "Travel Choices + Transit + Land Use" scenario to set the GHG Reduction Levels, which is a collectively exhaustive list of all tested strategies, including the strategies listed previously that are assumed to occur through market forces and/or are not within the control of MPOs or CDOT. Instead of using the "Travel Choices + Transit + Land Use" scenario to set the GHG Reduction levels, the NFRMPO recommends setting the GHG Reduction Levels using policies and investment choices available to MPOs and CDOT, not on strategies outside their control or changes anticipated to occur through market forces.

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[14] IBID, page 12.

[15] IBID.

[16] IBID, page 20.

[17] Permanent Rulemaking Exhibits, "Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions," GHG Pollution Standard GHG Reduction Targets & GHG Policy Paper, 7/13/2021, Exhibit 8, accessed on 10/4/2021 at https://www.codot.gov/business/rules/documents/00_2ccr60122_exhibits_redacted.pdf, See page 274.

[18] The Congestion Mitigation and Air Quality (CMAQ) program allows intermittent or limited funding for these strategies, including fare subsidies only during ozone action days and transit operations funding for new service for up to five years. The Surface Transportation Block Grant (STBG) program cannot subsidize transit fares or fund transit operations.

4. Correct Errors in GHG Reduction Levels

As explained in the CBA, the GHG Reduction Levels in the proposed rule "assume a high level of electrification of the future vehicle fleet" which results in "absolute GHG reductions from VMT measures [that] are substantially lower in 2050 than in 2030."[19] According to the proposed rule, the light duty fleet is assumed to be 97 percent electric by 2050 (See §8.01.1). With only three percent of light duty vehicles emitting at the tailpipe in 2050, and with the scenario informing the GHG Reduction Levels primarily relying on reductions to light duty VMT, the GHG Reduction Levels for 2050 in each regional area are unreasonably high. Across the state, the 2050 GHG Reduction Levels sum to 0.7 MMT, a reduction value which would require no more than 32 percent of light-duty vehicles to be electric given a light duty VMT reduction of 12 percent.[20]

The unreasonably high GHG Reduction Levels in 2050 and other out years are likely caused, at least in part, by inadvertently applying the reductions in light duty VMT to all vehicle types when transferring the outputs of the travel model into the air quality model. The NFRMPO recommends recalculating the GHG Reduction Levels to ensure they accurately represent emissions reductions given the high percentage of light duty EVs assumed in the future.

5. Require Reassessment of GHG Reduction Levels

No provision is provided in the rule for reassessing the GHG Reduction Levels to determine if they are still feasible. The rule focuses solely on GHG reductions through planning efforts, such as VMT reductions, which are less effective at reducing GHG emissions when vehicle technologies improve.[21] With technology rapidly changing the transportation sector, the GHG Reduction Levels should be regularly reassessed with consideration of factors such as fuel economy standards and EV shares to determine if the planning-related GHG Reduction Levels are feasible.

Regular revisions to GHG targets are a component of California's GHG requirement for MPOs under SB 375. Specifically, the California Air Resources Board (CARB) is required to update the regional GHG targets for MPOs every eight years and has the option of revising the targets every four years.[22]

The NFRMPO recommends the rule should require the GHG Reduction Levels be reassessed at least every four years by the State Interagency Consultation Team to ensure the GHG Reduction Levels are still feasible. In addition, the rule should allow MPOs, CDOT, and the TC to request a feasibility review at any time by the State Interagency Consultation Team, with the State Interagency Consultation Team retaining discretion over which requests to fulfill. Upon completion of a feasibility review, the TC would

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[19] CDOT, Cost-Benefit Analysis For Rules Governing Statewide Transportation Planning, 8/31/2021, accessed from https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf, page 24.

[20] As shown in Table A.11 of the CBA, the Proposed Rule Implementation Scenario reduces light duty VMT by 9,814 million miles in 2050 compared to the 78,587 million miles expected for the baseline scenario in 2050, which corresponds to a 12 percent reduction in VMT.

[21] Consider, for example, the potential GHG emissions resulting from reducing VMT by five percent if the average fuel economy of the fleet is 25 mpg vs an average fuel economy of 50 mpg.

[22] California Air Resources Board, "SB 375 Regional Plan Climate Targets", accessed on 10/4/2021 at https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets.

have the opportunity to commence a rulemaking to allow the GHG Reduction Levels to potentially be revised.

6. Expand Implementers of GHG Mitigation Measures

The proposed rule defines GHG Mitigation Measures as "non-Regionally Significant Project strategies *implemented by CDOT and MPOs* that reduce transportation GHG pollution" (See §1.19, emphasis added). However, the illustrative examples of GHG Mitigation Measures in §8.03 of the proposed rule include several measures that cannot be implemented by MPOs, such as:

- Adding transit resources to displace VMT (see page 8 of this comment letter),
- Adopting parking policies, and
- Establishing clean construction policies.

The NFRMPO recommends the rule not restrict implementers of GHG Mitigation Measures to only CDOT and MPOs. Many of the illustrative examples of GHG Mitigation Measures are implemented by transit agencies and local governments and the efforts of those entities should count toward the region's transportation GHG emissions reductions targets.

7. Include Operations Strategies in the GHG Mitigation Measures

The illustrative examples of GHG Mitigation Measures in §8.03 of the proposed rule should include representative examples from the full range of strategies available to CDOT and MPOs to reduce GHG emissions from transportation, including operations strategies. As explained on page 4 of this comment letter, the CAA includes operations improvement strategies in the list of TCMs, and the CAA's TCMs should serve as a template and resource for the State's GHG rule.

Specifically, the NFRMPO recommends adding the following example to the illustrative list of GHG Mitigation Measures in §8.03 of the proposed rule:

> "Implementing or encouraging the implementation of operations improvements such as ramp metering, signal timing, intersection improvements, access control plans, anti-idling programs, incident management, and Intelligent Transportation Systems (ITS) strategies that result in GHG reductions."

8. Require a Vote of the TC to Deny Waiver and Reconsideration Requests

If the TC determines the GHG Transportation Report is non-compliant, the proposed rule offers two options for an MPO, CDOT, or TPR in a non-MPO area to request accommodations: waivers and reconsiderations. The waiver option could allow for specific projects not expected to reduce GHG emissions to proceed and the reconsideration option could allow for the TC to reconsider a non-compliance determination.

These two options are important provisions in the proposed rule and should be retained. Currently, the proposed rule allows the TC to deny waiver requests and deny requests for reconsideration without review by the TC and without a vote, simply by not taking up the request (See §8.05.2.3). Instead of allowing automatic denial of such requests through inaction, the NFRMPO recommends the rule require the TC to go on record with a vote to deny waiver and reconsideration requests.

9. Remove or Modify Requirement for TIPs

The proposed rule applies to Transportation Improvement Programs (TIPs) for MPOs in nonattainment areas but it does not apply to the Statewide Transportation Improvement Program (STIP) even though some portions of the non-MPO area are designated as nonattainment areas. To provide consistency in MPO and non-MPO areas, the NFRMPO recommends removing or modifying the requirements for TIPs.

The proposed rule requires a GHG Transportation Report for each applicable planning document, which includes TIPs for MPOs in nonattainment areas. TIPs provide the short-range program of projects, typically covering four years. In accordance with federal requirements, TIPs must be consistent with long-range regional transportation plans (RTP), which means any regionally significant project included in the TIP must also be included in the RTP. It is unclear from the proposed rule if two separate GHG Transportation Reports are required when adopting a TIP and RTP, or if the same report can be used for both documents.

The NFRMPO recommends removing the requirements for TIPs for MPOs in nonattainment areas, which would provide consistency with the approach used for nonattainment areas outside of MPOs. Alternatively, the NFRMPO recommends modifying the requirement to clarify that TIPs consistent with the RTP can rely on the GHG Transportation Report for the associated RTP.

10. Remove Restrictions on CMAQ-Funded Projects

For areas that cannot meet the specified GHG Reduction Levels, the proposed rule would restrict the types of projects eligible for some of the State's 10-Year Plan funds and, if available within the region, the rule would restrict the type of projects eligible for federal funding from the Congestion Mitigation and Air Quality (CMAQ) and Surface Transportation Block Grant (STBG) programs awarded through the MPO.

CMAQ funding is awarded to projects that reduce federally regulated criteria pollutants including carbon monoxide, ozone precursors, and particulate matter. In the NFRMPO, CMAQ funds are often awarded to alternative fuel transit buses, such as electric buses and Compressed Natural Gas (CNG) buses, and to ITS and operations improvements. Based on the current rule language, it is unclear if these project types could receive CMAQ funds in the event the NFRMPO cannot meet the specified GHG Reduction Levels. Importantly, the NFRMPO does not restrict the types of projects that can be submitted for CMAQ funding and uses scoring criteria that emphasize the amount of ozone precursor emissions reductions achieved by the project and the cost effectiveness of those emissions reductions.

With the Denver Metro/North Front Range area designated by the EPA as Nonattainment for ozone, the NFRMPO recommends CMAQ funding should continue to be awarded to projects that most effectively reduce ozone precursors regardless of the region's ability to meet the GHG Reduction Levels specified in the proposed rule.

11. Allow Non-Regionally Significant Projects Funded with STBG to Proceed

As explained in Recommendation #10, the proposed rule imposes restrictions on the types of projects eligible to receive CMAQ, STBG, and some 10-year Plan funds in the event the GHG Reduction Levels cannot be achieved. The 10-Year Plan fund restriction in the proposed rule applies only to regionally

significant projects, whereas the CMAQ and STBG restriction applies to all projects. STBG funding is awarded to projects that meet needs identified in the federally required metropolitan planning process, such as safety, mobility, and operations.

The NFRMPO recommends non-regionally significant projects funded with STBG, such as important safety and operations improvements, be able to proceed without a waiver in the event the GHG Reduction Levels cannot be achieved, similar to non-regionally significant projects funded with the State's 10-Year Plan funds.

12. Additional Clarifications to Processes

There are a variety of other process clarifications recommended in the attached redline, including, but not limited to the following:

- Allowing a waiver to be requested at any time, including concurrently with the submission of a GHG Transportation Report.
- Allowing up to sixty (60) days to submit a request for reconsideration instead of thirty (30) days.
- Clarifying which projects are subject to funding restrictions based on project implementation status.
- Allowing conflicts to be resolved through the Governor, similar to the process used in federal air quality conformity.
- Clarifying the timing and requirements of the Mitigation Action Plan.
- Ensuring the APCD Verification is available to the TC.
- Streamlining the Annual Status Report on GHG Mitigation Measures by allowing measures to be grouped.
- Identifying additional responsibilities for the State Interagency Consultation Team.
- Requiring TC Action on GHG Transportation Reports within sixty (60) days, instead of allowing an unlimited time for TC Action.

13. Clarify and Update Assumptions in the Cost-Benefit Analysis

The Cost-Benefit Analysis is an important resource for the proposed rule by providing an explanation of the policy choices included in the scenario selected to set the GHG Reduction levels and by assessing the costs and benefits of the proposed rule. The NFRMPO suggests clarifying the following assumptions in the CBA:

- The CBA identifies the total cost of projects in the five MPOs' long-range plans and CDOT's 10-Year Plan for 2022 through 2050 as $28B in 2021 dollars. This value is well below the sum of expenditures identified in the NFRMPO's 2045 RTP and DRCOG's 2050 RTP, which exceeds $100B. The CBA should clarify which project types were used to calculate the $28B cost. The CBA should also be updated to clarify that long-range plans are federally required to be fiscally constrained and to account for the cost of operations and maintenance.

- Several of the Tables in Appendix A: Detailed Analysis of Economic Benefits and Costs, appear to have sufficient explanations in the associated "basis for cost estimates" section to calculate the costs displayed in the associated table; however, NFRMPO staff have been unsuccessful in calculating the costs displayed in the table using the provided information. In each case, the values calculated by NFRMPO staff using the information in the "basis for cost estimates" result in costs that are 2.4 to 3.7 times higher than the costs displayed in the associated table. The CBA should be updated to clarify the "basis for cost estimates" and/or correct any errors in the identified costs.
- Several of the unit costs appear to be too low and rely on out-of-state or nationwide sources that may not apply to Colorado. For example, the CBA uses a unit cost of $170,000 per mile for new or replaced sidewalk sourced from the Florida Department of Transportation (FDOT). For Colorado, a report from CoPIRG Foundation and Southwest Energy Efficiency Project (SWEEP) identifies costs of $282,691 per mile of new sidewalk and $192,931 per mile of replaced sidewalk.[23]
- The CBA does not account for the costs of transit electrification or the costs of reducing transit fares but still references these strategies as included in the scenarios and therefore in the GHG Reduction Levels. It appears the benefits of transit electrification and reducing transit fares are included in the rule and CBA without accounting for their costs.
- The CBA estimates cost savings from improved safety by assuming fatality and injury motor vehicle crashes are "reduced in proportion to VMT reduced".[24] This assumption fails to consider the alarming increase in traffic fatalities that occurred concurrently with substantial reductions in VMT in 2020. According to the National Highway Traffic Safety Administration, early data indicate traffic fatalities increased 7.2 percent from 2019 to 2020 in the U.S. even as VMT decreased by an estimated 13.2 percent nationwide over the same time period.[25] The increase in fatalities is suspected to be due in part to speeding occurring when fewer vehicles are on the road.[26] The CBA should be updated to provide a more realistic estimate of the impacts of reduced VMT on safety and/or consider the costs of the necessary street calming efforts to ensure improved safety can be delivered concurrently with reduced VMT.

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[23] CoPIRG and SWEEP, "Colorado's Transit, Biking & Walking Needs Over The Next 25 Years," August 2016, accessed on 10/4/2021 at https://copirgfoundation.org/sites/pirg/files/reports/COPIRG%20Transit%20Report_Screen.pdf. The report identifies costs of $36.54 per linear foot of sidewalk and $34.64 per linear foot of curb and gutter, which are assumed to be required in 50 percent of new sidewalks.

[24] CDOT, Cost-Benefit Analysis For Rules Governing Statewide Transportation Planning, 8/31/2021, accessed from https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf, page 26.

[25] NHTSA, "2020 Fatality Data Show Increased Traffic Fatalities During Pandemic", 6/3/2021, accessed on 10/4/2021 at https://www.nhtsa.gov/press-releases/2020-fatality-data-show-increased-traffic-fatalities-during-pandemic.

[26] Minor, Nathaniel. "Colorado's Roads are Emptier, But Deadlier So Far This Year," 9/2/2021, accessed on 10/4/2021 at https://www.cpr.org/2020/09/02/colorados-roads-are-emptier-but-deadlier-so-far-this-year/.

Conclusion

The NFRMPO recognizes the importance of reducing GHG emissions resulting from the implementation of transportation plans and contends that setting GHG reductions at feasible levels will provide meaningful contributions to the State's GHG reduction goals. In addition to helping to achieve GHG reductions, the proposed rule would also provide co-benefits by reducing ozone precursor emissions and expanding transportation options.

The NFRMPO appreciates the time and effort CDOT staff has committed to developing a rule to reduce GHG emissions resulting from implementation of transportation plans. We respectfully request the Hearing Officers, TC Ad Hoc Committee, and the TC consider the enclosed recommendations and ensure there is adequate time for public comment. The NFRMPO looks forward to continuing the collaboration with CDOT staff in the development of this rulemaking and in subsequent implementation efforts. If you have any questions, please contact Medora Bornhoft at [redacted]

[redacted]

Enclosure: NFRMPO Suggested Redlines, 10/11/2021

NFRMPO Suggested Redlines, 10/11/2021

Formatting Key:
Revisions Proposed by CDOT - Green
NFRMPO Round 1 Redlines (9/8/2021) - Purple
NFRMPO Round 2 Redlines (10/11/2021) - Red

DEPARTMENT OF TRANSPORTATION

Transportation Commission

RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

2 CCR 601-22

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

August 13, 2021, Version

Please note the following formatting key:

Font Effect	Meaning
Underline	New Language
~~Strikethrough~~	Deletions
[Blue Font Text]	Annotation

STATEMENT OF BASIS AND PURPOSE, ~~AND~~ STATUTORY AUTHORITY AND PREAMBLE

The purpose of the Rules Governing the Statewide Transportation Planning Process and Transportation Planning Regions (Rules) is to prescribe the statewide transportation planning process through which a long-range ~~multimodal~~Multimodal, comprehensive ~~statewide~~ Statewide ~~transportation~~ Transportation plan Plan will be developed, integrated, updated, and amended by the Colorado Department of Transportation (Department or CDOT), in cooperation with local governments, Metropolitan Planning Organizations (MPOs), Regional Planning Commissions, Indian tribal governments, relevant state and federal agencies, the private sector, transit and freight operators, ~~special interest groups,~~ and the general public. This cooperative process is designed to coordinate regional transportation planning, guided by the statewide transportation policy set by the Department and the ~~transportation~~ Transportation ~~commission~~ Commission of Colorado ("Commission"), as a basis for developing the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan. The result of the statewide transportation planning process shall be a long-range, financially feasible, environmentally sound, ~~multimodal~~ Multimodal transportation system plan for Colorado that will reduce traffic and smog.

Further, the purpose of the Rules is to define the state's Transportation Planning Regions for which long-range Regional Transportation Plans are developed, prescribe the process for conducting and initiating transportation planning in the non-MPO Transportation Planning Regions and coordinating with the ~~Metropolitan Planning Organizations~~MPOs for planning in the metropolitan areas. Memoranda of Agreement (MOA) that serve as the Metropolitan Planning Agreements (MPAs) ~~per~~ pursuant to 23 C.F.R. § 450 between the Department, each MPO, and applicable transit provider(s) further prescribe the transportation planning process in the MPO ~~transportation~~ Transportation ~~planning~~ Planning ~~regions~~Regions. In addition, the purpose of the Rules is to describe the organization and function of the

Statewide Transportation Advisory Committee (STAC) as established by § 43-1-1104, Colorado Revised Statutes (C.R.S.).

The Rules are promulgated to meet the intent of both the U.S. Congress and the Colorado General Assembly for conducting a continuing, cooperative, and comprehensive statewide performance-based ~~multimodal~~ Multimodal transportation planning process for producing a Statewide Transportation Plan and Regional Transportation Plans that address the transportation needs of the ~~state~~State. This planning process, through comprehensive input, results in systematic project prioritization and resource allocation.

The Rules governing the statewide planning process emphasize Colorado's continually greater integration of Multimodal, cost-effective, and environmentally sound means of transportation which leads to cleaner air and reduced traffic. The Rules reflect the Commission's and the Department's focus on Multimodal transportation projects including highways, transit, rail, bicycles and pedestrians. Section 8 of these Rules establishes an ongoing administrative process for identifying, measuring, confirming, and verifying those best practices and their impacts, so that CDOT and MPOs can easily apply them to their plans in order to achieve the pollution reduction levels required by these Rules.

The Rules are promulgated by the Commission pursuant to the specific statutory authority in § 43-1-1103 (5), C.R.S., and § 43-1-106 (8)(k), C.R.S.

Preamble for 2018 Rulemaking

In 2018, rulemaking was initiated to update the rules to conform to recently passed federal legislation, update expired rules, clarify the membership and duties of the ~~Statewide Transportation Advisory Committee~~STAC pursuant to HB 16-1169 and HB 16-1018, and to make other minor corrections. ~~The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements contained in 23 United States Code (U.S.C.) §§ 134, 135 and 150, Pub. L. No. 114-94 (Fixing America's Surface Transportation Act or the "FAST Act") signed into law on December 4, 2015, and its implementing regulations, where applicable, contained in 23 Code of Federal Regulations (C.F.R.) Part 450, including Subparts A, B and C and 25 C.F.R. § 170.421 in effect as of August 1, 2017, which are hereby incorporated into the Rules by this reference, and do not include any later amendments. All referenced laws and regulations shall be available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.~~

~~Copies of the referenced United States Code may be obtained from the following address:~~

~~Office of the Law Revision Counsel~~
~~U.S. House of Representatives~~
~~H2-308 Ford House Office Building~~
~~Washington, DC 20515~~
~~(202) 226-2411~~

~~Copies of the referenced Code of Federal Regulations may be obtained from the following address:~~

~~U.S. Government Publishing Office~~
~~732 North Capitol Street, N.W.~~
~~Washington, DC 20401~~
~~(202) 512-1800~~

~~The Statewide Planning Rules governing the statewide planning process, emphasize Colorado's continually greater integration of multimodal, cost effective and environmentally sound means of transportation. The Rules reflect the Department's focus on multimodal transportation projects including highways, aviation, transit, rail, bicycles and pedestrians.~~

~~The Rules are promulgated by the Commission pursuant to the specific statutory authority in § 43-1-1103 (5), C.R.S., and § 43-1-106 (8)(k), C.R.S. The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.~~

Preamble for 2021 Rulemaking

Overview

Section 8 of these Rules establishes Greenhouse Gas (GHG) pollution reduction planning levels for transportation that will improve air quality, reduce smog, and provide more sustainable options for travelers across Colorado. The purpose of these requirements is to limit the GHG pollution which would result from the transportation system if the plan was implemented, consistent with the state greenhouse gas pollution reduction roadmap. This is accomplished by requiring CDOT and MPOs to establish plans that meet targets through a mix of projects that limit and mitigate air pollution and improve quality of life and Multimodal options. CDOT and MPOs will be required to demonstrate through travel demand modeling and approved air quality modeling that statewide and regional aggregate emissions resulting from its state or regional plans do not exceed a specified emissions level in total. In the event that a plan fails to comply, CDOT and MPOs have the option to commit to implementing GHG Mitigation Measures that provide travelers with cleaner and more equitable transportation options such as safer pedestrian crossings and sidewalks, better transit and transit-access, or infrastructure that supports access to housing, jobs, and retail.

Examples of these types of mitigations, which also benefit quality of place and the economic resilience of communities, will include but not be limited to: adding bus rapid transit facilities and services, enhancing first-and-last mile connections to transit, adding bike-sharing services including electric bikes, improving pedestrian facilities like sidewalks and safe accessible crosswalks, investments that support vibrant downtown density and local zoning decisions that favor sustainable building codes and inclusive multi-use facilities downtown, and more. The process of identifying and approving mitigations will be established by a policy process that allows for ongoing innovations from local governments and other partners to be considered on an iterative basis.

If compliance still cannot be demonstrated, even after committing to GHG Mitigation Measures, the Commission shall restrict the use of certain funds, requiring that dollars be focused on projects that help reduce transportation emissions ~~and/or~~ are recognized as approved mitigations. These requirements address the Colorado General Assembly's directive to reduce statewide GHG pollution in § 25-7-102(2)(g), C.R.S., as well as the directive for transportation planning to consider environmental stewardship and reducing GHG emissions, § 43-1-1103(5), C.R.S.

Commented [redacted]: The rule says or, not and.

Context of Section 8 of these Rules Within Statewide Objectives

The passage of House Bill (HB)19-1261 set Colorado on a course to dramatically reduce GHG emissions across all sectors of the economy. In HB 19-1261, now codified in part at §§ 25-7-102(2) and 105(1)(e), C.R.S., the General Assembly declared that "climate change adversely affects Colorado's economy, air quality and public health, ecosystems, natural resources, and quality of life[.]" acknowledged that "Colorado is already experiencing harmful climate impacts[.]" and that "many of these impacts disproportionately affect" certain Disproportionately Impacted Communities. *see* § 25-7-102(2), C.R.S. The General Assembly also recognized that "[b]y reducing [GHG] pollution, Colorado will also reduce other harmful air pollutants, which will, in turn, improve public health, reduce health care costs, improve air quality, and help sustain the environment." *see* § 25-7-102(2)(d), C.R.S.

Since 2019, the State has been rigorously developing a plan to achieve the ambitious GHG pollution reduction goals in § 25-7-102(2)(g), C.R.S. In January 2021, the State published its Greenhouse Gas Pollution Reduction Roadmap (Roadmap). The Roadmap identified the transportation sector as the single largest source of statewide GHG pollution as of 2020, with passenger vehicles the largest contributor within the transportation sector. Additionally, the Roadmap determined that emissions from transportation

are a "significant contributor to local air pollution that disproportionately impacts lower-income communities and communities of color." *see* Roadmap, p. XII.

A key finding in the Roadmap recognized that "[m]aking changes to transportation planning and infrastructure to reduce growth in driving is an important tool" to meet the statewide GHG pollution reduction goals. *see* Roadmap, p. 32. Section 8 of these Rules also advances the State's goals to reduce emissions of other harmful air pollutants, including ozone.

Why the Commission is Taking This Action

Senate Bill 21-260, signed into law by the Governor on June 17, 2021, and effective upon signature, includes a new § 43-1-128, C.R.S., which directs CDOT and MPOs to engage in an enhanced level of planning, modeling and other analysis to minimize the adverse environmental and health impacts of planned transportation capacity projects. Section 43-1-128, C.R.S. also directs CDOT and the Commission to take steps to account for the impacts of transportation capacity projects on GHG pollution and Vehicle Miles Traveled and to help achieve statewide GHG pollution targets established in § 25-7-102(2)(g), C.R.S.

Under Colorado law governing transportation planning, CDOT is charged with and identified as the proper body for "developing and maintaining the state transportation planning process and the state transportation plan" in cooperation with Regional Planning Commissions and local government officials. *see* § 43-1-1101, C.R.S.

The Commission is responsible for formulating policy with respect to transportation systems in the State and promulgating and adopting all CDOT financial budgets for construction based on the Statewide Transportation Improvement Programs. *see* § 43-1-106(8), C.R.S. The Commission is statutorily charged "to assure that the preservation and enhancement of Colorado's environment, safety, mobility and economics be considered in the planning, selection, construction and operation of all transportation projects in Colorado." *see* § 43-1-106(8)(b), C.R.S. In addition, the Commission is generally authorized "to make all necessary and reasonable orders, rules and regulations in order to carry out the provisions of this part . . ." *see* § 43-1-106(8)(k), C.R.S.

As such, CDOT and the Commission are primarily responsible for ensuring compliance with GHG reductions in transportation planning.

What Relevant Regulations Currently Apply to Transportation Planning

Transportation planning is subject to both state and federal requirements. Under federal law governing transportation planning and federal-aid highways, it is declared to be in the national interest to promote transportation systems that accomplish a number of mobility objectives "while minimizing transportation-related fuel consumption and air pollution through metropolitan and statewide transportation planning processes . . ." *see* 23 U.S.C. § 134; *see also* 23 U.S.C. § 135(a)(1). In the metropolitan planning process, consideration must be given to projects and strategies that will "protect and enhance the environment, promote energy conservation, improve the quality of life . . ." *see* 23 U.S.C. § 134(h)(1)(E); *see also* 23 C.F.R. Part 450, Subpart B (federal regulations governing statewide transportation planning and programming). The same planning objective applies to statewide transportation planning. *see* 23 U.S.C. § 135(d)(1)(E); *see also* 23 C.F.R. Part 450, Subpart C (governing metropolitan transportation planning and programming). Further, the Statewide Transportation Plan shall be developed, as appropriate, in consultation with State ...local agencies responsible for...environmental protection. . ." *see* 23 U.S.C. § 135(f)(2)(D)(i).

Under conforming Colorado law, the Statewide Transportation Plan is developed by integrating and consolidating Regional Transportation Plans developed by MPOs and regional transportation planning organizations into a "comprehensive statewide transportation plan" pursuant to rules and regulations promulgated by the Commission. *see* § 43-1-1103(5), C.R.S. The Statewide Transportation Plan must

address a number of factors including, but not limited to, "environmental stewardship" and "reduction of greenhouse gas emissions," *see* § 43-1-1103(5)(h) and (i), C.R.S.

Regional Transportation Plans must account for the "expected environmental, social, and economic impacts of the recommendations in the plan, including a full range of reasonable transportation alternatives...in order to provide for the transportation and environmental needs of the area in a safe and efficient manner," *see* § 43-1-1103(1)(d), C.R.S. Further, in developing Regional Transportation Plans, MPOs "[s]hall assist other agencies in developing transportation control measures for utilization in accordance with state...regulations,...and shall identify and evaluate measures that show promise of supporting clean air objectives." *see* § 43-1-1103(1)(e), C.R.S.

Putting Section 8 of these Rules into Perspective

Section 8 establishes GHG regulatory requirements that are among the first of their kind in the U.S. However, from an air pollutant standpoint, connecting transportation planning to emissions is not a new policy area. In fact, transportation conformity provisions within the Clean Air Act approach ozone much the same way. Transportation conformity ensures that federally funded or approved highway and transit activities within a Nonattainment Area are consistent with or "conform to" a state's plan to reduce emissions. Colorado's front range has been in ozone nonattainment for many years, which has required the North Front Range and the Denver Regional Council of Governments' MPOs to demonstrate conformity with each plan adoption and amendment.

However, because the transportation sector encompasses the millions of individual choices people make every day that have an impact on climate, a variety of strategies are necessary to achieve the State's climate goals. Section 8 of these Rules is one of many steps needed to achieve the totality of reduction goals for the transportation sector.

Purpose of GHG Mitigation Measures

The transportation modeling conducted for this rulemaking may demonstrate that certain projects increase GHG pollution for a variety of reasons. These reasons may include factors such as induced demand as a result of additional lane mileage attracting additional vehicular traffic, or additional traffic facilitated by access to new commercial or residential development in the absence of public transit options or bicycle/pedestrian access that provides consumers with other non-driving options. Transportation infrastructure itself can also increase or decrease GHG and other air pollutants by virtue of factors like certain construction materials, removal or addition of tree cover that captures carbon pollution, or integration with vertical construction templates of various efficiencies that result in higher or lower levels of per capita energy use. The pollution impacts of various infrastructure projects will vary significantly depending on their specifics and must be modeled in a manner that is context-sensitive to a range of issues such as location, footprint of existing infrastructure, design, and how it fits together with transportation alternatives.

Furthermore, other aspects of transportation infrastructure can facilitate reductions in emissions and thus serve as mitigations rather than contributors to pollution. For example, the addition of transit resources in a manner that can displace Vehicle Miles Traveled can reduce emissions. Moreover, improving downtown pedestrian and bike access, particularly in areas that allow individuals to shift multiple daily trips for everything from work to dining to retail, can improve both emissions and quality of life.

There is an increasing array of proven best practices for reducing pollution and smog and improving economies and neighborhoods that can help streamline decision-making for state and local agencies developing plans and programs of projects.

[Note: The Commission proposes to repeal Section 1 of these Rules in its entirety and re-enact Section 1 of these Rules below to re-format the numbering of the administrative rules into alphabetical order.]

1.00 Definitions.

1.01 Assessible - ensure that reasonable efforts are made that all meetings are reachable by persons from households without vehicles and that the meetings will be accessible to persons with disabilities in accordance with the Americans with Disabilities Act (ADA), and also accessible to persons with limited English proficiency. Accessible opportunities to on planning related matters include those provided on the internet and through such methods as telephone town halls comment

1.02 Attainment Area – any geographic region of the United States that meets the national primary or secondary National Ambient Air Quality Standards (NAAQS) for the pollutants as defined in the Clean Air Act (CAA) (Amendments of 1990).

1.03 Commission - the transportation commission of Colorado created by § 43-1-106, C.R.S.

1.04 Corridor - a transportation system that includes all modes and facilities within a described geographic area.

1.05 Corridor Vision - a comprehensive examination of a specific transportation corridor, which includes a determination of needs and an expression of desired state of the transportation system that includes transportation modes and facilities over a planning period.

1.06 Department - the Colorado Department of Transportation created by § 43-1-103, C.R.S.

1.07 Division – the Division of Transportation Development within the Colorado Department of Transportation.

1.08 Division Director - the Director of the Division of Transportation Development.

1.09 Fiscally Constrained - the financial limitation on transportation plans and programs based on the projection of revenues as developed cooperatively with the MPOs and the rural TPRs and adopted by the Commission that are reasonably expected to be available over the long range transportation planning period and the Transportation Improvement Program (TIP) and Statewide Transportation Improvement Program (STIP) programming periods.

1.10 Intergovernmental Agreement – an arrangement made between two or more political subdivisions that form associations for the purpose of promoting the interest and welfare of said subdivisions.

1.11 Intermodal Facility – A site where goods or people are conveyed from one mode of transportation to another, such as goods from rail to truck or people from passenger vehicle to bus.

1.12 Land Use – the type, size, arrangement, and use of parcels of land.

1.13 Limited English Proficiency (LEP) – individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English.

1.14 Long-range Planning - a reference to a planning period with a minimum 20 year planning horizon.

1.15 Maintenance Area – any geographic region of the United States previously designated by the U.S. Environmental Protection Agency (EPA) as a nonattainment area pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended in 1990.

1.16 Memorandum of Agreement (MOA) – a written agreement between two or more parties on an intended plan of action.

1.17 Metropolitan Planning Agreement (MPA) – a written agreement between the MPO, the State, and the providers of public transportation serving the metropolitan planning area that describes how they will work cooperatively to meet their mutual responsibilities in carrying out the metropolitan planning process.

1.18 Metropolitan Planning Area - a geographic area determined by agreement between the Metropolitan Planning Organization for the area and the Governor, in which the metropolitan transportation planning process is carried out pursuant to 23 U.S.C. § 134.

1.19 Metropolitan Planning Organization (MPO) - an organization designated by agreement among the units of general purpose local governments and the Governor, charged to develop the regional transportation plans and programs in a metropolitan planning area pursuant to 23 U.S.C. § 134.

1.20 Mobility - the ability to move people, goods, services, and information among various origins and destinations.

1.21 Multimodal - an integrated approach to transportation that takes into account all modes of travel, such as bicycles and walking, personal mobility devices, buses, transit, rail, aircraft, and motor vehicles.

1.22 National Ambient Air Quality Standards (NAAQS) – are those established by the U.S. Environmental Protection Agency for air pollutants considered harmful to public health and environment. These criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, ozone, small particles, and sulfur dioxide.

1.23 Nonattainment Area - any geographic region of the United States which has been designated by the EPA under section 107 of the CAA for any pollutants for which an NAAQS exists.

1.24 Non-metropolitan Area – a rural geographic area outside a designated metropolitan planning area.

1.25 Plan Integration – Plan integration is a comprehensive evaluation of the statewide transportation system that includes all modes, an identification of needs and priorities, and key information from other related CDOT plans.

1.26 Planning Partners – local and tribal governments, the rural Transportation Planning Regions and MPOs.

1.27 Project Priority Programming Process ("4P") – the process by which CDOT adheres to 23 U.S.C. § 135 and 23 C.F.R. Part 450 when developing and amending the statewide transportation improvement program (STIP).

1.28 Regional Planning Commission (RPC) - a planning body formed under the provisions of § 30-28-105, C.R.S., and designated under these Rules for the purpose of transportation planning within a rural Transportation Planning Region.

1.29 Regional Transportation Plan (RTP) - a long-range plan designed to address the future transportation needs for a Transportation Planning Region including, but not limited to, anticipated funding, priorities, and implementation plans, pursuant to, but not limited to, § 43-1-1103, C.R.S. and 23 C.F.R. Part 450. All rural and urban Transportation Planning Regions in the state produce RTPs.

1.30 State Transportation System – refers to all state owned, operated, and maintained transportation facilities in Colorado, including, but not limited to, interstate highways, other highways, and aviation, bicycle and pedestrian, transit, and rail facilities.

1.31 Statewide Transportation Advisory Committee (STAC) - the committee created by § 43-1-1104, C.R.S., comprising one representative from each Transportation Planning Region and one representative from each tribal government to review and comment on Regional Transportation Plans, amendments, and updates, and to advise both the Department and the Commission on the needs of the transportation system in Colorado.

1.32 Statewide Transportation Improvement Program (STIP) - a staged, fiscally constrained, multi-year, statewide, multimodal program of transportation projects which is consistent with the statewide transportation plan and planning processes, with metropolitan planning area plans, Transportation Improvement Programs and processes, and which is developed pursuant to 23 U.S.C. § 135.

1.33 Statewide Transportation Plan – the long-range, comprehensive, multimodal statewide transportation plan covering a period of no less than 20 years from time of adoption, developed through the statewide transportation planning process described in these Rules and 23 U.S.C. § 135, and adopted by the Commission pursuant to § 43-1-1103, C.R.S.

1.34 System Continuity – includes, but is not limited to, appropriate intermodal connections, integration with state modal plans, and coordination with neighboring Regional Transportation Plans, and, to the extent practicable, other neighboring states' transportation plans.

1.35 Traditionally Underserved - refers to groups such as seniors, persons with disabilities, low-income households, minorities, and student populations, which may face difficulties accessing transportation systems, employment, services, and other amenities.

1.36 Transit and Rail Advisory Committee (TRAC) – an advisory committee created specifically to advise the Executive Director, the Commission, and the Division of Transit and Rail on transit and rail related activities.

1.37 Transportation Commonality – the basis on which Transportation Planning Regions are established including, but not limited to: Transportation Commission Districts, the Department's Engineering Regions, travelsheds, watersheds, geographic unity, existing intergovernmental agreements, and socioeconomic unity.

1.38 Transportation Improvement Program (TIP) – a staged, fiscally constrained, multi-year, multimodal program of transportation projects developed and adopted by MPOs, and approved by the Governor, which is consistent with an MPO's RTP and which is developed pursuant to 23 U.S.C. § 134.

1.39 Transportation Mode - a particular form of travel including, but not limited to, bus, motor vehicle, rail, transit, aircraft, bicycle, pedestrian travel, or personal mobility devices.

1.40 Transportation Planning and Programming Process – all collaborative planning related activities including the development of regional and statewide transportation plans, the Department's Project Priority Programming Process, and development of the Transportation Improvement Programs (TIPs) and Statewide Transportation Improvement Program (STIP).

1.41 Transportation Planning Region (TPR) - a geographically designated area of the state, defined by section 2.03 of these Rules in consideration of the criteria for transportation commonality, and for which a regional transportation plan is developed pursuant to the provisions of § 43-1-1102 and 1103, C.R.S. and 23 U.S.C. § 134. The term TPR is inclusive of these types: non-MPO Transportation Planning Regions, MPO Transportation Planning Regions, and Transportation Planning Regions with both MPO and non-MPO areas.

~~1.42 Transportation Systems Planning – provides the basis for identifying current and future deficiencies on the state highway system and outlines strategies to address those deficiencies and make improvements to meet Department goals.~~

~~1.43 Travelshed – the region or area generally served by a major transportation facility, system, or corridor.~~

~~1.44 Tribal Transportation Improvement Program (TTIP) – a multi-year fiscally constrained list of proposed transportation projects developed by a tribe from the tribal priority list or tribal long-range transportation plan, and which is developed pursuant to 25 C.F.R. Part 170. The TTIP is incorporated into the STIP without modification.~~

~~1.45 Urbanized Area – an area with a population of 50,000 or more designated by the Bureau of the Census.~~

~~1.46 Watershed – a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.~~

[Note: The Commission proposes to add nineteen (19) new definitions. New proposed defined terms include: Applicable Planning Document, Approved Air Quality Model, Baseline, Carbon Dioxide Equivalent, Congestion Mitigation and Air Quality, Disproportionately Impacted Communities, Four-Year Prioritized Plan, Greenhouse Gas, Greenhouse Mitigation Measures, Greenhouse Gas Reduction Levels, Mitigation Action Plan, MPO Model, Multimodal Transportation and Mitigation Options Fund, Regionally Significant Project, State Interagency Consultation Team, Statewide Travel Model, Surface Transportation Block Grant, Vehicle Miles Traveled, and 10-Year Plan. Only minor non-substantive changes, such as correcting grammar errors or capitalizing defined terms, were made to the existing forty-six (46) defined terms.]

1.00 Definitions.

1.01 Accessible - ensure that reasonable efforts are made that all meetings are reachable by persons from households without vehicles and that the meetings will be accessible to persons with disabilities in accordance with the Americans with Disabilities Act (ADA), and also accessible to persons with Limited English Proficiency. Accessible opportunities to comment on planning related matters include those provided on the internet and through such methods as telephone town halls.

1.02 Applicable Planning Document - refers to MPO Fiscally Constrained RTPs,TIPs for MPOs in NAAs, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, ~~CDOT's STIP in in non-MPO areas within an NAA,~~ and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

1.03 Approved Air Quality Model - the ~~most recent~~ version of the Environmental Protection Agency issued model that quantifies GHG emissions from transportation and is required for transportation conformity analyses per federal regulations.

1.04 Attainment Area - any geographic region of the United States that meets the national primary or secondary National Ambient Air Quality Standards (NAAQS) for the pollutants as defined in the Clean Air Act (CAA) (Amendments of 1990).

1.05 Baseline - estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using the MPO Models or the Statewide Travel Model. Estimates must include GHG emissions resulting from the existing transportation network and implementation of the most

recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules.

1.06 Carbon Dioxide Equivalent (CO2e) - a ~~metric measure used to~~standard unit for comparinge the emissions from various GHG based upon the 100-year global warming potential (GWP). CO2e is calculated by multiplying the mass amount of emissions (metric tons per year), for each GHG constituent by that gas's GWP, and summing the resultant values to determine CO2e (metric tons per year). This calculation allows comparison of different greenhouse gases and their relative impact on the environment over ~~differenta~~ standard time periods.

1.07 Commission - the Transportation Commission of Colorado created by § 43-1-106, C.R.S.

~~1.08 Congestion Mitigation and Air Quality (CMAQ) - a federally mandatedfederal funding program established in 23 U.S.C.§ 149 to improve air quality in Nonattainment and Maintenance Areas for ozone, carbon monoxide, and particulate matter. References related to this program include any successor programs as established by the federal government.~~

1.09 Corridor - a transportation system that includes all modes and facilities within a described geographic area.

1.10 Corridor Vision - a comprehensive examination of a specific transportation Corridor, which includes a determination of needs and an expression of desired state of the transportation system that includes Transportation Modes and facilities over a planning period.

1.11 Department or CDOT - the Colorado Department of Transportation created by § 43-1-103, C.R.S.

1.12 Disproportionately Impacted Communities - defined in § 24-38.5-302(3), C.R.S. as a community that is in a census block group, as determined in accordance with the most recent United States Decennial Census where the proportion of households that are low income is greater than forty percent (40%), the proportion of households that identify as minority is greater than forty percent (40%), or the proportion of households that are housing cost-burdened is greater than forty percent (40%).

1.13 Division - the Division of Transportation Development within CDOT.

1.14 Division Director - the Director of the Division of Transportation Development.

1.15 Fiscally Constrained - the financial limitation on transportation plans and programs based on the projection of revenues as developed cooperatively with the MPOs and the rural TPRs and adopted by the Commission that are reasonably expected to be available over the long-range transportation planning period and the TIP and STIP programming periods.

1.16 Four-Year Prioritized Plan - a four-year subset of the 10-Year Plan consisting of projects prioritized for near-term delivery and partial or full funding.

1.17 Greenhouse Gas (GHG) - for purposes of these Rules, GHG is defined as the primary transportation greenhouse gases: carbon dioxide, methane, and nitrous oxide.

1.18 Greenhouse Gas (GHG) Reduction Level - the amount of the GHG expressed as CO2e reduced from the projected Baseline that CDOT and MPOs must attain through transportation planning.

1.19 Greenhouse Gas (GHG) Mitigation Measures - non-Regionally Significant Project strategies ~~implamented by CDOT and MPOs~~ that reduce transportation GHG pollution and help meet the GHG Reduction Levels.

Commented [redacted]: MMT is a metric measure, but CO2e is not inherently metric

Commented [redacted]: Any agency's GHG measures should be able to count, same as how any regionally significant project (even if locally funded) counts. In addition, better to not use the past tense because almost all the measures are planned measures for future implementation.

1.20 Intergovernmental Agreement - an arrangement made between two or more political subdivisions that form associations for the purpose of promoting the interest and welfare of said subdivisions.

1.21 Intermodal Facility - a site where goods or people are conveyed from one mode of transportation to another, such as goods from rail to truck or people from passenger vehicle to bus.

1.22 Land Use - the type, size, arrangement, and use of parcels of land.

1.23 Limited English Proficiency - individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English.

1.24 Long-Range Planning - a reference to a planning period with a minimum 20-year planning horizon.

1.25 Maintenance Area - any geographic region of the United States previously designated by the U.S. Environmental Protection Agency (EPA) as a Nonattainment Area pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under § 175A of the CAA, as amended in 1990.

1.26 Memorandum of Agreement (MOA) - a written agreement between two or more parties on an intended plan of action.

1.27 Metropolitan Planning Agreement (MPA) - a written agreement between the MPO, the State, and the providers of public transportation serving the Metropolitan Planning Area that describes how they will work cooperatively to meet their mutual responsibilities in carrying out the metropolitan planning process.

1.28 Metropolitan Planning Area - a geographic area determined by agreement between the MPO for the area and the Governor, in which the metropolitan transportation planning process is carried out pursuant to 23 U.S.C. § 134.

1.29 Metropolitan Planning Organization (MPO) - an organization designated by agreement among the units of general purpose local governments and the Governor, charged to develop the RTPs and programs in a Metropolitan Planning Area pursuant to 23 U.S.C. § 134.

1.30 Mitigation Action Plan - an element of the GHG Transportation Report that specifies which GHG Mitigation Measures shall be implemented that help achieve the GHG Reduction Levels.

1.31 Mobility - the ability to move people, goods, services, and information among various origins and destinations.

1.32 MPO Models - one (1) or more of the computer-based models maintained and operated by the MPOs which depict the MPO areas' transportation systems (e.g., roads, transit, etc.) and development patterns (i.e., number and location of households and jobs) for a defined year (i.e., past, present, or forecast) and produce estimates of roadway VMT, delays, operating speeds, transit ridership, and other characteristics of transportation system use.

1.33 Multimodal - an integrated approach to transportation that takes into account all modes of travel, such as bicycles and walking, personal mobility devices, buses, transit, rail, aircraft, and motor vehicles.

1.34 Multimodal Transportation and Mitigation Options Fund (MMOF) - a program created in the State Treasury pursuant to § 43-4-1003, C.R.S. which funds bicycle, pedestrian, transit and other Multimodal projects as defined in § 43-4-1002(5), C.R.S. and GHG Mitigation projects as defined in § 43-4-1002(4.5), C.R.S.

1.35 National Ambient Air Quality Standards (NAAQS) - are those established by the U.S. Environmental Protection Agency for air pollutants considered harmful to public health and environment. These criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, ozone, small particles, and sulfur dioxide.

1.36 Nonattainment Area - any geographic region of the United States which has been designated as nonattainment by the EPA under section 107 of the CAA for any pollutants for which a NAAQS exists.

Commented [redacted] EPA also designates areas as attainment, maintenance, or unclassifiable.

1.37 Non-Metropolitan Area - a rural geographic area outside a designated Metropolitan Planning Area.

1.38 Plan Integration - a comprehensive evaluation of the statewide transportation system that includes all modes, an identification of needs and priorities, and key information from other related CDOT plans.

1.39 Planning Partners - local and tribal governments, the rural TPRs and MPOs.

1.40 Project Priority Programming Process - the process by which CDOT adheres to 23 U.S.C. § 135 and 23 C.F.R. Part 450 when developing and amending the STIP.

1.41 Regional Planning Commission (RPC) - a planning body formed under the provisions of § 30-28-105, C.R.S., and designated under these Rules for the purpose of transportation planning within a rural TPR.

1.42 Regionally Significant Project - a transportation project that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team.

Commented [redacted] Recommend clarifying if this applies to all areas or just those without an EPA-approved definition.

1.43 Regional Transportation Plan (RTP) - a long-range plan designed to address the future transportation needs for a TPR including, but not limited to, Fiscally Constrained or anticipated funding, priorities, and implementation plans, pursuant to, but not limited to, § 43-1-1103, C.R.S. and 23 C.F.R. Part 450. All rural and urban TPRs in the state produce RTPs.

1.44 State Interagency Consultation Team - consists of the Division Director or the Division Director's designee, the Colorado Department of Public Health and Environment (CDPHE) Director of Air Pollution Control Division or the Director's designee, and the Director of each MPO or their designee.

1.45 State Transportation System - refers to all state-owned, operated, and maintained transportation facilities in Colorado, including, but not limited to, interstate highways, other highways, and aviation, bicycle and pedestrian, transit, and rail facilities.

1.46 Statewide Transportation Advisory Committee (STAC) - the committee created by § 43-1-1104, C.R.S., comprising one representative from each TPR and one representative from each tribal government to review and comment on RTPs, amendments, and updates, and to advise both the Department and the Commission on the needs of the transportation system in Colorado.

1.47 Statewide Transportation Improvement Program (STIP) - a Fiscally Constrained, multi-year, statewide, Multimodal program of transportation projects which is consistent with the Statewide Transportation Plan and planning processes, with Metropolitan Planning Area plans, Transportation Improvement Programs and processes, and which is developed pursuant to 23 U.S.C. § 135.

1.48 Statewide Travel Model - the computer-based model maintained and operated by CDOT which depicts the state's transportation system (roads, transit, etc.) and development scale and pattern (number and location of households, number and location of firms/jobs) for a selected year (past, present, or forecast) and produces estimates of roadway VMT and speed, transit, ridership, and other characteristics of transportation system use.

1.49 Statewide Transportation Plan - the long-range, comprehensive, Multimodal statewide transportation plan covering a period of no less than 20 years from time of adoption, developed through the statewide transportation planning process described in these Rules and 23 U.S.C. § 135, and adopted by the Commission pursuant to § 43-1-1103, C.R.S.

1.50 Surface Transportation Block Grant (STBG) - a flexible federal funding source established under 23 U.S.C. § 133 for state and local transportation needs. Funds are expended in the areas of the State based on population. References related to this program include any successor programs established by the federal government.

1.51 System Continuity - includes, but is not limited to, appropriate intermodal connections, integration with state modal plans, and coordination with neighboring RTPs, and, to the extent practicable, other neighboring states' transportation plans.

1.52 Traditionally Underserved - refers to groups such as seniors, persons with disabilities, low-income households, minorities, and student populations, which may face difficulties accessing transportation systems, employment, services, and other amenities.

1.53 Transit and Rail Advisory Committee (TRAC) - an advisory committee created specifically to advise the Executive Director, the Commission, and the Division of Transit and Rail on transit and rail-related activities.

1.54 Transportation Commonality - the basis on which TPRs are established including, but not limited to: Transportation Commission Districts, the Department's Engineering Regions, Travelsheds, Watersheds, geographic unity, existing Intergovernmental Agreements, and socioeconomic unity.

1.55 Transportation Improvement Program (TIP) - a staged, Fiscally Constrained, multi-year, Multimodal program of transportation projects developed and adopted by MPOs, and approved by the Governor, which is consistent with an MPO's RTP and which is developed pursuant to 23 U.S.C. § 134.

1.56 Transportation Mode - a particular form of travel including, but not limited to, bus, motor vehicle, rail, transit, aircraft, bicycle, pedestrian travel, or personal mobility devices.

1.57 Transportation Planning and Programming Process - all collaborative planning-related activities including the development of regional and Statewide Transportation Plans, the Department's Project Priority Programming Process, and development of the TIPs and STIP.

1.58 Transportation Planning Region (TPR) - a geographically designated area of the state, defined by section 2.00 of these Rules in consideration of the criteria for Transportation Commonality, and for which a regional transportation plan is developed pursuant to the provisions of § 43-1-1102 and 1103, C.R.S. and 23 U.S.C. § 134. The term TPR is inclusive of these types: non-MPO TPRs, MPO TPRs, and TPRs with both MPO and non-MPO areas.

1.59 Transportation Systems Planning - provides the basis for identifying current and future deficiencies on the state highway system and outlines strategies to address those deficiencies and make improvements to meet Department goals.

1.60 Travelshed - the region or area generally served by a major transportation facility, system, or Corridor.

1.61 Tribal Transportation Improvement Program (TTIP) - a multi-year Fiscally Constrained list of proposed transportation projects developed by a tribe from the tribal priority list or tribal long-range transportation plan, and which is developed pursuant to 25 C.F.R. Part 170. The TTIP is incorporated into the STIP without modification.

1.62 Urbanized Area - an area with a population of 50,000 or more designated by the Bureau of the Census.

1.63 Vehicle Miles Traveled (VMT) - the traffic volume of a roadway segment or system of roadway segments multiplied by the length of the roadway segment or system.

1.64 Watershed - a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

1.65 10-Year Plan - a vision for Colorado's transportation system that includes a specific list of projects categorized across priority areas as identified in the Statewide Transportation Plan.

2.00 Transportation Planning Regions (TPR).

2.01 Transportation Planning Region Boundaries. ~~Transportation Planning Region~~TPRs are geographically designated areas of the state with similar transportation needs that are determined by considering transportation commonalities. Boundaries are hereby established as follows:

2.01.1 The Pikes Peak Area ~~Transportation Planning Region~~TPR comprises the Pikes Peak Area Council of Governments' metropolitan area within El Paso and Teller counties.

2.01.2 The Greater Denver ~~Transportation Planning Region~~TPR, which includes the Denver Regional Council of Governments' planning area, comprises the counties of Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Gilpin, Jefferson, and parts of Weld.

2.01.3 The North Front Range ~~Transportation Planning Region~~TPR comprises the North Front Range Transportation and Air Quality Planning Council's metropolitan area within Larimer and Weld counties.

2.01.4 The Pueblo Area ~~Transportation Planning Region~~TPR comprises Pueblo County, including the Pueblo Area Council of Governments' metropolitan area.

2.01.5 The Grand Valley ~~Transportation Planning Region~~TPR comprises Mesa County, including the Grand Valley Metropolitan Planning Organization's metropolitan area.

2.01.6 The Eastern ~~Transportation Planning Region~~TPR comprises Cheyenne, Elbert, Kit Carson, Lincoln, Logan, Phillips, Sedgwick, Washington, and Yuma counties.

2.01.7 The Southeast ~~Transportation Planning Region~~TPR comprises Baca, Bent, Crowley, Kiowa, Otero, and Prowers counties.

2.01.8 The San Luis Valley ~~Transportation Planning Region~~TPR comprises Alamosa, Chaffee, Conejos, Costilla, Mineral, Rio Grande, and Saguache counties.

2.01.9 The Gunnison Valley ~~Transportation Planning Region~~TPR comprises Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel counties.

2.01.10 The Southwest ~~Transportation Planning Region~~TPR comprises Archuleta, Dolores, La Plata, Montezuma, and San Juan counties, including the Ute Mountain Ute and Southern Ute Indian Reservations.

2.01.11 The Intermountain ~~Transportation Planning Region~~TPR comprises Eagle, Garfield, Lake, Pitkin, and Summit counties.

2.01.12 The Northwest ~~Transportation Planning Region~~TPR comprises Grand, Jackson, Moffat, Rio Blanco, and Routt counties.

2.01.13 The Upper Front Range ~~Transportation Planning Region~~TPR comprises Morgan County, and the parts of Larimer and Weld counties, that are outside both the North Front Range and the Greater Denver (metropolitan) TPRs.

2.01.14 The Central Front Range ~~Transportation Planning Region~~TPR comprises Custer, El Paso, Fremont, Park, and Teller counties, excluding the Pikes Peak Area Council of Governments' metropolitan area.

2.01.15 The South Central ~~Transportation Planning Region~~TPR comprises Huerfano, and Las Animas Counties.

2.02 Boundary Revision Process.

2.02.1 TPR boundaries, excluding any MPO-related boundaries, will be reviewed by the Commission at the beginning of each regional and statewide transportation planning process. The Department will notify counties, municipalities, MPOs, Indian tribal governments, and RPCs for the TPRs of the boundary review revision requests. MPO boundary review shall be conducted pursuant to 23 U.S.C. § 134 and 23 C.F.R. Part 450 Subpart B and any changes shall be provided to the Department to update the Rules. All boundary revision requests shall be sent to the Division Director, and shall include:

2.02.1.1 A geographical description of the proposed boundary change.

2.02.1.2 A statement of justification for the change considering transportation commonalities.

2.02.1.3 A copy of the resolution stating the concurrence of the affected ~~Regional Planning Commission~~RPC.

2.02.1.4 The name, title, mailing address, telephone number, fax number and electronic mail address (if available) of the contact person for the requesting party or parties.

2.02.2 The Department will assess and STAC shall review and comment (as set forth in these Rules) on all ~~non~~Non-~~metropolitan~~ Metropolitan ~~area~~ Area TPR boundary revision requests based on transportation commonalities and make a recommendation to the Commission concerning such requests. The Department will notify the Commission of MPO boundary changes. The Commission may initiate a rule-making proceeding under the ~~State~~ Colorado Administrative Procedure Act, § 24-4-103, C.R.S. to consider a

boundary revision request. Requests received for a MPO or non-metropolitan TPR boundary revision outside of the regularly scheduled boundary review cycle must include the requirements identified above.

2.02.3 In the event that the Commission approves a change to the boundary of a TPR that has a ~~Regional Planning Commission~~RPC, the RPC in each affected TPR shall notify the Department of any changes to the ~~intergovernmental~~ Intergovernmental ~~agreement~~ Agreement governing the RPC as specified in these Rules.

2.03 Transportation Planning Coordination with MPOs.

2.03.1 The Department and the MPOs shall coordinate activities related to the development of ~~Regional Transportation Plan~~RTPs, the Statewide Transportation Plan, TIPs, and the STIP in conformance with 23 U.S.C. § 134 and 135 and § 43-1-1101 and § 43-1-1103, C.R.S. The Department shall work with the MPOs to resolve issues arising during the planning process.

2.04 Transportation Planning Coordination with Non-MPO RPCs.

2.04.1 The Department and RPCs shall work together in developing ~~Regional Transportation Plan~~RTPs and in planning future transportation activities. The Department shall consult with all RPCs on development of the Statewide Transportation Plan; incorporation of RTPs into the Statewide Transportation Plan; and the inclusion of projects into the STIP that are consistent with the RTPs. In addition, the Department shall work with the RPCs to resolve issues arising during the planning process.

2.05 Transportation Planning Coordination among RPCs.

2.05.1 If transportation improvements cross TPR boundaries or significantly impact another TPR, the RPC shall consult with all the affected RPCs involved when developing the ~~regional transportation plan~~RTP. In general, RPC planning officials shall work with all ~~planning~~ Planning ~~partners~~ Partners affected by transportation activities when planning future transportation activities.

2.06 Transportation Planning Coordination with the Southern Ute and the Ute Mountain Ute Tribal Governments.

2.06.1 Regional transportation planning within the Southwest TPR shall be coordinated with the transportation planning activities of the Southern Ute and the Ute Mountain Ute tribal governments. The long-range transportation plans for the tribal areas shall be integrated in the Statewide Transportation Plan and the ~~Regional Transportation Plan~~RTP for this TPR. The TTIP is incorporated into the STIP without modification.

3.00 Statewide Transportation Advisory Committee (STAC).

3.01 Duties of the ~~Statewide Transportation Advisory Committee~~ (STAC). Pursuant to § 43-1-1104 C.R.S. the duties of the STAC shall be to meet as necessary and provide advice to both the Department and the Commission on the needs of the transportation system in Colorado including, but not limited to: budgets, ~~transportation improvement programs~~TIPs of the ~~metropolitan planning organizations~~MPOs, the ~~Statewide Transportation Improvement Program~~STIP, transportation plans, and state transportation policies.

The STAC shall review and provide to both the Department and the Commission comments on:

3.01.1 All ~~Regional Transportation Plan~~RTPs, amendments, and updates as described in these Rules.

3.01.2 Transportation related communication and/or conflicts which arise between RPCs or between the Department and a RPC.

3.01.3 The integration and consolidation of RTPs into the Statewide Transportation Plan.

3.01.4 Colorado's ~~mobility~~Mobility requirements to move people, goods, services, and information by furnishing regional perspectives on transportation problems requiring interregional and/or statewide solutions.

3.01.5 Improvements to modal choice, linkages between and among modes, and transportation system balance and ~~system~~ System ~~continuity~~Continuity.

3.01.6 Proposed TPR boundary revisions.

3.02 Notification of Membership

3.02.1 Each RPC and tribal government shall select its representative to the STAC pursuant to § 43-1-1104(1), C.R.S. The Ute Mountain Ute Tribal Council and the Southern Ute Indian Tribal Council each appoint one representative to the STAC. Each TPR and tribal government is also entitled to name an alternative representative who would serve as a proxy in the event their designated representative is unable to attend a STAC meeting and would be included by the Department in distributions of all STAC correspondence and notifications. The Division Director shall be notified in writing of the name, title, mailing address, telephone number, fax number and electronic mail address (if available) of the STAC representative and alternative representative from each TPR and tribal government within thirty (30) days of selection.

3.03 Administration of ~~Statewide Transportation Advisory Committee~~STAC

3.03.1 STAC recommendations on Regional and Statewide Transportation Plans, amendments, and updates shall be documented in the STAC meeting minutes, and will be considered by the Department and Commission throughout the statewide transportation planning process.

3.03.2 The STAC shall establish procedures to govern its affairs in the performance of its advisory capacity, including, but not limited to, the appointment of a chairperson and the length of the chairperson's term, meeting times, and locations.

3.03.3 The Division Director will provide support to the STAC, including, but not limited to:

3.03.3.1 Notification of STAC members and alternates of meeting dates.

3.03.3.2 Preparation and distribution of STAC meeting agendas, supporting materials, and minutes.

3.03.3.3 Allocation of Department staff support for STAC-related activities.

4.00 Development of Regional and Statewide Transportation Plans.

4.01 ~~Regional Planning Commission~~RPCs, MPOs, and the Department shall comply with all applicable provisions of 23 U.S.C. § 134 and § 135, 23 C.F.R. Part 450, and § 43-1-1103, C.R.S. and all

applicable provisions of Commission policies and guidance documents in development of regional and statewide transportation plans, respectively.

4.02 Public Participation

4.02.1 The Department, in coordination with the RPCs of the rural TPRs, shall provide early and continuous opportunity for public participation in the transportation planning process. The process shall be proactive and provide timely information, adequate public notice, reasonable public access, and opportunities for public review and comment at key decision points in the process. The objectives of public participation in the transportation planning process include: providing a mechanism for public perspectives, needs, and ideas to be considered in the planning process; developing the public's understanding of the problems and opportunities facing the transportation system; demonstrating explicit consideration and response to public input through a variety of tools and techniques; and developing consensus on plans. The Department shall develop a documented public participation process pursuant to 23 C.F.R. Part 450.

4.02.2 Statewide Plans and Programs. Pursuant to 23 C.F.R. Part 450 Subpart B, the Department is responsible, in cooperation with the RPCs and MPOs, for carrying out public participation for developing, amending, and updating the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan, the ~~Statewide Transportation Improvement Program~~ (STIP), and other statewide transportation planning activities.

4.02.3 MPO Plans and Programs. Pursuant to 23 C.F.R. Part 450 Subpart C, the MPOs are responsible for carrying out public participation for the development of ~~regional transportation plan~~RTPs, ~~transportation improvement programs~~TIPs and other related regional transportation planning activities for their respective ~~metropolitan~~ Metropolitan ~~planning~~ Planning ~~areas~~Areas. Public participation activities carried out in a metropolitan area in response to metropolitan planning requirements shall by agreement of the Department and the MPO, satisfy the requirements of this subsection.

4.02.4 Non-MPO TPR Plans and Programs. ~~Regional Planning Commission~~RPCs for non-MPO TPRs are responsible for public participation related to regional planning activities in that TPR, in cooperation with the Department. Specific areas of cooperation shall be determined by agreement between the ~~Regional Planning Commission~~RPC and the Department.

4.02.5 Public Participation Activities. Public participation activities at both the rural TPR and statewide level shall include, at a minimum:

4.02.5.1 Establishing and maintaining for the geographic area of responsibility a list of all known parties interested in transportation planning including, but not limited to: elected officials; municipal and county planning staffs; affected public agencies; local, state, and federal agencies eligible for federal and state transportation funds; local representatives of public transportation agency employees and users; freight shippers and providers of freight transportation services; public and private transportation providers; representatives of users of transit, bicycling and pedestrian, aviation, and train facilities; private industry; environmental and other interest groups; Indian tribal governments and the U.S. Secretary of the Interior when tribal lands are involved; and representatives of persons or groups that may be underserved by existing transportation systems, such as minority, low-income, seniors, persons with disabilities, and those with ~~limited~~ Limited English ~~proficiency~~Proficiency; and members of the general public expressing such interest in the transportation planning process.

4.02.5.2 Providing reasonable notice and opportunity to comment through mailing lists and other various communication methods on upcoming transportation planning-related activities and meetings.

4.02.5.3 Utilizing reasonably available internet or traditional media opportunities, including minority and diverse media, to provide timely notices of planning-related activities and meetings to members of the public, including ~~LEP~~ Limited English Proficiency individuals, and others who may require reasonable accommodations. Methods that will be used to the maximum extent practicable for public participation could include, but not be limited to, use of the internet; social media, news media, such as newspapers, radio, or television, mailings and notices, including electronic mail and online newsletters.

4.02.5.4 Seeking out those persons or groups ~~traditionally~~ Traditionally ~~underserved~~ Underserved by existing transportation systems including, but not limited to, seniors, persons with disabilities, minority groups, low-income, and those with ~~limited~~ Limited English ~~proficiency~~Proficiency, for the purposes of exchanging information, increasing their involvement, and considering their transportation needs in the transportation planning process. Pursuant to § 43-1-601, C.R.S., the Department shall prepare a statewide survey identifying the transportation needs of seniors and of persons with disabilities.

4.02.5.5 Consulting, as appropriate, with ~~Regional Planning Commission~~RPCs, and federal, state, local, and tribal agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation concerning the development of long-range transportation plans.

4.02.5.6 Providing reasonable public access to, and appropriate opportunities for public review and comment on criteria, standards, and other planning-related information. Reasonable public access includes, but is not limited to, ~~LEP~~ Limited English Proficiency services and access to ADA-compliant facilities, as well as to the internet.

4.02.5.7 Where feasible, scheduling the development of regional and statewide plans so that the release of the draft plans may be coordinated to provide for the opportunity for joint public outreach.

4.02.5.8 Documentation of Responses to Significant Issues. ~~Regional Planning Commissions~~RPCs and the Department shall respond in writing to all significant issues raised during the review and comment period on transportation plans, and make these responses available to the public.

4.02.5.9 Review of the Public Involvement Process. All interested parties and the Department shall periodically review the effectiveness of the Department's public involvement process to ensure that the process provides full and open access to all members of the public. When necessary, the process will be revised and allow time for public review and comment per 23 C.F.R. Part 450.

4.03 Transportation Systems Planning. ~~Regional Planning Commission~~RPCs, and the Department, shall use an integrated ~~multimodal~~ Multimodal ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning approach in developing and updating the long-range ~~Regional Transportation Plans~~RTPs and the long-range Statewide Transportation Plan for a minimum 20-year forecasting

period. ~~Regional Planning Commission~~RPCs shall have flexibility in the methods selected for ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning based on the complexity of transportation problems and available resources within the TPR. The Department will provide guidance and assistance to the ~~Regional Planning Commission~~RPCs regarding the selection of appropriate methods.

4.03.1 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs and the Department shall consider the results of any related studies that have been completed. ~~Regional Planning Commission~~RPCs and the Department may also identify any ~~corridor~~Corridor(s) or sub-area(s) where an environmental study or assessment may need to be performed in the future.

4.03.2 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs shall consider ~~corridor vision~~ needs and desired state of the transportation system including existing and future land use and infrastructure, major activity centers such as industrial, commercial and recreation areas, economic development, environmental protection, and modal choices.

4.03.3 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs shall include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and ~~mobility~~ Mobility of people goods, and services.

4.03.4 Transportation ~~systems~~ Systems ~~planning~~ Planning by the Department should include capital, operations, maintenance and management strategies, investments, procedures, and other measures to ensure the preservation and most efficient and effective use of the ~~state~~ State ~~transportation~~ Transportation ~~system~~System.

4.03.5 Transportation ~~systems~~ Systems Pplanning by the Department shall consider and integrate all modes into the Statewide Transportation Plan and include coordination with Department modal plans and modal committees, such as the ~~Transit and Rail Advisory Committee~~ (TRAC).

4.03.6 Transportation Systems Planning by the Department shall provide for the establishment and use of a performance-based approach to transportation decision-making to support the national goals described in 23 U.S.C. § 150 (FAST Act, P.L. 114-94). Performance targets that the Department establishes to address the performance measures described in 23 U.S.C. § 150, where applicable, are to be used to track progress towards attainment of critical outcomes for the state. The state shall consider the performance measures and targets when developing policies, programs, and investment priorities reflected in the Statewide Transportation Plan and STIP.

4.04 Regional Transportation Plans (RTP). Long-range ~~regional transportation plans~~RTPs shall be developed, in accordance with federal (23 U.S.C. § 134 and § 135) and state (§ 43-1-1103 and § 43-1-1104, C.R.S.) law and implementing regulations. Department selection of performance targets that address the performance measures shall be coordinated with the relevant MPOs to ensure consistency, to the maximum extent practicable.

4.04.1 Content of ~~Regional Transportation Plan~~RTPs. Each RTP shall include, at a minimum, the following elements:

4.04.1.1 Transportation system facility and service requirements within the MPO TPR over a minimum 20-year planning period necessary to meet expected demand, and the anticipated capital, maintenance and operating cost for these facilities and services.

4.04.1.2 State and federal transportation system planning factors to be considered by ~~Regional Planning Commission~~RPCs and the Department during their respective ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning shall include, at a minimum, the factors described in § 43-1-1103 (5), C.R.S., and in 23 U.S.C. § 134 and § 135.

4.04.1.3 Identification and discussion of potential environmental mitigation measures, ~~corridor~~ Corridor studies, or ~~corridor~~ Corridor ~~visions~~Visions, including a discussion of impacts to minority and low-income communities.

4.04.1.4 A discussion of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan.

4.04.1.5 For rural RTPs, the integrated performance-based ~~multimodal~~ Multimodal transportation plan based on revenues reasonably expected to be available over the minimum 20-year planning period. For metropolitan RTPs, a ~~fiscally~~ Fiscally ~~constrained~~ Constrained financial plan.

4.04.1.6 Identification of reasonably expected financial resources developed cooperatively among the Department, MPOs, and rural TPRs for ~~long~~Long-~~range~~ Range ~~planning~~ Planning purposes, and results expected to be achieved based on regional priorities.

4.04.1.7 Documentation of the public notification and public participation process pursuant to these Rules.

4.04.1.8 A resolution of adoption by the responsible ~~Metropolitan Planning Organization~~MPO or the ~~Regional Planning Commission~~RPC.

4.04.2 Products and reviews

4.04.2.1 Draft Plan. ~~Transportation Planning Region~~TPRs shall provide a draft of the RTP to the Department through the Division ~~of Transportation Development~~.

4.04.2.2 Draft Plan Review. Upon receipt of the draft RTPs, the Department will initiate its review and schedule the STAC review (pursuant to these Rules). The Department will provide its comments and STAC comments to the ~~Transportation Planning Region~~TPR within a minimum of 30 days of receiving the draft RTP. ~~Regional transportation plan~~RTPs in metropolitan areas completed pursuant to the schedule identified in 23 C.F.R. § 450.322 shall be subject to the provisions of this section prior to being submitted to the Department for consideration as an amendment to the ~~statewide~~ Statewide ~~transportation~~ Transportation plan Plan.

4.04.2.3 Final Plan. ~~Transportation Planning Region~~TPRs shall provide the final RTP to the Department through the Division ~~of Transportation Development~~.

4.04.2.4 Final Plan Review. Upon receipt of the final RTP, the Department will initiate its review and schedule the STAC review (pursuant to these

Rules) of the final RTPs to determine if the plans incorporate the elements required by the Rules. If the Department determines that a final RTP is not complete, including if the final RTP does not incorporate the elements required by these Rules, then the Department will not integrate that RTP into the statewide plan until the ~~Transportation Planning Region~~TPR has sufficiently revised that RTP, as determined by the Department with advice from the STAC. The Department will provide its comments and STAC comments to the ~~Transportation Planning Region~~TPR within a minimum of 30 days of receiving the final RTP. ~~Transportation Planning Region~~TPRs shall submit any RTP revisions based on comments from the Department and STAC review within 30 days of the Department's provision of such comments. ~~Regional transportation plans~~RTPs in metropolitan areas completed pursuant to the schedule identified in 23 C.F.R. § 450.322 shall be subject to the provisions of this section prior to being submitted to the Department for consideration as an amendment to the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan.

4.05 Maintenance and Nonattainment Areas. Each RTP, or RTP amendment, shall include a section that:

4.05.1 Identifies any area within the TPR that is designated as a ~~maintenance~~ Maintenance or ~~nonattainment~~ Nonattainment ~~area~~Area.

4.05.2 Addresses, in either a qualitative or quantitative manner, whether transportation related emissions associated with the pollutant of concern in the TPR are expected to increase over the ~~long~~Long-~~range~~ Range ~~planning~~ Planning period and, if so, what effect that increase might have in causing a ~~maintenance~~ Maintenance ~~area~~ Area for an NAAQS pollutant to become a ~~nonattainment~~ Nonattainment ~~area~~Area, or a ~~non-attainment~~Nonattainment ~~area~~ Area to exceed its emission budget in the approved State Implementation Plan.

4.05.3 If transportation related emissions associated with the pollutant are expected to increase over the ~~long~~Long-~~range~~ Range ~~planning~~ Planning period, identifies which programs or measures are included in the RTP to decrease the likelihood of that area becoming a ~~nonattainment~~ Nonattainment ~~area~~ Area for the pollutant of concern.

4.06 Statewide Transportation Plan. The ~~Regional Transportation Plans~~RTPs submitted by the ~~Regional Planning Commissions~~RPCs shall, along with direction provided through Commission policies and guidance, form the basis for developing and amending the Statewide Transportation Plan. The Statewide Transportation Plan shall cover a minimum 20-year planning period at the time of adoption and shall guide the development and implementation of a performance-based ~~multimodal~~ Multimodal transportation system for the State.

4.06.1 The Statewide Transportation Plan shall:

4.06.1.1 Integrate and consolidate the RTPs and the Department's systems planning, pursuant to these Rules, into a long-range 20-year ~~multimodal~~ Multimodal transportation plan that presents a clear, concise path for future transportation in Colorado.

4.06.1.2 Include the long-term transportation concerns of the Southern Ute Indian Tribe and the Ute Mountain Ute Tribe in the development of the Statewide Transportation Plan.

4.06.1.3 Coordinate with other state and federal agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation.

4.06.1.4 Include a discussion of potential environmental mitigation activities and potential areas to carry out these activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan developed in consultation with federal, state, and tribal wildlife, land management and regulatory agencies.

4.06.1.5 Include a comparison of transportation plans to state and tribal conservation plans or maps and to inventories of natural or historical resources.

4.06.1.6 Provide for overall ~~multimodal~~ Multimodal transportation system management on a statewide basis.

4.06.1.7 The Statewide Transportation Plan shall be coordinated with metropolitan transportation plans pursuant to 23 C.F.R. Part 450, § 43-1-1103 and § 43-1-1105, C.R.S. Department selection of performance targets shall be coordinated with the MPOs to ensure consistency, to the maximum extent practicable.

4.06.1.8 Include an analysis of how the Statewide Transportation Plan is aligned with Colorado's climate goals and helps reduce, prevent, and mitigate GHG pollution throughout the State.

4.06.1.9 Includes the 10-Year Plan as an appendix.

4.06.2 Content of the Statewide Transportation Plan. At a minimum, the Statewide Transportation Plan shall include priorities as identified in the RTPs, as identified in these Rules and pursuant to federal planning laws and regulations. The Statewide Transportation Plan shall be submitted to the ~~Colorado Transportation~~ Commission for its consideration and approval.

4.06.3 Review and Adoption of the Statewide Transportation Plan.

4.06.3.1 The Department will submit a draft Statewide Transportation Plan to the Commission, the STAC, and all interested parties for review and comment. The review and comment period will be conducted for a minimum of 30 days. The Statewide Transportation Plan and appendices~~The publication~~ will be available in physical form upon request~~at public facilities, such as at the Department headquarters and region offices, state depository libraries, county offices, TPR offices, Colorado Division offices of the Federal Highway Administration and Federal Transit Administration~~, and made available on the internet.

4.06.3.2 The Department will submit the final Statewide Transportation Plan to the ~~Colorado Transportation~~ Commission for adoption.

5.00 Updates to Regional and Statewide Transportation Plans.

5.01 Plan Update Process. The updates of ~~Regional Transportation Plan~~RTPs and the Statewide Transportation Plan shall be completed on a periodic basis through the same process governing development of these plans pursuant to these Rules. The update cycle shall comply with federal

and state law and be determined in consultation with the ~~Transportation~~ Commission, the Department, the STAC and the MPOs so that the respective update cycles will coincide.

5.02 Notice by Department of Plan Update Cycle. The Department will notify ~~Regional Planning Commission~~RPCs and the MPOs of the initiation of each plan update cycle, and the schedule for completion.

6.00 Amendments to the Regional and Statewide Transportation Plans.

6.01 Amendment Process

6.01.1 The process to consider amendments to ~~Regional Transportation Plan~~RTPs shall be carried out by rural RPCs and the MPOs. The amendment review process for Regional Transportation Plan RTPs shall include an evaluation, review, and approval by the respective RPC or MPO.

6.01.2 The process to consider amendments to the Statewide Transportation Plan shall be carried out by the Department, either in considering a proposed amendment to the Statewide Transportation Plan from a requesting RPC or MPO or on its own initiative.

6.01.3 The process to consider amendments to the 10-Year Plan shall be carried out by CDOT in coordination with the rural RPCs and the MPOs.

7.00 Transportation Improvement Programs (TIPs) and Statewide Transportation Improvement Program (STIP).

7.01 TIP development shall occur in accordance with 23 C.F.R. Part 450, Subpart C. The Department will develop the STIP in accordance with 23 C.F.R. Part 450, Subpart B.

7.02 The Department will work with its ~~planning~~ Planning ~~partners~~ Partners to coordinate a schedule for development and adoption of TIPs and the STIP.

7.03 A TIP for an MPO that is in a ~~non-attainment~~Nonattainment or Maintenance Area must first receive a conformity determination by FHWA and FTA before inclusion in the STIP pursuant to 23 C.F.R. Part 450.

7.04 MPO TIPs and Colorado's STIP must be ~~fiscally~~ Fiscally ~~constrained~~Constrained. Under 23 C.F.R. Part 450, each project or project phase included in an MPO TIP shall be consistent with an approved metropolitan RTP, and each project or project phase included in the STIP shall be consistent with the long-range ~~statewide~~ Statewide ~~transportation~~ Transportation planPlan. MPO TIPs shall be included in the STIP either by reference or without change upon approval by the MPOs and the Governor.

8.00 GHG Emission Requirements

8.01 Establishment of Regional GHG Transportation Planning Reduction Levels

8.01.1 The GHG emission reduction levels within Table 1 apply to MPOs and the Non-MPO area within the state of Colorado ~~as of the effective date of these Rules~~. Baseline ~~values~~projections are specific to each MPO and CDOT area and represent estimates of GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules. ~~Table 2 reflects the difference in~~ The Baseline ~~levels~~projections ~~from year to year assuming~~ account for estimates of population and employment growth as provided by the state demographer and assume a rapid growth in

electric vehicles across the State (940,000 light duty electric vehicles in 2030, 3.38 million in 2040 and a total of 97% of all light duty vehicles in 2050). ~~Values in both tables include estimates of population and employment growth as provided by the state demographer.~~

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	205(Reduct Leve (MMT
DRCOG	14.9	0.27	11.8	0.82	10.9	0.63	12.8	0.37
NFRMPO	2.3	0.04	1.8	0.12	1.9	0.11	2.2	0.07
PPACG	2.7	N/A	2.2	0.15	2.0	0.12	2.3	0.07
GVMPO	0.38	N/A	0.30	0.02	0.30	0.02	0.36	0.01
PACOG	0.50	N/A	0.40	0.03	0.30	0.02	0.4	0.01
CDOT/Non-MPO	6.7	0.12	5.3	0.37	5.2	0.30	6.1	0.18
TOTAL	27.4	0.5	21.8	1.5	20.6	1.2	24.2	0.7

Commented [redacted]: For some of the compliance years, the TOTAL line at the bottom does not match the sum of the regional areas.
The same number of significant digits should be used for all baselines and reduction levels.

8.01.3 ~~Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles~~Process for Reviewing and Revising GHG Transportation Planning Reduction Levels – At least every four years, the State Interagency Consultation Team shall conduct a feasibility review of the GHG Reduction Levels based on current conditions and forecasts. At any time, an MPO, CDOT, or the Commission may request the State Interagency Consultation Team conduct a feasibility review of the GHG Reduction Levels. The State Interagency Consultation Team shall determine through consultation if a submitted request will be fulfilled or denied. Upon completing a feasibility review, the State Interagency Consultation Team shall submit a report to the Commission identifying the findings of the feasibility review and a recommendation on whether the GHG Reduction Levels should be revised. The Commission shall determine by resolution if a rulemaking should commence to allow for the potential revision of the GHG Reduction Levels.

~~Table 2: Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles~~

	~~2025 Projections (MMT)~~	~~2030 Projections (MMT)~~	~~2040 Projections (MMT)~~	~~2050 Projections (MMT)~~
~~TOTAL~~	~~27.0~~	~~20.0~~	~~14.0~~	~~8.9~~

Commented [redacted]: There is no regulatory purpose for this table. If a regulatory purpose is not provided, it should be removed from the rule. Potential regulatory purpose: Adding in the EV assumption for each year and stating if the EV assumption changes, then the reduction levels in the rule should be revisited to determine if they are still feasible.

8.02 Process for Determining Compliance

8.02.1 Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to estimate total CO2e emissions. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each compliance year in Table 1, as long as the compliance year is not in the past ~~and compare these emissions to the Baseline specified in Table 1~~. This provision shall not apply to MPO TIP amendments.

8.02.2 Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior to the adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel Model, and Approved Air Quality Model.

8.02.3 The State Interagency Consultation Team shall meet as needed to conduct and consider requests for feasibility reviews of the GHG Reduction Levels and to address any questions on the classification of projects as Regionally Significant, modeling assumptions, and projects that reduce GHG emissions.

8.02.3 By April 1, 2022, CDOT shall establish an ongoing administrative process, through a public process and in consultation with MPOs, for ~~selecting, measuring, confirming, and verifying~~ defining GHG Mitigation Measures and measuring their impact on GHG emissions and co-benefits ~~, so that~~ CDOT and MPOs may~~can~~ incorporate one or more GHG Mitigation Measures into ~~each of~~ their plans ~~in order to reach~~to assist in meeting the Regional GHG Planning Reduction Levels in Table 1. Such a process shall include, but not be limited to, determining the relative impacts of GHG Mitigation Measures, measuring ~~and prioritizing~~ localized impacts to communities ~~and prioritizing benefits to Disproportionately Impacted Communities in particular~~, and identifying a method for grouping GHG Mitigation Measures that are not considered to be of appropriate scale for individual identification. The mitigation credit awarded to a specific solution shall consider both aggregate and community impact.

8.02.4 Timing for Determining Compliance

8.02.4.1 By October 1, 2022, CDOT shall update their 10-Year Plan and DRCOG and NFRMPO shall update their RTPs pursuant to § 43-4-1103, C.R.S. and meet the reduction levels in Table 1 or the requirements pursuant to § 43-4-1103, C.R.S and restrictions on funds.

8.02.4.2 After October 1, 2022

8.02.4.2.1 ~~CDOT must if~~For each Applicable Planning Document adopted or amended after October 1, 2022, CDOT must meet either the reduction levels within Table 1 for Non-MPO areas or the requirements as set forth in Rule ~~8.05~~8.02.5.1.1.

8.02.4.2.2 ~~MPOs must meet either the corresponding reduction levels within Table 1 if~~For each Applicable Planning Document adopted or amended after October 1, 2022, MPOs must either meet the corresponding reduction levels within Table 1, or the relevant MPO and CDOT each must meet the requirements as set forth in Rule ~~8.05~~8.02.5.1.1 or Rule 8.02.5.1.2, as applicable.~~I~~This provision shall not apply to MPO TIP Amendments.

Commented [redacted] The comparison to Table 1 should occur using the GHG Emissions Analysis AND the GHG mitigation measures, not just the GHG Emissions analysis.

Commented [redacted] CDOT should also have an IGA required prior to the next 10-year plan

Commented [redacted] Unclear what these terms mean. The rule already provides a process for reporting the status of the measures – would this process impact the formal/approval process of the mitigation report and/or status report?

Commented [redacted] Agencies may choose to report these measures even though they don't enable reaching the reduction levels (i.e. they still fall short). Not sure if the suggested language goes far enough to explain that concept.

Commented [redacted] As proposed, the rule implies the applicable plans must comply immediately after October 1, 2022.

Commented [redacted] Only having this language in §8.02.1 means we'd still have to comply and submit a report for TIP Amendments, it just wouldn't have the emissions analysis. Is that the intent?

8.02.5 Demonstrating Compliance. At least thirty (30) days prior to adoption or amendment of any Applicable Planning Document except amendments to MPO TIPs, CDOT for Non-MPO areas and the MPOs for their areas shall provide to the Commission a GHG Transportation Report containing the following information:

8.02.5.1 GHG emissions analysis and, if applicable, a GHG Mitigation Plan demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1 or that the requirements in Rules 8.02.5.1.1 or 8.02.5.1.2., as applicable, have been met.

Commented [redacted]: The rule needs to clearly identify that compliance is not based solely on the GHG emissions analysis (or the GHG emissions analysis needs to clearly identify that the mitigation measures are included in the analysis)

8.02.5.1.1 In non-MPO areas or for MPOs that are not in receipt of -federal suballocations pursuant to the ~~CMAQ and/or~~ STBG programs, the Department utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in those areas on projects that reduce GHG emissions.

Commented [redacted]: If "or" is retained here, it is unclear which provision applies to MPOs that receive only one of the federal suballocations

8.02.5.1.2 In MPO areas that are in receipt of federal suballocations pursuant to the ~~CMAQ and/or~~ STBG programs, the MPO ~~utilizes~~ shall award those funds anticipated to be expended on Regionally Significant Projects ~~on~~to projects or approved GHG Mitigation Measures that reduce GHG emissions, and CDOT ~~utilizes~~shall award 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in that MPO area, on projects that reduce GHG emissions.

Commented [redacted]: Unclear when this takes effect. Projects currently in progress should not have their funding removed, as that would be highly disruptive. The least disruptive approach is to apply the requirement to future awards.

8.02.5.2 Identification and documentation of the MPO Model or the Statewide Travel Model and the Approved Air Quality Model used to determine GHG emissions in MMT of CO2e.

8.02.5.3 At the discretion of the MPO or CDOT, submission of Aa Mitigation Action Plan that identifies GHG Mitigation Measures, if any, ~~needed to meet~~that will count toward the reduction levels within Table 1. The Mitigation Action Plan shall include:

Commented [redacted]: Rule should allow an agency to not submit a Mitigation Action Plan. If the GHG analysis demonstrates compliance, no mitigation measures would be needed.

Commented [redacted]: Again, measures would likely be identified even if they don't allow the agency to meet the reduction levels.

8.02.5.3.1 The anticipated start and completion date of each measure.

8.02.5.3.2 An estimate, where feasible, of the annual GHG emissions reductions in MMT of CO2e achieved per year by any GHG Mitigation Measures.

8.02.5.3.3 Quantification of specific co-benefits, where feasible, including reduction of co-pollutants (PM2.5, NOx, etc.) as well as travel impacts (changes to VMT, pedestrian/bike use, transit ridership numbers, etc. as applicable).

8.02.5.3.4 Description of benefits to Disproportionately Impacted Communities.

8.02.6 Reporting on Compliance- Following the submission of a GHG Transportation Report containing a Mitigation Action Plan, ~~Annually by April 1,~~ CDOT and MPOs must provide a status report to the Commission annually by April 1 on an approved form with the

following items for each GHG Mitigation Measure identified in their most recent GHG Transportation Report:

8.02.6.1 The implementation timeline;

8.02.6.2 The current status;

8.02.6.3 For measures that are in progress or completed, quantification of the benefit or impact of such measures; and

8.02.6.4 For measures that are delayed, cancelled, or substituted, an explanation of why that decision was made.

8.03 GHG Mitigation Measures. When assessing compliance with the GHG Reduction Levels, CDOT and MPOs shall have the opportunity to utilize approved GHG Mitigation Measures as set forth in Rules 8.02.3 and 8.02.5.3 to offset emissions and demonstrate progress toward compliance. Illustrative examples of GHG Mitigation Measures include, but are not limited to:

8.03.1 The addition of transit resources in a manner that can displace VMT.

8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.

8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use in a way that links and rewards transportation project investments with the city making these changes.

Commented [redacted] This language is unclear.

8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.

8.03.5 Improving the safety and efficiency of crosswalks for pedestrians, bicyclists, and other non-motorized vehicles, including to advance compliance with the ADA.

8.03.6 Adopting or encouraging the adoption of locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.

8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.

8.03.8 Establishing policies for clean construction that result in scalable improvements as a result of factors like lower emission materials, recycling of materials, and lower truck emissions during construction.

Commented [redacted] This language is unclear.

8.03.9 ~~Adoption of~~ Implementing or encouraging the adoption of transportation demand management practices that reduce VMT.

8.03.10 Implementing or encouraging the implementation of operations improvements such as ramp metering, signal timing, intersection improvements, access control plans, anti-idling programs, ~~and~~ incident management, and Intelligent Transportation Systems (ITS) strategies that result in GHG reductions.

8.04 Air Pollution Control Division (APCD) Confirmation and Verification

8.04.1 At least sixty (60) ~~forty-five (45)~~ days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to APCD for review and verification of the technical data contained in the draft GHG Transportation Report required per Rule 8.02.5. If APCD has not provided written verification within thirty (30) days, the document shall be considered acceptable. The APCD shall submit any written verification to the agency adopting the Applicable Planning Document and to the Commission.

8.04.2 At least forty-five (45) ~~thirty (30)~~ days prior to adoption or amendment of policies per Rule 8.02.3, CDOT shall provide APCD the opportunity to review and comment. If APCD has not provided written comment within thirty (30) ~~forty-five (45)~~ days, the document shall be considered acceptable.

8.05 Enforcement. The Commission shall review all GHG Transportation Reports to determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance. The Commission shall determine if the GHG Transportation Report meets the requirements of Rule 8.02.5 within sixty (60) days.

8.05.1 If the Commission determines the requirements of Rule 8.02.5 have been met, the Commission shall, by resolution, accept the GHG Transportation Report.

8.05.2 If the Commission determines, by resolution, the requirements of Rule 8.02.5 have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG. Prior to the enforcement of such restriction, an MPO, CDOT or a TPR in a non-MPO area, may ~~within thirty (30) days of Commission action,~~ issue one or both of the following opportunities to seek a waiver or to ask for reconsideration accompanied by an opportunity to submit additional information:

8.05.2.1 Request a waiver from the Commission imposing restrictions on specific projects not expected to reduce GHG emissions. A waiver may be requested at any time, including concurrently with the submission of a GHG Transportation Report. The Commission may waive the restrictions on specific projects on the following basis:

8.05.2.1.1 The GHG Transportation Report reflected significant effort and priority placed, in total, on projects and GHG Mitigation Measures that reduce GHG emissions; and

8.05.2.1.2 In no case shall a waiver be granted if such waiver results in a substantial increase in GHG emissions when compared to the required reduction levels in this Rule.

8.05.2.2 Request reconsideration of a non-compliance determination by the Commission and provide written explanation of how the requirements of Rule 8.02.5 have been met. A request for reconsideration must be submitted within sixty ~~thirty~~ (30~~60~~) days of Commission action.

8.05.2.3 The Commission shall act, by resolution, on a waiver or reconsideration request within thirty (30) days of receipt of the waiver or reconsideration request or at the next regularly scheduled Commission Meeting, whichever is later. If no action is taken within this time period, the waiver or reconsideration request shall be deemed to be ~~denied~~approved.

8.05.2.4 Conflicts among MPOs and the Commission shall be escalated to the Governor if they cannot be resolved by the heads of the involved agencies. The Governor may delegate his or her role in this process, but not to the head or staff of the State or local air agency, State department of transportation, Commission, or an MPO.

8.05.3 Notwithstanding any other provision of this Rule, CDOT, DRCOG and NFRMPO must meet the requirements of § 43-4-1103, C.R.S.

8.06 Reporting. Beginning July 1, 2025, and every 5 years thereafter, the Executive Director on behalf of CDOT shall prepare and make public a comprehensive report on the statewide GHG reduction accomplishments.

9.00 Materials Incorporated by Reference

9.01 The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements in Rule 9.01.1 and federal funding programs in Rules 9.01.2 and 9.01.3, which are incorporated into the Rules by this reference, and do not include any later amendments.

9.01.1 Fixing America's Surface Transportation Act or the "FAST Act"), 23 U.S.C. §§ 134, 135 and 150, Pub. L. No. 114-94, signed into law on December 4, 2015, and its accompanying regulations, where applicable, contained in 23 C.F.R. Part 450, including Subparts A, B and C in effect as of November 29, 2017, and 25 C.F.R. § 170 in effect as of November 7, 2016.

~~9.01.2 Congestion Mitigation and Air Quality Improvement (CMAQ) Program, 23 U.S.C. § 149, in effect as of March 23, 2018.~~

9.01.3 Surface Transportation Block Grant (STBG) Program, 23 U.S.C. § 133, in effect as of December 4, 2015.

9.02 Also incorporated by reference are the following federal laws and regulations and do not include any later amendments:

9.02.1 Americans with Disabilities Act (ADA), 42 U.S.C. § 12101, *et. seq.*, in effect as of January 1, 2009.

9.02.2 Clean Air Act (CCA), 42 U.S.C. §§ 7407-7410, and 7505a, in effect as of November 15, 1990.

9.02.2 Transportation Conformity Regulations, 40 C.F.R. § 93.101, in effect as November 24,1993.

9.03 Also incorporated by reference are the following documents, standards, and models and do not include any later amendments:

9.03.1 Greenhouse Gas Pollution Reduction Roadmap by the Colorado Energy Office and released on January 14, 2021.

9.03.2 MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity released by the U.S. Environmental Protection Agency, in effect as of January 7, 2021.

9.04 All referenced laws and regulations are available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.

9.05 Copies of the referenced federal laws and regulations, planning documents, and models.

9.05.1 Copies of the referenced United States Code (U.S.C.) may be obtained from the following address:

Office of the Law Revision Counsel
U.S. House of Representatives
H2-308 Ford House Office Building
Washington, DC 20515
(202) 226-2411
https://uscode.house.gov/browse.xhtml

9.05.2 Copies of the referenced Code of Federal Regulations (C.F.R.) may be obtained from the following address:

U.S. Government Publishing Office
732 North Capitol State, N.W.
Washington, DC 20401
(866) 512-1800
https://www.govinfo.gov/

9.0.5.3 Copies of the Greenhouse Gas Pollution Reduction Roadmap (Roadmap) may be obtained from the following address:

Colorado Energy Office
1600 Broadway, Suite 1960
Denver, CO 80202
(303) 866-2100
energyoffice.colorado.gov

9.0.5.4 To download MOVES3 released by the U.S. Environmental Protection Agency may be obtained from the following address:

U.S. Environmental Protection Agency
The Office of Transportation and Air Quality
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
(734) 214–4574 or (202) 566-0495
mobile@epa.gov
https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

10.00 Declaratory Orders

10.01 The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.

Editor's Notes

History

Entire rule eff. 12/15/2012.

Section SB&P eff. 05/30/2013.

Entire rule eff. 09/14/2018.

Annotations

Rules 1.22, 1.25, 1.42, 2.03.1 – 2.03.1.4, 4.01, 4.02.1 – 4.02.3, 4.02.5.9, 4.04.2.2, 4.04.2.4, 4.06.1.7, 6.01.2, 7.01, 7.03 – 7.04 (adopted 10/18/2012) were not extended by Senate Bill 13-079 and therefore expired 05/15/2013.

NFRMPO GHG Comment Letter Final

Final Audit Report 2021-10-11

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STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

350CO Comment on Proposed Rules

1 me age

[redacted] Tue, Oct 12, 2021 at 12:40 PM

To: dot_rules@state.co.us

Hello,

350 Colorado respectfully submits the attached comment for review by the Transportation Commission of CDOT.

We greatly appreciate the work that ha gone into the development of thi novel rule, and ugge t everal improvement that should be made to the rule to give 350CO confidence that it will result in equitable emissions reductions from the transportation sector at appropriate speed and scale.

Sincerely,

[redacted]

[redacted]

[redacted] RulemakingComment.pdf
153K

BEFORE THE COLORADO TRANSPORTATION COMMISSION
COLORADO DEPARTMENT TRANSPORTATION

COMMENTS ON RULEMAKING BY 350 COLORADO

IN THE MATTER OF PROPOSED REVISIONS TO 2 CCR 601-22, RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

October 10, 2021

350 Colorado ("350CO") respectfully submits the following comment on the Colorado Department of Transportation's (CDOT's) draft Greenhouse Gas (GHG) Transportation Planning Standard (TPS).

350CO is a 501(c)3 non-profit, non-partisan and non-governmental organization with a mission to work locally towards building a global grassroots movement to solve the climate crisis and accelerate the transition to a sustainable future. We have over 20,000 members statewide working to address the root causes of the climate crisis and to promote equitable and lasting solutions. Many of our members reside in ozone nonattainment areas or are disproportionately impacted by climate change and the pollution associated with greenhouse gas emissions.

COMMENTS ON CDOT'S PROPOSAL

We greatly appreciate the work of CDOT staff to develop a novel framework for encouraging transportation sector emissions reductions. This comment is submitted with the aim of constructively contributing to the policy development process.

Coloradans and society at large currently face a 'code red' climate emergency. The emissions trajectory of the global economy is projected to raise Earth's temperature by an average of 2.7°C above pre-industrial temperatures by 2100. The impacts of this level of warming would be catastrophic[1]. Urgent greenhouse gas (GHG) reductions are needed this decade for averting the severe future climate change scenarios that we are on track to experience. The Transportation Commission (the Commission) of CDOT has direct influence over our state's emissions trajectory, and therefore, a grave responsibility to ensure swift reductions are achieved to avert

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[1]The Economist. (2021, July 24). *Three Degrees of global warming is quite plausible and truly disastrous*. Link

the worst of climate change. 350 Colorado calls on the Commission to, in the words of Greta Thunberg, “act as if our house is on fire, because it is”.

We believe it is critically important that the Commission embrace the most ambitious, equitable, and enforceable version of the GHG TPS rule. We cannot afford an ineffective rule that fails to drive emissions reductions this decade. **To be effective, the draft should target more substantial emissions reductions, establish concrete VMT reduction goals, improve equity provisions, eliminate potential waiver loopholes, require transparent modeling, and establish a moratorium on highway expansion projects.** Without these improvements, we are not confident that this rule will equitably reduce Colorado’s transportation sector emissions at appropriate speed and scale.

The following sections lay out specific suggestions for how we believe the draft rule can be improved:

1. Increase ambition of GHG reduction targets to account for inevitable shortfalls of other planned reductions.

The draft GHG TPS rule targets a 1.5 MMT (million metric ton) reduction in CO2e from the transportation sector by 2030. This 1.5 MMT reduction from transportation planning represents a small fraction of the 12.7 MMT reduction from the transportation sector by 2030 target outlined in the state’s GHG Pollution Reduction Roadmap[2] (the Roadmap). Evidently, the GHG TPS rule is intended to compliment other emission reduction strategies, including a 6 MMT reduction from existing low and zero emissions vehicles and a supposed 2 MMT reduction from light-duty fleet turnover and investments in electric vehicle (EV) infrastructure[3]. How these strategies ultimately play out remains an open question. It’s quite possible that the nearly 1 million EVs by 2030 target underlying the 6 MMT reduction from low and zero emissions vehicles will not be met. This uncertainty in the total emissions reduced under current and proposed rules is concerning given what is at stake for Colorado and our global climate. We cannot afford to come up short of the emissions reductions that are required by law by HB19-1261.

Further, what is more concerning still is the reality that all current and proposed rules combined will leave a substantial gap between statewide reductions from transportation by 2030 and the 12.7 MMT target in the Roadmap. **Thus, we urge the Commission to substantially increase the size and scope of the GHG TPS rule, to achieve a minimum 2 MMT reduction by 2030**

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[2] Office of the Governor of Colorado, Colorado Greenhouse Gas Pollution Reduction Roadmap (Jan 14, 2021).

[3] Colorado Dept. of Transportation. (2021, August 30). *Greenhouse Gas Pollution Reduction Standard for Transportation Planning Frequently Asked Questions*. Link

and to strive for a 3 MMT reduction to account for shortfalls in other programs – many of which (like an indirect source rule from the AQCC) have yet to be developed.

The most equitable way to reduce transportation emissions is to expand multimodal travel opportunities. Yet, it's evident in the transit modeling that is going into this rulemaking that CDOT is only projecting a 6% annual increase in transit service from 2022-2030, then only 1% per year after that[4]. CDOT also assumes that 75% of future housing growth from 2023 to 2045 will occur in mixed use areas for DRCOG, but there are no future policies in place to either encourage or mandate this happening[5].

2. Reopen the TIPS and STIPS to ensure that investments made over the next several years are aligned with emissions reduction targets.

Lastly, we echo the concerns of others that by not reopening TIPs and STIPs, CDOT is delaying emissions reductions that are absolutely necessary for meeting our 2025 and 2030 emissions reduction targets. By failing to reopen these critical transportation planning processes that will guide investments over the next several years so the plans can be made to comply with emission reduction targets, we are losing precious opportunities to drive low-carbon investments now that will determine the carbon intensity of our transportation system for decades to come.

Failing to assess the carbon-intensity of projects in the strategic project pipeline and prioritize the flow of investment to low-carbon projects will lock in unnecessary emissions in this critical decade when we must see substantial emissions reductions.

3. Improve equity provisions to secure 'distributive justice'.

As a matter of environmental justice, DICs and communities of color must have a seat at the table for all decision-making processes to ensure their views are heard and that access to affordable, multimodal, transportation options that reduce toxic air pollution and traffic congestion are actually delivered. In addition to the bare minimum of achieving "procedural justice" by including DICs in decision making processes, this rule must also achieve concrete reductions in pollution in Colorado's communities that have been breathing heavy air pollution for far too long. If this rule results in more words and plans but fails to reduce air pollution in Colorado's DICs, then the rule will be a failure.

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[4] Colorado Dept. of Transportation. (2021, August 31). *Cost-benefit analysis for rules governing statewide transportation planning*. (p. 15) Link

[5] Colorado Dept. of Transportation. (2021, August 31). *Cost-benefit analysis for rules governing statewide transportation planning*. (p. 21) Link

The draft rules do not go far enough to target investments in Colorado's Disproportionately Impacted Communities (DICs), to ensure they benefit from transportation improvement planning (TIP) and GHG mitigation measures implemented under the rule. To improve the rule, the Commission could stipulate that a significant percentage (around 40%) of TIP projects be allocated towards improvements in DICs, which exist in every MPO across the state. Whatever the percentage of funds allocated towards DICs, which may be different for each MPO, it should significantly exceed the percentage of the MPO's population that is classified as a DIC. For instance, if 30% of the population of a given MPO is classified as a member of a DIC, then that MPO should allocate significantly more than 30% of its transportation funds towards DICs in order to remedy decades of disinvestment, neglect, and environmental racism.

Equity provisions for DICs could also require the Commission and MPOs to implement transportation plans that reduce air pollution and increase equitable access to multimodal transit options within DICs — that consistently suffer from worse air quality, higher rates of childhood asthma, higher COVID-19 hospitalization rates[6], and many other pollution-related ailments.

350 Colorado supports the addition of Definition 1.12 – Disproportionately Impacted Communities – in the GHG TPS. However, the definition of DICs in the TPS rule falls short of that defined by HB21-1266: Environmental Justice Disproportionate Impacted Community – which includes a provision for state agencies (such as the Transportation Commission) to designate a community as a DIC, "if: The community has a history of environmental racism perpetuated through redlining, anti-Indigenous, anti-immigrant, anti-Hispanic, or anti-Black laws; or the community is one where multiple factors, including socioeconomic stressors, disproportionate environmental burdens, vulnerability to environmental degradation, and lack of public participation, may act cumulatively to affect health and the environment and contribute to persistent disparities."[7] Therefore, we request the above provision be added to the draft rules, and that the draft rules affirm the TC's authority to designate DICs for the purpose of GHG transportation planning.

4. Expand the scope of the rule by including VMT reduction targets and HFCS as a regulated greenhouse gas

In addition to specifying GHG reduction targets in Table 1 that transportation plans must achieve, the rule should also specify VMT reduction targets in line with the Governor's Roadmap. Transportation plans should require that concrete VMT budgets are met, and these VMT reductions must be intensified if we fail to meet our ambitious EV adoption goals. A 10% reduction in VMT by 2030 is a minimum standard to be met. According to research published in

[6] Weis, K. (2021, September 23). *Hispanic neighborhoods in Denver metro area with high COVID hospitalizations consistently have poorer air quality*. CBS Denver. Link

[7]Colorado Revised Statute §24-4-109 (2)(b)(II). Link

the journal Environmental Research, without government policy to buy back gas vehicles, in order to have a 100% electric vehicle grid by 2050, the last year to allow ICE vehicle sales should have been 2020[8]. Without policies to reduce driving, Colorado's short term goal of a 50% reduction in GHGs by 2030 and a longer term goal of 90% by 2050 will be impossible to meet. A more aggressive target would challenge the commission and MPOs to prioritize not only GHG reductions but also changes in travel behavior that inevitably lead to less traffic congestion, lower emissions of co-pollutants, fewer traffic accidents, and better health.

Further, the draft rules define a greenhouse gas as "carbon dioxide, methane, and nitrous oxide" while excluding hydrofluorocarbons (HFCs). However, the US EPA recognizes that HFCs are extremely potent GHGs[9] with 100-year Global Warming Potentials (GWPs) ranging from 124 to 14,800 times that of CO2 according to the IPCC's 2018 AR4-WG1 Report.[10] Thus, unless otherwise accounted for, HFCs should be included in the definition of 'Greenhouse Gas' specified in section 1.17 of the draft rules.

5. Close loophole by tightening the conditions upon which waivers are granted

At present, section 8.05.02 of the draft rules stipulate the conditions under which waivers may be granted to planning agencies that exempt specific projects from the emissions reductions requirements. Where possible, the language should be tightened to eliminate discretion so that the waiver process does not create a loophole that can be gamed to receive approval for ghg-intensive projects. Highway expansions already being planned such as I-25 through the Sun Valley neighborhood and I-270 through Commerce City should not escape scrutiny under these greenhouse reduction rules.

Current and future waivers and permits should be re-evaluated to adhere to the new transportation planning standard, and no waiver should be granted for any project irreconcilably beyond compliance. At most, only a single waiver should be granted for a given project, and all waiver should be temporary while additional mitigation measures are identified to bring said project into compliance. All other conditions for waivers must be strictly defined and supported by data, e.g. a safety waiver must be supported with relevant safety data to be approved.

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[8]Alarfaj, A. F., Griffin, W. M., & Samaras, C. (2020). Decarbonizing US passenger vehicle transport under electrification and automation uncertainty has a travel budget. *Environmental Research Letters*, *15*(9), 0940c2. https://doi.org/10.1088/1748-9326/ab7c89

[9]Environmental Protection Agency. (n.d.). *Sources of Greenhouse Gas Emissions*. Transportation Sector Emissions, EPA. Retrieved October 5, 2021, Link

[10]Intergovernmental Panel on Climate Change (IPCC) (2018) AR4-WG1 Report, see: Table 2.14. Link

6. Require Transparent Modeling

Transportation models, assumptions, estimates and figures used to guide transportation policy by CDOT must be transparent for the public to meaningfully engage in decision making processes that impact their health, traffic patterns, and our state's GHG emissions. Both the transportation behavior and the transportation emissions models have limitations that must be clearly conveyed to both policymakers and members of the public. All pertinent modeling assumptions should be clearly documented, in order for members of the public to have confidence that model results accurately reflect the GHG emissions that a particular project or mitigation measure would emit or prevent.

Transparent modeling is critical to an open dialogue with the public, and would lead to greater trust between transportation planning agencies and the communities that have historically borne disproportionate burdens on public health, economic opportunity, and quality of life as a result of redlining and environmental racism. Specifically, we request that draft rule rule 8.02.2 be amended to require that the intergovernmental agreement outlining how modeling is to happen be made public well in advance of being finalized. Doing so would allow independent modeling experts and members of the public to review these assumptions and engage in constructive dialogue to improve the effort.

7. Put an end to highway expansions in urban areas

CDOT should enact a moratorium on highway expansions through urban neighborhoods. Just as we are not permitting new coal-fired power plants, we should not be permitting new highway expansions that we know will increase GHG emissions, air pollution and respiratory illness. Specifically, this moratorium should apply to I-270 and I-25 expansions currently being planned, as such projects will almost certainly increase VMT and exacerbate the inequity of air pollution for DICs in close proximity.

Instead of more highway expansion projects, Coloradans need more and better transportation alternatives to driving a vehicle — like electric bicycles for shorter trips, affordable and efficient public transit for longer trips, expanded light rail and bus rapid transit along major routes, and better land use decisions to provide more bike lanes, sidewalks, and pedestrian-centric urban centers.

CONCLUSION

The direction the Transportation Commission takes in this rulemaking period is of paramount importance for the current and future conditions of public health, economic interest and the

necessary movements towards distributive and procedural environmental justice in our state. These decisions will have far-reaching implications for climate justice globally. 350 Colorado recognizes the novel, admirable work that CDOT staff is undertaking in limiting GHG emissions from the transportation sector. Our staff and community of volunteers across Colorado appreciate the opportunity to participate in the rulemaking process by providing detailed guidance on how to achieve and enhance the goals set by HB19-1261. However, these legally binding goals are neither achievable nor enforceable without the following provisions to the draft rules:

- A substantial increase in the size and scope of the GHG TPS rule, accomplishing a minimum 2 MMT reduction by 2030 and striving for a 3 MMT reduction. This is achieved through expanding multimodal travel opportunities.
- Transportation plans should require that concrete VMT budgets are met, and these VMT reductions must be intensified if EV adoption goals fail. A 10% reduction in VMT by 2030 is a minimum standard to be met. Additionally, HFCs must be included in the draft rule's definition of a GHG.
- An Improvement in equity provisions by including DICs in TIP and GHG mitigation measures as a matter of procedural environmental justice.
- Current and future waivers and permits to the rules should be re-evaluated to adhere to the new guidelines. No waiver should be granted for any project irreconcilably beyond compliance.
- An amendment to draft rule rule 8.02.2 to require that the intergovernmental agreement outlining modeling should be made public in advance of being finalized for greater transparency.
- The enactment of a moratorium on highway expansion projects while providing greater transportation options beyond personal internal combustion engine vehicles for journeys of all durations.

Submitted by 350CO on October 12th, 2021

[redacted]
Climate Policy Analyst

[redacted]
Volunteer

[redacted]
Volunteer

[redacted]
Climate Policy Intern

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Sustainability in Transportation Letter from Cyclists 4 Community

1 me age

[redacted] Tue, Oct 12, 2021 at 1:27 PM

To: dot_rules@state.co.us, theresa.takushi@state.co.us

Dear M Taku hi and/or Whom It May Concern

Please see the attached letter stating the position of Cyclists 4 Community, 501c3 in regards to Sustainability in Transportation and GHG rulemaking.

Thank you in advance for attending to this topic.

[redacted]

GHG Planning Standard Draft Letter of Support for C4C_PDF.pdf
34K

Dear Ms. Theresa Takushi,

Cyclists 4 Community would like to thank CDOT and the State of Colorado for acknowledging the climate crisis and would like to offer our support for the proposed Greenhouse Gas Transportation Planning Standard. To meet Colorado's greenhouse gas (GHG) reduction targets, urgent action is needed, and we are pleased to see CDOT's leadership in this regard. Given the magnitude of the climate crisis, we urge CDOT to pursue the greatest possible GHG reductions being considered for this rule and keep the standard at 1.5 million metric tons of CO2 reduction.

As Colorado's private automobile fleet is many years away from being 100% electric and since our electricity generation is many years away from being 100% renewable; achieving the GHG reductions mandated by this rule will out of necessity include a reduction in driving or reduction in vehicle miles traveled (VMT). Given the many other positive outcomes that reducing VMT will lead to such as improved safety on our roadways, especially for cyclists, decreased air pollution, and decreased congestion; we support the focus on reducing driving in addition to electrification.

Improving safety for people riding bikes is part of Cyclists 4 Community's core mission and we are excited that this rulemaking will lead to additional funding being made available for bicycle, pedestrian, and safety improvements. Additionally, projects that maintain our existing infrastructure should be a much higher priority than projects that increase vehicle capacity such as expanded interstates, highways, interchanges, etc.

We would like to offer several suggested revisions to further improve the draft rule which we have detailed below. We are disturbed by the proposed waiver process and its allowance to undo the benefits of this rule. If in a state of non-compliance, waivers to use federal transportation funds on non-GHG-reducing projects should only be granted to GHG-neutral projects, preferably only safety improvements. In a state of non-compliance, it adds to harmful outcomes to grant waivers for capacity projects that continue the status quo.

We applaud CDOT for acknowledging the phenomenon of induced demand but urge CDOT to acknowledge that induced demand is caused by a far broader range of projects beyond just additional general-purpose lane miles. In addition to adding lane miles, everything else we do to make driving easier – including additional turn lanes and auxiliary lanes – adds capacity and thereby causes people to drive more miles. "Operations" projects which address bottlenecks or chokepoints must be recognized for the increased capacity they provide. Any project that makes it easier to drive must be recognized as a capacity project which, through induced demand, will lead to increased VMT and increased GHG emissions. Accurate modeling of these projects is essential for this rulemaking to be effective.

Again, thank you for the opportunity to provide comments on the draft rule, for your public process and for advancing this necessary change that can decrease Colorado's contribution to global warming.

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

2 CCR 601-22 - Written Comment

1 me age

[redacted] Tue, Oct 12, 2021 at 2:06 PM

To: dot_rules@state.co.us

The commi ion' propo al "to e tabli h greenhou e ga (GHG) pollution reduction planning level for tran portation that will improve air quality, reduce smog, and provide more sustainable options for travelers across Colorado" is admirable and well needed.

Colorado driver adopting EV to replace their internal combu tion engine car will be a major, if not the primary, contributor to reducing transportation based GHG emissions within the state.

A barrier to this adoption is the lack of rapid EV charger stations at a density that will allow EV owners to plan travel with the ame ea e a ga powered vehicle traveler l e , traveler can count on rapid EV charging tation being available in locations in which gasoline is available.

While the question will be what is the necessary density of EV rapid charger stations needed for a given area to reach parity with ga oline availability a pre ent day plan hould be put in place by the commi ion to achieve thi goal

Thank you,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Transportation Planning Standard

1 me age

[redacted] Tue, Oct 12, 2021 at 2:33 PM

To: dot_rules@state.co.us

I applaud thi effort to addre the climate and air pollution impact of our tran portation y tem, but I fear the propo ed rule do not meet the urgency of the moment I am concerned that the reliance on imperfect predictive model will allow u to largely continue doing bu ine a u ual By the time we find that highway e pan ion have increa ed air pollution and greenhou e ga emi ion , it will be too late to mitigate them Rather than mitigating the harm of our tran portation y tem, we hould aim to avoid the harm to begin with

Ju t a we are not permitting new coal burning power plant , we hould not be permitting new highway e pan ion through our urban corridor that we know will increa e air pollution, greenhou e ga emi ion and re piratory illne Highway e pan ion already being planned uch a I 25 through the Sun Valley neighborhood and I 270 through Commerce City mu t not e cape crutiny under the e greenhou e ga reduction rule Fund for tho e project hould be redirected to infra tructure that reduce air pollution and VMT and imultaneou ly improve the live of Di proportionately Impacted Communitie

A both a GHG reduction trategy and equity i ue, CDOT' 10 year plan hould be amended to give the ame priority to urban arterial and tate highway a it doe to rural road and inter tate highway In thi pirit, the metro Denver bu rapid tran it network hould be funded thi decade Thi priority would be a key trategy to reduce VMT and GHG emi ion in the near term and would provide crucial mobility option to environmental ju tice communitie

Lastly, I would like to address the CDOT briefing memo from July 13th stating that GHG rulemaking will abandon the 10% VMT reduction goal as modeled by Colorado's Greenhouse Gas Reduction Roadmap. The memo emphasizes other solutions such as the employee trip reduction program that has already been cancelled. It is clear that without reducing VMT this decade we will simply not attain the air pollution and greenhouse gas reductions necessary for a livable climate. Furthermore, if we do not achieve the ambitious EV goals set forth in the roadmap, VMT mandates will need to be ratcheted up accordingly. I urge the transportation commission to ensure that all CDOT and MPO plans are consistent with this reduction in VMT.

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

RE Greenhouse Gas Emissions Reduction

1 me age

[redacted] Tue, Oct 12, 2021 at 3:11 PM

To: rebecca.white@state.co.us
Cc dot rule @ tate co u

Hi Rebecca,

I recently was at a meeting with you regarding the state's new Greenhouse gas reduction initiatives and CDOT's role in that.

Like most Coloradan (and U.S. citizens), I agree that vehicle travel on roads is among the heaviest contributors to the heat-trapping gases that play a crucial role in warming the Earth's climate Therefore I applaud your greenhouse gas reduction initiatives. I sincerely do.

However, I would like to suggest that reducing greenhouse gas emissions goes well beyond just new CDOT projects.

I would suggest that one of the best ways to reduce greenhouse gas emissions would be to simply better coordinate traffic signals on state highways.

One can travel down any metro area state highway – Colorado Blvd, 6th Avenue in Aurora, Colfax, Parker Road, Wadsworth etc., and the lights are so un-coordinated it's almost laughable. When the light in front of you turns red, you know yours is about to turn green, even when you are traveling the posted speed limit.

As such, you sit at each traffic light for prolonged periods spewing out climate-harming emissions. When I have asked about this before I have heard every excuse from traffic volumes to invisible pedestrians pressing the crosswalk signal getting the light uncoordinated.

For a city and state trying to paint itself as this fantastic eco-friendly place, this traffic light situation kind of blows holes in that theory. Sitting for prolonged periods at every red traffic light is no better for the climate than sitting in gridlock on an Interstate. If your truly serious about wanting to reduce greenhouse gas emissions it really does not matter what the e cuse is this is a problem that needs to be fi ed

Coordinating the traffic lights would help dramatically achieve the greenhouse positive results you're trying to attain and help tremendously in this state's speeding issues.

From folks I have spoken with, their speeding results from:

[redacted]

1. Trying to make up all of their lost time sitting at every red traffic light that CDOT is unable (or unwilling?) to coordinate.

2. Trying to be the eco-conscious person CDOT and State want's them to become by making it through the next light down the road before it turns red Thus being one less red light they must sit at spewing out their climate harming emissions.

If CDOT and the state are sincere in their desire to reduce Greenhouse gas emissions, then coordinating traffic lights has to play a role in this effort. Until that is done, it's clear that there is no sincerity in the desire to attain the outcome you and the state proclaim you are after.

I appreciate your consideration of this.

Respectfully,

[redacted]

[redacted]

STATE OF COLORADO

Rathburn - CDOT, Rebecca <rebecca.rathburn@state.co.us>

Fwd: CCA comments on proposed GHG rule

2 messages

Uebelher - CDOT, Jennifer <jennifer.uebelher@state.co.us> Mon, Oct 11, 2021 at 2:02 PM
To: Theresa Takushi - CDOT <theresa.takushi@state.co.us>, Rebecca White - CDOT <rebecca.white@state.co.us>, "Rathburn - CDOT, Rebecca" <rebecca.rathburn@state.co.us>

Hello ladies-

Please see the GHG comment below. Thanks.

Kind Regards,

Jennifer Uebelher
Transportation Commission Liaison
Office of Policy and Government Relations

P 303.757.9025
2829 W. Howard Place, Denver, CO 80204
Jennifer.Uebelher@state.co.us | www.codot.gov | www.cotrip.org

COLORADO
Department of Transportation
Office of Policy and Government Relations

---------- Forwarded message ---------
From: [redacted]
Date: Mon, Oct 11, 2021 at 1:55 PM
Subject: CCA comments on proposed GHG rule
To: [redacted]

Hello Commissioners-

Thank you for the opportunity to provide written comments regarding the Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards. CCA has been closely following this rulemaking on behalf of its membership. CCA appreciates the work that has gone into this process and the willingness of the Colorado Department of Transportation ("CDOT") staff to engage with CCA and discuss issues of importance. We certainly recognize the importance of this rule in terms of both its role in reducing the greenhouse gas ("GHG") emissions produced by the transportation sector. We also recognize the ways in which this rule will shape and change the transportation funding processes in Colorado.

As discussed in greater detail within the attached letter, CCA expresses the following concerns with the draft rule: (I) the timeline provided to stakeholders to engage in this process is inadequate; (II) there has been insufficient time and insufficient technical information provided to demonstrate that the GHG reduction standards are feasible and that the baseline levels are accurate; (III) the draft rule has the potential to shift new transportation funding revenues in ways that are contrary to the public's expectations based on adopted transportation plans; (IV) the GHG reduction levels and baselines should be periodically re-evaluated and updated to improve their accuracy over time; (V) the waiver process should be modified to create a transparent, public process for granting waivers from the GHG standards.

We appreciate your consideration of our concerns and look forward to your reply.

Sincerely,

[redacted]

[redacted]

EXECUTIVE DIRECTOR

COLORADO CONTRACTORS ASSOCIATION
BRINGING INFRASTRUCTURE TO LIFE

[redacted]

PROUD CHAPTER OF AGC AMERICA

CCA Letter to CDOT on GHG Rulemaking.pdf
215K

Rathburn - CDOT, Rebecca <rebecca.rathburn@state.co.us> Mon, Oct 11, 2021 at 4:56 PM
To: "Uebelher - CDOT, Jennifer" <jennifer.uebelher@state.co.us>
Cc: Theresa Takushi - CDOT <theresa.takushi@state.co.us>, Rebecca White - CDOT <rebecca.white@state.co.us>

Thanks, Jennifer. I will add this to the record!

Best,
Becca

[redacted]

[Quoted text hidden]

COLORADO CONTRACTORS ASSOCIATION
BRINGING INFRASTRUCTURE TO LIFE
6880 S. YOSEMITE COURT, SUITE 200
CENTENNIAL, COLORADO 80112

October 11, 2021

Colorado Department of Transportation
Transportation Commission
2829 W. Howard Pl.
Denver, CO 80204

Re: Greenhouse Gas Rulemaking

Dear Commissioners:

Thank you for the opportunity to provide written comments regarding the Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards. The Colorado Contractors Association ("CCA") has been closely following this rulemaking on behalf of its membership. CCA appreciates the work that has gone into this process and the willingness of the Colorado Department of Transportation ("CDOT") staff to engage with CCA and discuss issues of importance. We certainly recognize the importance of this rule in terms of both its role in reducing the greenhouse gas ("GHG") emissions produced by the transportation sector. We also recognize the ways in which this rule will shape and change the transportation funding processes in Colorado.

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I. Timeline of Rulemaking

The draft rule was published on August 13, 2021 and the Transportation Commission (the "TC") may adopt this rule on November 18, 2021. The process and schedule for this rulemaking may meet the minimum timelines established within state law, but it is not adequate for meaningful stakeholder engagement. The timeline is not sufficient to allow for a full review of the technical aspects of the draft rule, including the modeling methodology, the cost-benefit analysis, the regulatory analysis, and other materials produced to support the proposed changes to the rule. Meaningful engagement, public outreach, and informed dialog can build consensus during times of significant societal change. CCA commends CDOT for conducting public hearings throughout the state to provide stakeholders the opportunity to comment on the draft rule.

As you are likely observing during the public hearing process, the three-minute comment period provided to stakeholders presents challenges to providing substantive feedback on a complex framework for transportation planning and funding. CCA strongly recommends that the TC extend the public comment process, direct the staff to publish a revised draft rule in response to public comments, and conduct additional stakeholder outreach. This additional time could help CDOT build consensus around the goals and objectives of the draft rule.

II. GHG Standards and Modeling Methodology

The most critical element of the draft rule is the proposed GHG Reduction Levels that the rule establishes. The Transportation GHG Roadmap Briefing Update memo provided to stakeholders on July 13, 2021 provides a brief outline of the processed used to develop the pollution reduction planning levels. This memo describes four scenarios that CDOT modeled to determine the impact of combining various measures to achieve pollution reduction targets. CCA recognizes this was a complex and lengthy analysis and appreciates the work that CDOT has done. However, there is insufficient technical documentation available to fully understand the methodology and conduct independent analysis. This is especially true based upon the significance of this shift in the framework for transportation planning and funding. The proposed rule requires the TC to restrict funding to mitigation measures if GHG reduction levels are not met. This enforcement mechanism makes it vitally important to have broad agreement that the baseline and targets are accurate, are based upon appropriate assumptions and data inputs, and have been developed using the appropriate travel model. CCA supports increased transparency and additional review time surrounding the technical methodology used to create the GHG standards within the draft rule.

III. Transportation Funding Outcomes

It is important to note that CCA supported SB21-260, which allocates significant levels of funding to priorities that will reduce GHGs, including infrastructure and incentives to support the transition to electric vehicles, air pollution monitoring, and pollution mitigation. CCA worked closely with its members, CDOT staff, and other stakeholders on Section 30 of SB 260 to ensure that regionally significant transportation projects are planned and constructed in ways that benefit the general public, while not imposing burdens on disproportionately impacted communities. Those who supported SB 260 did so because the new revenues it creates are clearly necessary to fund a wide variety of needs, especially the projects in CDOT's 10-Year Plan. The public, legislators, and stakeholders have an expectation that the $5 billion in new transportation funding in SB 260 will be spent to deliver certain transportation projects, including the portions of funding that are primarily to be spent on the CDOT 10-Year Plan.

The draft rule does not account for the increased environmental requirements in Section 30 of SB 260. There has not been an acknowledgement of the decreased environmental impact new regionally significant transportation projects will have as a result of these requirements. In addition, there are concerns that the draft rule will cause certain transportation capacity projects and safety projects that are desperately needed to languish without funding if the GHG reduction targets are infeasible. The pollution caused by the congestion on these corridors will continue to go unaddressed.

The cost benefit analysis anticipates significant decreases in funding for transportation capacity projects between 2022-2050, as compared to the baseline. It is important that some of this shift in funding be directed toward state of good repair programs, which do not increase GHG levels and serve a valuable purpose in maintaining public trust.

IV. Periodic Re-Evaluation of GHG Reduction Levels and Baselines

There are questions about the accuracy of the baseline and reduction targets within the rule. There are also questions about the feasibility of these reductions, even if all available efforts are taken to achieve these goals. As this effort is new for Colorado and it is proceeding at a concerning pace, the GHG reduction levels should have a mechanism in place to make necessary adjustments. This could account for unanticipated changes, including population growth that differs from what was projected, boundary changes of MPOs, or the potential for the discovery of errors in the original modeling. CDOT should

consider taking the baselines out of the rule so that any future adjustments do not require a full rulemaking process.

V. Waiver Process

Section 8.05.02 of draft rule provides a process for seeking a waiver from the TC if the TC determines that the requirements of Rule 8.02.05 have not been met. The waiver process allows the TC to waive restrictions on specific projects that are not expected to reduce GHG emissions. This section of the draft rule could be strengthened with additional guidance, including criteria for the TC's decision on waivers. In addition, the process to obtain a waiver should require that the TC take a vote after conducting a public hearing on each waiver. Currently, the TC can take no action and the waiver fails after 30 days or the next scheduled meeting of the TC, whichever is later.

VI. Conclusion

For the foregoing reasons, CCA respectfully requests that CDOT extend the comment period, publish an updated draft rule in response to public comments, provide a technical memo to demonstrate CDOT's methodology utilized to develop the GHG reduction targets, create a process for regular evaluation of the baselines and GHG reduction targets to reflect changes as they occur between 2021 and 2050, and modify the waiver process to create more certainty and transparency.

CCA appreciates the work that CDOT has devoted to this effort and the staff's willingness to discuss matters of importance to our organization. Thank you for the opportunity to comment in this rulemaking.

[redacted]

cc: Shoshana Lew, Rebecca White, Herman Stockinger, Theresa Takushi

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

reduce greenhouse gas emissions

1 me age

[redacted] Wed, Oct 13, 2021 at 9:30 AM

To: dot_rules@state.co.us

CDOT has proposed a new standard to reduce greenhouse gas emissions from the transportation sector, improve air quality and reduce smog, and provide more travel options.

I upport thi trongly. We need ta credit to encourage EV purcha e . We need carbon ta . And we need the standards CDOT proposes.

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Mesa County RTPO- GHG Rule Comments

1 me age

[redacted] Wed, Oct 13, 2021 at 10:47 AM

To: dot_rules@state.co.us

Dear Tran portation Commi ion

Thank you for the opportunity to comment on the Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards. Attached you will find the comments from the Mesa County Regional Transportation Planning Office ubmitted on behalf of the Grand Valley Metropolitan Planning Organization, Grand Valley Tran portation Planning Region and Grand Valley Transit. We look forward to working with CDOT staff to finalize and implement this rule.

Sincerely,

[redacted]

GHG Rule- GVMPO Comments- FINAL_SIGNED.pdf
326K

[redacted]

Mesa County Regional
Transportation Planning Office

October 11, 2021

Transportation Commission of Colorado
c/o Herman Stockinger
Commission Secretary
CDOT Headquarters
2829 W. Howard Pl.
Denver, CO 80204

Dear Commissioners:

Thank you for the opportunity to provide public comment on the Greenhouse Gas (GHG) Pollution Reduction for Transportation Planning Rule Proposal (Rule). The Regional Transportation Planning Office (RTPO) includes the Grand Valley Metropolitan Planning Organization (GVMPO), the Grand Valley Transportation Planning Region (TPR) and is the contract administrator for Grand Valley Transit (GVT). RTPO staff have been engaged in the advisory group and as a stakeholder with Colorado Department of Transportation (CDOT) staff throughout the development of this rule.

The GVMPO encompasses the urbanized area of Mesa County and includes the City of Grand Junction, City of Fruita, Town of Palisade and parts of unincorporated Mesa County. The Grand Valley TPR encompasses all of the rural areas of Mesa County. The Grand Valley Regional Transportation Committee (GVRTC) is the transportation policy board that oversees the GVMPO/TPR and includes elected officials from these four entities all of whom also help to fund the transportation planning functions of the MPO, TPR and the transit system.

The RTPO in all of its different capacities generally supports the rule as it supports the development of a true multimodal system across Colorado. However, we do have a number of concerns. The comments submitted include feedback from the perspective of the GVMPO, the rural area of the TPR and the small-urban transit system.

Grand Valley Metropolitan Planning Organization (GVMPO)
GVMPO will be responsible for demonstrating compliance with the Greenhouse Gas Rule within the MPO as well as determining mitigation measures if the modeled emissions reduction levels do not satisfy the requirements. Per the draft Rule, GVMPO is not required to model reductions until 2030. As this is a new requirement for the GVMPO, and unlike DRCOG and NFRMPO, the GVMPO is in full attainment for all NAAQSs and we do not currently have the capacity or funding to do it earlier. Therefore, we request that this date remain 2030.

As a small MPO in Colorado with few GHG-increasing projects, it is unlikely that the full reductions will be possible through project mix and the MPO may need to develop a Mitigation Action Plan for compliance.

Though we understand that stakeholders will be involved in the development of the administrative process for the mitigation measures, the lack of specificity is a concern as it is hard to determine if we can comply with the set reduction levels without details on how the mitigation measures will work. With this, we request inclusion in the Rule additional details regarding how the mitigation measures will be used to determine compliance.

Also concerning is funding for the mitigation measures. The Cost-Benefit Analysis for Rules Governing Statewide Transportation Planning (CBA) states that "…all dollars shifted away from certain capacity projects are assumed to fund worthy transportation investments that improve competitiveness, quality of place and life, safety, economic vitality, public health, air quality, and more…The projected cost of these policy choice packages is assumed to be absorbed into current transportation plan budgets (a net neutral approach)." While the GVMPO supports all of these types of projects, historically there has been insufficient funding for them, and with few capacity projects in our transportation plan, it is unclear where these funds will come from in an amount that will make the meaningful impact to the modelling described in the Rule and CBA. We understand that the Multimodal Transportation and Mitigation Options Fund (MMOF) is intended to fund these measures. However, the GVMPO feels that this amount is insufficient to make the meaningful impact needed to drive change in mode-choice and reach the reduction levels shown in the Rule. Additionally, there has never been sustained funding for multimodal projects at the state or local level and because of this, there are many gaps in the multimodal system that must now be addressed. With this, we request additional, sustained funding to implement these mitigation measures at a scale that will reduce GHG emissions across the state. Indeed the funding should be sufficient not just for mitigation measures but for the eventual completion of a true multimodal system.

Since the Rule will create the need for additional travel modeling expertise within the MPO as well as statewide, additional funding should be provided to the MPO and CDOT staff to meet this need. This point is underscored in the September 29, 2021 joint Federal Highway Administration (FHWA) / Federal Transit Administration, FY 2022 Unified Planning Work Program Approvals letter addressed to CDOT Executive Director Lew. In the letter under the heading of Areas of Concern, item 4 states:

> "The new requirements of the state GHG rule will require MPOs to provide financial resources and staffing capabilities to improve the travel modeling state of practice."

Clearly, FHWA does not seem to be poised to increase funding for compliance with the state-level rule. Likewise, current GVMPO funding would not allow for adding the required staff resources and therefore respectfully requests that CDOT allocate the needed funding to the MPO.

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Transportation Planning Region

While we appreciate that CDOT has been included in the Rule as a responsible party with respect to areas outside of the MPOs, there is also concern of how this rule will impact the rural areas of the state, including rural areas of the Grand Valley TPR. The CBA states, "Virtually none of these rural projects would trigger the need for GHG Mitigation Measures under this rule because, with rare exception, they do not add capacity or change land use patterns. Rather, they are generally focused on state of good repair (e.g. repaving projects), safety and resiliency improvements like adding shoulders and passing lanes, and

increasingly, supporting the economic vitality of communities by investing in revitalizing main streets across the state." While this is true in many cases, this is not the case for large interstate projects such as those needed on I-25 and I-70 which travel through rural areas. With this, in order to meet GHG goals, we are concerned that funds may be pulled from one part of the state to be used for mitigation measures in another part of the state. We request text in the rule that speaks to the equity of funds for mitigations measures across the state and CDOT regions and acknowledgement that mitigation measures in rural areas may look different from mitigation measures in more urban areas, as rural areas do not have the same access to transportation alternatives as urban areas.

Grand Valley Transit

As the transit operator in the Grand Valley, we are excited to see changes in this rule that are supportive to the expansion of transit systems across Colorado. GVT operations is funded by FTA 5307 funds matched with local funds from our funding partners. Federal funding for our system is based on population and population density, not on service or ridership as stated in the CBA. The CBA clearly speaks of moving funds from capacity projects to transit in order to increase transit services across Colorado which will require additional funds from the federal, state and/or local government for capital and operating expenses. It will also require additional buses, mechanics, maintenance facilities, and drivers to support this service, all of which can be difficult to find. Additional staff support from CDOT's Division of Transit and Rail, Procurement and Contracting and additional local staff will be needed to support expanded services. As mentioned above, we request funding in addition to currently proposed MMOF funding to expand transit services. Commensurate with that, additional CDOT staff will be needed to assist in expansion of transit services, particularly as funds will be flowing through CDOT to local transit agencies such as GVT.

Additional Proposed Text Changes

The RTPO has the following general comments/changes regarding the proposed rule. Added text is in red, deleted text is struck out.

- Table 1: Chart include baseline and reduction levels through 2050. Suggest adding text that explains when and how future years beyond 2050 will be added to the chart.

- Table 2: Suggest changing title to Baseline Emissions Modelled with Projected Number of Light Duty Electric Vehicles and improving explanation in 8.01.1 and purpose of inclusion of chart in rule.

- Section 8.02.4.2- Rewrite sections as : MPOs must ~~meet~~ either demonstrate compliance set forth in 8.02.05, ~~the corresponding reduction levels within Table 1 for each Applicable Planning Document~~ or the relevant MPO and CDOT each must meet the requirements as set forth in Rule 8.05.

- Section 8.02.5.1- GHG emissions analysis demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1 and/or a Mitigation Action Plan that meets the requirements of 8.02.5.3 or that the requirements in Rules 8.02.5.1.1 or 8.02.5.1.2., as applicable, have been met.

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Again, we thank you for your consideration of these suggestions and revisions which we feel will clarify and strengthen the Rule considering both urban and rural portions of the state as well as transit agencies.

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STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Mesa County RTPO- GHG Rule Comments

1 me age

[redacted] Wed, Oct 13, 2021 at 10:47 AM

To: dot_rules@state.co.us

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[redacted]

GHG Rule- GVMPO Comments- FINAL_SIGNED.pdf
326K

[redacted]

Mesa County Regional
Transportation Planning Office

October 11, 2021

Transportation Commission of Colorado
c/o Herman Stockinger
Commission Secretary
CDOT Headquarters
2829 W. Howard Pl.
Denver, CO 80204

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Sincerely,

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

I support a strong Greenhouse Gas Pollution Standard

1 me age

[redacted] Wed, Oct 13, 2021 at 11:00 AM

To dot rule @ tate co u

Dear CDOT Rulemaking Comments,

I'm writing because I'm excited that CDOT is pursuing a rulemaking process for a Greenhouse Gas Pollution Standard and I have a few recommendation for improving the draft A a per on who ride a bike in Colorado, I'm acutely aware of the air quality crisis we're experiencing. Since transportation is a top contributor to pollution, this rulemaking is a critical place to start. I urge you to outline specific goals for pollution reduction that will help us meet existing air quality targets.

Our current tran portation y tem i built to move car Our tate' climate roadmap call for a 10% reduction in driving by 2030. People across the state, in both rural and urban communities, need more options, like biking, walking, and public transit, for getting around safely and sustainably. This rule should prioritize projects that put people first in our transportation system.

Please consider these changes and continue to strengthen this rule through the revision process.

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Transportation Planning Standard - CEO Comments

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Blynn - CEO, Kelly <kelly.blynn@state.co.us> Wed, Oct 13, 2021 at 2:41 PM
To: dot_rules@state.co.us
Cc Will Toor will toor@ tate co u , [redacted]

Please accept the attached comments on the GHG Transportation Planning Standard from CEO. Many thanks,

Kelly

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CDOT GHG Rule - CEO Comments.pdf
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COLORADO
Energy Office

October 13, 2021

SUBJECT: Comments on the Proposed Greenhouse Gas Reduction Planning Standard

Dear Transportation Commission:

Thank you for the opportunity to provide public comments on the proposed changes to the Rules Governing Statewide Transportation Planning Process Transportation Planning Regions, containing the Greenhouse Gas Transportation Planning Standard, proposed on August 13, 2021 (the "Rules"). The Colorado Energy Office ("CEO") supports the Rules and would like to offer the following comments.

CDOT has both the authority and the obligation to adopt the Rules.

Recent legislation and actions by the Polis administration concerning economy-wide greenhouse gas ("GHG") reduction goals provides background and context to the Rules. On January 14, 2021, Colorado released the Colorado Greenhouse Gas Reduction Roadmap ("Roadmap") which assessed 2005 emissions, laid out an achievable pathway to meet the state's science-based climate targets, and presented a list of near-term actions that would help achieve the state's 2030 targets. The Roadmap recognized "the transportation sector []is now] the leading source of GHG emissions and a significant contributor to local air pollution."[1] One of the Roadmap's "Key Findings" declared "[m]aking changes to transportation planning and infrastructure to reduce growth in driving is an important tool in reducing emissions."[2].

House Bill 19-1261 recognized that "climate change adversely affects Colorado's economy, air quality and public health, ecosystems, natural resources, and quality of life[,]" acknowledged that "Colorado is already experiencing harmful climate impacts[,]" and that "many of these impacts disproportionately affect" certain communities. *See* § 25-7-102(2), C.R.S. The general assembly also recognized that "[b]y reducing [GHG] pollution, Colorado will also reduce other harmful air pollutants, which will, in turn, improve public health, reduce health care costs, improve air quality, and help sustain the environment." § 25-7-102(2)(d), C.R.S. Accordingly, House Bill ("HB") 19-1261 set state goals of economy-wide reductions in GHG emissions of 25% below 2005 levels by 2025, 50% below 2005 levels by 2030 and 90% by 2050. § 25-7-102(2)(g), C.R.S.

Senate Bill ("SB") 21-260 provides further background and explicit authority for the Commission to adopt the Rules. In that bill, the general assembly recognized that "transportation capacity projects … [that] increas[e] the capacity of highways in major transportation corridors can cause adverse environmental impacts, including but not limited to incremental acceleration of climate change, and adverse health impacts[.]" § 43-1-128(1)(a), C.R.S. To minimize these impacts, the general assembly directed the Colorado Department of Transportation ("CDOT") and metropolitan planning organizations ("MPOs") to "engage in an enhanced level of planning, modeling and other analysis." § 43-1-128(1)(c), C.R.S. The general assembly also directed CDOT and the Transportation Commission ("Commission") to take steps to account for the impacts of transportation capacity projects on GHG pollution and Vehicle Miles Traveled and to help achieve statewide GHG pollution targets established in section 25-7-102(2)(g), C.R.S. § 43-1-128(3), C.R.S. The general assembly has also recognized that CDOT is "the proper body, in cooperation with regional planning commissions and local government officials, for developing and maintaining the state transportation planning process and the state transportation plan." § 43-1-1101, C.R.S. The Commission is responsible for formulating policy with respect to transportation systems in the State and promulgating and adopting all CDOT financial budgets for construction based on the Statewide Transportation Improvement Programs. *See* § 43-1-106(8), C.R.S. The Commission is statutorily charged "to assure that the preservation and enhancement of Colorado's environment, safety, mobility and economics be considered in the planning, selection, construction and operation of all transportation

[1] *Colorado Greenhouse Gas Pollution Reduction Roadmap* (Jan. 14, 2021), at XII.
[2] *Id.* at 32.

projects in Colorado." § 43-1-106(8)(b), C.R.S. In addition, the Commission is generally authorized "to make all necessary and reasonable orders, rules and regulations in order to carry out the provisions of this part . . ." § 43-1-106(8)(k), C.R.S. As such, CDOT and the Commission are primarily responsible for ensuring compliance with GHG reductions in transportation planning.

Finally, CEO notes that should the Commission not adopt the Rules, then the Air Quality Control Commission ("AQCC") would likely need to adopt rules affecting transportation planning. The Roadmap originally envisioned AQCC adoption of such rules.[3] The agencies made the determination that development by CDOT and adoption by the Commission was preferable given the greater depth of connection to transportation stakeholders and the greater level of expertise in transportation planning. However, statute ultimately makes the AQCC responsible for the economy-wide GHG targets set by HB 19-1261, and SB 21-260 states that CDOT shall implement relevant rules and regulations adopted by the AQCC to reduce GHG emissions. § 43-1-128(3)(a), C.R.S. Given the need identified in the GHG Roadmap for reductions due to transportation planning, the AQCC would likely need to take action if the Commission did not.

In addition to State authorities, the U.S. Department of Transportation ("US DOT") is reprioritizing GHG reduction. As one initial step, US DOT's 2021 regulatory agenda includes a directive for the Federal Highway Administration to "Re-establish a [GHG] Emissions Performance Measure for state and metropolitan planning" that was revoked during the previous administration.[4] Previously, this performance measure would have required agencies to set GHG performance targets and track their progress and would have prohibited setting targets allowing an increase in carbon pollution. The work that CDOT and the Transportation Commission are undertaking in developing this rule could provide an important model for the nation as federal policies regarding GHG reduction mature.

The reduction levels should be adopted as proposed to maximize benefits.

The Rules should be adopted with the reduction levels proposed, as opposed to any lesser reduction levels contemplated in alternative proposals, in order to meaningfully contribute to the GHG reduction goals of the Roadmap for the transportation sector, as well as to maximize the co-benefits from implementation of the Rules outlined in the Cost-Benefit Analysis. To meet the goals of the Roadmap, the state needs to reduce GHG emissions from transportation by 12.7 million metric tons ("MMT") by 2030. Colorado's Low Emission Vehicle and Zero Emission Vehicle programs, as well as programs and investments designed to reach about 1 million Electric Vehicles on the road by 2030, are estimated to achieve a combined 8 MMT GHG reduction by 2030, leaving a 4.7 MMT gap. The Roadmap includes these Rules as one of the key near-term strategies to fill this gap, and given the uncertainty surrounding implementation and timing of other possible strategies, reduction levels in the Rules should be maximized to the extent possible. Nevertheless, it will also be critical to quickly pursue complementary strategies in the transportation sector to tackle issues like truck emissions.

Modeling conducted to set the reduction levels proposed in the Rules indicates that these levels are achievable for the state and MPOs given ambitious yet feasible shifts in transportation spending and land use. The Cost-Benefit Analysis (or "CBA"), which quantifies the substantial benefits for Colorado residents and businesses from the implementation of the Rules, highlights that the reduction levels proposed are estimated to bring $3.9 to $6.6 billion more in cumulative benefits between 2022 and 2050 relative to Alternatives 1 and 2 respectively.

The Cost-Benefit Analysis, which meets statutory requirements and utilizes reasonable methods and assumptions, demonstrates the substantial benefits of the Rules.

CDOT's CBA meets the statutory requirements that the CBA include:

[3] *Id.* at 66.
[4] *US Department of Transportation Releases Spring Regulatory Agenda | US Department of Transportation*, US Department of Transportation (June 11, 2021).

(I) The reason for the rule or amendment;

(II) The anticipated economic benefits of the rule or amendment, which shall include economic growth, the creation of new jobs, and increased economic competitiveness;

(III) The anticipated costs of the rule or amendment, which shall include the direct costs to the government to administer the rule or amendment and the direct and indirect costs to business and other entities required to comply with the rule or amendment;

(IV) Any adverse effects on the economy, consumers, private markets, small businesses, job creation, and economic competitiveness; and

(V) At least two alternatives to the proposed rule or amendment that can be identified by the submitting agency or a member of the public, including the costs and benefits of pursuing each of the alternatives identified.

§§ 24-4-103(2.5)(a)(I)-(V), C.R.S. CDOT engages in a lengthy analysis of each of these topics and the CBA exceeds the requirement that the agency make "a good faith effort to comply." § 24-4-103(2.5)(d), C.R.S.

We support the methodology and conclusions of the Cost-Benefit Analysis, and appreciate the important air pollution, safety, health and economic co-benefits from investments in pedestrian, bicycle, and transit infrastructure that were included. The Cost-Benefit Analysis was developed by Cambridge Systematics, a longstanding, leading transportation consulting firm that has performed heavily cited research for federal, state, and local agencies, and relies upon assumptions from rigorous and credible studies that are commonly used in similar analyses.

While CDOT and the MPOs can achieve compliance with the Rules in a variety of ways, the Cost-Benefit Analysis illustrates a likely pathway that involves shifting some investments away from roadway capacity expansion projects into multimodal projects, and mitigating some remaining capacity projects. Under this scenario, the Cost-Benefit Analysis estimates substantial net economic benefits from savings in vehicle operating costs, monetized benefits from reduced impacts of greenhouse gas and air pollution emissions, monetized benefits from reduced traffic fatalities and injuries, and improvements in physical health. The net present value of total societal benefits anticipated from implementation of the Rules is estimated to total roughly $40B between 2022 and 2050.

For several assumptions, research indicates a range of possible outcomes that are dependent on the context and design of specific projects, and are difficult to capture in a high-level, long-range analysis such as this. One important such assumption is induced demand elasticity, or the increase in trip-making that can be expected to result over time per lane-mile of road capacity added. The Cost-Benefit analysis conservatively utilizes the lower end of the range reported in a literature review of induced demand analysis for corridor-level studies, due to the statewide nature of the CBA. As a result, the estimated benefits of the Rules should be considered a lower bound in cases where implementation includes a shifting of investments away from capacity projects into transit, bicycling, and pedestrian projects. While reasonable arguments can be made for a range of larger levels of elasticity, these would only have the effect of showing even larger net benefits for the preferred scenario compared to the other two scenarios and a no action scenario and would not change the conclusion that the preferred scenario maximizes net benefits among the options considered.

Similarly, there are a range of assumptions that could be made for the cost of gas. The CBA uses the reference case scenario in the US Department of Energy 2021 annual Energy Outlook, which is a reasonable choice. However, it is worth noting that this scenario shows costs for gasoline in the range of $2.22-$2.58 throughout the decade of the 2020s; the current price for regular gasoline in Colorado has been hovering around $3.55. As is the case with a higher elasticity of induced demand, a higher gasoline

price would have the effect of increasing the net benefits of the preferred scenario compared to the two alternatives or a no action scenario.

In addition to the substantial benefits quantified, the Cost-Benefit Analysis also mentions several unquantified categories of benefits that nevertheless would provide real benefits to Coloradans. The following provides order of magnitude estimates of the additional benefits that could be expected from the Rules as proposed, as well as additional benefits from reduced demand for parking spaces.:

- **Reduced vehicle ownership costs:** Based on the projected reduction in VMT from the baseline in Table A.11 and the assumption of 10,450 annual VMT per vehicle in the Cost-Benefit Analysis, the reduced number of vehicles owned by Coloradans can be estimated. Based on an average annual vehicle ownership cost of $6,200, Coloradans would save an additional $4.1B annually by 2030, $5.0B annually by 2040, and $5.8B annually by 2050 in vehicle ownership costs under the Proposed Rule Implementation scenario.[5]
- **Increased access to jobs and other services:** Increased multimodal transportation options would provide improved access to jobs, higher education, medical appointments, and other services for people with disabilities, those who can't afford a vehicle, those who lack a driver's license, and others with transportation barriers. As one example, 165,000 Coloradans with disabilities are unemployed or not in the labor force, and nationally about 11% of persons with disabilities cite transportation barriers as a reason they aren't in the labor force.[6] If the substantial investments in transit, bicycling, and walking infrastructure assumed in the Cost-Benefit Analysis enabled 20% of persons with disabilities who are not working and face transportation barriers to access employment (approximately 4,000 people per year in 2030), estimated additional wages per year would total $139M in 2030, $156M in 2040, and $168M in 2050.[7]
- **Parking:** A significant additional unquantified benefit from the Rules would be savings from the reduced need for parking, including land, construction, and operations and maintenance costs. In a typical urban area, it's estimated there are at least 3 off-street parking spaces for each vehicle (one residential and two non-residential), with researchers finding much higher ratios in some cities. Based on the estimated reduction in car ownership described above and estimates of annualized cost per parking space for construction, operations, and maintenance, the implementation of the Rules as proposed would save Coloradans an additional $4.5-$5.7B annually by 2030, $5.4-$6.9B annually by 2040, and $6.4-$8.1B annually by 2050.[8]

Thus, CEO concludes that the Cost-Benefit Analysis is based upon reasonable assumptions; that it meets all statutory requirements; and that it presents a lower bound on the net benefits associated with the preferred scenario. CDOT's analysis finds that the preferred scenario has the largest net benefits of the options analyzed even at this lower bound; incorporating additional economic benefits would not change this conclusion but would amplify the size of the net benefits associated with the preferred scenario. The range and magnitude of co-benefits from adopting the preferred scenario is so large as to support the adoption of the rule at the highest level of emissions reductions analyzed.

We support the Rule's approach to create a process for establishing GHG Mitigation Measures.

[5] *Average Cost of Owning and Operating an Automobile*, 2019 American Community Survey, Bureau of Transportation Statistics.
[6] https://www.bls.gov/news.release/dissup.nr0.htm, Bureau of Labor Statistics (2020).
[7] The average wage is assumed to be $35,582 for public transit commuters, according to 2019 American Community Survey data for Colorado. The number of persons with disabilities is assumed to grow at the same rate as the state population, as projected by the Colorado State Demography Office.
[8] Litman, T., & Doherty, E. (2011). Transportation Cost and Benefit Analysis II—Parking Costs. Transportation Cost and Benefit Analysis Techniques, Estimates and Implications. Cost ranges vary based on the estimated average cost per space for surface parking vs. structured or underground parking in suburban, urban, and CBD contexts.

We support the Rule's approach to establish an ongoing process for selecting, measuring, confirming, and verifying GHG Mitigation Measures, and its focus on prioritizing Disproportionately Impacted communities. This approach will enable CDOT and the MPOs to continuously improve mitigation strategies over time, leveraging measured improvements and best practices to inform Mitigation Action Plans. In addition to the proposed types of mitigation measures in the Rule, some additional possible measures to explore include:

- **Parking policies:** Local government action within an MPO area to reform parking policy could count as a mitigation measure, due to the impact parking supply and pricing has on travel behavior, car ownership, and housing costs.[9] Actions could include local governments removing parking minimums or implementing parking maximums for new development, instituting local regulations that require parking to be "unbundled" (i.e. requiring separate payment for parking from housing costs), or regulations requiring employers to offer parking cash out to employees who do not drive to work.
- **Removal of exclusionary zoning:** Local government actions within an MPO area that remove exclusionary zoning restrictions, such as allowing accessory dwelling units, duplexes, triplexes, and/or fourplexes by right in all residential zones, could count as a mitigation measure due to these actions supporting incrementally more compact, walkable land use patterns within existing communities that help reduce VMT and increase walking, biking, and transit trips.[10]
- **Targeting growth to infill areas and existing urban areas:** MPO action to target growth to existing urban areas and limit growth in greenfield or unincorporated areas could count as a mitigation measure, again due to these actions supporting compact land use patterns that enable lower VMT per capita.[11] These actions could include adopting funding allocation rules that target investments to infill areas, adopting a regional urban growth boundary, counties within an MPO area prohibiting urban levels of development in unincorporated areas, cities and counties signing intergovernmental agreements that establish countywide urban growth boundaries, and housing commitments by cities in urban growth areas.
- **Conversion of existing lanes to transit lanes:** The conversion of existing arterial roadway lanes to dedicated bus rapid transit lanes could count as a mitigation measure, due to the improvements this would make to transit service quality and reliability that support increased ridership.[12]
- **Creation of low emission zones:** Cities could adopt low emission zones, using curb management or pricing strategies to reduce emissions from both light and heavy-duty vehicles. These could be incorporated into MPO plans.

CEO would also like to offer the following suggestions for minor changes to specific sections to further clarify the Rule:

Applicable planning document (Section 1.02): We suggest including all TIPs because of the intention of the Rule to reduce GHGs, which are a global pollutant.

- **Suggested language (in red):** Applicable Planning Document - refers to MPO Fiscally Constrained RTPs, TIPs for MPOs ~~in NAAs~~, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

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[9] Spears, S., Boarnet, M. G., & Handy, S. (2014). Impacts of Parking Pricing and Parking Management on Passenger Vehicle Use and Greenhouse Gas Emissions. Manville, M. (2017). Bundled parking and vehicle ownership: Evidence from the American Housing Survey. Journal of Transport and Land Use, 10(1), 27–55. Litman, T. (2021). Parking requirement impacts on housing affordability.

[10] Wegmann, J. (2020). Death to single-family zoning… and new life to the missing middle. *Journal of the American Planning Association*, *86*(1), 113-119.

[11] Ewing, R., Bartholomew, K., Winkelman, S., Walters, J., Chen, D., McCann, B., & Goldberg, D. (1997). Growing cooler: The evidence on urban development and climate change.

[12] NCHRP Project 20-65, Task 22, Cost/Benefit Analysis of Converting a Lane for Bus Rapid Transit-Phase II Evaluation and Methodology.

We do understand that there may be initial challenges for MPOs outside of NAAs, which may have less experience and technical capacity for the necessary modeling, and that it may require technical assistance from the state or phasing in the requirements. Given the magnitude of emissions that are associated with large, urbanized areas on the front range, we would support a phased approach that first brought in the MPOs along the front range, particularly the Pikes Peak Area Council of Governments.

Incorporating TIPs is important because these are the stages in the process where funds are actually allocated to projects. Longer range planning documents are an important roadmap, but priorities change over time, and some projects in long range plans may not actually be implemented. It would be possible for a long-range plan to comply with the pollution reduction standard, but for a series of TIPs to implement projects that do not ultimately achieve the required level of pollution reduction.

Induced travel (Section 8.02.2): Given that many travel demand models have historically not accounted for induced travel or underestimated its effects, it's important this issue is sufficiently accounted for in any modeling to demonstrate compliance.[13] Otherwise, the strength of the Rule may be undermined, as in fact, projects that will increase pollution in real world operations could be shown, on paper, to decrease emissions. To assess each MPO's model, we suggest developing a checklist or other documentation that specifies model capabilities needed for assessing induced travel in travel demand models[14], or allowing MPOs to rely on off-model calculations based upon synthesis research that has established the range of corridor-level induced demand elasticity.[15] In addition, it is important to consider induced demand from smaller operational projects, such as intersection improvements and signal timing projects, which tend to reduce congestion and idling in the near term, but also may increase total traffic volumes and associated pollution, safety impacts, and costs. CDOT should develop a uniform, simplified off-model approach to incorporating induced demand into assessments of the emissions impacts of operational projects that are not regionally significant projects.

- **Suggested language (in red):** Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior to the adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel Model, and Approved Air Quality Model. Travel demand models shall be evaluated for adequacy in assessing corridor-level induced travel from regionally significant highway capacity projects, utilizing a checklist developed by the Commission. If adequacy cannot be demonstrated, and for evaluation of induced demand from operational improvements that are not regionally significant projects, off-model calculations relying on robust estimates of induced travel elasticity in similar contexts may be utilized.

Project-level analysis (Section 8.02.1): Lessons learned from similar policies elsewhere suggest including project-level emissions and induced travel is important for public transparency and project prioritization. While it's understandable that it would be difficult to do project-level analysis for all projects, particularly in long range plans, many projects closer to funding and construction will have undergone individual project-level analysis and these outputs could be reported. This is certainly true for regionally significant projects that are funded in the TIP process, so that even if it is not possible to do this project level analysis for the evaluation of GHG impacts of long range plans, it should be possible when evaluating the emissions associated with TIP approvals.

- **Suggested language (in red):** Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to estimate total CO2e emissions. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in

[13] Milam, R. T., Birnbaum, M., Ganson, C., Handy, S., & Walters, J. (2017). Closing the induced vehicle travel gap between research and practice. *Transportation research record*, *2653*(1), 10-16.

[14] Ibid. This paper includes a checklist that can be used to assess travel demand model sensitivity to induced demand.

[15] Volker, J.M.B., and S. L. Handy (2021). The Induced Travel Calculator and Its Applications. University of California Institute of Transportation Studies, UC-ITS-2021-04.

Table 1. For Regionally Significant Projects that have undergone project-level modeling and analysis, the project-level GHG emissions and estimated induced travel shall also be included. This provision shall not apply to MPO TIP amendments.

Clarifying the baseline and EV adoption assumptions (Sections 1.03, 8.02.1): As written, it isn't clear if the Rule indicates whether CDOT and MPOs are intended to assume the "rapid growth" EV adoption trajectory that informs the baseline figures in Table 2 and reduction levels in Table 1, a slower growth EV adoption assumption that underlies the baseline figures in Table 1, or something else when modeling GHG emissions. We think the Transportation Commission should specify this to help clarify which baseline the reduction levels are from. Because the reduction levels were developed based on modeling scenarios that assumed a rapid growth EV adoption trajectory and because this is what CEO and other state agencies are planning for, we suggest that the MPOs and CDOT assume that trajectory when conducting their modeling, and that the reduction levels then be from the baseline figures in Table 2.

- **Suggested language (in red): 1.03:** Approved Air Quality Model - the most recent Environmental Protection Agency issued model that quantifies GHG emissions from transportation. The Transportation Commission shall specify a standard assumption for projected light duty EV adoption through 2050, **consistent with the goals established in the Colorado GHG Roadmap and Colorado EV Plan**, that CDOT and all MPOs shall use in estimating total CO2e emissions. This assumption may vary by region, and may be updated over time.

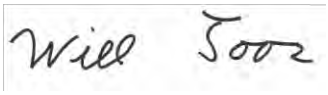
  8.02.1: Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to estimate total CO2e emissions. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in Table ~~1~~2. This provision shall not apply to MPO TIP amendments.

Requiring comparisons between modeled results and measured results (Section 8.06): While CDOT has developed sophisticated and modern travel models, there is an inherent level of uncertainty in all forward-looking models. It would be valuable to build into the rule a periodic process for comparing VMT and GHG pollution that were projected by the models with actuals at both the statewide and MPO scale, to allow models or input assumptions to be changed as necessary to match real world experience over time.

- **Suggested language (in red):** Reporting. Beginning July 1, 2025, and every 5 years thereafter, the Executive Director on behalf of CDOT shall prepare and make public a comprehensive report on the statewide GHG reduction accomplishments. This shall include a comparison of modeled VMT for regionally significant capacity projects with real world VMT, and these results shall be utilized to update the modeling requirements as needed.

We appreciate CDOT and the Transportation Commission's groundbreaking leadership on this issue, and look forward to the positive benefits this Rule will bring to Colorado. Thank you for the opportunity to comment.

Sincerely,



Will Toor
Executive Director, Colorado Energy Office

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

UPDATED: Move Colorado Comment Submission

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[redacted] Wed, Oct 13, 2021 at 4:03 PM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Friends,

Please consider this comment version, I found a typo.
Apologie

Warmly,

[redacted]

From: [redacted]
Sent: Wednesday, October 13, 2021 3:40 PM
To dot rule @ tate co u
Subject: Move Colorado Comments

Thank you for the opportunity to provide public comment regarding the Rules Governing the Statewide Transportation Planning Process and Transportation Planning Regions. Move Colorado's comments are attached.

Should you have questions please do not hesitate to contact me at [redacted]

Warmly,

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Move Colorado GHG Rulemaking Comment 10 13 21 FINAL pdf
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Transmitted Electronically Via: dot_rules@state.co.us.

October 13, 2021

Colorado Transportation Commission
Colorado Department of Transportation
2829 W. Howard Place
Denver, Colorado 80204

Dear Colorado Transportation Commissioners,

Thank you for the opportunity to provide comments regarding the Rules Governing the Statewide Transportation Planning Process and Transportation Planning Regions (Rules). We applaud the approach you are utilizing to allow interested parties from across Colorado to engage in the public process. Additionally, we would like to formally thank Herman Stockinger and Rebecca White of the Colorado Department of Transportation (CDOT) for the thoughtful presentation regarding the proposed Rules they provided Move Colorado's membership in September.

For more than 25 years, Move Colorado – and our 30-plus member organizations representing planning and engineering consultants, contractors, and transportation interests – have engaged in transportation policy discussions, with a focus on increasing investment in our state's multi-modal transportation system. Our members have expertise as professionals in environmental analysis, planning, infrastructure design, engineering, and construction. In addition, many of our member firms also employ scientists and environmental specialists with local, national, and international expertise and experience in air quality and greenhouse gas (GHG) analyses and emissions reduction strategies. It is with this expertise that we write to seek additional clarity related to several proposed Rule provisions, and to assist the Transportation Commission is establishing an implementable and enforceable program that improves the quality of life of Colorado residents and reduces ambiguity as these Rules relate to other existing policies and regulations.

Move Colorado supports the overall goal of taking meaningful steps to reduce GHG emissions in Colorado, and our comments are focused primarily on the administrative process and technical aspects of the rulemaking.

Our comments or requests for clarity are not intended to be in conflict with the overall goal. However, we do seek greater clarification of the proposed changes to the transportation planning process to ensure the changes help to achieve the intended outcome and proposed to ease implementation.

Our membership agrees with the proposed process and approach, including the following areas:

- the existence of a waiver process,
- the creation of the State Interagency Consultation Team,
- plans to establish a GHG Mitigation Measure process outside the rulemaking, and
- that the Transportation Commission will not withhold funds from MPOs as a punitive measure if they do not reach their goals.

The areas in which we seek additional evaluation or clarification are organized by rulemaking section below. Move Colorado would be willing to expand on these comments, should additional clarification be requested by the Transportation Commission.

General

We suggest adding clarity around how the Rules works with the National Environmental Policy Act (NEPA). Federally funded projects require adherence to NEPA to assess environmental impacts from a proposed action. In addition, CDOT has committed to generally following the NEPA process and assessing impacts and mitigation for state-funded transportation projects. The Federal Highway Administration NEPA process has very specific definitions of what constitutes an "impact" for an environmental resource and requires mitigation for those impacts. The use of the term "mitigation" throughout the Rules could be misconstrued as it is commonly used in NEPA documents; clarity around the interplay between the Rules and NEPA process and definitions should be included to provide clarity and minimize ambiguity during project development.

Section 1.00 Definitions

Many of the terms used in the preamble and overview are not defined until later in the document. To provide clarity and improve readability, the definitions should be moved to the beginning of the document.

- Add a definition for "transportation capacity projects." We suggest defining a capacity project as one that physically expands a road, usually by adding through lanes. Projects that focus on operational (improving traffic flow) or safety improvements, such as auxiliary lanes, should not be included in this definition.
- 1.12 Disproportionately Impacted Communities: In less populated areas, Census Block Groups tend to be geographically very large and population centers are not always located near a project area. Clarification should be added to assess where the population is located in relation to a proposed project.
- 1.35: National Ambient Air Quality Standards (NAAQS): "Small particles" is not the correct terminology for particulate matter. This should be changed to reflect the exact wording of the criteria pollutants.
- 1.36: Nonattainment Area: Clarification should be added that a nonattainment area is where the NAAQS are being exceeded; not solely where NAAQS exist.

- 1.42 Regionally Significant Project: The definition included in the Rules is the definition provided by the Environmental Protection Agency, which is meant to provide a general definition for all states. We suggest modifying the definition to rely on what the MPOs currently include in their models as "regionally significant".
- 1.59 Transportation Systems Planning: It is unclear what this planning process is—if it is referencing CDOT's 10-year plan and related process, it should be stated as such since the definition could also include what is identified during the NEPA process.

Section 8.01 GHG Emission Requirements

- We request clarity on whether establishing a future year GHG emission target was considered rather than setting a baseline and reduction. Setting future GHG emission targets would be more directly comparable to the modeled emissions.
- Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e—additional clarification is requested regarding whether the baseline values listed for each MPO are consistent with the MPOs' own methods and calculations. If the methods and calculations are not compatible, it could lead to two discrete calculation processes: one that is compliant with the Clean Air Act and one that is compliant with the Rules.
- Table 1: The "total" in each column should each the sum of all cells in the column. The rounding in the "total" row does not match the sum in some columns.

Section 8.02 Process for Determining Compliance

- 8.02.1: Similar to the comment on Table 1, i.e., whether data from the different agencies will be directly comparable, is there a plan in place in case the baseline CO2e values differ? If the MPO's calculated value is under the Table 1 baseline value, would that difference count toward GHG reduction?
- 8.02.3: Please provide clarity on how GHGs impacts to Disproportionally Impacted Communities will be assessed. Similar to ozone, GHGs are usually examined on a larger scale and not on a smaller scale, like a neighborhood or specific project study area.

8.03: GHG Mitigation Measures

We understand that the list of GHG mitigation measures is not exhaustive; however, many of these appear to be actions neither CDOT nor MPOs will have the authority to mandate. We request clarity on how CDOT and the MPOs will utilize these measures.

In addition, we request clarity on how GHG emission reduction estimates will be calculated. It will be nearly impossible to generate defensible GHG emission reduction estimates for the mitigation measures listed in paragraph 8.03.

8.05: Enforcement

The Rules refer to projects or mitigation measures that reduce GHG emissions; however, no guidance is provided on how to evaluate these reductions. We request clarity on how GHG reductions will be assessed for individual projects.

- 8.05.2.1.2: Waiver denial mentions a "substantial" increase in GHGs. Please provide a definition of "substantial" to remove any ambiguity.

Move Colorado thanks you for the opportunity to share our feedback regarding the Rules. While we agree that time is of the essence in addressing GHG and its impact, **we strongly urge you to amend the rulemaking process to allow for a second round of public review following any amendments made by CDOT in response to feedback gathered through this initial public outreach process. We believe the additional review will help bring greater confidence and transparency to the process and increase acceptance for the revised Rule. Additionally, if of interest, we sincerely offer the expertise of our members with backgrounds in environmental science and air quality analysis, should that be of benefit.**

If you have questions or would like additional details, please do not hesitate to contact [redacted] Move Colorado's Executive Director, at [redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

CDOT GHG Rulemaking Comment

1 me age

[redacted] Wed, Oct 13, 2021 at 4:47 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

My comment is as follows:

I believe it would be cost-effective and potentially more data accurate for CDOT to consider using Google's Environmental In ight E plorer functionality to calculate tran portation mileage and related GHG emi ion ICLEI a an organization may be the best pathway to make a direct connection to those google services and employees, but that data may be a phenomenal source of actual (as opposed to modeled) trip miles, possibly GHG calculations and baseline data as well. Information is available by county and municipality, included in-boundary and out-of-boundary trips, and could likely be cu tomized for tatewide and even CDOT region

While CDOT would have less ability to manipulate the data and less control over how it is collected, the tradeoff in greater accuracy and methodological consistency as well with tracking % changes over time along with potentially a zero-cost implementation seem to outweigh those constraints. It may be possible to get a dedicated employee contact at Google or provide the type of nece ary control to meet CDOT requirement

Feel free to follow up with que tion

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments on the GHG Pollution Standard for Transportation Planning

1 me age

[redacted] Wed, Oct 13, 2021 at 5:51 PM

To: dot_rules@state.co.us

Despite this July being the hottest month **ever** recorded, yet Colorado is not on track to meet its climate targets. Our state must embrace bold, transformative policies that drive broad scale decarbonization. The current draft rule is not a bad start, but we should be more ambitious and demonstrate our leadership if we have any intention of reaching decarbonization targets.

- **GHG reduction levels in the draft rules do not add up to the 12.7 million metric tons of CO2e reductions from Transportation by 2030 figure outlined in the state's GHG Pollution Reduction Roadmap** issued by Governor Polis' Office in January of this year. Coloradans deserve a clear, enforceable, and equitable plan to reduce GHG emi ion from the tran portation ector not more accounting tricks.
- **Disproportionately impacted communities and communities of color must be at the heart of any decision-making process** to ensure access to affordable, multimodal, transportation options that reduce toxic air pollution and traffic congestion. Please develop an equity framework beyond this rulemaking that ensures that such individuals are given a real seat at the decision making table. Furthermore, models, assumptions, estimates, and figures used to guide CDOT policy must be **transparent to the public**.
- **The draft rules rely heavily upon optimistic electric vehicle (EV) adoption rates** and provide no alternative or complementary proposals. This rule should adopt stricter carbon budgets and **holistic transportation solutions** -- like bicycles and scooters, pedestrian areas, public transit and light rail, and better land use decisions -- that will actually allow us to meet our emissions reduction targets given the likelihood that EV adoption does not occur as fast as this rule anticipates, nor is it a silver bullet even if it did. Highway expansions will only increase traffic and displace neighborhoods while generating more emi ion and pollution
- **The draft rules do not account for all greenhouse gas sources from vehicles.** Hydrofluorocarbons (HFCs) are not included in the definition of a greenhouse gas. This is a significant omission because HFCs from vehicle air conditioners and refrigeration trucks are powerful GHGs with Global Warming Potentials hundreds to thousands of times greater than that of CO2. With summers getting hotter than ever and supply chains limping along, this is only likely to get worse in the future.

--

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Input on Greenhouse Gas Transportation Planning Standard

1 me age

[redacted] Thu, Oct 14, 2021 at 6:44 PM

To: dot_rules@state.co.us

Cc [redacted]

Thanks for the opportunity to provide input.
Please see attached from Community Cycles.
Thank you

--

[redacted]

Join the Movement, Become a Member!

CC Comment on Greenhou e Ga propo ed rule (1) pdf
62K

COMMUNITY CYCLES
Creating a culture of cycling

[redacted]

COMMUNITYCYCLES.ORG

10/14/2021

Community Cycles' comments on the proposed Greenhouse Gas Transportation Planning Standard

We commend CDOT and the State of Colorado for acknowledging the climate crisis and the need for urgent action. In order to meet our emissions reductions targets, we support CDOT's proposed Greenhouse Gas Transportation Planning Standard. We suggest the following amendments to strengthen this rule.

Given the magnitude of the climate crisis, we urge CDOT to establish the greatest amount of emissions reductions under consideration for this rulemaking: 1.5 million metric tons. In other words, don't water it down!

Electric cars will help to reduce greenhouse gases (GHG) emissions, but they alone won't solve the problem, especially in the short term. Electric cars are currently only a small portion of the private vehicle fleet and it will take them decades to displace fossil-fuel-powered vehicles. Meanwhile, much of our electric generation mix remains far from GHG-free. Therefore, a reduction in Vehicle Miles Traveled (VMT) is the only effective means to meet the 2025 and 2030 targets. Reducing VMT has other benefits, including:

- reducing the negative impacts of driving on historically impacted communities
- improved safety
- decreased local air pollution
- reduced noise
- decreased traffic congestion.

Reducing VMT also addresses one of Community Cycles' primary concerns, making bicycling safer.

We believe that projects that maintain our infrastructure in a state of good repair – such as bridge repair, guardrails, resurfacing, and ongoing maintenance -- and which are greenhouse-gas neutral, should be among the state's highest road and highway priorities. In order to meet the GHG reductions targets, spending on expansion of highway capacity – including new general purpose lanes, road widening, and higher capacity interchanges and intersections – should be severely restricted. Funds should be placed towards making transit, cycling, and walking safer, easier, faster, and less expensive than driving.

We are concerned about the waiver process as currently proposed. The rulemaking is like putting yourself on a diet. The waiver process is like giving yourself permission to have an extra dessert. Unless that dessert is within the limits of your diet, your diet will not succeed. As currently proposed, isn't the waiver process much like letting ourselves eat to our heart's content?

The very existence of a waiver process that allows capacity expansion, leading to more VMT, would undermine the whole purpose of the rule. However, we do support a waiver process for safety projects that do not induce higher VMT. They may not reduce emissions, but they also don't increase emissions. In cases where the state or an MPO are failing to meet GHG targets, waivers should only be allowed to fund safety projects.

We commend CDOT for acknowledging the phenomenon of induced demand. However, we believe that CDOT and the Transportation Commission have not fully recognized the variety of projects that contribute to induced demand. In addition to adding lane miles, everything else we do to make driving easier – including additional turn lanes, intersection operation improvements, and additional auxiliary lanes – adds capacity and thereby causes people to drive more miles. As long as we continue to spend our transportation money on making it easier to drive, VMT will increase and traffic congestion will always return, undoing any short-term GHG reductions achieved from less car idling. This reality – which is now broadly acknowledged by state and national DOTs – has direct bearing on how these projects should be modeled.

Thank you for your thorough public process and for advancing this necessary change that can decrease Colorado's contribution to global warming.

Sincerely,
Community Cycles Advocacy Committee

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment for GHG Reduction Standards

1 me age

[redacted] Thu, Oct 14, 2021 at 5:33 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Good Evening,

After reading about the proposed transportation projects I had a question regarding the building materials.

Since con truction project can produce a great deal of Greenhou e Ga emi ion will u tainable material be u ed in the proposed transportation projects?

If so, which ones and what research has been done on the potential materials?

Thank you for your time and the opportunity to submit my comment.

Very Respectfully,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Weld County Comments of 10-14-21

1 me age

[redacted] Thu, Oct 14, 2021 at 4:58 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc [redacted]

Please see the attached. These comments are in addition to those we submitted on September 24, 2021. Weld County i reviewing MOVES modeling data received from CDPHE earlier today and therefore re erve the right to ubmit additional comments on or before the extended deadline of November 18, 2021.

[redacted]

WeldCo_CDOT Comment and Exhibits - 10-14-21.pdf
1298K

BEFORE THE DEPARTMENT OF TRANSPORTATION AND TRANSPORTATION COMMISSION
STATE OF COLORADO

IN THE MATTER OF PROPOSED REVISIONS TO 2 CCR 601-22

WRITTEN COMMENTS FROM THE BOARD OF COUNTY COMMISSIONERS OF WELD COUNTY, COLORADO

EXECUTIVE SUMMARY

The Board of County Commissioners of Weld County ("Weld County") submits these comments in connection with the above-captioned rulemaking. Weld County appreciates the opportunity to participate in this rulemaking proceeding regarding the Colorado Department of Transportation's ("CDOT") revisions to 2 CCR 601-22, Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions ("Proposed Rule"). The Proposed Rule establishes greenhouse gas ("GHG") emission reduction targets for transportation. It requires CDOT and the Metropolitan Planning Organizations ("MPOs") to demonstrate through travel demand modeling and approved air quality modeling that statewide and regional aggregate emissions resulting from state or regional plans do not exceed target emission reduction levels. If compliance cannot be demonstrated, even after committing to GHG Mitigation Measures, the Proposed Rule requires the Transportation Commission ("TC") to restrict the use of certain funds to projects that are recognized as approved mitigation measures to reduce GHG emissions from the transportation sector.

The transportation sector is one of the largest contributors to GHG and ozone precursor emissions. Therefore, Weld County generally supports efforts to increase multimodal options and provide more sustainable travel options to achieve reductions in air pollution from the sector. However, the Proposed Rule is deficient in numerous ways, including that the Proposed Rule exceeds CDOT's rulemaking authority, presents significant compliance challenges, and rests on technical inaccuracies and inconsistencies. Moreover, as with California's Senate Bill 375, the Proposed Rule may be ineffective in reducing vehicle miles traveled ("VMT") by establishing GHG reduction targets for MPOs.

Finally, Weld County is troubled by the rushed nature of the rulemaking and lack of data provided by CDOT. This lack of critical information has deprived stakeholders of the opportunity to evaluate the overall efficacy of the Proposed Rule and provide meaningful comments. Weld County submitted its initial concerns and recommendations regarding the Proposed Rule on September 23, 2021. At that time, CDOT had not responded to Weld County's numerous requests for missing data that are essential to Weld County's analysis of the Proposed Rule. Just a day before the original deadline for written comments, Weld County received a shared Google folder from CDPHE containing what appears to be the modeling data it repeatedly requested from CDOT. Weld County is still reviewing these data, but nevertheless submits these additional written

comments to assist CDOT as it revises the Proposed Rule. Weld County asks that CDOT schedule an additional hearing before the close of the extended comment period. Weld County reserves the right to submit additional written comments following its analysis of the recently received data and its review of any upcoming revisions to the Proposed Rule.

EXHIBITS

Weld County has attached several exhibits to these comments as shown in the table below.

Number	Title
WeldCo_EX-001	Redline Rule Language
WeldCo_EX-002	Request for Data and Information Submitted, dated August 6, 2021
WeldCo_EX-003	Request for CBA, Regulatory Analysis and Model Data, dated August 27, 2021
WeldCo_EX-004	CORA Request, dated September 17, 2021
WeldCo_EX-005	Letter following up on Weld County's CORA Request, dated October 8, 2021
WeldCo_EX-006	Email Response from CDOT Regarding Weld County's CORA Request, dated October 8, 2021

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LEGAL, FACTUAL, AND POLICY CONCERNS

I. The Proposed Rule Exceeds CDOT's Statutory Authority

The Proposed Rule exceeds CDOT's rulemaking authority and therefore is invalid. The general assembly delegated rulemaking authority to CDOT for the limited purpose of "producing a statewide transportation policy to address the statewide *transportation* problems[.]"[1] Indeed, on its website, CDOT describes its mission as "provid[ing] the best multi-modal transportation system for Colorado that most effectively and safely moves people, goods, and information."[2] Nevertheless, the stated purpose of the Proposed Rule is to "improve air quality" and "reduce smog." Neither of these goals fall within the purview of CDOT's limited authority to promulgate regulations to address Colorado's transportation problems.

The Proposed Rule improperly shifts highway funds from road capacity expansion to programs intended to reduce greenhouse gas emissions. In essence, the Proposed Rule requires CDOT and the MPOs to prioritize GHG emission reductions over projects that effectively and safely move people and goods throughout Colorado. Given the limited availability of GHG Mitigation Measures, particularly in rural areas, the Proposed Rule may prohibit critical transportation projects from proceeding as originally planned for and approved by Coloradans. It is the purpose of the Air Quality Control Commission ("AQCC") and the Air Pollution Control Division ("APCD")—not CDOT and the TC—to adopt air quality programs that "promote[] clean and healthy air . . . and promote[] statewide greenhouse gas pollution abatement."[3] CDOT does not have the expertise to regulate or enforce emission regulations. That is the job of the AQCC and the APCD. The Proposed Rule constitutes a clear example of mission creep encroaching on another agency's expertise and rulemaking authority.

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[1] C.R.S. § 43-1-101 (emphasis added).

[2] Colo. Dep't Transp., Mission, Vision & Values, https://www.codot.gov/about/mission-and-vision.html.

[3] Colo. Air Quality Control Comm'n, https://cdphe.colorado.gov/aqcc-about-the-commission.

Accordingly, the Proposed Rule exceeds CDOT's rulemaking authority and should not be adopted. C.R.S. § 24-4-106 ("The court shall hold unlawful and set aside the agency action . . . if the court finds that the agency action is "[i]n excess of statutory jurisdiction [or] authority.").

II. Stakeholders Need More Time to Evaluate the Proposed Rule.

Echoing the concerns of numerous stakeholders, Weld County is troubled by the rushed nature of this rulemaking. The Proposed Rule is markedly different from prior CDOT rules. Unlike other CDOT rules, the Proposed Rule contains a GHG standard, evaluates the social cost of carbon, and delegates quasi-enforcement responsibility to the TC. Given the scope and novelty of this rule, stakeholders need more time to review the rule and provide comments.

Despite presenting a novel rule with lasting implications for transportation projects statewide, CDOT rushed the comment period and undercut the benefit of the public hearings by failing to provide the underlying documentation supporting the Proposed Rule. Indeed, for much of the comment period, Weld County did not have the data it needed to adequately evaluate the rule during the comment period. On multiple occasions, Weld County requested MOVES modeling data (including model inputs and outputs) and associated documentation, data sources, and references regarding the Proposed Rule. Weld County first requested this information by email on August 6, 2021, and again on August 27, 2021, in its request for a cost-benefit analysis and regulatory analysis. *See* WeldCo_EX-002; WeldCo_EX-003. CDOT provided a cost-benefit and regulatory analysis before the first rulemaking hearing, but this analysis did not include the requested modeling data, nor did it provide the information necessary to fully understand and review the assumptions and methodology used in the modeling.

Given CDOT's failure to respond to Weld County's multiple data requests, Weld County submitted a CORA request on September 17, 2021. *See* WeldCo_EX-004. After extending the deadline on at least one occasion, CDOT finally responded to Weld County on October 1, 2021, just two weeks before the comment period on the Proposed Rule closes. Here again, CDOT failed to provide the requested model input and output files for the MOVES model, including mysql databases, rate lookup tables, and runspecs. With the deadline for written comments just a week away, on October 8, 2021, Weld County made yet another plea to CDOT for this information. *See* WeldCo_EX-005. That same day, CDOT responded that the requested "MOVES input and output files" were "not in [its] possession." *See* WeldCo_EX-006. Thus, CDOT informed Weld County for the first time that the requested records are not in its custody or control, but rather within APCD's possession.

On October 14, 2021, the day before the close of the comment deadline, Weld County received a shared Google folder from CDPHE containing what appears to be the modeling data it repeatedly requested from CDOT. That same day, CDOT announced its decision to extend the comment period to November 18, 2021. Weld County appreciates the extension of the comment period, and urges CDOT and CDPHE to make the data Weld County requested—including the recently received MOVES modeling data—widely available to the public for the benefit of all stakeholders. This will ensure an equitable, transparent rulemaking process. Once Weld County has had a chance to review the recently received data, it intends to submit additional written comment regarding its analysis of the data and review of any future revisions to the Proposed Rule.

III. The Proposed Rule Presents Significant Implementation and Compliance Challenges.

A. The Proposed Rule Does Not Ensure Consistent Use of the Same Model to Demonstrate Compliance as Compared with the Models used to Estimate the Baseline and Reduction Levels.

As currently written, the Proposed Rule allows MPOs to use different models to demonstrate compliance, as compared to the models used to estimate the baseline. For example, the Proposed Rule allows regulated entities to use *either* the MPO models or the Statewide Travel Model when performing GHG emissions analyses:

- Baseline - estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using the MPO Models or the Statewide Travel Model. Section 1.04
- Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model. Section 8.02.1.
- Identification and documentation of the MPO Model or the Statewide Travel Model and the Approved Air Quality Model used to determine GHG emissions in MMT of CO2e. Section 8.02.5.2.

Running two different models with the same inputs and assumptions could yield different results. For instance, it may be feasible to achieve the emission reduction levels shown in Table 1 using the Statewide Travel Model, but not the MPO model(s). Additionally, the use of different models in GHG emissions analyses will further complicate the APCD and the TC's review of the GHG Transportation Reports, as required in Sections 8.04.1 and 8.05.

In addition, Weld County is concerned that future changes to the Proposed Rule's Approved Air Quality Model will present additional compliance challenges for CDOT and the MPOs. MOVES3, the MOtor Vehicle Emissions Model,[4] represents the current "Approved Air Quality Model" as set forth in Section 1.03 of the Proposed Rule. However, the definition of "Approved Air Quality Model" refers to "the most recent" model, suggesting the model used to demonstrate compliance with the Proposed Rule in the future may differ from the model that was used to estimate the baseline emissions and reduction targets. Future updates to the approved air quality model may alter the model's response to key inputs (e.g., VMT) used in the GHG emissions analyses. In fact, this occurs to some degree with every change to a model version, and Table 1 below presents the most recent changes to the MOVES model for reference. Thus, allowing for future changes to Approved Air Quality Model may present compliance challenges for CDOT and the MPOs.

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[4] EPA, *MOVES3: Latest Version of Motor Vehicle Emissions Simulation* (2021), https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

Table 1.CO_2 emission factor changes for light duty vehicles due to model updates between MOVES2014b and MOVES3

Vehicle type	Model Year	MOVES2014b CO_2 (g/mile)[1]	MOVES3 CO_2 (g/mile)[2]	% Difference[3]
Passenger Cars	2017	269	219	-19%
	2018	258	208	-19%
	2019	247	197	-20%
	2020	236	188	-20%
	2026	190	168	-12%
Light duty trucks	2017	348	295	-15%
	2018	340	285	-16%
	2019	332	278	-16%
	2020	324	270	-17%
	2026	250	243	-3%

[1] Emission factors for MOVES2014b from https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100NNUQ.pdf
[2] Emission factors for MOVES3 from https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M5F.pdf
[3] Calculated as [(MOVES3/MOVES2014b) - 1], rounded to the nearest whole percentage.

Table 1 above shows carbon dioxide ("CO_2") emission factors in grams per mile (g/mile) for passenger cars and light duty trucks in MOVES3, as compared to MOVES2014b, the previous version of the EPA's MOtor Vehicle Emission Simulator model.[5] Table 1 shows that GHG emissions per VMT for light duty vehicles are much lower in MOVES3, the new version of the model. This illustrates the general trend that GHG emissions per VMT decrease over time with model updates due to federally mandated improvements in vehicle fuel economy, improvements in the quality of the underlying data, and other factors. Because the Proposed Rule specifies both future baselines and reductions targets, CDOT and the MPOs would not get credit for modeled emission changes even if overall GHG emissions from transportation are reduced. In fact, if GHG emission factors per VMT are lower in future versions of the Approved Air Quality Model, CDOT and MPOs would have to achieve greater VMT reductions to meet the reduction targets in the Proposed Rule. This identifies a fundamental issue in the structure of the Proposed Rule: The Proposed Rule establishes an artificial framework that does not recognize the true underlying driver of reducing emission relative to 2005 baseline levels, as established in Colorado's GHG

[5] EPA, *Official Release of the MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity* (2021). The EPA announced the availability of MOVES3 for official purposes outside of California in the federal register on January 7, 2021. *See* Official Release of the MOVES3 Motor Vehicle Emissions Model for SIPs and Transp. Conformity, 86 Fed. Reg. 1106 (Jan. 7, 2021). MOVES3 supersedes MOVES2014b.

Roadmap and Colorado House Bill 19-1261, codified in C.R.S. § 25-7-102(2)(g). Not only does this make the rule more difficult to comply with, but GHG emission reductions achieved relative to future baseline levels do not accurately reflect progress toward the true objective of reducing emissions relative to the 2005 baseline. Thus, the measure of success in the Proposed Rule is disconnected from the state's GHG emission reduction targets.

Given that the Proposed Rule establishes baseline levels and reduction targets through 2050, changes to the Approved Air Quality Model are inevitable. However, the GHG Transportation Planning levels in Table 1 are fixed, and the Proposed Rule does not consider revaluation of the GHG Transportation Planning levels due to updates to the Approved Air Quality Model or travel demand models. Therefore, Weld County recommends CDOT establish a process for determining whether model changes are critical and GHG emission estimates in Table 1 and Table 2 should be updated.[6]

Finally, the Proposed Rule requires an Intergovernmental Agreement in Section 8.02.2, but the role of this agreement in ensuring consistent modeling assumptions and methodology for GHG emissions analyses is unclear. For example, it is not clear if CDOT, CDPHE, and the MPOs must agree upon a uniform set of modeling assumptions and methodology as implied by the section title (e.g., "Agreements on Modeling Assumptions and Execution of Modeling Requirements"), or if the agreement simply "outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel." Proposed Rule, Section 8.02.2. Weld County recommends revisions to Section 8.02.2 that clarify what information must be included in the Intergovernmental Agreement.

B. CDOT Did Not Evaluate Model Sensitivities and Uncertainties in Developing the Proposed Rule.

CDOT used multiple models in developing the Proposed Rule, including EERPAT, the statewide travel model, and MOVES3. To Weld County's knowledge, CDOT did not evaluate the sensitivity of these models, nor has it presented the uncertainties associated with the modeling to contextualize the results. Decision models are tools to evaluate courses of actions, but they cannot be solely relied upon to make decisions without providing sufficient context regarding the importance of assumptions. The proper use of modeling in decision analysis requires understanding what assumptions significantly affect the outcome and scrutiny of the assumptions' validity and basis. Given the importance of the Proposed Rule, CDOT should provide more

[6] For example, to ensure the same air quality model is used for GHG budget setting and compliance assessments, Weld County suggests that CDOT either: (1) revise the definition of Approved Air Quality Model to refer to the specific model used in the determination of the GHG emission estimates in Table 1 and Table 2, or (2) revise the Proposed Rule to require updates to the GHG emission estimates in Table 1 and Table 2 following the release of a new (or update to an existing) Approved Air Quality Model. These changes will ensure CDOT and the MPOs do not face compliance challenges due to future model changes. Additionally, if the baseline values remain fixed, Weld County recommends CDOT revise the definition of "Baseline" in Section 1.05 to specify the Approved Air Quality Model and travel demand model that should be used to determine the baseline estimates of GHG emissions.

information about the modeling, assumptions, and the resulting uncertainties to allow the TC and stakeholders to effectively evaluate the Proposed Rule. For example, the TC needs to understand the magnitude of the uncertainty associated with the models being used to estimate the GHG emission reductions to determine if the mandated reduction levels in Table 1 are within the model uncertainty. If they are, then any reductions that comply with the rule demonstrated through modeling would not reasonably be expected to occur.

Numerous studies have been conducted to analyze the sensitivities of the models used in the Proposed Rule. For example, several analyses are available focusing on on-road project level humidity and temperature sensitivity on emission factors or emissions sensitivity between the MOVES2010 and MOVES2014b model. Similar studies may be available for MOVES3. The EERPAT model is a screening tool used to compare, contrast, and analyze various greenhouse gases reductions based on policy implantation and in commonly used in conjunction with other models for greenhouse gas inventories. Sensitivity analyses for the transportation emissions modeling is limited, but there are several studies that incorporate EERPAT into transportation emissions drafting.[7] It is not clear what differences in sensitivities exist between the statewide travel model and the MPO models. Weld County recommends CDOT analyze the sensitivities of the models used relative to key assumptions and parameters, and make this information widely available to the TC and stakeholders.

C. The Timeframes Specified in the Proposed Rule are Problematic.

Numerous sections of the Proposed Rule specify timeframes that are problematic and may lead to compliance challenges. For instance, under the Proposed Rule, the TC may have to evaluate a GHG Transportation Report without the benefit of the APCD's technical review. Under Section 8.04.1 of the Proposed Rule, "[i]f APCD has not provided written verification within thirty (30) days, the document shall be considered acceptable." However, the APCD may not be able to complete its review and verification of the technical data contained in the draft GHG Transportation Report within 30 days. If the APCD does not have sufficient time to complete its review, it is not clear that the TC is equipped to perform this technical review and verification of the GHG emissions analysis. Without this review, the TC cannot confirm the accuracy of the GHG emission estimates. Similarly, under Section 8.02.5, GHG Transportation Reports must be submitted to the TC at least thirty days prior to adoption of any Applicable Planning Document. In some instances, the GHG Transportation Report may be submitted to the TC 15 days after submission to the APCD, and the TC could reach a compliance determination before the APCD completes its review. Thus, the overlapping timeframe could result in the TC accepting a GHG

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[7] *See* Liming Wang, Brian Gregor, Huajie Yang, Tara Weidner and Anthony Knudson, *Capturing the Built Environment-Travel Interaction for Strategic Planning: Development of a Multimodal Travel Module for the Reg'l Strategic Planning Model (RSPM)*, 11 JOURNAL OF TRANSPORT AND LAND USE 1287 (2018); Fed. Highway Admin., *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning* (Dec. 1, 2013), https://rosap.ntl.bts.gov/view/dot/50820; C.D. Porter, A. Brown, J. DeFlorio, E. McKenzie, W. Tao, and L. Vimmerstedt, *Transp. Energy Futures Series. Effects of Travel Reduction and Efficient Driving on Transp. Energy Use and Greenhouse Gas Emissions*. (Mar. 1, 2013), https://www.osti.gov/biblio/1219932.

Transportation Report that the APCD deemed unacceptable at the end of its 30-day review period.[8] Moreover, the Proposed Rule does not clarify what happens if the APCD deems a GHG Transportation Report unacceptable.

In addition, Section 8.05 specifies the enforcement of the Proposed Rule, stating that "[t]he Commission shall review all GHG Transportation Reports to determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance." However, the rule does not impose a timeframe for the TC to complete its review of a GHG Transportation Report. Thus, if the TC does not act within 30 days, a regulated entity may obtain approval of its Applicable Planning Document through its respective process before the TC reaches a compliance determination on the associated GHG Transportation Report. Because this compliance determination may impact the use of funds, it is critical that the TC make its determination *before* the adoption of an Applicable Planning Document.

Finally, the Proposed Rule does not specify the timeframe for enforcement actions under Section 8.05.2 of the Proposed Rule. For example, if the TC restricts the use of funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, it is not clear when funding restrictions would be implemented or to which projects they would apply.

To address these concerns, Weld County recommends CDOT revise the Proposed Rule to:

- Require GHG Transportation Reports to undergo technical review and verification prior to the TC's compliance determination;
- Describe the process for CDOT and the MPOs should the APCD deem a GHG Transportation Report unacceptable;
- Require the TC to review and evaluate the compliance of GHG Transportation Reports within a specified timeframe; and
- Specify enforcement timeframes, particularly regarding the restriction of funds.

D. Actual Emission Reductions Achieved May Fall Short of Estimated Totals.

In some instances, the total reduction levels in Table 1 overestimate the actual emission reductions, even if the regulated entities meet all the requirements specified in the Proposed Rule. For example, 2025 reduction levels for DRCOG, the NFRMPO, and CDOT are shown as 0.27 MMT, 0.04 MMT, and 0.12 MMT, respectively, the sum of which is 0.43 MMT. However, Table 1 states that the total reduction level for those entities in 2025 is 0.5. Therefore, even if DRCOG, the NFRMPO, and CDOT meet their respective reduction targets, the total GHG emission

[8] In addition, the Proposed Rule does not provide adequate guidance to the TC for performing its duties specified in the Proposed Rule. For instance, under Section 8.05, the TC must review "the sufficiency of any GHG Mitigation Measures needed for compliance." However, the Proposed Rule does not specify how to determine the "sufficiency" of mitigation measures, and it is not clear if the TC has the expertise and resources to perform such a review.

reductions achieved would fall short of the 0.5 MMT estimated for total reductions in 2025. While the discrepancy of 0.07 MMT may seem small in magnitude, it is greater than the reduction level for the NFRMPO's regional area that year, and significantly greater than the reduction levels specified for other regional areas in future years. CDOT should clarify the calculation of the "TOTAL" row in Table 1, as rounding errors alone do not explain this discrepancy.

Similarly, to demonstrate compliance with emission reductions, regulated entities may round their regional area reductions, such that actual emission reductions fall short of the estimated total. For instance, for the 2025 reduction level, DRCOG, the NFRMPO, and CDOT may have actual emission reductions of 0.265, 0.035, and 0.115, respectively, and total actual emission reductions of 0.415. However, the entities could round their actual emission reductions of 0.27, 0.04, and 0.12 respectively, such that the total reduction appears to be 0.43 when actual emission reductions are 0.415. To ensure actual reductions are consistent with expected totals, the Proposed Rule should provide guidance regarding the number of significant figures to be used in GHG emission estimates, including instructions to regulated entities for rounding regional area totals.

E. The Proposed Rule Does Not Establish Specific Criteria for Evaluating Waivers.

Section 8.05.2.1 allows a regulated entity to request a waiver from the TC "imposing restrictions on specific projects not expected to reduce GHG emissions." However, the basis for waivers in Sections 8.05.2.1 and 8.05.2.1 of the Proposed Rule is vague, and it is not clear what criteria will be used to ensure fair and equitable evaluation of these waivers. Specifically, under Section 8.05.2.1.1, the TC may waive the restrictions on specific projects if the GHG Transportation Report reflects "significant effort and priority placed" on projects that reduce GHG emissions. Under 8.05.2.1.2, waivers will be denied if it results in a "substantial increase in GHG emissions." Importantly, these sections do not provide quantitative criteria for evaluating waiver requests, and therefore make it hard to ensure the TC is applying the waiver exception consistently. Weld County understands that CDOT may want to retain some flexibility in the waiver review process, but to ensure the consistent application of this provision, Weld County recommends that CDOT clarify the criteria used to evaluate waivers. Additionally, Weld County recommends striking the last sentence in Section 8.05.2.3 of the Proposed Rule so that the TC is required to act on waivers and reconsideration requests, avoiding the potential for automatic denial simply due to inaction.

F. The Availability of GHG Mitigation Measures to Achieve the Reduction Targets in the Proposed Rule is Unclear.

For areas outside the urban corridor—including rural areas and those with a lower population density—the Proposed Rule's GHG mitigation measures may present compliance challenges for CDOT and the MPOs. Lifestyles, land usage, density, and thus transportation patterns vary dramatically between urban and rural lifestyles. To date, most GHG mitigation

strategies for the transportation sector have been targeted to more densely populated areas.[9,10] According to the Transportation Research Board, "[b]y far, and not surprisingly, most of the research on GHG emission reduction strategies has focused on metropolitan areas or at the national and state levels[,]" and "[v]ery little attention has been given to nonurban areas."[11]

Currently, the Proposed Rule provides the following examples of GHG mitigation measures:

- 8.03.1 The addition of transit resources in a manner that can displace VMT.
- 8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.
- 8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use in a way that links and rewards transportation project investments with the city making these changes.
- 8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.
- 8.03.6 Adopting locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.
- 8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.
- 8.03.9 Adoption of transportation demand management practices that reduce VMT.

The illustrative GHG mitigation strategies listed in Section 8.03 are likely to be less effective in rural areas, which are less densely populated, are not well-suited to public transportation, and where individuals are more reliant on personal vehicles. In addition, rural roads

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[9] New England Transport Consortium, *Data and Information to Support Cost Effective Transportation GHG Mitigation in Rural Communities* (2020), https://www.newenglandtransportationconsortium.org/wp-content/uploads/N20ME2-GHG-Mitigation-1.pdf.

[10] Org. for Econ. Co-operation and Dev., *Decarbonising Urban Mobility with Land Use and Transport Policies: The Case of Auckland, New Zealand* (2020), https://www.oecd-ilibrary.org/sites/5181a1e0-en/index.html?itemId=/content/component/5181a1e0-en.

[11] PB Americas, Inc., Cambridge Systematics, Inc., E.H. Pechan & Assocs., Inc., EuQuant, Inc., Strategic Highway Rsch. Program Capacity Focus Area, Transp. Rsch. Bd., and Nat'l Academies of Scis., Eng'g, and Med., *Incorporating Greenhouse Gas Emissions into the Collaborative Decision-Making Process*, at 22805 (2012), https://doi.org/10.17226/22805.

tend to already have lower traffic flows and thus have less traffic impacts.[12] For example, the California Air Pollution Control Officers Association found that reducing VMT through carpooling measures is not applicable for implementation in rural areas.[13] Moreover, rural areas generally have less resources, and may bear disproportionate financial burdens from higher taxes, fuel costs, and vehicle costs associated with GHG reduction strategies.[14,15] Weld County recommends that CDOT revise Section 8.03 to provide examples of transportation GHG mitigation measures for non-urban areas.

Additionally, the Proposed Rule does not provide non-urban areas with the flexibility to implement mitigation measures from non-transportation sectors. Section 1.19 defines GHG mitigation measures as strategies that "reduce *transportation* GHG pollution." Section 1.19 (emphasis added). Thus, mitigation measures that reduce GHG emissions from other sources would not qualify as mitigation measures to help achieve the Proposed Rule's GHG Reduction Levels. To ensure non-urban areas can comply with the Proposed Rule, CDOT should revise the rule to recognize additional mitigation measures, such as strategies that reduce GHG pollution from other sources that have a nexus to transportation.

Moreover, substantial ambiguity exists as to whether projects undertaken by the statutorily created enterprises constitute GHG Mitigation Measures under the Proposed Rule. SB21-260 created four enterprises "to serve the primary business purpose of reducing and mitigating the adverse environmental and health impacts of air pollution and greenhouse gas emissions."[16] The non-attainment area mitigation enterprise focuses its efforts on projects that "directly reduce air pollution," including "retrofitting of construction equipment, construction of roadside vegetation barriers, and planting trees along medians."[17]

Importantly, the Proposed Rule does not address the relationship between actions taken by the regulated entities to reduce GHG emissions and actions taken by the enterprises. While it seems

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[12] N. Singru, *Reducing Carbon Emissions from Transport Projects*, at 107 (2010), https://www.oecd.org/derec/adb/47170274.pdf.

[13] Cal. Air Pollution Control Officers Ass'n, *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (2021), http://www.airquality.org/ClimateChange/Documents/Handbook%20Public%20Draft_2021-Aug.pdf.

[14] Marisa Beck, Nicholas Rivers, & Hidemichi Yonezawa, *A rural myth? Sources and implications of the perceived unfairness of carbon taxes in rural communities*, ECOLOGICAL ECON. 124–134 (2016), https://doi.org/10.1016/j.ecolecon.2016.01.017.

[15] Cynthia J. Burbank, *Greenhouse Gas (GHG) and Energy Mitigation for the Transportation Sector* (2009), http://onlinepubs.trb.org/onlinepubs/sr/sr299GHG.pdf.

[16] SB21-260 created the community access enterprise, the clean fleet enterprise, the clean transit enterprise, the nonattainment area air pollution mitigation enterprise. *See* Colo. SB 21-260.

[17] *Id*.

unlikely the enterprises would complete a "regionally significant project" as defined in the Proposed Rule, the enterprises may undertake projects that qualify as GHG Mitigation Measures under the Proposed Rule. It is not clear in the Proposed Rule if projects that reduce GHG emissions undertaken by the Enterprises could be used as mitigation measures by CDOT and the MPOs to meet the reduction targets. Moreover, it is not clear if the modeling conducted for Table 1 and Table 2 of the Proposed Rule account for any enterprise projects, either in the baseline or the reduction targets. Accurate accounting of GHG reduction projects is critical to avoid double counting and to understand CDOT and the MPOs' compliance options. The Proposed Rule should foster collaboration among agencies to reduce GHG emissions. Accordingly, Weld County recommends that CDOT revise the Proposed Rule to recognize enterprise activities as GHG Mitigation Measures.

Finally, the Proposed Rule does not define the process for selecting, measuring, confirming, and verifying GHG Mitigation Measures. That process does not occur until *after* the Proposed Rule has been adopted. Section 8.02.3. To ensure compliance with the Proposed Rule is even feasible for much of the state, CDOT should clarify what GHG Mitigation Measures are available to non-urban areas.

G. The Proposed Rule Does Not Include Guidance Regarding How to Demonstrate Compliance Through Modeling.

No guidance is provided as to how regulated entities should conduct modeling to demonstrate compliance with the reduction targets in Table 1. For example, the Proposed Rule does not specify the following:

- What model inputs, assumptions, and methodology the regulated entities should use to conduct the GHG emissions analysis required in Sections 8.02.1 and 8.02.5.1;
- How the Intergovernmental Agreement ensures consistent modeling assumptions and methodology for GHG emissions analyses; and
- Whether CDOT and the MPOs must meet the reduction levels in Table 1, or instead an absolute GHG emissions target determined based on baseline projections and reduction levels in each target year.[18]

[18] For example, Section 8.02.1 states that "[t]he emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in Table 1." This section suggests GHG emissions analyses must estimate total CO2e emissions and compare those values to the baseline specified in Table 1. However, other sections—including Sections 8.02.4.1, 8.02.5.1, 8.02.5.3, and 8.05—specifically refer to demonstrating compliance based on the reduction levels. In particular, Section 8.05 states that "[t]he Commission shall review all GHG Transportation Reports to determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance." Thus, it is not clear whether CDOT and the MPOs must meet

Weld County recommends CDOT revise the Proposed Rule to clarify how the TC will assess compliance. In addition, Weld County recommends developing guidance that describes the modeling methodology that should be used to determine compliance. This guidance should be developed through a public stakeholder process by April 1, 2022 and should inform the development of the Intergovernmental Agreement described under Section 8.02.2.

IV. Concerns with CDOT's CBA.

A. Interpolation and Extrapolation of Results from Statewide Model Runs

Based on the information presented in the CBA, the statewide travel model was not run for 2040 or 2050, two target years for GHG emission reductions in the proposed rule. On Page 17, the CBA states that "[a]t the time of the analysis the statewide model was set up for 2015, 2030, and 2045. Results from 2030 and 2045 runs were interpolated to obtain 2040 estimates. Results from 2045 runs were extrapolated to represent 2050." No further information or explanation is provided as to why the decision was made to interpolate and extrapolate results from existing model runs, rather than running the model for the target years in the Proposed Rule. Therefore, it is not clear if the results of the analysis would materially change if the statewide travel model were set up to run for 2040 and 2050. Further, there is no information provided on the assumptions and methodology used to extrapolate results to 2050 based on results from 2045. Weld County recommends CDOT run the statewide model for all years necessary to derive the GHG emission estimates in the Proposed Rule, or explain why doing so would not materially change the results of the analysis.

B. Technical Inaccuracies and Inconsistencies Between the CBA and the Proposed Rule

Weld County has several concerns with the information presented in Tables A.13, A.14, and A.15 in Appendix A of the CBA. Weld County's specific concerns include:

- Table A.13 presents Light-Duty Vehicle Electrification Projections and appears to have two numerical errors.
    - First, the *EV% of Stock* in 2050 is reported as 83%. However, Section 8.01.1 of the Proposed Rule states that 97% of all light duty vehicles are electric vehicles in 2050. It is not clear why the discrepancy exists, when electric vehicle population numbers in the Proposed Rule agree with *EV Stock* numbers in Table A.13 of the CBA in years 2030 and 2040.

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the reduction levels in Table 1, or instead an absolute GHG emission target determined based on baseline projections and reduction levels in each target year. To illustrate this issue, take DRCOG's compliance requirements in 2030. To demonstrate compliance, would DRCOG need to demonstrate its GHG emissions are 10.98 MMT (11.8 minus 0.82), or would it need to demonstrate, by modeling two or more scenarios, that it met a reduction level of 0.82 MMT? If compliance is assessed based on meeting reduction levels, it is not clear why Section 8.02.1 requires comparing emissions to the baseline.

- Second, the *EV Sales* numbers in 2030 shown in Table A.13 appear inconsistent with the *EV Sales %* reported for the same year and the *EV Sales* and *EV Sales %* values reported in other years. For example, in 2025, 17% EV sales are reportedly equal to 66,858 vehicles. In 2040, 100% EV sales are equal to 458,267 vehicles. In contrast, 50% EV sales in 2030 are reported as only 21,800 vehicles, a factor of approximately 10 too low.

- The final paragraph on Page 24 of the CBA states, "Table A.14 shows projected total GHG emissions from on-road sources for the rule and alternatives, while Table A.15 shows the expected GHG reductions in 2025, 2030, 2040, and 2050 respectively, for the rule and alternatives." However, Table A.14 and Table A.15 do not show any data for the year 2025.

- Table A.14 is stated as showing "projected total GHG emissions from on-road sources for the rule and alternatives," and includes the *Proposed Rule Implementation: Travel Choices + Transit + Land Use* scenario. However, it is not clear what these values represent, as the values reported in this scenario appear inconsistent with values derived from Table 2 in the Proposed Rule and Table A.15 of the CBA for the same scenario. For example, Table 2 in the Proposed Rule shows baseline emissions (assuming a high level of electrification of the future vehicle fleet), and Table A.15 of the CBA shows the GHG emissions change from baseline by year for different scenarios, including if the Proposed Rule is implemented. However, in the scenario where the Proposed Rule is implemented, subtracting the GHG emissions change from baseline in Table A.15 from the baseline values presented in Table 2 of the Proposed Rule does not produce the GHG emissions in Table A.14 for the same scenario.

- Table A.15 presents GHG Emissions Change from Baseline Forecast by Year. However, the value shown for 2030 in the *Proposed Rule Implementation: Travel Choices + Transit + Land Use* scenario—which is 1.70 MM—does not match the total value in the Proposed Rule for this year—1.50 MMT.

CDOT should clarify these discrepancies and revise the CBA and Proposed Rule accordingly to correct any errors.

C. Concerns with Technical Assumptions and Methodology used in the CBA

Weld County is concerned about several other assumptions presented in the CBA. First, the CBA states that "[e]nergy use and GHG emissions from EVs are assumed not to be sensitive to the level of congestion or delay." However, this assumption fails to account for the effects of speed and acceleration on energy consumption and the potentially significant energy load associated with the heating, ventilation, and air conditioning ("HVAC") system in electric vehicles. Electric vehicle energy consumption is highly dependent upon vehicle speed and acceleration, as well as other factors such as use of vehicle HVAC systems. According to Chiara Fiori et al., "differences in speed and acceleration distributions can significantly affect the

instantaneous energy consumption level."[19] For two trips with the same average speed, vehicles consume significantly more energy for the trip with higher maximum speeds but more stops. Additionally, the use of cooling or heating can reduce energy efficiency by up to 24%.[20,21] Thus, not only does EV energy use depend upon speed and acceleration, which are directly impacted by the level of congestion, but overall energy use increases with increased commute time and increased use of the HVAC system. Temperature extremes, such as the high summer temperatures and low winter temperatures experienced in many parts of Colorado, will only tend to increase the energy use associated with the HVAC system and thus the sensitivity of EV energy use to the level of congestion or delay.

Second, the light-duty vehicle electrification projections assumed in the analysis may be double counting improvements in vehicle fuel economy, and in turn, reductions in GHG emissions per VMT, from electrification of light duty vehicles. MOVES3, published in November 2020, accounts for the effects of regulations on vehicle emissions, including Federal Safer Affordable Fuel Efficient Vehicle[22] and Greenhouse Gas (GHG) and Corporate Average Fuel Economy[23] standards. MOVES3 assumes that light duty vehicle fleets are compliant with applicable federal greenhouse gas standards.[24] Vehicle manufacturers meet federal fuel economy and GHG standards by selling a fleet of vehicles that comply with applicable standards in a given model year. Thus, while MOVES3 does not explicitly include electric vehicles in the model default fleet mix, manufacturers sell a combination of fossil-fueled and electric vehicles to meet federal standards, as shown in Table 1, *supra*. Because MOVES3 incorporates these standards, GHG emission factors in the model account for electric vehicle penetration, even if the number of electric vehicles in the model is assumed to be zero. Indeed, MOVES3 assumes zero additional penetration of electric light duty vehicles beyond compliance with federal fuel economy and GHG standards:

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[19] Chiara Fiori, Kyoungho Ahn, and Hesham A. Rakha, *Power-Based Electric Vehicle Energy Consumption Model: Model Development and Validation*, APPLIED ENERGY 168, 257–68 (April 15, 2016), https://doi.org/10.1016/j.apenergy.2016.01.097.

[20] Tugce Yuksel and Jeremy J. Michalek, *Effects of Regional Temperature on Elec. Vehicle Efficiency, Range, and Emissions in the United States*, ENV'T SCIENCE & TECH. 49, 3974–80 (Mar. 17, 2015), https://doi.org/10.1021/es505621s.

[21] R. Farrington and J. Rugh, *Impact of Vehicle Air-Conditioning on Fuel Economy, Tailpipe Emissions, and Electric Vehicle Range: Preprint*, NREL (Sep't 22, 2000), https://www.osti.gov/biblio/764573.

[22] The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, 85 Fed. Reg. 84 (April 30, 2020).

[23] 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 199 (Oct. 15, 2012).

[24] EPA, *Greenhouse Gas and Energy Consumption Rates for Onroad Vehicles in MOVES3*, EPA-420-R-20-015 (2020), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M5F.pdf.

> *In MOVES, all electric passenger cars are modeled in the national case to have zero penetration. This is because electric vehicle market penetration varies widely by geographic region and MOVES does not have the capabilities to model this variance accurately at the national scale.*[25]

Therefore, any analysis assuming additional penetration of electric vehicles into the fleet should consider the extent to which electric vehicles penetrating the fleet are already accounted for in the fleet standards. Without doing so, the benefits of electric vehicles may be double counted in the model. It is incorrect to assume that all electric vehicles penetrating the fleet will result in additional improvements in fuel economy or GHG emission reductions, above and beyond applicable federal fleet standards. Weld County recommends CDOT confirm whether it has addressed this double counting issue in the model, and further provide guidance to ensure that light duty vehicle electrification projections used to develop the GHG emission estimates do not result in double counting.

Third, the methodology and modeling data used to estimate changes in emissions of particulate matter (PM) and oxides of nitrogen (NOx) as described in Appendix A of the Proposed Rule is inconsistent with that used to estimate GHG emissions. For example, emission rates were sourced from MOVES2014 rather than MOVES3, the most recently approved version of the air quality model used in the GHG emission estimates. According to the EPA, "MOVES3 includes many updates to exhaust emission rates to better estimate the real-world emissions of new vehicle technologies."[26] Further, emission rates were sourced from two different studies, and it is not clear if these studies focused on Colorado or used the same model configuration and assumptions. As stated in the CBA, "[t]he MOVES model accounts for Colorado-specific factors such as the age of the vehicle fleet, the distribution of VMT by different vehicle types and road types, and the speeds at which vehicles travel." Therefore, utilizing MOVES data from studies of other geographic areas with potentially inconsistent model configuration and assumptions is not appropriate and may not be representative of emission factors in Colorado.

Finally, rather than running the MOVES model for the analysis years, emission factors were interpolated between discrete years for which data was available from these studies. This interpolation methodology is particularly problematic when emission rates are obtained from two different studies. Criteria air pollutant emission factors are very sensitive to meteorological conditions and fleet characteristics (among other factors), which vary based on geographic region. Additionally, interpolation of emission factors fails to account for changes due to age distribution and other model parameters which are typically nonlinear. This flawed methodology raises significant concerns regarding the accuracy of the PM and NOx emission estimates, and the corresponding pollutant damage values and cost savings associated with air pollution presented in the CBA. Weld County therefore recommends CDOT revise the CBA to accurately estimate the air pollution impacts of the Proposed Rule using the approved air quality model, following a

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[25] EPA, *Population and Activity of Onroad Vehicles in MOVES3*, EPA-420-R-21-012 (2021), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1011TF8.pdf.

[26] EPA, *EPA Releases MOVES3 Mobile Source Emissions Model: Questions and Answers* (2020), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M06.pdf.

methodology that accounts for Colorado-specific factors such as the age of the vehicle fleet, the distribution of VMT by different vehicle types and road types, and the speeds at which vehicles travel. Weld County also recommends the CBA include estimates of criteria air pollutant emission reductions achieved by the Proposed Rule.

D. Other Concerns with Assumptions in the CBA

CDOT's CBA claims of significant cost savings are unfounded because their estimated reductions in VMT are unlikely to be realized. The CBA is driven by aspirational assumptions about transport mode shifts that are unrealistic. History convincingly demonstrates that programs to reduce VMT have failed. In addition, the CBA does not recognize new post-pandemic transportation realities. The pandemic has accelerated decentralization for both jobs and residences, which will reduce transit ridership because mass transit does not work well in decentralized areas. Policies encouraging transit ridership, bicycle use, and walking have failed in the past and face even greater headwinds given the post-pandemic trends toward decentralization. Accordingly, the Proposed Rule shifting highway funds to programs to get people out of their cars will not result in cost savings and instead will reduce public safety and increase traffic congestion with minimal reductions in GHG emissions.

The CBA is driven by unrealistic assumptions for the adoption of alternative transportation modes. For example, CDOT assumes a three-fold increase in tele-travel, a 37-77% increase in bicycle travel and walking, 151% increase in transit, and a 30-50% increase in population density. These assumptions are not supported by any empirical analysis or modeling. As CDOT states, these are the assumptions required to meet the stated GHG emission reduction goals. In this sense, the analysis is reversed engineered in which the modeling is designed to achieve a preconceived outcome. As a result, the estimated cost savings are illusory.

Another issue with CDOT's CBA is that it fails to consider new transportation realities created by the COVID-19 pandemic. Vehicle miles travel fell to 73 percent of the pre-pandemic levels during the second quarter of 2020 compared to the second quarter of 2019. *See* Figure 1. In contrast, transit ridership fell to 24 percent of pre-pandemic levels over the same interval and remain far below previous levels. *See* Figure 2. The pandemic may have completely undermined efforts to make transit ridership appealing. Young, upwardly mobile professionals who intended to use transit are now working from home and many may never go back to the office. Since the pandemic, many people who were taking transit switched to driving. As a result, per capita transit ridership is likely to be far lower after the pandemic.[27]

[27] R. O'Toole, *Zero-base Transportation Policy: Recommendations for 2021 Transportation Reauthorization*, Cato Institute, Policy Analysis No. 913 (2021), https://www.cato.org/policy-analysis/zero-based-transportation-policy-recommendations-2021-transportation.

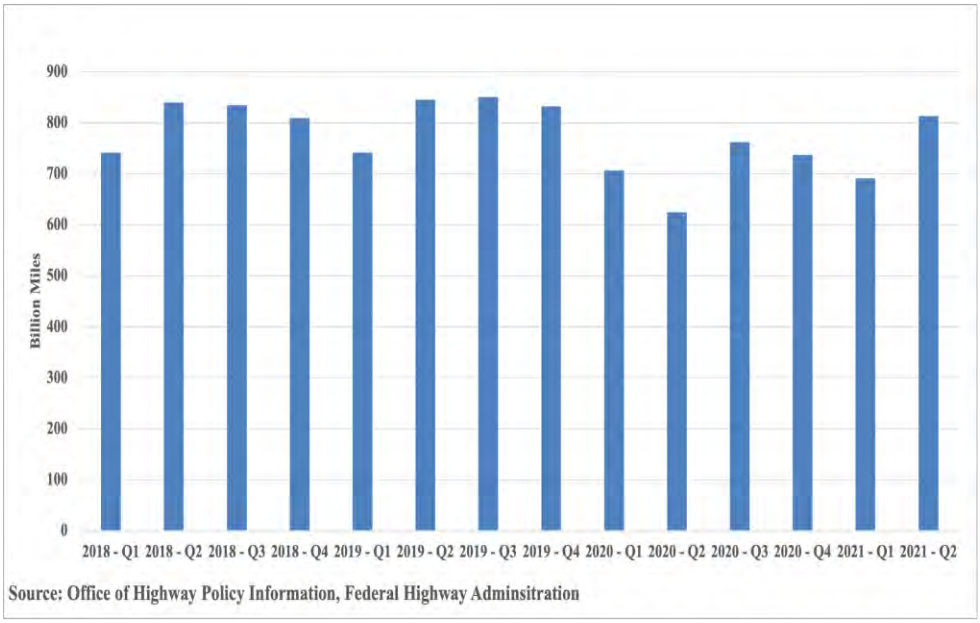

Figure 1: Vehicle miles traveled

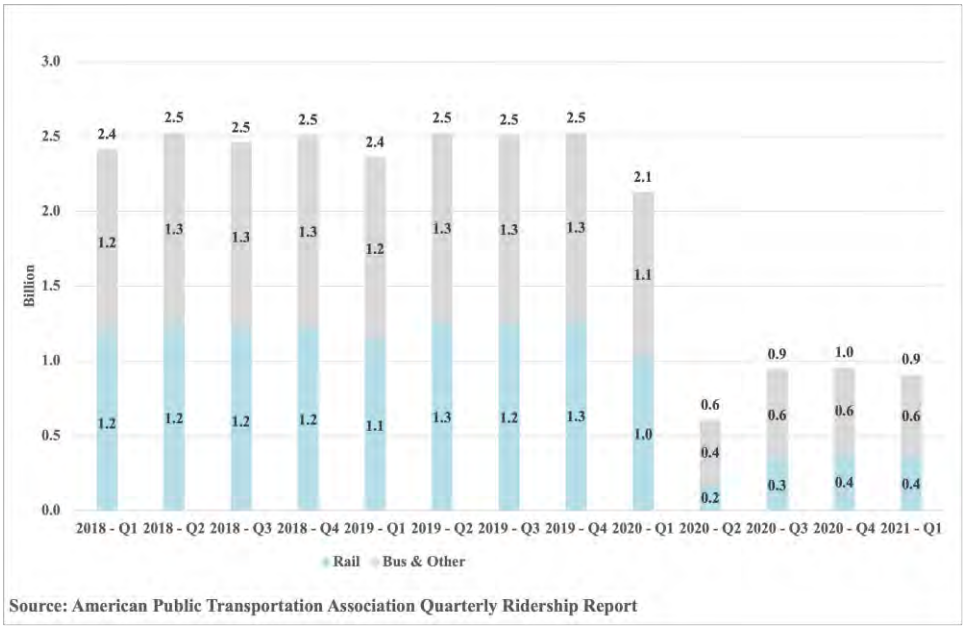

Figure 2: Transit Ridership

The CDOT study also includes walking and bicycling as alternative mitigation measures. Complete streets or road diets that increase congestion are a popular movement in American cities to encourage walking and cycling. Most cities with high rates of bicycle commuting, such as Boulder, are college towns with young populations. Therefore, demographics rather than street design may have the greatest influence on cycling and walking. Colorado is a diverse state. Estimating the costs and benefits of programs to encourage walking and bicycling should recognize that this diversity affects rates at which these alternatives are adopted. For example, while bicycling and walking may be popular in Boulder, they may be impractical in Sterling. The pandemic has accelerated decentralization for both jobs and residences, which will reduce transit

ridership because mass transit does not work well in decentralized areas. Even city dwellers are now wary of crowded transport options. If this trend continues, policies to increase density may not be effective. This implies that CDOT's estimated benefits from policies to encourage greater density may be overestimated.

History has demonstrated that efforts to get people to drive less fail.[28] The EPA was created in 1970 with a mandate to reduce air pollution by adopting a two-pronged strategy: first to reduce driving by encouraging states and cities to find alternatives to single-occupancy vehicle travel and second to reduce tailpipe emissions. The first strategy failed—the total number of miles driven in the United States nearly tripled between 1970 and 2019. As discussed in Section V, GHG reduction targets for the MPOs are among the list of failed strategies to reduce VMT. Nonetheless, air pollution from motor vehicles declined 88 percent during the same period. An average car today emits less than 4 percent of the pollution from the average car in 1970. New cars sold in 2019 produce only about 1 percent of the pollution as 1970 vehicles. Thus, reducing emissions is best accomplished on-board vehicles via efficiency improvements, rather than rules focused on changing behavior.

Overall, the proposed GHG emission mitigation rule to divert transportation funds from improving highway capacity to policies encouraging people to get out of their cars is a losing proposition, achieving little emission savings at a significant cost to travelers from traffic congestion and diminished public safety. As described previously, Weld County is concerned that the Proposed Rule requires CDOT and the MPOs to prioritize GHG emission reductions over projects that effectively and safely move people and goods throughout Colorado.

V. GHG Reduction Targets for MPOs Have Proven to be Ineffective at Reducing VMT in Other States

In 2008, California adopted Senate Bill 375,[29] which required the MPOs to meet GHG reduction targets by incorporating a sustainable communities strategy as part of the long-range regional transportation plans. In November 2018, the California Air Resources Board ("CARB") published a report[30] on the progress made under SB 375. This report showed that SB 375 did not have any impact on the statewide VMT, and in fact, the VMT per capita increased from 2008 to 2018. CDOT should review this report to understand the factors that affect travel behavior and provide the appropriate guidance for the MPOs in developing their long-range regional transportation plans ("RTP"). Below are key highlights of the issues identified in CARB's progress report that are outside the control of MPOs:

- Economic factors such as employment rates and fuel prices can have significant impact on travel choices. Increases in employment generally leads to increases in vehicle

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[28] *Id*.

[29] Cal. SB 08-375.

[30] Cal. Air Res. Bd., Tracking Progress – Sustainable Communities, https://ww2.arb.ca.gov/resources/documents/tracking-progress.

ownership. Increased vehicle ownership and reduced gas prices can lead to an increase in per capita VMT; and

- Job and housing imbalances and the lack of affordable housing can lead to increased VMT. As housing costs rise in urbanized areas, residents tend to move into suburban regions, thereby increasing the home-work commute trip lengths. Therefore, prior to developing the long-range RTP, it is essential to gather and analyze regional-level data that provides information on the balance of low-wage jobs and low-cost housing. Further, the MPOs will have to coordinate with other state and local agencies to address any job and housing imbalances that are identified.

Accordingly, the MPOs cannot be solely responsible for reducing VMT. Agencies at both the state and local level should coordinate to effect change that addresses the interconnected relationship of land use, housing, economic and workforce development, transportation investments, and travel choices. This is also reflected in Colorado's GHG Roadmap.[31] The Roadmap highlights the role of various state and local agencies, including the Division of Housing within the Colorado Department of Local Affairs, the Colorado Housing and Finance Authority, local governments, and transit agencies, in increasing the availability of affordable housing and improving access to job location, healthcare, and other services.

CONCLUSION

Weld County is committed to protecting air quality and supports efforts to provide more sustainable travel options to achieve reductions in air pollution from the transportation sector. But that commitment does not extend to a rushed rulemaking that exceeds CDOT's rulemaking authority, presents significant compliance challenges, and rests on technical inaccuracies and inconsistencies. Accordingly, Weld County asks that CDOT schedule an additional hearing before the close of the extended comment period. Weld County reserves the right to submit additional written comments following its review of the revised Proposed Rule and the recently received data. Weld County appreciates the opportunity to participate in this rulemaking and thanks CDOT and the TC in advance for their attention to these written comments.

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[31] Colo. Greenhouse Gas Pollution Reduction Roadmap (Jan. 14, 2021), https://www.codot.gov/programs/research/pdfs/other-reports/colorado-greenhouse-gas-pollution-reduction-roadmap/co-ghg-pollution-reduction-roadmap-final-report.pdf.

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DEPARTMENT OF TRANSPORTATION

Transportation Commission

RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

2 CCR 601-22

[Editor s Notes follow the text of the rules at the end of this CCR Document.]

August 13, 2021, Version

Please note the following formatting key:

Font Effect	Meaning
Underline	New Language
~~Strikethrough~~	Deletions
[Blue Font Text]	Annotation
~~Green Strikethrough~~	Suggested Deletions from Weld County
Green Underline	Suggested New Language from Weld County

[Note: The Commission proposes to add nineteen (19) new definitions. New proposed defined terms include: Applicable Planning Document, Approved Air Quality Model, Baseline, Carbon Dioxide Equivalent, Congestion Mitigation and Air Quality, Disproportionately Impacted Communities, Four-Year Prioritized Plan, Greenhouse Gas, Greenhouse Mitigation Measures, Greenhouse Gas Reduction Levels, Mitigation Action Plan, MPO Model, Multimodal Transportation and Mitigation Options Fund, Regionally Significant Project, State Interagency Consultation Team, Statewide Travel Model, Surface Transportation Block Grant, Vehicle Miles Traveled, and 10-Year Plan. Only minor non-substantive changes, such as correcting grammar errors or capitalizing defined terms, were made to the existing forty-six (46) defined terms.]

1.00 Definitions.

1.01 Accessible - ensure that reasonable efforts are made that all meetings are reachable by persons from households without vehicles and that the meetings will be accessible to persons with disabilities in accordance with the Americans with Disabilities Act (ADA), and also accessible to persons with Limited English Proficiency. Accessible opportunities to comment on planning related matters include those provided on the internet and through such methods as telephone town halls.

1.02 Applicable Planning Document - refers to MPO Fiscally Constrained RTPs,TIPs for MPOs in NAAs, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

1.03 Approved Air Quality Model - he most recent Environmental Protection Agency issued model that quantifies GHG emissions from on-road transportation.

Commented [A1]: To ensure the same air quality model is used for GHG budget setting and compliance assessments, Weld County recommends CDOT revise the Proposed Rule to require the GHG emission estimates in Table 1 and Table 2 be updated following the release of a new (or update to an existing) Approved Air Quality Model as shown here and in Section 8 01.1.

1.04 Attainment Area - any geographic region of the United States that meets the national primary or secondary National Ambient Air Quality Standards (NAAQS) for the pollutants as defined in the Clean Air Act (CAA) (Amendments of 1990).

1.05 Baseline - estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using ~~the MPO Models or~~ the Statewide Travel Model. Estimates must include GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules.

Commented [A2]: If baseline emissions are prepared using only the statewide travel model, the definition should be revised as shown.

1.06 Carbon Dioxide Equivalent (CO2e) - a metric measure used to compare the emissions from various GHG based upon the 100-year global warming potential (GWP). CO2e is multiplying the mass amount of emissions (metric tons per year), for each GHG constituent by that gas's GWP, and summing the resultant values to determine CO2e (metric tons per year). This calculation allows comparison of different greenhouse gases and their relative impact on the environment over different time periods.

1.07 Commission - the Transportation Commission of Colorado created by § 43-1-106, C.R.S.

1.08 Congestion Mitiga ion and Air Quality (CMAQ) - a federally mandated program established in 23 U.S.C § 149 to improve air quality in Nonattainment and Maintenance Areas for ozone, carbon monoxide, and particulate matter. References related to this program include any successor programs as established by the federal government.

1.09 Corridor - a transportation system that includes all modes and facilities within a described geographic area.

1.10 Corridor Vision - a comprehensive examination of a specific transportation Corridor, which includes a determination of needs and an expression of desired state of the transportation system that includes Transportation Modes and facilities over a planning period.

1.11 Department or CDOT - the Colorado Department of Transportation created by § 43-1-103, C.R.S.

1.12 Disproportionately Impacted Communities - defined in § 24-38.5-302(3), C.R.S. as a community that is in a census block group, as determined in accordance with the most recent United States Decennial Census where the proportion of households hat are low income is greater than forty percent (40%), the proportion of households that identify as minority is greater than forty percent (40%), or the proportion of households hat are housing cost-burdened is greater than forty percent (40%).

1.13 Division - the Division of Transportation Development within CDOT.

1.14 Division Director - the Director of the Division of Transportation Development.

1.15 Fiscally Constrained - the financial limitation on transportation plans and programs based on the projection of revenues as developed cooperatively with the MPOs and the rural TPRs and adopted by the Commission that are reasonably expected to be available over the long-range transportation planning period and the TIP and STIP programming periods.

1.16 Four-Year Prioritized Plan - a four-year subset of the 10-Year Plan consisting of projects prioritized for near-term delivery and partial or full funding.

1.17 Greenhouse Gas (GHG) - for purposes of hese Rules, GHG is defined as the primary transportation greenhouse gases: carbon dioxide, methane, and nitrous oxide.

1.18 Greenhouse Gas (GHG) Reduction Level - the amount of the GHG expressed as CO2e reduced from the projected Baseline that CDOT and MPOs must attain through transportation planning.

1.19 Greenhouse Gas (GHG) Mi igation Measures - non-Regionally Significant Project strategies implemented by CDOT and MPOs that reduce transportation GHG pollution and help meet the

GHG Reduction Levels.

1.20 Intergovernmental Agreement - an arrangement made between two or more political subdivisions that form associations for the purpose of promoting the interest and welfare of said subdivisions.

1.21 Intermodal Facility - a site where goods or people are conveyed from one mode of transportation to another, such as goods from rail to truck or people from passenger vehicle to bus.

1.22 Land Use - the type, size, arrangement, and use of parcels of land.

1.23 Limited English Proficiency - individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English.

1.24 Long-Range Planning - a reference to a planning period with a minimum 20-year planning horizon.

1.25 Maintenance Area - any geographic region of the United States previously designated by the U.S. Environmental Protection Agency (EPA) as a Nonattainment Area pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequen ly redesignated to attainment subject to the requirement to develop a maintenance plan under § 175A of the CAA, as amended in 1990.

1.26 Memorandum of Agreement (MOA) - a written agreement between two or more parties on an intended plan of action.

1.27 Metropolitan Planning Agreement (MPA) - a written agreement between the MPO, he State, and the providers of public transportation serving the Metropolitan Planning Area that describes how they will work cooperatively to meet their mutual responsibili ies in carrying out the metropolitan planning process.

1.28 Metropolitan Planning Area - a geographic area determined by agreement between the MPO for the area and the Governor, in which the metropolitan transportation planning process is carried out pursuant to 23 U.S.C. § 134.

1.29 Metropolitan Planning Organization (MPO) - an organization designated by agreement among the units of general purpose local governments and he Governor, charged to develop the RTPs and programs in a Metropolitan Planning Area pursuant to 23 U.S.C. § 134.

1.30 Mitigation Ac ion Plan - an element of the GHG Transportation Report that specifies which GHG Mitigation Measures shall be implemented that help achieve the GHG Reduction Levels.

1.31 Mobility - the ability to move people, goods, services, and information among various origins and destinations.

1.32 MPO Models - one (1) or more of the computer-based models maintained and operated by he MPOs which depict the MPO areas' transportation systems (e.g., roads, transit, etc.) and development patterns (i.e., number and location of households and jobs) for a defined year (i.e., past, present, or forecast) and produce estimates of roadway VMT, delays, operating speeds, transit ridership, and other characteristics of transportation system use.

1.33 Multimodal - an integrated approach to transportation that takes into account all modes of travel, such as bicycles and walking, personal mobility devices, buses, transit, rail, aircraft, and motor vehicles.

1.34 Multimodal Transportation and Mitigation Options Fund (MMOF) - a program created in the State Treasury pursuant to § 43-4-1003, C.R.S. which funds bicycle, pedestrian, transit and other Multimodal projects as defined in § 43-4-1002(5), C.R.S. and GHG Mitigation projects as defined in § 43-4-1002(4.5), C.R.S.

1.35 National Ambient Air Quality Standards (NAAQS) - are those established by the U.S. Environmental Protection Agency for air pollutants considered harmful to public health and

environment. These criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, ozone, small particles, and sulfur dioxide.

1.36 Nonattainment Area - any geographic region of the United States which has been designated by the EPA under section 107 of the CAA for any pollutants for which a NAAQS exists.

1.37 Non-Metropolitan Area - a rural geographic area outside a designated Metropolitan Planning Area.

1.38 Plan Integration - a comprehensive evaluation of the statewide transportation system that includes all modes, an identification of needs and priorities, and key information from other related CDOT plans.

1.39 Planning Partners - local and tribal governments, the rural TPRs and MPOs.

1.40 Project Priority Programming Process - the process by which CDOT adheres to 23 U.S.C. § 135 and 23 C.F.R. Part 450 when developing and amending he STIP.

1.41 Regional Planning Commission (RPC) - a planning body formed under the provisions of § 30-28-105, C.R.S., and designated under these Rules for the purpose of transportation planning within a rural TPR.

1.42 Regionally Significant Project - a transportation project hat is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team.

1.43 Regional Transportation Plan (RTP) - a long-range plan designed to address the future transportation needs for a TPR including, but not limited to, Fiscally Constrained or anticipated funding, priorities, and implementation plans, pursuant to, but not limited to, § 43-1-1103, C.R.S. and 23 C.F.R. Part 450. All rural and urban TPRs in the state produce RTPs.

1.44 State Interagency Consultation Team - consists of he Division Director or the Division Director's designee, the Colorado Department of Public Health and Environment (CDPHE) Director of Air Pollution Control Division or the Director's designee, and the Director of each MPO or their designee.

1.45 State Transportation System - refers to all state-owned, operated, and maintained transportation facilities in Colorado, including, but not limited to, interstate highways, other highways, and aviation, bicycle and pedestrian, transit, and rail facilities.

1.46 Statewide Transportation Advisory Committee (STAC) - the committee created by § 43-1-1104, C.R.S., comprising one representative from each TPR and one representative from each tribal government to review and comment on RTPs, amendments, and updates, and to advise both the Department and the Commission on the needs of the transportation system in Colorado.

1.47 Statewide Transportation Improvement Program (STIP) - a Fiscally Constrained, multi-year, statewide, Multimodal program of transportation projects which is consistent with the Statewide

Transportation Plan and planning processes, with Metropolitan Planning Area plans, Transportation Improvement Programs and processes, and which is developed pursuant to 23 U.S.C. § 135.

1.48 Statewide Travel Model - the computer-based model maintained and operated by CDOT which depicts the state's transportation system (roads, transit, etc.) and development scale and pattern (number and location of households, number and location of firms/jobs) for a selected year (past, present, or forecast) and produces es imates of roadway VMT and speed, transit, ridership, and o her characteristics of transportation system use.

1.49 Statewide Transportation Plan - the long-range, comprehensive, Multimodal statewide transportation plan covering a period of no less than 20 years from time of adoption, developed through the statewide transportation planning process described in these Rules and 23 U.S.C. § 135, and adopted by the Commission pursuant to § 43-1-1103, C.R.S.

1.50 Surface Transportation Block Grant (STBG) - a flexible federal funding source established under 23 U.S.C. § 133 for state and local transportation needs. Funds are expended in the areas of the State based on population. References related to this program include any successor programs established by the federal government.

1.51 System Continuity - includes, but is not limited to, appropriate intermodal connections, integration with state modal plans, and coordination with neighboring RTPs, and, to the extent prac icable, o her neighboring states' transportation plans.

1.52 Traditionally Underserved - refers to groups such as seniors, persons with disabilities, low-income households, minorities, and student populations, which may face difficulties accessing transportation systems, employment, services, and other amenities.

1.53 Transit and Rail Advisory Committee (TRAC) - an advisory committee created specifically to advise the Executive Director, the Commission, and the Division of Transit and Rail on transit and rail-related activities.

1.54 Transportation Commonality - the basis on which TPRs are established including, but not limited to: Transportation Commission Districts, the Department's Engineering Regions, Travelsheds, Watersheds, geographic unity, existing Intergovernmental Agreements, and socioeconomic unity.

1.55 Transportation Improvement Program (TIP) - a staged, Fiscally Constrained, multi-year, Multimodal program of transportation projects developed and adopted by MPOs, and approved by the Governor, which is consistent with an MPO's RTP and which is developed pursuant to 23 U.S.C. § 134.

1.56 Transportation Mode - a particular form of travel including, but not limited to, bus, motor vehicle, rail, transit, aircraft, bicycle, pedestrian travel, or personal mobility devices.

1.57 Transportation Planning and Programming Process - all collaborative planning-related activities including the development of regional and Statewide Transportation Plans, he Department's Project Priority Programming Process, and development of the TIPs and STIP.

1.58 Transportation Planning Region (TPR) - a geographically designated area of the state, defined by sec ion 2.00 of these Rules in consideration of the criteria for Transportation Commonality, and for which a regional transportation plan is developed pursuant to the provisions of § 43-1-1102 and 1103, C.R.S. and 23 U.S.C. § 134. The term TPR is inclusive of these types: non-MPO TPRs, MPO TPRs, and TPRs with both MPO and non-MPO areas.

1.59 Transportation Systems Planning - provides the basis for identifying current and future deficiencies on he state highway system and outlines strategies to address those deficiencies and make improvements to meet Department goals.

1.60 Travelshed - the region or area generally served by a major transportation facility, system, or Corridor.

1.61 Tribal Transportation Improvement Program (TTIP) - a multi-year Fiscally Constrained list of proposed transportation projects developed by a tribe from the tribal priority list or tribal long-range transportation plan, and which is developed pursuant to 25 C.F.R. Part 170. The TTIP is incorporated into the STIP without modification.

1.62 Urbanized Area - an area with a popula ion of 50,000 or more designated by the Bureau of the Census.

1.63 Vehicle Miles Traveled (VMT) - the traffic volume of a roadway segment or system of roadway segments multiplied by he length of the roadway segment or system.

1.64 Watershed - a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

1.65 10-Year Plan - a vision for Colorado's transportation system that includes a specific list of projects categorized across priority areas as identified in the Statewide Transportation Plan.

8.00 GHG Emission Requirements

8.01 Establishment of Regional GHG Transportation Planning Reduction Levels

8.01.1 The GHG emission reduction levels within Table 1 apply to MPOs and the Non-MPO area within the state of Colorado as of the effective date of these Rules. Baseline values are specific to each MPO and CDOT area and represent estimates of GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules. Table 2 reflects the difference in Baseline levels from year to year assuming a rapid growth in electric vehicles across the State (940 000 light duty electric vehicles in 2030, 3.38 million in 2040 and a total of 97% of all light duty vehicles in 2050). Values in both tables include estimates of population growth as provided by the state demographer. The GHG emission reduction levels in Table 1 and Table 2 shall be reevaluated upon a change in he Approved Air Quality Model as defined in Sec ion 1.03.

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	2050 Reduction Level (MMT)
DRCOG	14.9	0.27	11.8	0.82	10.9	0.63	12.8	0.37
NFRMPO	2.3	0.04	1.8	0.12	1.9	0.11	2.2	0.07
PPACG	2.7	N/A	2.2	0.15	2.0	0.12	2.3	0.07
GVMPO	0.38	N/A	0.30	0.02	0.30	0.02	0.36	0.01

PACOG	0.50	N/A	0.40	0.03	0.30	0.02	0.4	0.01
CDOT/Non-MPO	6.7	0.12	5.3	0.37	5.2	0.30	6.1	0.18
TOTAL	27.4	0.5	21.8	1.5	20.6	1.2	24.2	0.7

8.01.3 Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles

Table 2: Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles

	2025 Projections (MMT)	2030 Projections (MMT)	2040 Projections (MMT)	2050 Projections (MMT)
TOTAL	27.0	20.0	14.0	8.9

8.02 Process for Determining Compliance

8.02.1 Analysis Requirements When Adop ing or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to es imate total CO2e emissions. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and determine whether he applicable reduction targets ~~compare these emissions to the Baseline specified~~ in Table 1 have been met. This provision shall not apply to MPO TIP amendments.

8.02.2 Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior to the adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel Model, and Approved Air Quality Model.

8.02.3 By April 1, 2022, CDOT shall establish an ongoing administrative process, through a public process, for selecting, measuring, confirming, and verifying GHG Mitigation Measures, so that CDOT and MPOs can incorporate one or more into each of their plans in order to reach he Regional GHG Planning Reduction Levels in Table 1. Such a process shall include, but not be limited to, determining the relative impacts of GHG Mitigation Measures, measuring and prioritizing localized impacts to communities and Disproportionately Impacted Communi ies in particular. The mitigation credit awarded to a specific solu ion shall consider both aggregate and community impact.

8.02.4 By April 1, 2022, CDOT shall develop, through a public process, a guidance document that describes the modeling methodology that should be used to conduct the GHG emissions analysis described in Section 8.02.1 and the process for assessing compliance with the GHG Transportation Planning Reduction Levels specified in Table 1. This guidance document shall describe how the actions taken by the Enterprises created under SB21-260 that reduce GHG emissions may be counted as GHG Mitigation Measures to comply with the reductions level specified in Table 1.

8.02.4 Timing for Determining Compliance

8.02.4.1 By October 1, 2022, CDOT shall update their 10-Year Plan and DRCOG

Commented [A3]: Weld County recommends CDOT provide guidance regarding the number of significant figures to be used in GHG emissions estimates, particularly regarding rounding for regional area totals compared against the values in Table 1, to ensure actual reductions are consistent with expected totals.

Furthermore, Weld County recommends CDOT clarify the calculation of the TOTAL row in Table 1 of the Proposed Rule, particularly for 2025. Weld County also recommends revising Table 1 to show the same significant figures for all of the values, or providing additional detail in a technical support document.

Commented [A4]: Other sections (i.e., 8.02.4.1, 8.02.5.1, 8.02.5.3, 8.05, etc.) specifically refer to meeting or demonstrating compliance with the reduction levels. t is not clear why Section 8.02.1 requires comparing emissions to the baseline if compliance is assessed based on meeting reduction levels.

Weld County recommends CDOT revise the rule language to clarify how compliance is assessed and develop a guidance document that describes the modeling methodology that should be used to determine compliance with the Proposed Rule as shown in Section 8.02.4 below.

If compliance is assessed based on meeting reduction levels, comparison to the baseline should not be required and Section 8 02.1 should be revised as shown.

Commented [A5]: Weld County recommends that additional language be added to the proposed rule in Section 8 02.2 to specify the items that must be addressed and information that must be included in the Intergovernmental Agreement.

Commented [A6]: Weld County recommends CDOT revise the rule language to clarify how compliance is assessed and develop a guidance document that describes the modeling methodology that should be used to determine compliance with the Proposed Rule. Weld County recommends this guidance document be developed through a public stakeholder process by April 1, 2022 and inform the development of the Intergovernmental Agreement described in Section 8.02 2.

Commented [A7]: Weld County recommends that CDOT clarify, through revised rule language or a guidance document accompanying the Proposed Rule, how Enterprise activities interact with the actions taken by CDOT and MPOs as a part of the Proposed Rule, particularly as related to GHG mitigation measures. Weld County believes that the Proposed Rule should foster collaboration to reduce GHG emissions, and thus the rule should allow CDOT and MPOs to take credit for GHG emission reductions from transportation in their respective regional areas regardless of the project proponent (i.e., local governments, enterprises, etc.).

and NFRMPO shall update their RTPs pursuant to § 43-4-1103, C.R.S. and meet the reduction levels in Table 1 or the requirements pursuant to § 43-4-1103, C.R.S and restrictions on funds.

8 02.4.2 After October 1, 2022

8.02.4.2.1 CDOT must for each Applicable Planning Document, meet either the reduction levels within Table 1 for Non-MPO areas or the requirements as set forth in Rule 8 05.

8.02.4.2 2 MPOs must meet either the corresponding reduc ion levels within Table 1 for each Applicable Planning Document, or the relevant MPO and CDOT each must meet the requirements as set forth in Rule 8 05.

8.02.5 Demonstrating Compliance. At least thirty (30) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to the Commission a GHG Transportation Report containing the following information:

8 02.5.1 GHG emissions analysis demonstrating that the Applicable Planning Document is in compliance wi h the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1 or that the requirements in Rules 8.02.5.1.1 or 8.02 5.1.2., as applicable, have been met.

8.02.5.1.1 In non-MPO areas or for MPOs hat are not in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the Department utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in hose areas on projects that reduce GHG emissions.

8.02.5.1 2 In MPO areas that are in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the MPO utilizes those funds on projects or approved GHG Mi igation Measures that reduce GHG emissions, and CDOT utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in that MPO area, on projects that reduce GHG emissions.

8 02.5.2 Identification and documentation of the MPO Model or the Statewide Travel Model and the Approved Air Quality Model used to determine GHG emissions in MMT of CO2e.

8 02.5.3 A Mitigation Action Plan that identifies GHG Mitigation Measures needed to meet the reduction levels within Table 1 shall include:

8.02.5.3.1 The anticipated start and completion date of each measure.

8.02.5.3 2 An estimate, where feasible, of the GHG emissions reductions in MMT of CO2e achieved by any GHG Mitiga ion Measures.

8.02.5.3 3 Quantifica ion of specific co-benefits including reduction of co-pollutants (PM2 5, NOx, etc.) as well as travel impacts (changes to VMT, pedestrian/bike use, transit ridership numbers, etc. as applicable).

8.02.5.3.4 Description of benefits to Disproportionately Impacted Communities.

8.02.6 Reporting on Compliance- Annually by April 1, CDOT and MPOs must provide a status report to the Commission on an approved form with the following items for each GHG Mitigation Measure identified in their most recent GHG Transportation Report:

8 02.6.1 The implementation timeline;

8 02.6.2 The current status;

8 02.6.3 For measures that are in progress or completed, quantification of the benefit or impact of such measures; and

8 02.6.4 For measures that are delayed, cancelled, or substituted, an explanation of why that decision was made.

8 03 GHG Mitigation Measures. When assessing compliance with the GHG Reduction Levels, CDOT and MPOs shall have the opportunity to utilize approved GHG Mitigation Measures as set forth in Rules 8.02.3 and 8.02.5.3 to offset emissions and demonstrate progress toward compliance. Illustrative examples of GHG Mi igation Measures include, but are not limited to:

8 0.3.1 The addition of transit resources in a manner that can displace VMT.

8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.

8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use in a way that links and rewards transporta ion project investments with the city making these changes.

8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.

8.03.5 Improving the safety and efficiency of crosswalks for pedestrians, bicyclists, and other non-motorized vehicles, including to advance compliance with the ADA.

8.03.6 Adopting locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.

8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.

8.03.8 Establishing policies for clean construction that result in scalable improvements as a result of factors like lower emission materials, recycling of materials, and lower truck emissions during construction.

8.03.9 Adoption of transportation demand management practices that reduce VMT.

8.03.10 Encourage local adoption or expansion of school bus programs or a school carpool programs to reduce private vehicle trips.

8.03.11 Encourage the replacement of high congestion traffic controls with roundabouts to smoo h traffic flow, reduce idling, eliminate bottlenecks, and manage speed.

8.03.12 Electrify loading docks to allow transporta ion refrigeration units and auxiliary power units to be plugged into the electric grid at the loading dock instead of running on diesel.

8.04 Air Pollution Control Division (APCD) Confirmation and Verification

8.04.1 At least forty-five (45) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to APCD for review and verification of the technical data contained in he draft GHG Transportation Report required per Rule 8.02.5. If APCD has not provided written verification or committed to a review schedule within hirty (30) days, CDOT will commission review by an outside contractor ~~the document shall be considered acceptable~~.

8.04.2 At least thirty (30) days prior to adoption or amendment of policies per Rule 8.02.3, CDOT shall provide APCD the opportunity to review and comment. If APCD has not provided written comment within forty-five (45) days, the document shall be considered acceptable.

8.05 Enforcement. The Commission shall review all GHG Transportation Reports to determine whe her the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance. The Commission may not review a GHG Transportation Report until the report has undergone APCD confirmation and verification per Section 8.04.1 and has been deemed acceptable. The Commission shall review and act, by resolution, on a GHG Transportation Report within thirty (30) days of receipt of the report or at the next regularly scheduled Commission Meeting, whichever is later.

8.05.1 If the Commission determines the requirements of Rule 8.02.5 have been met, the Commission shall, by resolution, accept the GHG Transportation Report.

8.05.2 If the Commission determines, by resolution, the requirements of Rule 8.02.5 have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG. Prior to the enforcement of such restriction, an MPO, CDOT or a TPR in a non-MPO area, may, within thirty (30) days of Commission action, issue one or bo h of the following opportunities to seek a waiver or to ask for reconsideration accompanied by an opportunity to submit addi ional information:

8.05.2.1 Request a waiver from the Commission imposing restrictions on specific projects not expected to reduce GHG emissions. The Commission may waive the restrictions on specific projects when applicants use CDOT's waiver form that specifies~~on~~ the following ~~basis~~:

Commented [A8]: Weld County recommends that CDOT evaluate the feasibility of, and provide examples of, transportation GHG mitigation measures for rural areas. Three examples are provided in revised rule language in Section 8.03.

Commented [A9]: t is not clear what steps would need to be taken if the APCD does not consider a GHG Transportation Report acceptable.

Weld County recommends establishing a process for CDOT and the MPOs to follow if the APCD considers a GHG transportation report unacceptable, including the process and timeframes for revisions and resubmission for review, as needed.

Commented [A10]: Weld County recommends revising this section to ensure GHG Transportation Reports undergo technical review and verification.

Commented [A11]: Weld County recommends adding this language to ensure GHG Transportation Reports have undergone review and verification of the technical data by the APCD prior to review and evaluation by the TC.

Commented [A12]: Weld County recommends adding this language to ensure the TC reviews and evaluates the compliance of GHG Transportation Reports within a specified timeframe.

Commented [A13]: It is not clear when funding restrictions would be implemented or to which projects they would apply. Weld County therefore recommends the Proposed Rule be modified to specify the timeframe for enforcement and applicability to projects.

8.05.2.1.1 The GHG Transporta ion Report reflected significant effort and priority placed, in total, on projects and GHG Mitigation Measures that reduce GHG emissions; and

8.05.2.1.2 In no case shall a waiver be granted if such waiver results in a substantial increase in GHG emissions when compared to the required reduction levels in this Rule.

Commented [A14]: Weld County understands that some flexibility in the waiver review process may be desirable, but nonetheless recommends that CDOT clarify the criteria used to evaluate waivers. For example, guidance on how "significant effort" will be evaluated should be provided, and a "substantial increase in GHG emissions when compared to the required reduction levels" should be quantified. CDOT should provide a standardized waiver form.

8.05.2.2 Request reconsideration of a non-compliance determination by the Commission and provide written explanation of how the requirements of Rule 8.02.5 have been met.

8.05.2.3 The Commission shall act, by resolution, on a waiver or reconsideration request within thirty (30) days of receipt of the waiver or reconsideration request or at the next regularly scheduled Commission Meeting, whichever is later. ~~If no action is taken within this time period, the waiver or reconsidera ion request shall be deemed to be denied.~~

8.05.3 Notwithstanding any other provision of this Rule, CDOT, DRCOG and NFRMPO must meet the requirements of § 43-4-1103, C.R.S.

8.06 Reporting. Beginning July 1, 2025, and every 5 years thereafter, the Executive Director on behalf of CDOT shall prepare and make public a comprehensive report on the statewide GHG reduction accomplishments.

9.00 Materials Incorporated by Reference

9.01 The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements in Rule 9.01.1 and federal funding programs in Rules 9.01.2 and 9.01.3, which are incorporated into the Rules by this reference, and do not include any later amendments.

9.01.1 Fixing America's Surface Transportation Act or the "FAST Act"), 23 U.S.C. §§ 134, 135 and 150, Pub. L. No. 114-94, signed into law on December 4, 2015, and its accompanying regulations, where applicable, contained in 23 C.F.R.Part 450, including Subparts A, B and C in effect as of November 29, 2017, and 25 C.F.R. § 170 in effect as of November 7, 2016.

9.01.2 Congestion Mitigation and Air Quality Improvement (CMAQ) Program, 23 U.S.C. § 149, in effect as of March 23, 2018.

9.01.3 Surface Transporta ion Block Grant (STBG) Program, 23 U.S.C. § 133, in effect as of December 4, 2015.

9.02 Also incorporated by reference are the following federal laws and regula ions and do not include any later amendments:

9.02.1 Americans with Disabilities Act (ADA), 42 U.S.C. § 12101, *et. seq.*, in effect as of January 1, 2009.

9.02.2 Clean Air Act (CCA), 42 U.S.C. §§ 7407-7410, and 7505a, in effect as of November 15, 1990.

9.02.2 Transportation Conformity Regulations, 40 C.F.R. § 93.101, in effect as November 24,1993.

9.03 Also incorporated by reference are the following documents, standards, and models and do not include any later amendments:

9.03.1 Greenhouse Gas Pollution Reduction Roadmap by the Colorado Energy Office and released on January 14, 2021.

Commented [A15]: Weld County recommends striking this language to avoid denial of waivers or reconsideration requests simply due to inaction.

9.03.2 MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity released by the U.S. Environmental Protection Agency, in effect as of January 7, 2021.

9.04 All referenced laws and regulations are available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.

9.05 Copies of the referenced federal laws and regulations, planning documents, and models.

9.05.1 Copies of the referenced United States Code (U.S.C.) may be obtained from the following address:

Office of the Law Revision Counsel
U.S. House of Representatives
H2-308 Ford House Office Building
Washington, DC 20515
(202) 226-2411
https://uscode.house.gov/browse.xhtml

9.05.2 Copies of the referenced Code of Federal Regulations (C.F.R.) may be obtained from the following address:

U.S. Government Publishing Office
732 North Capitol State, N.W.
Washington, DC 20401
(866) 512-1800
https://www.govinfo.gov/

9.0.5.3 Copies of the Greenhouse Gas Pollution Reduction Roadmap (Roadmap) may be obtained from the following address:

Colorado Energy Office
1600 Broadway, Suite 1960
Denver, CO 80202
(303) 866-2100
energyoffice.colorado.gov

9.0.5.4 To download MOVES3 released by the U.S. Environmental Protec ion Agency may be obtained from the following address:

U.S. Environmental Protection Agency
The Office of Transportation and Air Quality
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
(734) 214–4574 or (202) 566-0495
mobile@epa.gov
https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

10.00 Declaratory Orders

10.01 The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.

Editor's Notes

History

Entire rule eff. 12/15/2012.

Section SB&P eff. 05/30/2013.

Entire rule eff. 09/14/2018.

Annotations

Rules 1.22, 1 25, 1.42, 2.03.1 – 2.03.1.4, 4.01, 4.02.1 – 4.02.3, 4.02.5.9, 4.04.2.2, 4.04.2.4, 4.06.1.7, 6 01.2, 7.01, 7.03 – 7.04 (adopted 10/18/2012) were not extended by Senate Bill 13-079 and therefore expired 05/15/2013.

WeldCo_EX-002

From: Elizabeth Relford
Sent: Friday, August 6, 2021 10:32 AM
To: shoshana.lew@state.co.us
Cc: rebecca.white@state.co.us
Subject: CDOT Rulemaking/Project Questions

Hi Executive Director Lew,

As the Deputy Director for Weld County Public Works, I have been paying special attention to CDOT's rulemaking process, and in particular the Greenhouse Gas Pollution Reduction Planning Rulemaking. I have several questions about
the process I hope you can help answer:

- Creating CDOT's Regulatory Agenda
    - How does CDOT create its annual Regulatory Agenda, including the new rules it intends to propose?
    - What criteria does CDOT use to select transportation projects for its Regulatory Agenda?
    - In the 10-year Development Plan, what criteria is CDOT using to decide which 5-10 year projects are being advanced over years 1-4 projects?
    - Following finalization of GHG Pollution Reduction Roadmap in HB-19 1261 and SB 21-260, how does CDOT select projects for funding to further the Roadmap's objectives?
- Altering CDOT's Regulatory Agenda
    - How does CDOT decide to alter the Regulatory Agenda?
    - What criteria does CDOT use to determine whether the Regulatory Agenda should be altered in light of recent legislation?
    - Does CDOT issue a record of decision or other formal justification supporting its decision to alter the Regulatory Agenda?

Lastly, would you please provide information related to CDPHE's inputs and outputs from EPA's Motor Vehicle Emission Simulator (MOVES) model, including fleet characteristics like age distribution and vehicle type, and any associated documentation/data source references?

If you have any questions or are unclear on what I am requesting, please do not hesitate to contact me. I know you are busy so I really appreciate your time.

Sincerely,

[redacted]
Deputy Director
Weld County Public Works

[redacted]

WeldCo_EX-003

[redacted]

August 26, 2021

[redacted]

Re: Request for Cost-Benefit Analysis and Regulatory Analysis Under the Colorado Administrative Procedure Act in the Matter of Proposed Revisions to Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions, 2 CCR 601-22

Executive Director Lew and Executive Director Salazar:

The Board of County Commissioners of Weld County, Colorado ("Weld County") submits this request to the Colorado Department of Regulatory Agencies ("DORA") for a cost-benefit analysis under C.R.S. § 24-4-103(2.5) and a regulatory analysis under C.R.S. § 24-4-103(4.5) regarding the Colorado Department of Transportation's ("CDOT") proposed revisions to the rules governing the statewide transportation planning process and transportation planning regions, 2 CCR 601-22 (the "Proposed Rule").[1]

[1] It is not clear whether CDOT or the Transportation Commission is the proponent of this proposed rule. *See, e.g.*, *Project Fact Sheet Regarding Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards*, Colo. Dep't of Transp. (stating "*CDOT* is

I. BACKGROUND

On August 13, 2021, CDOT filed a Notice of Proposed Rulemaking with the Colorado Secretary of State to consider revisions to the Proposed Rule. Among other things, the Proposed Rule aims to reduce greenhouse gas ("GHG") emissions from the transportation sector. If finalized, the rule would require CDOT and the state's five Metropolitan Planning Organizations ("MPOs") to determine the total GHG emissions expected from future transportation projects and take steps to ensure that emissions do not exceed set GHG reduction amounts.

The transportation sector is one of the largest contributors to GHG and ozone precursor emissions, and Weld County generally supports efforts to reduce air pollution, including GHG emissions, from this sector. The Proposed Rule will impact individuals living in Weld County, as well as transportation projects planned throughout the county. As an interested stakeholder, Weld County must be able to assess the impacts of the Proposed Rule. However, CDOT has not yet provided any documentation or analysis to explain the rule or how it calculated the baseline emissions or reduction levels. Accordingly, Weld County submits this request for a cost-benefit analysis and regulatory analysis to provide this missing information.

II. LEGAL STANDARD

Under two separate provisions of the APA, "any person" may request additional economic and regulatory impact analyses. C.R.S. §§ 24-4-103(2.5), (4.5). Given the lack of analysis or supporting documentation accompanying the Proposed Rule, Weld County requests both a cost-benefit analysis and regulatory analysis to ensure the Transportation Commission fully considers the economic and regulatory impacts of the Proposed Rule.

A. DORA-Ordered Cost-Benefit Analysis Under C.R.S. § 24-4-103(2.5)

Under C.R.S. § 24-4-103(2.5)(a) "any person may, within five days after publication of the notice of proposed rule-making in the Colorado Register, request that [DORA] require the agency submitting the proposed rule or amendment to prepare a cost-benefit analysis." Such cost-benefit analysis shall include the following:

1. The reason for the rule or amendment;

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proposing a new standard to reduce greenhouse gas emissions from the transportation sector . . . .") (emphasis added); *Press Release Regarding Colorado Developing New Pollution Reduction Planning Standards to Address Climate Change and Air Quality*, Colo. Dep't of Transp. (stating the "*Colorado Transportation Commission* today proposed bold new transportation pollution reduction planning standards . . . .") (emphasis added). This request for a cost-benefit analysis and regulatory analysis is directed to CDOT. If this is incorrect, Weld County asks that this request be redirected to the Transportation Commission.

2. The anticipated economic benefits of the rule or amendment, which shall include economic growth, the creation of new jobs, and increased economic competitiveness;

3. The anticipated costs of the rule or amendment, which shall include the direct costs to the government to administer the rule or amendment and the direct and indirect costs to business and other entities required to comply with the rule or amendment;

4. Any adverse effects on the economy, consumers, private markets, small businesses, job creation, and economic competitiveness; and

5. At least two alternatives to the proposed rule or amendment that can be identified by the submitting agency or a member of the public, including the costs and benefits of pursuing each of the alternatives identified.

C.R.S. § 24-4-103(2.5)(a)(I) – (V).

CDOT has not yet provided an economic analysis of the Proposed Rule or otherwise addressed these considerations. To assess the factors set forth above, Weld County requests a complete cost-benefit analysis under C.R.S. § 24-4-103(2.5).

B. Regulatory Impact Analysis Under § 24-4-103(4.5)

Under C.R.S. § 24-4-103(4.5) "upon [the] request of any person, at least fifteen days prior to the hearing, the [Division] shall issue a regulatory analysis of a proposed rule." Such regulatory analysis must contain:

1. A description of the classes of persons who will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule;

2. To the extent practicable, a description of the probable quantitative and qualitative impact of the proposed rule, economic or otherwise, upon affected classes of persons;

3. The probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues;

4. A comparison of the probable costs and benefits of the proposed rule to the probable costs and benefits of inaction;

5. A determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule; and

6. A description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule.

24-4-103(4.5)(a)(I) – (VI).

To assess the factors set forth above, Weld County requests a complete regulatory analysis under C.R.S. § 24-4-103(4.5).

III. WELD COUNTY REQUESTS BOTH A COST-BENEFIT ANALYSIS AND A REGULATORY IMPACT ANALYSIS UNDER THE STATE APA

Weld County requests that DORA require CDOT to perform both a cost-benefit analysis pursuant to C.R.S. § 24-4-103(2.5) and a regulatory impact analysis under C.R.S. § 24-4-103(4.5) with respect to the Proposed Rule.

As an initial matter, Weld County submits this request in advance of publication of the Proposed Rule in the Colorado Register and well before the first hearing scheduled on September 14, 2021. *See* C.R.S. §§ 24-4-103(2.5), (4.5). Moreover, the DORA website states that requests for a cost benefit analysis for the Proposed Rule are due on August 30, 2021. Rules Governing Statewide Transportation Planning Process and Transportation Planning Region, https://www.dora.state.co.us/pls/real/SB121_Public_Comment_GUI.submission_form?p_rule_id=8981. Because this request is being submitted on August 26, 2021, it is timely.

Importantly, CDOT has not provided any type of analysis or the underlying documentation supporting its Proposed Rule. For instance, Table 1 and Table 2 listed on page 25 of the Proposed Rule set forth the GHG transportation planning reduction levels and baseline emissions, respectively. CDOT has not provided critical information regarding these tables, such as what methodology was used to reach these figures and what inputs and assumptions were used in the modeling. Accordingly, there is no way to evaluate the reasonableness of these figures or the efficacy of the Proposed Rule.

To allow interested stakeholders and the Transportation Commission to adequately evaluate the Proposed Rule, Weld County requests that CDOT provide supporting documentation—such as a technical support document, if available—describing the methods used to conduct the analysis for the GHG estimates in Table 1 and Table 2 of the Proposed Rule. Specifically, Weld County requests the following information be provided to all stakeholders and the Transportation Commission:

- Model inputs and outputs for all models used in the analysis, i.e., Land Use Model(s), EERPAT, MPO Models and Statewide Travel Model, and the Approved Air Quality Model, as applicable;

- Assumptions used in all models;

- Population growth data and assumptions;

- Data, assumptions, or modeling related to electric sector grid mix in future target years;

- Description of different scenarios considered in the modeling, if any, and which scenario was selected to determine GHG estimates shown in Table 1 and Table 2 of the Proposed Rule; and

- Description of any qualitative or off-model adjustments used to determine the GHG estimates in Table 1 and Table 2 of the Proposed Rule.

Weld County has separately requested from CDOT data regarding the Proposed Rule. To ensure that this information is provided to all interested stakeholders, and to enable the Transportation Commission to make an informed decision, Weld County requests that DORA require CDOT to produce this information in connection with its cost-benefit analysis and its regulatory impact analysis. This is what the Colorado APA requires. *See* C.R.S. §§ 24-4-103(2.5), (4.5).

IV. CONCLUSION

For the above-stated reasons, Weld County respectfully requests that DORA require CDOT to conduct a cost-benefit analysis under C.R.S. § 25-7-103(2.5) and a separate regulatory impact analysis under C.R.S. § 25-7-103(4.5). This information will enable the Transportation Commission to make a better-informed decision on the proposed revisions to the rules governing the statewide transportation planning process and transportation planning regions, 2 CCR 601-22.

WeldCo_EX-004

September 17, 2021

VIA ONLINE SUBMISSION

Colorado Department of Transportation ("CDOT")
2829 W Howard Place
Denver, Colorado 80204

Re: Colorado Open Records Act Request

Dear Custodian of Records,

Pursuant to the Colorado Open Records Act ("CORA"), §§24-72-201 *et seq.*, Weld County respectfully requests copies of the following public records (including all Correspondence, Electronic Mail, and Writings, as such terms are defined in § 24-72-202):

- All documents, files, and correspondence (including emails) describing the methods used to conduct the analysis for the greenhouse gas ("GHG") estimates in Table 1 and Table of CDOT's proposed revisions to the rules governing the statewide transportation planning process and transportation planning regions, 2 CCR 601-22 (the "Proposed Rule"), and specifically:
    - Model inputs and outputs for all models used in the analysis, i.e., Land Use Model(s) (including but not limited to UrbanSim), EERPAT, MPO Models and Statewide Travel Model, and the Approved Air Quality Model, as applicable;
    - Assumptions used in all models and any deviations from default model inputs and assumptions;
    - Population growth data and assumptions;
    - Data, assumptions, or modeling related to electric sector grid mix in future target years;

- Description of different scenarios considered in the modeling, if any, and which scenario was selected to determine GHG estimates shown in Table 1 and Table 2 of the Proposed Rule; and

- Description of any qualitative or off-model adjustments used to determine the GHG estimates in Table 1 and Table 2 of the Proposed Rule.

Weld County will pay all reasonable fees associated with this request, up to a maximum of $500. If the applicable fees associated with this request are expected to exceed this amount, please notify me of the expected amount and obtain my authorization to pay the additional amount before processing this request any further.

As you know, the deadline to respond to this request under the statute is within three working days following receipt of this letter. *See* C.R.S. § 24-72-203(3)(b).

If all or any of the requested records are not in your custody or control, please state to the best of your knowledge the reason for the absence of the records, their location, and what person or persons has custody or control of the records. *See* C.R.S. § 24-72-203(2)(a). If you deny any or all of this request, please cite each specific exemption that you believe justifies the refusal to release the information.

If you have any questions about this letter, or are unclear on what we are requesting, please do not hesitate to call me.

Sincerely,

WeldCo_EX-005

[redacted]

October 8, 2021

[redacted]

Re: Colorado Department of Transportation ("CDOT") Response to Colorado Open Records Act ("CORA") Request, Dialog Case No. 86981

Dear Director Lew and Mr. Hogle:

Your response to the Board of County Commissioners of Weld County, Colorado's ("Weld County") CORA Request is insufficient to satisfy your obligations under Colorado law. Weld County respectfully requests you supplement your response as soon as possible.

"CORA creates a presumptive right of public inspection of public records." *Mountain-Plains Inv. Corp. v. Parker Jordan Metro. Dist*., 2013 COA 123, ¶ 38, 312 P.3d 260 (citing C.R.S. §§ 24–72–201, 24–72–203(1)(a), 24–72–204(1)). Thus, courts "must narrowly construe exceptions from CORA's presumption in favor of public access to public records." *City of Fort Morgan v. E. Colorado Pub. Co*., 240 P.3d 481, 486 (Colo. App. 2010). "When the custodian [of public records] is a government agency, the burden of proving that a record is not public is on that agency …." *Mountain-Plains*, ¶ 23. So, too, in the context of a CORA request, "[t]he burden of establishing the applicability of [a] privilege rests with the claimant of the privilege." *Black v. Sw. Water Conservation Dist*., 74 P.3d 462, 467 (Colo. App. 2003); *see also City of Colorado Springs v. White*, 967 P.2d 1042, 1056 (Colo. 1998) ("As it does in the discovery context, the government entity asserting the privilege has the initial burden of proof in response to a public records request.").

CDOT's response to Weld County's CORA request is deficient because the agency has not provided the requested information, nor has it established its basis for withholding that information. In an email dated October 1, 2021, Mr. Hogle explained that CDOT responded to Weld County's request by withholding "three otherwise responsive records" on the basis of privilege, and indicated that Weld County would receive a signed, notarized *Vaughn* index detailing these records soon. To date, Weld County has not received that index. Moreover, Weld County does not believe the index will provide an adequate basis for withholding the requested modeling data and data sources on the basis of privilege.

On multiple occasions, Weld County has requested MOVES modeling data (including model inputs and outputs) and associated documentation, data sources, and references regarding CDOT's revisions to 2 CCR 601-22, Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions ("Proposed Rule"). Weld County first requested this information by email on August 6, 2021, and again on August 27, 2021, in its request for a cost-benefit analysis and regulatory analysis. CDOT provided a cost-benefit and regulatory analysis before the first rulemaking hearing, but this analysis did not include the requested modeling data, nor did it provide the information necessary to fully understand and review the assumptions and methodology used in the modeling.

Given CDOT's failure to respond to Weld County's multiple data requests, Weld County submitted a CORA request on September 17, 2021. After extending the deadline on at least one occasion, CDOT finally responded to Weld County on October 1, 2021, just two weeks before written comments on the Proposed Rule close. Here again, CDOT failed to provide the requested model input and output files for the MOVES model,[1] including:

- MariaDB or mySQL input databases from MOVES
- MariaDB or mySQL output databases from MOVES
- Run specification file, i.e. runspecs (.mrs) from MOVES
- MOVES lookup tables (rate per distance, rate per vehicle) exported as .csv files from databases
- Post-processing files (excel spreadsheets, scripts, etc.) used to calculate GHG emissions based on MOVES EFs and VMT inputs

Simply put, CDOT should provide all files necessary for stakeholders to be able to run the model and verify the greenhouse gas ("GHG") emission estimates in the Proposed Rule.

To date, CDOT has not provided some of the key analyses, data, and the underlying documentation used to develop the Proposed Rule. This information is critical to evaluating the reasonableness of the Proposed Rule's GHG emission estimates and the overall efficacy of the Proposed Rule. Without this data, Weld County and the public have been deprived of a meaningful opportunity to comment on the Proposed Rule. Indeed, other stakeholders noted in their comments that they have requested—but not yet received—technical information that is

[1] Weld County referred to the MOVES model as the "Approved Air Quality Model" in the CORA request, following the definition in the Proposed Rule.

critical to their analysis of the Proposed Rule. Moreover, because CDOT has failed to provide the *Vaughn* index to date, Weld County has not had a meaningful opportunity to examine CDOT's claims of privilege or exception.

Accordingly, Weld County reiterates its request for modeling files and supporting documentation, such as a technical support document, describing the methods used to conduct the analysis for the GHG estimates in Table 1 and Table 2 of the Proposed Rule. Similarly, Weld County requests that you provided a *Vaughn* index identifying and describing in detail each document that has been withheld, including the document's author, recipient and subject matter, and a description of the privilege or exception asserted. We request that this information be provided no later than October 11, 2021.

If the CDOT denies this request in whole or in part, this letter constitutes Weld County's statutory notice of its intention to apply for the assistance of the district court to show cause why the documents are being withheld. *See* C.R.S. § 24-72-204(5).

Thank you in advance for your prompt attention to and consideration of this request.

WeldCo_EX-006

-----Original Message-----
From: [redacted]
Sent: Friday, October 8, 2021 4:02 PM
To: [redacted]
Subject: RE: Dialog case #86981 - CORA Request: [redacted] [ref:_00DF08MQ5._5002I2LbiqM:ref]

[redacted]

We are in receipt of your follow up email concerning MOVES input and output files. The Colorado Department of Transportation is not in possession of any additional records responsive to your records request.

In our initial response to your request, we provided you with the same files that we gave to Air Pollution Control Division (APCD) at the Colorado Department of Public Health and Environment, which constitute our inputs to MOVES. We also provided you with the output files that APCD provided to us. Since APCD runs MOVES, please contact Gary Kaufman at CDPHE (garrison.kaufman@state.co.us) regarding any additional files they may have.

You will find attached the privilege log relating to the three withheld records, as well as an invoice for CDOT staff time spent responding to your request.

Please consider your request closed.

Thank you,
Andrew

---------- Original Message ----------
From: [redacted]]
Sent: 10/6/2021 5:18 PM
To: dot_info@state.co.us
Cc [redacted];
[redacted]
Subject: RE: Dialog case #86981 - CORA Request: [redacted] [ ]

Mr. Hogle:

Thank you for the information.

Upon review of the information, we see that CDOT did not provide MOVES input and output files. We did receive model files for EERPAT and the statewide travel model, and some GIS files that seem to show roadway/traffic data (such as roadway lengths, etc.), but no files that are directly used in the MOVES model.

The MOVES input and output files are critical for our review of the proposed CDOT GHG rules. Is there some reason those files were not provided? Are they considered to be privileged? If so, for what reason?

Additionally, I have not yet seen your Vaughn Index as of today.

[redacted]

[Logo 2012 Color]

From: [redacted]
Sent: Friday, October 1, 2021 5:06 PM
To: [redacted]
Subject: Dialog case #86981 - CORA Request: [redacted]

[redacted]

We are in receipt of your September 17, 2021 records request concerning the GHG rulemaking 2 CCR 601-22. The need to cite extenuating circumstances, specifically C.R.S. § 24-72-203(3)(b)(II)(A), was due to the fact that CDOT is currently attempting to schedule and hold nine public hearings within a three week period. Many of the subject matter experts and other staff that would have been responsible for gathering responsive records are also directly involved in preparing for and executing these hearings. Thank you for your patience and understanding.

You will find the records you requested at the following Google Drive link.

[redacted]

[redacted]

Note that there are three otherwise responsive records which are being withheld for privilege. A signed and notarized Vaughn Index detailing these records will be prepared and sent to you next week. An invoice for staff time spent responding to your request will also be sent to you.

Andrew Hogle
Records Request Officer
Colorado Department of Transportation, Office of Communications
2829 W. Howard Place, Denver, CO 80204

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse Gas Emissions Draft Rule Recommendations

1 me age

[redacted] Thu, Oct 14, 2021 at 4:51 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

On behalf of the undersigned members of the Denver-based Land Use Working,

Please see the attached document serving as written comment for the GHG Draft Rule

Thank you,

[redacted]

[redacted]

202109_LUWG_CDOT GHG Rulemaking - Final Draft.docx
131K

10/14/2021

Subject: Green House Gas Emissions Rulemaking – Recommendations for a more equitable process

The undersigned members of the Denver-based Land Use Work Group (LUWG) led by Mile High Connects, Denver Streets Partnership, and YIMBY Denver applauds CDOT in its stakeholder outreach and thanks you for the opportunity to provide input on the draft Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions. The LUWG is a Denver-based group of nonprofit advocacy organizations, nonprofit developers, Business Improvement Districts (BIDs), and residents tracking and amplifying local efforts while advocating for policy change to reflect the nexus of housing and transportation and ensure that investments in the built environment reduce racial disparities, maintain community, build a culture of health, and respond to the climate crisis.

While the draft rule proposes important policies to mitigate transportation pollution, it fails to adequately and directly promote climate-friendly land use, a key near-term strategy listed in the state's GHG Pollution Reduction Roadmap.

More investment in multimodal transportation is essential to reducing VMT and should be coupled with smart land use policies to locate housing, jobs, schools, goods, and services near one another. Achieving a 11% VMT reduction target by 2030 requires a comprehensive approach that integrates transportation and smart land use planning.

The following recommendations seek to create a more equitable approach that responds to the needs of community:

- **Strengthen and Review Travel Demand Modeling:** Fundamentally, the success or failure of a project depends on the modeling involved, and yet state DOT models have a track record of being inaccurate. To improve the accuracy of project assumptions, modeling scenarios must be strengthened and periodically reviewed to ensure that modeling results reflect real world data. Additionally, Both CDOT and MPOs should be required to model the impacts of transportation projects to evaluate plans for compliance. CDOT should also maintain its commitment to project-level modeling in addition to program or transportation-plan level

Commented [GU1]: Chris: Can we add YIMBY Denver to the top-line?

Commented [ZR1]: Yes, let's make sure to get that in there--

Commented [GU3]: It fails to meet the bolder strategies included in the State's climate roadmap

Commented [GU4]: The proposed GHG targets translate to an 11% VMT reduction by 2030. (See the Cost-Benefit Analysis Table A.11: https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf)

- Matt Frommer

Commented [GU5]: What do we mean by "reconsider"? Fundamentally, we need CDOT and the MPOs to model the impacts of transportation projects in order to evaluate plans for compliance. I'd suggest focusing our comment on strengthening the modeling and reviewing periodically to improve the assumptions based on whether the modeling results match the real-world data.

- Matt Frommer

Commented [GU6]: I'm not sure what the specific recommendation is here - de-emphasize modeling in project selection? Jill L.

modeling. Finally, to prevent conflicts of interest and ensure accuracy, CDOT should require an independent agency to verify and validate results produced by all compliance models.

- **Center People and Climate Justice for Greater Equity:** CDOT should seek to strengthen public engagement in the decision-making process, with an emphasis on climate resilience and advancing equity. We believe that, while engagement has been positive, this is an opportunity to test innovative solutions to gather meaningful input. The rule should incorporate the following:
    - Adopt a transportation equity framework identifying equity-related performance measures adopted at the state and national level, and indicators that drive local decision-making. Assessing equity includes quantitative and qualitative analysis, and a decision-making process that is inclusive and representative of communities that are most burdened, leading to a more equitable outcome. Incorporating an equity lens provides a complete picture of the overall impact.
    - Support capacity building, including education about planning processes, to realize meaningful engagement and powerful collaboration among community organizations and CDOT in implementing the rulemaking.
    - Transparency in the equity evaluation process is crucial to emphasize inclusion in numerous ways – at the staff level, decision-making level, and through deliberate community engagement.
- **Lead with Smart Land Use Strategies:** DRCOG's Metro Vision 2050 Scenario Modeling compares different transportation and land use scenarios to identify pathways to achieve their Metro Vision GHG and VMT targets. One scenario would invest $16 billion in transit over 30 years, resulting in a 2% decrease in VMT per capita by 2050. A second scenario combines the same $16 billion transit investment with a land use scenario that focuses two-thirds of all new housing and employment in existing urban centers and along high-frequency transit corridors. The result is a 25% reduction in VMT per capita. CDOT and MPOs are required by Senate Bill 21-260 to "consider the role of land use in the transportation planning process and development strategies to encourage land use decisions that reduce vehicle miles traveled and greenhouse gas emissions." Reports have shown that daily VMT are about three times higher in suburban areas, than in compact multimodal neighborhoods (VTPI, 2021). Therefore, CDOT should aim to incorporate smart land use policies within transportation funding to reduce car dependence and overall VMT, specifically among suburban locations. Furthermore, CDOT should consider the role of specific land use policies such as ADUs, equitable transit-oriented development, up zoning in dense urban areas, reduced parking requirements, etc. in transportation planning efforts. The rule should incorporate land use metrics in the evaluation of each transportation project by requiring CDOT and MPOs to:
    - Measure the VMT and VMT per capita impacts of individual transportation projects in all planning and programming, including the RTPs and 10 Year Plans, and the TIP and Four-Year Prioritized Plan project selection process.

Commented [GU7]: The 3/4 of growth in urban areas is more of a compliance scenario than a business-as-usual assumption. Adjusting this assumption might lead them to lower the GHG reduction target. So our recommendation here might be for CDOT to tie transportation funding to smart land use policies to reduce car-dependence and VMT (or something like that). More specific land use policies (ADUs, transit-oriented development, upzoning in dense urban areas, reduced parking requirements, etc) would be helpful coming from this group.
- Matt Frommer

Commented [GU8]: Chris: A lot of outreach still leads to very inequitable outcomes because the process is so burdensome. Do we want to add a note about ensuring equitable outcomes as well as process?

Commented [GU9R8]: Great point Chris! Equity as both an outcome and process

Commented [GU10]: Do we have any specific data about the relationship between land use and VMT? Something like: density of X people per square mile = average VMT of Y. Maybe we can pull something from this VTPI report? (see Figure 2): https://www.vtpi.org/vmt_red.pdf

We might suggest that CDOT and the MPOs gather baseline data on transportation-efficient land use for each local government in the state, then require them to report on specific land use metrics in each plan to demonstrate progress toward the VMT and GHG reduction targets.

Matt Frommer

- Gather baseline data on transportation-efficient land use for each local government in Colorado.
    - Once baseline data is determined, local governments should be required to report on specific land use metrics in each plan to demonstrate progress toward VMT and GHG reduction targets.
- Consider local land use and development patterns and the extent to which they contribute to VMT per capita reductions for the proposed transportation project.
- Prioritize projects that incorporate additional smart growth strategies such as up zoning, mixed-use infill development, and transit-oriented development.
- Create a bonus for projects that advance equity by incorporating affordable housing and TDM programs that lower the combined housing and transportation costs for low-income households.

We appreciate your commitment and efforts to reduce greenhouse gas emissions from the transportation sector, improve air quality, and provide more travel options throughout Colorado, and your consideration of these recommendations.

Sincerely,

Mile High Connects

YIMBY Denver

Denver Streets Partnership

All In Denver

JJK Places

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Upper Front Range TPR GHG Rulemaking Comments

1 me age

[redacted] Thu, Oct 14, 2021 at 2:55 PM
To: "DOT_Rules@state.co.us" <DOT_Rules@state.co.us>
Cc Rebecca White CDOT rebecca white@ tate co u , [redacted]

Good afternoon,

Plea e ee the attached letter which pre ent comment from the UFR Regional Planning Commi ion on the Transportation Commission's proposed revision to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions.

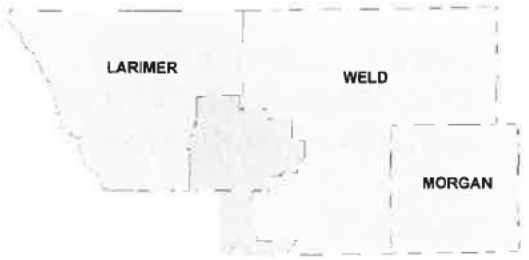
We acknowledge and appreciate CDOT's efforts to extend the written comment deadline and are hopeful the anticipated rule amendments will address the UFR comments during this extension timeframe. Please do not hesitate to reach out if you have any follow up que tion We really appreciate your time and con ideration!

Thank you,

[redacted]

10 14 21 UFRTPR GHG Rule Comment pdf
208K

UPPER FRONT RANGE
TRANSPORTATION PLANNING REGION
REGIONAL PLANNING COMMISSION



[redacted]

Dear Transportation Commissioners and Executive Director Lew:

The Upper Front Range Transportation Planning Region (UFRTPR) appreciates the opportunity to comment on the proposed Greenhouse Gas (GHG) rule and acknowledges the transportation sector is one of the largest contributors to GHG and ozone precursor emissions. Therefore, the UFRTPR generally supports reasonable options applicable by region type, which achieve reductions in greenhouse gas emissions.

The UFR is a rural transportation planning region unique from the other rural TPRs of the state because we have been located within the 8-hour ozone nonattainment boundary since 2008. We are the only rural TPR to have this designation, which is more typically associated with urbanized areas (MPO's). The proposed rule speaks to CDOT being responsible for the non-MPO areas, which implies the rural TPR's. However, the rule does not speak to how CDOT will manage the nonattainment boundary requirements of the rule for the UFRTPR. Management of the nonattainment boundary requirements are only addressed to the MPO's. The UFRTPR would like CDOT to amend the rule to better address how they will manage the rule requirements identified for the nonattainment boundary for the UFRTPR. Similar to the MPO's, it seems more reasonable for the UFRTPR to manage the nonattainment boundary requirements for their jurisdiction and recommends CDOT modify the rule accordingly.

In addition, the illustrative mitigation measures provided in the rule are not applicable options for rural areas. The UFRTPR requests CDOT identify and evaluate mitigation measures applicable for rural regions. Many rural areas do not have the same air quality issues more commonly found in the urban areas. The GHG mitigation strategies for the transportation sector have been targeted to more densely populated areas. How do you reduce VMT to rural areas that already have lower traffic volumes? Rural areas generally have less resources and may bear disproportionate financial burdens from increased taxes, fuel costs and vehicle costs. The infrastructure to support electrification is not available and electric vehicles for many rural residents are impractical, unattainable, or both.

Rural areas should be allowed to implement non-transportation sector mitigation measures to realize GHG emissions reductions. A holistic statewide approach that encourages, incentivizes, and rewards climate-smart agricultural practices and other mitigation measures pertinent to rural areas should be embraced.

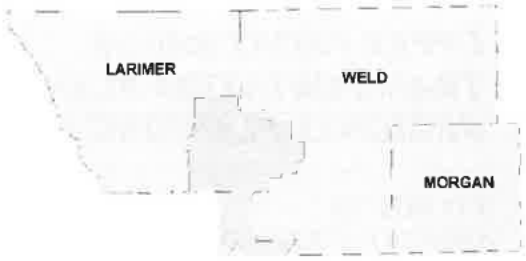
The proposed rule implies a punitive approach to mitigation measures. Currently, the Transportation Commission (TC) may restrict certain funds to projects, which is a contradiction, since the rule implies there will be no capacity projects in the rural areas. If it is not the intent of the TC to restrict funds to projects, then the rule should be amended to say so. The easiest way to address this issue is to modify the rule so mitigation measures do not apply to rural areas.

There is also a fallacy to the baseline figures assuming no capacity projects will occur in the rural areas, yet the proposed rule requires CDOT to implement the second highest GHG emission reduction standards for rural areas, which currently have nominal GHG pollution. Rural areas need capacity safety projects, such as passing lanes, intersection auxiliary lanes, and safety shoulders. CDOT has not proven capacity projects adversely affect GHG emissions and should not take this position without providing scientific data to support it. This rule should be based on data driven, quantifiable facts and not model simulation assumptions.

The proposed rule is vague in addressing capacity project waivers and what criteria is being used to ensure a fair and reasonable evaluation of the waivers. No quantifiable measure is identified and therefore no assurance the TC will evaluate

[redacted]

UPPER FRONT RANGE
TRANSPORTATION PLANNING REGION
REGIONAL PLANNING COMMISSION



[redacted]

capacity projects in a consistent manner. The UFR requests the rule be amended to include quantifiable evaluation criteria for capacity project waiver requests.

As previously mentioned, the UFRTPR is part of the ozone nonattainment boundary and the proposed rule does not elaborate how the enterprises created by SB21-260 would be utilized to reduce GHG emissions. The congestion, mitigation, and air quality (CMAQ) funding associated with the nonattainment boundary is fundamentally used to improve air quality. Why would the proposed rule make this funding source punitive to projects in the nonattainment boundary or enterprise? The UFRTPR is the only rural area to receive CMAQ funding and would ask the rule to be amended to remove CMAQ funding from consideration of being eliminated as a funding source on projects that do not meet GHG emission standards. It should be apparent that a project that improves ozone also reduces GHG emissions.

It is unclear in the rule how the UFR Regional Transportation Plan (RTP) project list will be affected by this rulemaking. CDOT is discussing updating the 10-year plan but not the process for how the project lists of all the rural TPR's will be reviewed. The proposed rule only speaks to how MPO's will have to update their regional plans. Is CDOT saying the rural TPR's don't need to update their project lists because CDOT is assuming no capacity projects will occur in rural areas before 2050?

The TPR RTP's are an integral part of the statewide plan and any changes to that statewide plan should be vetted by the TPRs. This summons the question of how CDOT will amend the rule to accommodate for a new 10-year list of projects that will be different then what is being used to create the GHG baseline standards for this rule. For example, the UFRTPR has identified capacity projects that would meet the definition of regionally significant project, i.e., SH 71 widening/passing lanes and the grade separated interchange at I-76 and Weld County Road (WCR) 8 to accommodate a future intermodal facility, of which, both projects should be included in CDOT's 10-year plan. How will this rule allow a regionally significant project to occur in rural areas that are not currently in CDOT's 10-year plan?

The UFRTPR is committed to working with CDOT through these issues and concerns but requests more time to be able to accomplish a transportation rule that works for the entire state and not just the urban areas. More evaluation time fosters greater transparency and trust. While we believe it is the role of the Colorado Department of Public Health and Environment's (CDPHE) to implement air quality strategies and CDOT's role to maintain existing and future multimodal transportation systems, we appreciate TC's consideration for amending the current rule to address our concerns.

Sincerely,

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

I support a strong Greenhouse Gas Pollution Standard

1 me age

[redacted] Thu, Oct 14, 2021 at 11:58 AM

Reply-To: [redacted]
To dot rule @ tate co u

Dear CDOT Rulemaking Comments,

I'm writing because I'm excited that CDOT is pursuing a rulemaking process for a Greenhouse Gas Pollution Standard and I have a few recommendation for improving the draft A a per on who ride a bike in Colorado, I'm acutely aware of the air quality crisis we're experiencing. Since transportation is a top contributor to pollution, this rulemaking is a critical place to start. I urge you to outline specific goals for pollution reduction that will help us meet existing air quality targets.

Our current tran portation y tem i built to move car Our tate' climate roadmap call for a 10% reduction in driving by 2030. People across the state, in both rural and urban communities, need more options, like biking, walking, and public transit, for getting around safely and sustainably. This rule should prioritize projects that put people first in our transportation system.

Please consider these changes and continue to strengthen this rule through the revision process.

Sincerely,
[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Fwd: 2CCR 601-22, CDOT Comments from Gunnison County Board of County Commissioners

1 message

Takushi - CDOT, Theresa <theresa.takushi@state.co.us> Thu, Oct 14, 2021 at 10:58 AM
To: DOT_ Rules - CDOT <dot_rules@state.co.us>

This is a legitimate public comment that was forwarded by a member of the CDOT staff to dot_rules@state.co.us

For our rulemaking record, thank you!

---------- Forwarded message ---------
From: [redacted]
Date: Thu, Oct 14, 2021 at 9:35 AM
Subject RE 2CCR 601 22, CDOT Comment from Gunni on County Board of County Commi ioner
To: Theresa.takushi@state.co.us <Theresa.takushi@state.co.us>

Please see the attached comments from the Gunnison County Board of County Commissioners, regarding 2CCR 601-22.

Best regards,

[redacted]

Gunnison County COLORADO

[redacted]

"Gunnison County cherishes its sense of community and place. We strive to preserve and promote the wellbeing of the County's Citizens, natural environment and rural character. We will deliver services and set standards that reflect our values and preserve our unique quality of life for present and future generations to enjoy."

--
Aloha,

[redacted]

Theresa

Theresa Takushi (she/her/hers)
Greenhouse Gas Climate Action Specialist

COLORADO
Department of Transportation
Division of Transportation Development

P 303.757.9977
2829 W. Howard Pl., Denver, CO 80204
there a taku hi@state co u | www codot gov

This is a legitimate public comment that was forwarded by a member of the CDOT staff to dot_rules@state.co.us

BOCC CDOT Comment Letter re 2CCR 601 22 pdf
269K

Gunnison County
COLORADO

[redacted]

To: Theresa Takushi; Theresa.takushi@state.co.us
Date: 10/14/2021
RE: CDOT Proposed Rulemaking Governing Statewide Transportation Planning Process and Transportation Regions; 2 CCR 601-22

The Gunnison County Board of County Commissioners is pleased to submit the following comments regarding CDOT's proposed rulemaking. The aspiration of the proposed rules to tie funding of projects to measurable reductions in greenhouse gases (GHG's) is applauded. Transportation is a major source of GHG emissions which has causes and influencing factors that extend beyond the political boundaries of local government. A state-wide approach that is integrated into local transportation and land-use strategies to planning and projects that will reduce transportation related emissions is vital.

Rural areas of Colorado contribute a disproportionate portion of emissions on a per-capita basis. The reasons for this are clear, rural residents have less access to mass transit and, on average, rural commutes are longer than those in metro regions. Long commutes are a function of sprawl which rural communities have enabled and allowed in the past. In mountain communities' long commutes are also caused by the housing affordability crisis. Service workers are forced to commute long-distances to work in communities they cannot afford. In Gunnison County the bus service that connects the north and south ends of the valley offers an alternative to driving for commuters but even at full capacity only scratches the surface of the commuter demand and traffic on highway 135. Walking and biking, from residential neighborhoods proximate to city services and jobs is made dangerous by high speed traffic on highways immediately outside of Town and City boundaries.

As has been outlined in the State of Colorado's GHG mitigation roadmap; land-use policies that encourage dense development near services, and rules that allow mixed development patterns so services, jobs, and housing can co-exist are our best tools to reduce the reliance on cars over time. Affordable housing policies that provide access to attainable housing for workers near their jobs also have a significant impact on transportation. As County and municipal planners adapt land use regimes to encourage denser and mixed-use development near population centers changes are also needed in how highways are planned in the immediate boundaries around rural towns. CDOT and local planners must coordinate to ensure that transportation allows for and encourages dense development patterns in transitional areas.

In rural areas CDOT has prioritized speed and highway capacity over multi-modal transportation safety, and support of dense development patterns. High speeds require CDOT to create policies that reduce the amount of accesses to a highway to maintain safety, new developments consolidate access via collector streets that funnel traffic to the highway at single points. However, limiting access points to a highway promotes sprawling development patterns with frontage roads and large setbacks utilizing valuable land space. Such designs also make multi-modal connections difficult. Slower speeds in areas that planners have identified for dense development patterns allows for accesses to highways to be closer together, which can reduce the need for redundant roads within a development and allow for more space to be devoted to buildings than roads. Slow speeds also allow for multi-modal routes to

[redacted]

cross highways at crosswalks rather than having to build expensive pedestrian overpasses or underpasses. Planners need to bolster these efforts by promoting grid-like connections of roads between developments which offer alternative routes to highways and connections that serve multi-modal traffic. Finally, dense development patterns will create intersections with highways that require additional traffic calming developments and traffic controls. Funding intersections near population centers that calm traffic and account for multi-modal travel will enable denser development patterns in transitional areas. Gunnison County envisions changes to our land-use regime to promote these goals and believes that coordination of long-range planning with CDOT for highway planning will help both CDOT and the County achieve our GHG reduction goals in a way that also meets the needs of our growing community.

Section 8 of the proposed rules describes and quantifies the GHG baseline estimates as well as reduction targets and describes the process for determining if plans comply with targeted goals by forecasting GHG reductions directly related to long-range plans and regionally significant projects. Gunnison County has also developed GHG baseline data and forecasting methodology to estimate future emissions based on policy outcomes. VMT growth in Gunnison County is outpacing population growth which indicates that current influencing factors are pushing people to drive more. The data indicates that our current population is moving away from jobs and services and new growth is concentrated in the same manner. To change this trajectory Gunnison County is focused on building affordable housing near jobs, and updating our land use regulations to encourage dense development near population centers. Gunnison County encourages CDOT to develop long-range plans that coordinate with County planning efforts to encourage rural land use growth near population centers. We can measure the impact of diverting a portion of population growth in the future toward population centers and away from sprawling areas of the County. We can also estimate the GHG and transportation impacts of affordable housing projects. Much of this work is not included in high-cost regionally significant projects but in low or now cost policy decisions about traffic speeds and highway access. However, some traffic calming and intersection improvements will have a direct effect on affordable housing projects. Affordable housing projects are already difficult to fund and meet long-term affordability goals. Prioritizing funding that enables and enhances affordable housing projects will reduce costs and enable communities to house more people near jobs, resulting in reduced commuter traffic. Examples include; traffic calming and lower speed limits adjacent to dense development so development can utilize all of the land and move buildings closer to highways, funding intersections from affordable housing projects onto highways will also benefit such projects and contribute to reduced emissions.

Transit systems in rural areas also operate differently than similar systems in urban areas. Gunnison County's bus service operates at highway speeds over long-distance routes in extreme weather at very high duty cycles. Gunnison County found that utilizing CNG buses was the best choice for low carbon mass transit especially when combined with renewable natural gas (RNG). The transition to electric transportation must include options for alternatives to bridge technology gaps. CNG heavy vehicles can meet extreme service duty cycles with products that are available now. Gunnison County has commissioned studies measuring the relative life-cycle GHG impact of diesel, electric, CNG, and CNG with RNG vehicles which concluded that CNG vehicles would result in emissions reduction over diesel and electric and that RNG significantly lowered emissions over all. The Colorado Energy Office has published similar studies. Because vehicles are a relatively short and predictable life-cycle investment it makes sense to invest in the lowest emission option now and continually re-evaluate to switch to new electric or possibly hydrogen technology when those options are proven to provide lower life-cycle

emissions. CDOT could immediately deploy CNG buses in its Bustang service out of Gunnison County. Fueling options are available as are the buses. Baggage storage areas that are lost to CNG tanks can easily be replaced by converting a couple of seats at the front of the bus to a bag rack. The forecasts of electrification of passenger vehicles included in the draft rules are encouraging. Gunnison County is working to increase electric charging access in partnership with the local REA electric utility and at our own facilities to encourage the transition to electric vehicles.

Just as the proposed rule focuses funding toward MPO plans and regionally significant projects that will have the highest impact on reducing GHG's, rural communities and relatively small projects that align efforts to reduce emissions should also be prioritized for funding. Rural communities' tools to reduce emissions are less direct and constitute a more distributed effort than what is possible in dense urban environments. However, the combined impact of rural Colorado on transportation related emissions is significant. The proposed rules can be improved by allowing for and promoting collaborative planning with communities and a review of policies that may conflict with community goals to increase density and encourage multi-modal transportation.

Thank you for your consideration of our comments, we look forward to working with CDOT in the future to further our shared goals to reduce GHG emissions and respond to the needs of our community.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

PPACG Comment Letter on Proposed GHG Rule

1 me age

[redacted] Thu, Oct 14, 2021 at 10:42 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc [redacted]

CDOT Hearing Officer –

Please find attached comments to the proposed GHG rulemaking for the Pikes Peak Area Council of Governments (PPACG).

Please confirm that our letter was received and will be made part of the official record.

Thank you, please let us know if you have any questions.

[redacted]

[redacted]

Pikes Peak Area Council of Governments

GHG Comment letter - signed.pdf
221K

Pikes Peak Area
Council of Governments
Communities Working Together

October 14, 2021

State of Colorado Transportation Commission
VIA EMAIL: dot_rules@state.co.us
CDOT Headquarters
2829 W. Howard Pl.
Denver, CO 80204

RE: Transportation Greenhouse Gas Emissions Rulemaking – PPACG comments

Dear Governor Polis, State Transportation Commission members, and CDOT Executive Director Shoshana Lew:

We would like to thank Director Lew and the CDOT staff for their efforts in developing this rule. We believe they made the best of the situation given the challenging parameters set by the legislature and the diverse stakeholders involved in this process. We observed that many of stakeholders have different perspectives and levels of understanding regarding the role and authority of metropolitan planning organizations (MPOs), as well as the role roadways play in traffic generation compared to statewide population increases and the travel choices we all make.

We would be remiss if we did not state, for the record, that we believe the original legislation is based on assumptions with which we do not agree. Ultimately, the amount of greenhouse gases (GHG) emitted by a vehicle is directly related to the operational time and load of its internal combustion engine, not the distance the vehicle travels. An idling vehicle stuck in traffic over a short distance will emit more GHG than a moving vehicle able to travel twice the distance in half the time. While perhaps well-intended, the original legislation misses the mark of addressing how we can improve our travel network's ability to move people and goods more efficiently, while still addressing air quality and providing more of the travel choices that people desire.

From a process perspective, our greatest concern is that if this rule is adopted as written, PPACG and its member jurisdictions have no real understanding of the rule's impact on transportation project selection. It is understood that, at a minimum, the rule will create more focus on selecting alternate mode projects; however, certain sections may be interpreted in a way that would allow PPACG's programming process to be indirectly controlled at the state level. We believe that this is counter to the tenet of local control over project selection, and the overall Federal requirement of 'Comprehensive, Continuing, and Cooperative' planning. This rule takes a "one-size-fits-all" approach that does not maintain a cooperative approach with local and regional planning partners.

Additionally, applying this rule to each individual MPO and region across the state without consideration towards their existing air quality and mitigation efforts does not convey equitable application of the rule. While certain areas of the state are experiencing declining air quality, there are other regions which have already implemented congestion reduction efforts and improved their air quality to achieve attainment. The current rulemaking offers no recognition or credit towards these efforts for the areas which have worked to reach attainment.

[redacted]

We are grateful that the State of Colorado is actively working to deliver attainment. We are eager to be a part of the solution and will continue to work with the state on these issues. We believe that in order to do that most effectively we must continue to strive to balance structure with flexibility. We also want to encourage Coloradoans' freedom of mobility and choice while encouraging economic vitality. Part of this rule making adds additional criteria for being out of attainment for federal pollutants, pollutants that often come outside our region, outside our state and outside our nation. It is important that we not be held accountable for pollution we do not produce. We do however acknowledge that we are all a part of the problem and need greater flexibility to do our part to effectively address the challenge.

Our comments will focus on how the proposed rule can be improved to better address the intent, with the shared desire to reduce emissions and improve air quality on a statewide basis.

Our specific comments/recommendations on the current rule as proposed:

1. **1.42 Regionally Significant Project** – The definition cited allows for the MPO to use a different definition if approved by the EPA. However, only MPOs in non-attainment would be required to have their definition approved by the EPA.

   Recommendation: Allow areas in Attainment to use the basic FHWA definition of all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel (with an emphasis placed on "offer an alternative to regional highway travel", meaning roadways that are functionally classified as State Highway and above in the federal functional classification system).

2. **8.02.1 Analysis Requirements** – It is our understanding that the rule requires the MPO to model TIP documents when they are first adopted for each of the horizon years. If we understand this correctly, there should be no change in results, as the modeling will be exactly the same as when the long-range plan was first adopted. If the intent is to only model the projects included in the TIP against horizon year goals, this is meaningless unless greater direction is provided in the rule. Either way, the rule provides insufficient detail to apply to the adoption of TIP documents.

   Recommendation: Strike "TIP" from the definition of section 1.02 "Applicable Planning Document"

3. **8.02.2 Agreements on Modeling Assumptions** – This section requires the MPO to enter into an IGA with CDOT on modeling assumptions. Currently each region has authority to make assumptions based on their region's size, population and geographic and economic characteristics. Each MPO is different, and we feel it is inappropriate for CDOT, at the staff level, to inject itself into the MPO modeling process. For example, it is unlikely that PPACG staff would agree with CDOT on how the state is implementing the concept of "induced demand". While the rule makes it seem as if the MPO has a choice in the development of the IGA, the reality is that CDOT is not required to cooperatively develop the assumptions as the lack of an IGA would only harm the MPO.

   Recommendation: Reword the section to remove the IGA requirement, and have the MPO consult with CDOT on modeling assumptions. We believe that consultations are more consistent with the federal transportation planning guidelines.

4. **8.03 GHG Mitigation Measures** – We believe that this section is the key to making the rule workable in the long term. If the "credit" for implementing these activities is not meaningful, then, in concert with the sizable GHG reduction goals and CDOT modeling assumptions, federally-funded capacity projects will be difficult if not impossible to program/implement.

We understand that certain stakeholders may actually desire eliminating future roadway capacity projects in the MPO areas. However, we believe that a de facto ban on capacity projects is bad public policy and in fact could lead to more GHG through increased congestion, and have the unintended consequence of directing future growth outside of the existing urban areas.

Recommendation: Direct CDOT staff to develop a meaningful credit system that will allow important projects to move forward while at the same time promotes the implementation of mitigation measures that are appropriate as context-sensitive solutions to the needs of each individual MPO area.

5. **8.05.2.1 Waiver** – This section, and its subsections, allow for a waiver but then severely limits its application. We believe that it is bad public policy to have an appointed commission that does not have the ability to overturn decisions based on modeling, which is merely the output from a computer based on human assumptions and interpretations of past data.

   Additionally, the rule allows the Transportation Commission to not act on a waiver request, which would automatically result in the denial of the request. We believe that this lacks transparency and accountability.

   Recommendation: At a minimum, the language that allows for waivers to be denied without action should be corrected to an automatic approval to encourage the Commission to act on each waiver request. Additionally, we would also recommend that the waiver section be rewritten to allow more human control and discretion over the waiver process (and not driven solely by model results).

One last comment addresses something not currently included in the rule. The nature of federal funding is such that if projects have been started with federal funds (design, utility relocation, right-of-way acquisition, etc.), that project needs to be completed within 10 years, or the sponsoring jurisdiction is required to repay FHWA the funds expended to date. Although this may not be a pervasive issue, we anticipate the rule could impact such capacity projects, and we don't believe the canceling of projects already underway was the intent of the legislature when directing this rulemaking. This could be addressed in the waiver process if it is adjusted to allow for the Transportation Commission to have greater flexibility. But if the PPACG recommendation on waivers is not accepted, we would strongly encourage that the Commission direct CDOT staff to draft additional language to address the need to "grandfather" capacity projects that have already expended federal funds and that are subject to repayment.

PPACG appreciates the Transportation Commission's time and effort in reviewing this proposed rulemaking and we are hopeful the Commission will make the adjustments necessary for this rule to be more palatable for all impacted parties involved.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Pikes Peak Rural Transportation Authority Public Comments re Proposed Rules (2 CCR 601-22)

1 message

[redacted] Thu, Oct 14, 2021 at 10:39 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc: [redacted]

Ms Takushi,

Please find attached written comments submitted on behalf of the Pikes Peak Rural Transportation Authority regarding the Proposed Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions (2 CCR 601-22).

Thank you,

[redacted]

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LAWYERS OF DISTINCTION 2019

[redacted]

Process (SIGNED w Attachment).pdf
291K

[redacted]

October 14, 2021

***SUBMITTED VIA ELECTRONIC MAIL*:** dot_rules@state.co.us

% Theresa Takushi
Colorado Department of Transportation
Greenhouse Gas
2829 W. Howard Place
Denver, CO 80204-2305

Re: Proposed Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions (2 CCR 601-22)

Dear Ms. Takushi:

On behalf of the Pikes Peak Rural Transportation Authority (the "PPRTA"), I am submitting comments in response to the Transportation Commission's proposed Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions (2 CCR 601-22) (the "Proposed Rule").

As an initial matter, the PPRTA would like to express its position that while Senate Bill 21-260's intent to address air quality and greenhouse gas emissions is, of course, of paramount importance, it fails to recognize that increased transportation capacity which results in more efficient travel and less emission of greenhouse gases from idling vehicles is also a fundamental component in addressing these concerns. With this in mind, the PPRTA encourages more flexibility be incorporated into the waiver provisions in Section 8.05.2.1 and that the yet-to-be-released administrative process for selecting, measuring, confirming, and verifying GHG Mitigation Measures incorporate meaningful credits that would allow important transportation capacity projects to move forward.

The PPRTA is also deeply concerned with the ambiguous effect that the Proposed Rule will have on planned transportation projects that have been approved by voters, utilize alternative funding mechanisms, and are constructed and managed by entities other than the Colorado Department of Transportation or a metropolitan planning organization.

Please see attached an outline of PPRTA's most pressing concerns and suggested revisions to Proposed Rule as currently drafted which the PPRTA believes would address these concerns.

[redacted]

On behalf of the Board of Directors
Pikes Peak Rural Transportation Authority

I. TIMELINE FOR CONSIDERATION AND IMPLEMENTATION

The Proposed Rule Schedule Published by the Colorado Department of Transportation Does Not Allow Adequate Time for Review, Careful Consideration of Impacts of, and Revisions to the Proposed Rules. Implementation of the proposed rules should be delayed to no earlier than January 1, 2023, in order to allow for release of a draft of the administrative process for selecting, measuring, confirming, and verifying GHG Mitigation Measures (discussed in II below) and additional time for review, revisions, assessment of impact, feasibility assessments of various mitigation measures, planning, budgeting, and implementation.

II. TRANSPORTATION SYSTEMS CANNOT CONSIDER THE PRACTICAL AND FINANCIAL IMPLICATIONS OF GHG MITIGATION MEASURES

By Not Including a Proposed Draft of the Administrative Process for GHG Mitigation Measures, Transportation Systems Cannot Meaningfully Respond to the Proposed Regionally Transportation Planning Reduction Levels. Without a draft of the administrative process for selecting, measuring, confirming, and verifying GHG Mitigation Measures, transportation systems cannot consider whether such measures can be incorporated into transportation plans in order to reach the Regional GHG Planning Reduction Levels in Table 1. There is no assurance that these future GHG Mitigation Measures will adequately capture the practical and funding difference of different transportation systems throughout the State so that transportation systems can effectively balance the need for certain GHG emitting projects and the GHG Mitigation Measures that may be available to offset them. At the very least, we encourage CDOT to release a draft of how GHG Mitigation Measures will be measured prior to completion of the public comment period regarding the Proposed Rule. Without such a draft, there is no way to meaningfully consider whether the Regional GHG Planning Reduction Levels in Table 1 can be achieved. We believe that the GHG Mitigation Measures are of paramount importance in making the Proposed Rule viable and would encourage CDOT to develop a meaningful credit system that will allow important transportation projects to move forward while at the same time promoting the implementation of mitigation measures that are appropriate for each such project.

III. PPRTA CONCERNS WITH THE DEFINITION OF "REGIONALLY SIGNIFICANT PROJECT"

A. ***The Definition of "Regionally Significant Project" is Detrimentally Ambiguous for Other Entities Constructing and Operating Transportation Projects.*** While the current definition of "Regionally Significant Project" uses the same definition as that set forth in 23 CFR § 450.104 requiring the inclusion of such projects within long-range transportation planning for public information and conformity purposes, it does not accurately capture the various entities and funding mechanisms responsible for multiple large-scale transportation systems throughout the State of Colorado. Rather, the Proposed Rules presumes that CDOT or an MPO facilitate the construction and financing of most

large transportation projects. This creates uncertainty as to how local and regional governments will work together regarding transportation projects that will be subject to the Proposed Rules and has the potential to jeopardize the cooperation between local and regional planning partners. The Greenhouse Gas Pollution Reduction Standard for Transportation Planning Frequently Asked Questions dated August 30, 2021 recognizes that Proposed Rule does not give the Transportation Commission the authority to prevent a locally funding project from occurring, however, by not providing any accommodations for these locally funded projects, the Proposed Rule has the very real potential of adversely impacting the cooperative approach between local and regional planning partners which is essential to ensure that important transportation projects move forward in a manner that helps meet the GHG mitigation standards.

B. ***Proposed Change to the Definition of "Regionally Significant Project" (1.42)***

Regionally Significant Project - a transportation project that is federally, state, or MPO-funded and is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team

OR

Regionally Significant Project - a transportation project subject to the approval of an MPO and/or CDOT that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team

OR

Regionally Significant Project - a transportation project that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional

highway travel. This definition does not include transportation projects disclosed to CDOT and MPO for purposes of 23 C.F.R. § 450.326(f). If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team

C. *Proposed Change to the Process for Determining Compliance (8.02.1)*

8.02.1 Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to estimate total CO2e emissions. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects; provided that such analysis shall not include transportation projects disclosed to CDOT and MPO for purposes of 23 C.F.R. § 450.326(f). The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in Table 1. This provision shall not apply to MPO TIP amendments.

IV. THE WAIVER PROCESS PROPOSED FOR SPECIFIC PROJECTS CANNOT BE MEANINGFULLY UTILIZED

A. ***It is Unclear What Transportation Requirements Would Satisfy the Waiver Requirements under the Proposed Rule (8.05.2.1)***. It is unclear what type of project would satisfy the waiver requirements wherein (1) the overall GHG Transportation Report provided by an MPO to the Transportation Commission must reflect effort and priority placed collectively on projects and mitigation efforts that reduce GHG emissions; and (2) the transportation project does not "substantially increase" GHG emissions. There is no context for what would be deemed a "substantial increase" in GHG emissions in the context of the GHG reduction levels. On its face, the proposed waiver provision is effectively limited to projects that wouldn't need the waiver process to begin with.

B. *Proposed Change to the Waiver Process (8.05.2.1)*

8.05.2 If the Commission determines, by resolution, the requirements of Rule 8.02.5 have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG. Prior to the enforcement of such restriction, an MPO, CDOT or a TPR in a nonMPO area, may, within thirty (30) days of Commission action, issue one or both of the following opportunities to seek a waiver or to ask for reconsideration accompanied by an opportunity to submit additional information:

8.05.2.1 Request a waiver from the Commission imposing restrictions on specific projects not expected to reduce GHG emissions. The Commission may waive the restrictions on specific projects ~~on the following basis:~~

~~8.05.2.1.1 The~~ if the GHG Transportation Report reflected significant effort and priority placed, in total, on projects and GHG Mitigation Measures that reduce GHG emissions.~~; and~~

~~8.05.2.1.2 In no case shall a waiver be granted if such waiver results in a substantial increase in GHG emissions when compared to the required reduction levels in this Rule.~~

V. THE PROPOSED RULES DO NOT ACCOUNT FOR REGIONS IN ATTAINMENT AREAS

A. ***The Proposed Rules Impose Financially and Administratively Detrimental Requirements on Regions Within an Attainment Area.*** The Proposed Rules do not account for regions that have continued to remain in attainment with federally-regulated air quality standards.

B. ***Proposed Change to the Timing for Determining Compliance***

8.02.4 Timing for Determining Compliance

8.02.4.1 By October 1, 2022, CDOT shall update their 10-Year Plan and DRCOG and NFRMPO shall update their RTPs pursuant to § 43-4-1103, C.R.S. and meet the reduction levels in Table 1 or the requirements pursuant to § 43-4-1103, C.R.S and restrictions on funds.

8.02.4.2 After October 1, 2022

8.02.4.2.1 CDOT must for each Applicable Planning Document, meet either the reduction levels within Table 1 for Non-MPO areas or the requirements as set forth in Rule 8.05.

8.02.4.2.2 MPOs in a Nonattainment Area must meet either the corresponding reduction levels within Table 1 for each Applicable Planning Document, or the ~~relevant~~ applicable MPO and CDOT each must meet the requirements as set forth in Rule 8.05. An MPO in Attainment Areas may, in its sole discretion, consider the corresponding reduction levels within Table 1 for each Applicable Planning Document and may voluntarily provide any Applicable Planning Document to APCD and/or the Commission for review and comment.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Upper Front Range TPR GHG Rulemaking Comments

1 me age

[redacted] Thu, Oct 14, 2021 at 2:55 PM
To: "DOT_Rules@state.co.us" <DOT_Rules@state.co.us>
Cc Rebecca White CDOT rebecca white@ tate co u , [redacted]

Good afternoon,

Plea e ee the attached letter which pre ent comment from the UFR Regional Planning Commi ion on the Transportation Commission's proposed revision to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions.

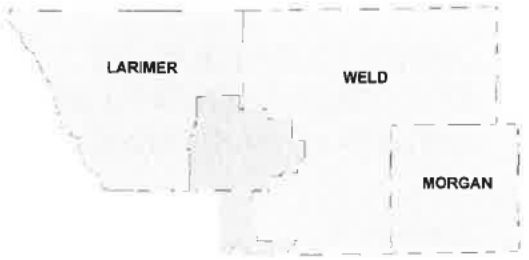
We acknowledge and appreciate CDOT's efforts to extend the written comment deadline and are hopeful the anticipated rule amendments will address the UFR comments during this extension timeframe. Please do not hesitate to reach out if you have any follow up que tion We really appreciate your time and con ideration!

Thank you,

[redacted]

10 14 21 UFRTPR GHG Rule Comment pdf
208K

UPPER FRONT RANGE
TRANSPORTATION PLANNING REGION
REGIONAL PLANNING COMMISSION



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Dear Transportation Commissioners and Executive Director Lew:

The Upper Front Range Transportation Planning Region (UFRTPR) appreciates the opportunity to comment on the proposed Greenhouse Gas (GHG) rule and acknowledges the transportation sector is one of the largest contributors to GHG and ozone precursor emissions. Therefore, the UFRTPR generally supports reasonable options applicable by region type, which achieve reductions in greenhouse gas emissions.

The UFR is a rural transportation planning region unique from the other rural TPRs of the state because we have been located within the 8-hour ozone nonattainment boundary since 2008. We are the only rural TPR to have this designation, which is more typically associated with urbanized areas (MPO's). The proposed rule speaks to CDOT being responsible for the non-MPO areas, which implies the rural TPR's. However, the rule does not speak to how CDOT will manage the nonattainment boundary requirements of the rule for the UFRTPR. Management of the nonattainment boundary requirements are only addressed to the MPO's. The UFRTPR would like CDOT to amend the rule to better address how they will manage the rule requirements identified for the nonattainment boundary for the UFRTPR. Similar to the MPO's, it seems more reasonable for the UFRTPR to manage the nonattainment boundary requirements for their jurisdiction and recommends CDOT modify the rule accordingly.

In addition, the illustrative mitigation measures provided in the rule are not applicable options for rural areas. The UFRTPR requests CDOT identify and evaluate mitigation measures applicable for rural regions. Many rural areas do not have the same air quality issues more commonly found in the urban areas. The GHG mitigation strategies for the transportation sector have been targeted to more densely populated areas. How do you reduce VMT to rural areas that already have lower traffic volumes? Rural areas generally have less resources and may bear disproportionate financial burdens from increased taxes, fuel costs and vehicle costs. The infrastructure to support electrification is not available and electric vehicles for many rural residents are impractical, unattainable, or both.

Rural areas should be allowed to implement non-transportation sector mitigation measures to realize GHG emissions reductions. A holistic statewide approach that encourages, incentivizes, and rewards climate-smart agricultural practices and other mitigation measures pertinent to rural areas should be embraced.

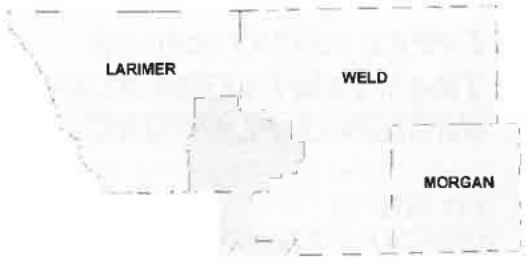
The proposed rule implies a punitive approach to mitigation measures. Currently, the Transportation Commission (TC) may restrict certain funds to projects, which is a contradiction, since the rule implies there will be no capacity projects in the rural areas. If it is not the intent of the TC to restrict funds to projects, then the rule should be amended to say so. The easiest way to address this issue is to modify the rule so mitigation measures do not apply to rural areas.

There is also a fallacy to the baseline figures assuming no capacity projects will occur in the rural areas, yet the proposed rule requires CDOT to implement the second highest GHG emission reduction standards for rural areas, which currently have nominal GHG pollution. Rural areas need capacity safety projects, such as passing lanes, intersection auxiliary lanes, and safety shoulders. CDOT has not proven capacity projects adversely affect GHG emissions and should not take this position without providing scientific data to support it. This rule should be based on data driven, quantifiable facts and not model simulation assumptions.

The proposed rule is vague in addressing capacity project waivers and what criteria is being used to ensure a fair and reasonable evaluation of the waivers. No quantifiable measure is identified and therefore no assurance the TC will evaluate

[redacted]

UPPER FRONT RANGE
TRANSPORTATION PLANNING REGION
REGIONAL PLANNING COMMISSION



[redacted]

capacity projects in a consistent manner. The UFR requests the rule be amended to include quantifiable evaluation criteria for capacity project waiver requests.

As previously mentioned, the UFRTPR is part of the ozone nonattainment boundary and the proposed rule does not elaborate how the enterprises created by SB21-260 would be utilized to reduce GHG emissions. The congestion, mitigation, and air quality (CMAQ) funding associated with the nonattainment boundary is fundamentally used to improve air quality. Why would the proposed rule make this funding source punitive to projects in the nonattainment boundary or enterprise? The UFRTPR is the only rural area to receive CMAQ funding and would ask the rule to be amended to remove CMAQ funding from consideration of being eliminated as a funding source on projects that do not meet GHG emission standards. It should be apparent that a project that improves ozone also reduces GHG emissions.

It is unclear in the rule how the UFR Regional Transportation Plan (RTP) project list will be affected by this rulemaking. CDOT is discussing updating the 10-year plan but not the process for how the project lists of all the rural TPR's will be reviewed. The proposed rule only speaks to how MPO's will have to update their regional plans. Is CDOT saying the rural TPR's don't need to update their project lists because CDOT is assuming no capacity projects will occur in rural areas before 2050?

The TPR RTP's are an integral part of the statewide plan and any changes to that statewide plan should be vetted by the TPRs. This summons the question of how CDOT will amend the rule to accommodate for a new 10-year list of projects that will be different then what is being used to create the GHG baseline standards for this rule. For example, the UFRTPR has identified capacity projects that would meet the definition of regionally significant project, i.e., SH 71 widening/passing lanes and the grade separated interchange at I-76 and Weld County Road (WCR) 8 to accommodate a future intermodal facility, of which, both projects should be included in CDOT's 10-year plan. How will this rule allow a regionally significant project to occur in rural areas that are not currently in CDOT's 10-year plan?

The UFRTPR is committed to working with CDOT through these issues and concerns but requests more time to be able to accomplish a transportation rule that works for the entire state and not just the urban areas. More evaluation time fosters greater transparency and trust. While we believe it is the role of the Colorado Department of Public Health and Environment's (CDPHE) to implement air quality strategies and CDOT's role to maintain existing and future multimodal transportation systems, we appreciate TC's consideration for amending the current rule to address our concerns.

Sincerely,

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse Gas Emissions Draft Rule Recommendations

1 me age

[redacted] Thu, Oct 14, 2021 at 4:51 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

On behalf of the undersigned members of the Denver-based Land Use Working,

Please see the attached document serving as written comment for the GHG Draft Rule

Thank you,

[redacted]

[redacted]

202109_LUWG_CDOT GHG Rulemaking - Final Draft.docx
131K

10/14/2021

Subject: Green House Gas Emissions Rulemaking – Recommendations for a more equitable process

The undersigned members of the Denver-based Land Use Work Group (LUWG) led by Mile High Connects, Denver Streets Partnership, and YIMBY Denver applauds CDOT in its stakeholder outreach and thanks you for the opportunity to provide input on the draft Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions. The LUWG is a Denver-based group of nonprofit advocacy organizations, nonprofit developers, Business Improvement Districts (BIDs), and residents tracking and amplifying local efforts while advocating for policy change to reflect the nexus of housing and transportation and ensure that investments in the built environment reduce racial disparities, maintain community, build a culture of health, and respond to the climate crisis.

While the draft rule proposes important policies to mitigate transportation pollution, it fails to adequately and directly promote climate-friendly land use, a key near-term strategy listed in the state's GHG Pollution Reduction Roadmap.

More investment in multimodal transportation is essential to reducing VMT and should be coupled with smart land use policies to locate housing, jobs, schools, goods, and services near one another. Achieving a 11% VMT reduction target by 2030 requires a comprehensive approach that integrates transportation and smart land use planning.

The following recommendations seek to create a more equitable approach that responds to the needs of community:

- **Strengthen and Review Travel Demand Modeling:** Fundamentally, the success or failure of a project depends on the modeling involved, and yet state DOT models have a track record of being inaccurate. To improve the accuracy of project assumptions, modeling scenarios must be strengthened and periodically reviewed to ensure that modeling results reflect real world data. Additionally, Both CDOT and MPOs should be required to model the impacts of transportation projects to evaluate plans for compliance. CDOT should also maintain its commitment to project-level modeling in addition to program or transportation-plan level

Commented [GU1]: Chris: Can we add YIMBY Denver to the top-line?

Commented [2R1]: Yes, let's make sure to get that in there -

Commented [GU3]: it fails to meet the bolder strategies included in the State's climate roadmap

Commented [GU4]: The proposed GHG targets translate to an 11% VMT reduction by 2030. (See the Cost-Benefit Analysis Table A.11: https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf)

- Matt Frommer

Commented [GU5]: What do we mean by "reconsider"? Fundamentally, we need CDOT and the MPOs to model the impacts of transportation projects in order to evaluate plans for compliance. I'd suggest focusing our comment on strengthening the modeling and reviewing periodically to improve the assumptions based on whether the modeling results match the real-world data.

- Matt Frommer

Commented [GU6]: I'm not sure what the specific recommendation is here - de-emphasize modeling in project selection? Jill L.

modeling. Finally, to prevent conflicts of interest and ensure accuracy, CDOT should require an independent agency to verify and validate results produced by all compliance models.

- **Center People and Climate Justice for Greater Equity:** CDOT should seek to strengthen public engagement in the decision-making process, with an emphasis on climate resilience and advancing equity. We believe that, while engagement has been positive, this is an opportunity to test innovative solutions to gather meaningful input. The rule should incorporate the following:
    - Adopt a transportation equity framework identifying equity-related performance measures adopted at the state and national level, and indicators that drive local decision-making. Assessing equity includes quantitative and qualitative analysis, and a decision-making process that is inclusive and representative of communities that are most burdened, leading to a more equitable outcome. Incorporating an equity lens provides a complete picture of the overall impact.
    - Support capacity building, including education about planning processes, to realize meaningful engagement and powerful collaboration among community organizations and CDOT in implementing the rulemaking.
    - Transparency in the equity evaluation process is crucial to emphasize inclusion in numerous ways – at the staff level, decision-making level, and through deliberate community engagement.
- **Lead with Smart Land Use Strategies:** DRCOG's Metro Vision 2050 Scenario Modeling compares different transportation and land use scenarios to identify pathways to achieve their Metro Vision GHG and VMT targets. One scenario would invest $16 billion in transit over 30 years, resulting in a 2% decrease in VMT per capita by 2050. A second scenario combines the same $16 billion transit investment with a land use scenario that focuses two-thirds of all new housing and employment in existing urban centers and along high-frequency transit corridors. The result is a 25% reduction in VMT per capita. CDOT and MPOs are required by Senate Bill 21-260 to "consider the role of land use in the transportation planning process and development strategies to encourage land use decisions that reduce vehicle miles traveled and greenhouse gas emissions." Reports have shown that daily VMT are about three times higher in suburban areas, than in compact multimodal neighborhoods (VTPI, 2021). Therefore, CDOT should aim to incorporate smart land use policies within transportation funding to reduce car dependence and overall VMT, specifically among suburban locations. Furthermore, CDOT should consider the role of specific land use policies such as ADUs, equitable transit-oriented development, up zoning in dense urban areas, reduced parking requirements, etc. in transportation planning efforts. The rule should incorporate land use metrics in the evaluation of each transportation project by requiring CDOT and MPOs to:
    - Measure the VMT and VMT per capita impacts of individual transportation projects in all planning and programming, including the RTPs and 10 Year Plans, and the TIP and Four-Year Prioritized Plan project selection process.

Commented [GU7]: The 3/4 of growth in urban areas is more of a compliance scenario than a business-as-usual assumption. Adjusting this assumption might lead them to lower the GHG reduction target. So our recommendation here might be for CDOT to tie transportation funding to smart land use policies to reduce car-dependence and VMT (or something like that). More specific land use policies (ADUs, transit-oriented development, upzoning in dense urban areas, reduced parking requirements, etc) would be helpful coming from this group.
- Matt Frommer

Commented [GU8]: Chris: A lot of outreach still leads to very inequitable outcomes because the process is so burdensome. Do we want to add a note about ensuring equitable outcomes as well as process?

Commented [GU9R8]: Great point Chris! Equity as both an outcome and process

Commented [GU10]: Do we have any specific data about the relationship between land use and VMT? Something like: density of X people per square mile = average VMT of Y. Maybe we can pull something from this VTPI report? (see Figure 2): https://www.vtpi.org/vmt_red.pdf

We might suggest that CDOT and the MPOs gather baseline data on transportation-efficient land use for each local government in the state, then require them to report on specific land use metrics in each plan to demonstrate progress toward the VMT and GHG reduction targets.

Matt Frommer

- Gather baseline data on transportation-efficient land use for each local government in Colorado.
    - Once baseline data is determined, local governments should be required to report on specific land use metrics in each plan to demonstrate progress toward VMT and GHG reduction targets.
- Consider local land use and development patterns and the extent to which they contribute to VMT per capita reductions for the proposed transportation project.
- Prioritize projects that incorporate additional smart growth strategies such as up zoning, mixed-use infill development, and transit-oriented development.
- Create a bonus for projects that advance equity by incorporating affordable housing and TDM programs that lower the combined housing and transportation costs for low-income households.

We appreciate your commitment and efforts to reduce greenhouse gas emissions from the transportation sector, improve air quality, and provide more travel options throughout Colorado, and your consideration of these recommendations.

Sincerely,

Mile High Connects

YIMBY Denver

Denver Streets Partnership

All In Denver

JJK Places

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Weld County Comments of 10-14-21

1 me age

[redacted] Thu, Oct 14, 2021 at 4:58 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc [redacted]

Please see the attached. These comments are in addition to those we submitted on September 24, 2021. Weld County i reviewing MOVES modeling data received from CDPHE earlier today and therefore re erve the right to ubmit additional comments on or before the extended deadline of November 18, 2021.

[redacted]

WeldCo_CDOT Comment and Exhibits - 10-14-21.pdf
1298K

BEFORE THE DEPARTMENT OF TRANSPORTATION AND TRANSPORTATION COMMISSION
STATE OF COLORADO

IN THE MATTER OF PROPOSED REVISIONS TO 2 CCR 601-22

WRITTEN COMMENTS FROM THE BOARD OF COUNTY COMMISSIONERS OF WELD COUNTY, COLORADO

EXECUTIVE SUMMARY

The Board of County Commissioners of Weld County ("Weld County") submits these comments in connection with the above-captioned rulemaking. Weld County appreciates the opportunity to participate in this rulemaking proceeding regarding the Colorado Department of Transportation's ("CDOT") revisions to 2 CCR 601-22, Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions ("Proposed Rule"). The Proposed Rule establishes greenhouse gas ("GHG") emission reduction targets for transportation. It requires CDOT and the Metropolitan Planning Organizations ("MPOs") to demonstrate through travel demand modeling and approved air quality modeling that statewide and regional aggregate emissions resulting from state or regional plans do not exceed target emission reduction levels. If compliance cannot be demonstrated, even after committing to GHG Mitigation Measures, the Proposed Rule requires the Transportation Commission ("TC") to restrict the use of certain funds to projects that are recognized as approved mitigation measures to reduce GHG emissions from the transportation sector.

The transportation sector is one of the largest contributors to GHG and ozone precursor emissions. Therefore, Weld County generally supports efforts to increase multimodal options and provide more sustainable travel options to achieve reductions in air pollution from the sector. However, the Proposed Rule is deficient in numerous ways, including that the Proposed Rule exceeds CDOT's rulemaking authority, presents significant compliance challenges, and rests on technical inaccuracies and inconsistencies. Moreover, as with California's Senate Bill 375, the Proposed Rule may be ineffective in reducing vehicle miles traveled ("VMT") by establishing GHG reduction targets for MPOs.

Finally, Weld County is troubled by the rushed nature of the rulemaking and lack of data provided by CDOT. This lack of critical information has deprived stakeholders of the opportunity to evaluate the overall efficacy of the Proposed Rule and provide meaningful comments. Weld County submitted its initial concerns and recommendations regarding the Proposed Rule on September 23, 2021. At that time, CDOT had not responded to Weld County's numerous requests for missing data that are essential to Weld County's analysis of the Proposed Rule. Just a day before the original deadline for written comments, Weld County received a shared Google folder from CDPHE containing what appears to be the modeling data it repeatedly requested from CDOT. Weld County is still reviewing these data, but nevertheless submits these additional written

comments to assist CDOT as it revises the Proposed Rule. Weld County asks that CDOT schedule an additional hearing before the close of the extended comment period. Weld County reserves the right to submit additional written comments following its analysis of the recently received data and its review of any upcoming revisions to the Proposed Rule.

EXHIBITS

Weld County has attached several exhibits to these comments as shown in the table below.

Number	Title
WeldCo_EX-001	Redline Rule Language
WeldCo_EX-002	Request for Data and Information Submitted, dated August 6, 2021
WeldCo_EX-003	Request for CBA, Regulatory Analysis and Model Data, dated August 27, 2021
WeldCo_EX-004	CORA Request, dated September 17, 2021
WeldCo_EX-005	Letter following up on Weld County's CORA Request, dated October 8, 2021
WeldCo_EX-006	Email Response from CDOT Regarding Weld County's CORA Request, dated October 8, 2021

TABLE OF CONTENTS

LEGAL, FACTUAL, AND POLICY CONCERNS

I. The Proposed Rule Exceeds CDOT's Statutory Authority

The Proposed Rule exceeds CDOT's rulemaking authority and therefore is invalid. The general assembly delegated rulemaking authority to CDOT for the limited purpose of "producing a statewide transportation policy to address the statewide *transportation* problems[.]"[1] Indeed, on its website, CDOT describes its mission as "provid[ing] the best multi-modal transportation system for Colorado that most effectively and safely moves people, goods, and information."[2] Nevertheless, the stated purpose of the Proposed Rule is to "improve air quality" and "reduce smog." Neither of these goals fall within the purview of CDOT's limited authority to promulgate regulations to address Colorado's transportation problems.

The Proposed Rule improperly shifts highway funds from road capacity expansion to programs intended to reduce greenhouse gas emissions. In essence, the Proposed Rule requires CDOT and the MPOs to prioritize GHG emission reductions over projects that effectively and safely move people and goods throughout Colorado. Given the limited availability of GHG Mitigation Measures, particularly in rural areas, the Proposed Rule may prohibit critical transportation projects from proceeding as originally planned for and approved by Coloradans. It is the purpose of the Air Quality Control Commission ("AQCC") and the Air Pollution Control Division ("APCD")—not CDOT and the TC—to adopt air quality programs that "promote[] clean and healthy air . . . and promote[] statewide greenhouse gas pollution abatement."[3] CDOT does not have the expertise to regulate or enforce emission regulations. That is the job of the AQCC and the APCD. The Proposed Rule constitutes a clear example of mission creep encroaching on another agency's expertise and rulemaking authority.

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[1] C.R.S. § 43-1-101 (emphasis added).

[2] Colo. Dep't Transp., Mission, Vision & Values, https://www.codot.gov/about/mission-and-vision.html.

[3] Colo. Air Quality Control Comm'n, https://cdphe.colorado.gov/aqcc-about-the-commission.

Accordingly, the Proposed Rule exceeds CDOT's rulemaking authority and should not be adopted. C.R.S. § 24-4-106 ("The court shall hold unlawful and set aside the agency action . . . if the court finds that the agency action is "[i]n excess of statutory jurisdiction [or] authority.").

II. Stakeholders Need More Time to Evaluate the Proposed Rule.

Echoing the concerns of numerous stakeholders, Weld County is troubled by the rushed nature of this rulemaking. The Proposed Rule is markedly different from prior CDOT rules. Unlike other CDOT rules, the Proposed Rule contains a GHG standard, evaluates the social cost of carbon, and delegates quasi-enforcement responsibility to the TC. Given the scope and novelty of this rule, stakeholders need more time to review the rule and provide comments.

Despite presenting a novel rule with lasting implications for transportation projects statewide, CDOT rushed the comment period and undercut the benefit of the public hearings by failing to provide the underlying documentation supporting the Proposed Rule. Indeed, for much of the comment period, Weld County did not have the data it needed to adequately evaluate the rule during the comment period. On multiple occasions, Weld County requested MOVES modeling data (including model inputs and outputs) and associated documentation, data sources, and references regarding the Proposed Rule. Weld County first requested this information by email on August 6, 2021, and again on August 27, 2021, in its request for a cost-benefit analysis and regulatory analysis. *See* WeldCo_EX-002; WeldCo_EX-003. CDOT provided a cost-benefit and regulatory analysis before the first rulemaking hearing, but this analysis did not include the requested modeling data, nor did it provide the information necessary to fully understand and review the assumptions and methodology used in the modeling.

Given CDOT's failure to respond to Weld County's multiple data requests, Weld County submitted a CORA request on September 17, 2021. *See* WeldCo_EX-004. After extending the deadline on at least one occasion, CDOT finally responded to Weld County on October 1, 2021, just two weeks before the comment period on the Proposed Rule closes. Here again, CDOT failed to provide the requested model input and output files for the MOVES model, including mysql databases, rate lookup tables, and runspecs. With the deadline for written comments just a week away, on October 8, 2021, Weld County made yet another plea to CDOT for this information. *See* WeldCo_EX-005. That same day, CDOT responded that the requested "MOVES input and output files" were "not in [its] possession." *See* WeldCo_EX-006. Thus, CDOT informed Weld County for the first time that the requested records are not in its custody or control, but rather within APCD's possession.

On October 14, 2021, the day before the close of the comment deadline, Weld County received a shared Google folder from CDPHE containing what appears to be the modeling data it repeatedly requested from CDOT. That same day, CDOT announced its decision to extend the comment period to November 18, 2021. Weld County appreciates the extension of the comment period, and urges CDOT and CDPHE to make the data Weld County requested—including the recently received MOVES modeling data—widely available to the public for the benefit of all stakeholders. This will ensure an equitable, transparent rulemaking process. Once Weld County has had a chance to review the recently received data, it intends to submit additional written comment regarding its analysis of the data and review of any future revisions to the Proposed Rule.

III. The Proposed Rule Presents Significant Implementation and Compliance Challenges.

A. The Proposed Rule Does Not Ensure Consistent Use of the Same Model to Demonstrate Compliance as Compared with the Models used to Estimate the Baseline and Reduction Levels.

As currently written, the Proposed Rule allows MPOs to use different models to demonstrate compliance, as compared to the models used to estimate the baseline. For example, the Proposed Rule allows regulated entities to use *either* the MPO models or the Statewide Travel Model when performing GHG emissions analyses:

- Baseline - estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using the MPO Models or the Statewide Travel Model. Section 1.04
- Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model. Section 8.02.1.
- Identification and documentation of the MPO Model or the Statewide Travel Model and the Approved Air Quality Model used to determine GHG emissions in MMT of CO2e. Section 8.02.5.2.

Running two different models with the same inputs and assumptions could yield different results. For instance, it may be feasible to achieve the emission reduction levels shown in Table 1 using the Statewide Travel Model, but not the MPO model(s). Additionally, the use of different models in GHG emissions analyses will further complicate the APCD and the TC's review of the GHG Transportation Reports, as required in Sections 8.04.1 and 8.05.

In addition, Weld County is concerned that future changes to the Proposed Rule's Approved Air Quality Model will present additional compliance challenges for CDOT and the MPOs. MOVES3, the MOtor Vehicle Emissions Model,[4] represents the current "Approved Air Quality Model" as set forth in Section 1.03 of the Proposed Rule. However, the definition of "Approved Air Quality Model" refers to "the most recent" model, suggesting the model used to demonstrate compliance with the Proposed Rule in the future may differ from the model that was used to estimate the baseline emissions and reduction targets. Future updates to the approved air quality model may alter the model's response to key inputs (e.g., VMT) used in the GHG emissions analyses. In fact, this occurs to some degree with every change to a model version, and Table 1 below presents the most recent changes to the MOVES model for reference. Thus, allowing for future changes to Approved Air Quality Model may present compliance challenges for CDOT and the MPOs.

[4] EPA, *MOVES3: Latest Version of Motor Vehicle Emissions Simulation* (2021), https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

Table 1.CO_2 emission factor changes for light duty vehicles due to model updates between MOVES2014b and MOVES3

Vehicle type	Model Year	MOVES2014b CO_2 (g/mile)[1]	MOVES3 CO_2 (g/mile)[2]	% Difference[3]
Passenger Cars	2017	269	219	-19%
	2018	258	208	-19%
	2019	247	197	-20%
	2020	236	188	-20%
	2026	190	168	-12%
Light duty trucks	2017	348	295	-15%
	2018	340	285	-16%
	2019	332	278	-16%
	2020	324	270	-17%
	2026	250	243	-3%

[1] Emission factors for MOVES2014b from https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100NNUQ.pdf
[2] Emission factors for MOVES3 from https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M5F.pdf
[3] Calculated as [(MOVES3/MOVES2014b) - 1], rounded to the nearest whole percentage.

Table 1 above shows carbon dioxide ("CO_2") emission factors in grams per mile (g/mile) for passenger cars and light duty trucks in MOVES3, as compared to MOVES2014b, the previous version of the EPA's MOtor Vehicle Emission Simulator model.[5] Table 1 shows that GHG emissions per VMT for light duty vehicles are much lower in MOVES3, the new version of the model. This illustrates the general trend that GHG emissions per VMT decrease over time with model updates due to federally mandated improvements in vehicle fuel economy, improvements in the quality of the underlying data, and other factors. Because the Proposed Rule specifies both future baselines and reductions targets, CDOT and the MPOs would not get credit for modeled emission changes even if overall GHG emissions from transportation are reduced. In fact, if GHG emission factors per VMT are lower in future versions of the Approved Air Quality Model, CDOT and MPOs would have to achieve greater VMT reductions to meet the reduction targets in the Proposed Rule. This identifies a fundamental issue in the structure of the Proposed Rule: The Proposed Rule establishes an artificial framework that does not recognize the true underlying driver of reducing emission relative to 2005 baseline levels, as established in Colorado's GHG

[5] EPA, *Official Release of the MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity* (2021). The EPA announced the availability of MOVES3 for official purposes outside of California in the federal register on January 7, 2021. *See* Official Release of the MOVES3 Motor Vehicle Emissions Model for SIPs and Transp. Conformity, 86 Fed. Reg. 1106 (Jan. 7, 2021). MOVES3 supersedes MOVES2014b.

Roadmap and Colorado House Bill 19-1261, codified in C.R.S. § 25-7-102(2)(g). Not only does this make the rule more difficult to comply with, but GHG emission reductions achieved relative to future baseline levels do not accurately reflect progress toward the true objective of reducing emissions relative to the 2005 baseline. Thus, the measure of success in the Proposed Rule is disconnected from the state's GHG emission reduction targets.

Given that the Proposed Rule establishes baseline levels and reduction targets through 2050, changes to the Approved Air Quality Model are inevitable. However, the GHG Transportation Planning levels in Table 1 are fixed, and the Proposed Rule does not consider revaluation of the GHG Transportation Planning levels due to updates to the Approved Air Quality Model or travel demand models. Therefore, Weld County recommends CDOT establish a process for determining whether model changes are critical and GHG emission estimates in Table 1 and Table 2 should be updated.[6]

Finally, the Proposed Rule requires an Intergovernmental Agreement in Section 8.02.2, but the role of this agreement in ensuring consistent modeling assumptions and methodology for GHG emissions analyses is unclear. For example, it is not clear if CDOT, CDPHE, and the MPOs must agree upon a uniform set of modeling assumptions and methodology as implied by the section title (e.g., "Agreements on Modeling Assumptions and Execution of Modeling Requirements"), or if the agreement simply "outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel." Proposed Rule, Section 8.02.2. Weld County recommends revisions to Section 8.02.2 that clarify what information must be included in the Intergovernmental Agreement.

B. CDOT Did Not Evaluate Model Sensitivities and Uncertainties in Developing the Proposed Rule.

CDOT used multiple models in developing the Proposed Rule, including EERPAT, the statewide travel model, and MOVES3. To Weld County's knowledge, CDOT did not evaluate the sensitivity of these models, nor has it presented the uncertainties associated with the modeling to contextualize the results. Decision models are tools to evaluate courses of actions, but they cannot be solely relied upon to make decisions without providing sufficient context regarding the importance of assumptions. The proper use of modeling in decision analysis requires understanding what assumptions significantly affect the outcome and scrutiny of the assumptions' validity and basis. Given the importance of the Proposed Rule, CDOT should provide more

[6] For example, to ensure the same air quality model is used for GHG budget setting and compliance assessments, Weld County suggests that CDOT either: (1) revise the definition of Approved Air Quality Model to refer to the specific model used in the determination of the GHG emission estimates in Table 1 and Table 2, or (2) revise the Proposed Rule to require updates to the GHG emission estimates in Table 1 and Table 2 following the release of a new (or update to an existing) Approved Air Quality Model. These changes will ensure CDOT and the MPOs do not face compliance challenges due to future model changes. Additionally, if the baseline values remain fixed, Weld County recommends CDOT revise the definition of "Baseline" in Section 1.05 to specify the Approved Air Quality Model and travel demand model that should be used to determine the baseline estimates of GHG emissions.

information about the modeling, assumptions, and the resulting uncertainties to allow the TC and stakeholders to effectively evaluate the Proposed Rule. For example, the TC needs to understand the magnitude of the uncertainty associated with the models being used to estimate the GHG emission reductions to determine if the mandated reduction levels in Table 1 are within the model uncertainty. If they are, then any reductions that comply with the rule demonstrated through modeling would not reasonably be expected to occur.

Numerous studies have been conducted to analyze the sensitivities of the models used in the Proposed Rule. For example, several analyses are available focusing on on-road project level humidity and temperature sensitivity on emission factors or emissions sensitivity between the MOVES2010 and MOVES2014b model. Similar studies may be available for MOVES3. The EERPAT model is a screening tool used to compare, contrast, and analyze various greenhouse gases reductions based on policy implantation and in commonly used in conjunction with other models for greenhouse gas inventories. Sensitivity analyses for the transportation emissions modeling is limited, but there are several studies that incorporate EERPAT into transportation emissions drafting.[7] It is not clear what differences in sensitivities exist between the statewide travel model and the MPO models. Weld County recommends CDOT analyze the sensitivities of the models used relative to key assumptions and parameters, and make this information widely available to the TC and stakeholders.

C. The Timeframes Specified in the Proposed Rule are Problematic.

Numerous sections of the Proposed Rule specify timeframes that are problematic and may lead to compliance challenges. For instance, under the Proposed Rule, the TC may have to evaluate a GHG Transportation Report without the benefit of the APCD's technical review. Under Section 8.04.1 of the Proposed Rule, "[i]f APCD has not provided written verification within thirty (30) days, the document shall be considered acceptable." However, the APCD may not be able to complete its review and verification of the technical data contained in the draft GHG Transportation Report within 30 days. If the APCD does not have sufficient time to complete its review, it is not clear that the TC is equipped to perform this technical review and verification of the GHG emissions analysis. Without this review, the TC cannot confirm the accuracy of the GHG emission estimates. Similarly, under Section 8.02.5, GHG Transportation Reports must be submitted to the TC at least thirty days prior to adoption of any Applicable Planning Document. In some instances, the GHG Transportation Report may be submitted to the TC 15 days after submission to the APCD, and the TC could reach a compliance determination before the APCD completes its review. Thus, the overlapping timeframe could result in the TC accepting a GHG

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[7] *See* Liming Wang, Brian Gregor, Huajie Yang, Tara Weidner and Anthony Knudson, *Capturing the Built Environment-Travel Interaction for Strategic Planning: Development of a Multimodal Travel Module for the Reg'l Strategic Planning Model (RSPM)*, 11 JOURNAL OF TRANSPORT AND LAND USE 1287 (2018); Fed. Highway Admin., *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning* (Dec. 1, 2013), https://rosap.ntl.bts.gov/view/dot/50820; C.D. Porter, A. Brown, J. DeFlorio, E. McKenzie, W. Tao, and L. Vimmerstedt, *Transp. Energy Futures Series. Effects of Travel Reduction and Efficient Driving on Transp. Energy Use and Greenhouse Gas Emissions*. (Mar. 1, 2013), https://www.osti.gov/biblio/1219932.

Transportation Report that the APCD deemed unacceptable at the end of its 30-day review period.[8] Moreover, the Proposed Rule does not clarify what happens if the APCD deems a GHG Transportation Report unacceptable.

In addition, Section 8.05 specifies the enforcement of the Proposed Rule, stating that "[t]he Commission shall review all GHG Transportation Reports to determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance." However, the rule does not impose a timeframe for the TC to complete its review of a GHG Transportation Report. Thus, if the TC does not act within 30 days, a regulated entity may obtain approval of its Applicable Planning Document through its respective process before the TC reaches a compliance determination on the associated GHG Transportation Report. Because this compliance determination may impact the use of funds, it is critical that the TC make its determination *before* the adoption of an Applicable Planning Document.

Finally, the Proposed Rule does not specify the timeframe for enforcement actions under Section 8.05.2 of the Proposed Rule. For example, if the TC restricts the use of funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, it is not clear when funding restrictions would be implemented or to which projects they would apply.

To address these concerns, Weld County recommends CDOT revise the Proposed Rule to:

- Require GHG Transportation Reports to undergo technical review and verification prior to the TC's compliance determination;
- Describe the process for CDOT and the MPOs should the APCD deem a GHG Transportation Report unacceptable;
- Require the TC to review and evaluate the compliance of GHG Transportation Reports within a specified timeframe; and
- Specify enforcement timeframes, particularly regarding the restriction of funds.

D. Actual Emission Reductions Achieved May Fall Short of Estimated Totals.

In some instances, the total reduction levels in Table 1 overestimate the actual emission reductions, even if the regulated entities meet all the requirements specified in the Proposed Rule. For example, 2025 reduction levels for DRCOG, the NFRMPO, and CDOT are shown as 0.27 MMT, 0.04 MMT, and 0.12 MMT, respectively, the sum of which is 0.43 MMT. However, Table 1 states that the total reduction level for those entities in 2025 is 0.5. Therefore, even if DRCOG, the NFRMPO, and CDOT meet their respective reduction targets, the total GHG emission

[8] In addition, the Proposed Rule does not provide adequate guidance to the TC for performing its duties specified in the Proposed Rule. For instance, under Section 8.05, the TC must review "the sufficiency of any GHG Mitigation Measures needed for compliance." However, the Proposed Rule does not specify how to determine the "sufficiency" of mitigation measures, and it is not clear if the TC has the expertise and resources to perform such a review.

reductions achieved would fall short of the 0.5 MMT estimated for total reductions in 2025. While the discrepancy of 0.07 MMT may seem small in magnitude, it is greater than the reduction level for the NFRMPO's regional area that year, and significantly greater than the reduction levels specified for other regional areas in future years. CDOT should clarify the calculation of the "TOTAL" row in Table 1, as rounding errors alone do not explain this discrepancy.

Similarly, to demonstrate compliance with emission reductions, regulated entities may round their regional area reductions, such that actual emission reductions fall short of the estimated total. For instance, for the 2025 reduction level, DRCOG, the NFRMPO, and CDOT may have actual emission reductions of 0.265, 0.035, and 0.115, respectively, and total actual emission reductions of 0.415. However, the entities could round their actual emission reductions of 0.27, 0.04, and 0.12 respectively, such that the total reduction appears to be 0.43 when actual emission reductions are 0.415. To ensure actual reductions are consistent with expected totals, the Proposed Rule should provide guidance regarding the number of significant figures to be used in GHG emission estimates, including instructions to regulated entities for rounding regional area totals.

E. The Proposed Rule Does Not Establish Specific Criteria for Evaluating Waivers.

Section 8.05.2.1 allows a regulated entity to request a waiver from the TC "imposing restrictions on specific projects not expected to reduce GHG emissions." However, the basis for waivers in Sections 8.05.2.1 and 8.05.2.1 of the Proposed Rule is vague, and it is not clear what criteria will be used to ensure fair and equitable evaluation of these waivers. Specifically, under Section 8.05.2.1.1, the TC may waive the restrictions on specific projects if the GHG Transportation Report reflects "significant effort and priority placed" on projects that reduce GHG emissions. Under 8.05.2.1.2, waivers will be denied if it results in a "substantial increase in GHG emissions." Importantly, these sections do not provide quantitative criteria for evaluating waiver requests, and therefore make it hard to ensure the TC is applying the waiver exception consistently. Weld County understands that CDOT may want to retain some flexibility in the waiver review process, but to ensure the consistent application of this provision, Weld County recommends that CDOT clarify the criteria used to evaluate waivers. Additionally, Weld County recommends striking the last sentence in Section 8.05.2.3 of the Proposed Rule so that the TC is required to act on waivers and reconsideration requests, avoiding the potential for automatic denial simply due to inaction.

F. The Availability of GHG Mitigation Measures to Achieve the Reduction Targets in the Proposed Rule is Unclear.

For areas outside the urban corridor—including rural areas and those with a lower population density—the Proposed Rule's GHG mitigation measures may present compliance challenges for CDOT and the MPOs. Lifestyles, land usage, density, and thus transportation patterns vary dramatically between urban and rural lifestyles. To date, most GHG mitigation

strategies for the transportation sector have been targeted to more densely populated areas.[9,10] According to the Transportation Research Board, "[b]y far, and not surprisingly, most of the research on GHG emission reduction strategies has focused on metropolitan areas or at the national and state levels[,]" and "[v]ery little attention has been given to nonurban areas."[11]

Currently, the Proposed Rule provides the following examples of GHG mitigation measures:

- 8.03.1 The addition of transit resources in a manner that can displace VMT.
- 8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.
- 8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use in a way that links and rewards transportation project investments with the city making these changes.
- 8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.
- 8.03.6 Adopting locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.
- 8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.
- 8.03.9 Adoption of transportation demand management practices that reduce VMT.

The illustrative GHG mitigation strategies listed in Section 8.03 are likely to be less effective in rural areas, which are less densely populated, are not well-suited to public transportation, and where individuals are more reliant on personal vehicles. In addition, rural roads

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[9] New England Transport Consortium, *Data and Information to Support Cost Effective Transportation GHG Mitigation in Rural Communities* (2020), https://www.newenglandtransportationconsortium.org/wp-content/uploads/N20ME2-GHG-Mitigation-1.pdf.

[10] Org. for Econ. Co-operation and Dev., *Decarbonising Urban Mobility with Land Use and Transport Policies: The Case of Auckland, New Zealand* (2020), https://www.oecd-ilibrary.org/sites/5181a1e0-en/index.html?itemId=/content/component/5181a1e0-en.

[11] PB Americas, Inc., Cambridge Systematics, Inc., E.H. Pechan & Assocs., Inc., EuQuant, Inc., Strategic Highway Rsch. Program Capacity Focus Area, Transp. Rsch. Bd., and Nat'l Academies of Scis., Eng'g, and Med., *Incorporating Greenhouse Gas Emissions into the Collaborative Decision-Making Process*, at 22805 (2012), https://doi.org/10.17226/22805.

tend to already have lower traffic flows and thus have less traffic impacts.[12] For example, the California Air Pollution Control Officers Association found that reducing VMT through carpooling measures is not applicable for implementation in rural areas.[13] Moreover, rural areas generally have less resources, and may bear disproportionate financial burdens from higher taxes, fuel costs, and vehicle costs associated with GHG reduction strategies.[14,15] Weld County recommends that CDOT revise Section 8.03 to provide examples of transportation GHG mitigation measures for non-urban areas.

Additionally, the Proposed Rule does not provide non-urban areas with the flexibility to implement mitigation measures from non-transportation sectors. Section 1.19 defines GHG mitigation measures as strategies that "reduce *transportation* GHG pollution." Section 1.19 (emphasis added). Thus, mitigation measures that reduce GHG emissions from other sources would not qualify as mitigation measures to help achieve the Proposed Rule's GHG Reduction Levels. To ensure non-urban areas can comply with the Proposed Rule, CDOT should revise the rule to recognize additional mitigation measures, such as strategies that reduce GHG pollution from other sources that have a nexus to transportation.

Moreover, substantial ambiguity exists as to whether projects undertaken by the statutorily created enterprises constitute GHG Mitigation Measures under the Proposed Rule. SB21-260 created four enterprises "to serve the primary business purpose of reducing and mitigating the adverse environmental and health impacts of air pollution and greenhouse gas emissions."[16] The non-attainment area mitigation enterprise focuses its efforts on projects that "directly reduce air pollution," including "retrofitting of construction equipment, construction of roadside vegetation barriers, and planting trees along medians."[17]

Importantly, the Proposed Rule does not address the relationship between actions taken by the regulated entities to reduce GHG emissions and actions taken by the enterprises. While it seems

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[12] N. Singru, *Reducing Carbon Emissions from Transport Projects*, at 107 (2010), https://www.oecd.org/derec/adb/47170274.pdf.

[13] Cal. Air Pollution Control Officers Ass'n, *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (2021), http://www.airquality.org/ClimateChange/Documents/Handbook%20Public%20Draft_2021-Aug.pdf.

[14] Marisa Beck, Nicholas Rivers, & Hidemichi Yonezawa, *A rural myth? Sources and implications of the perceived unfairness of carbon taxes in rural communities*, ECOLOGICAL ECON. 124–134 (2016), https://doi.org/10.1016/j.ecolecon.2016.01.017.

[15] Cynthia J. Burbank, *Greenhouse Gas (GHG) and Energy Mitigation for the Transportation Sector* (2009), http://onlinepubs.trb.org/onlinepubs/sr/sr299GHG.pdf.

[16] SB21-260 created the community access enterprise, the clean fleet enterprise, the clean transit enterprise, the nonattainment area air pollution mitigation enterprise. *See* Colo. SB 21-260.

[17] *Id*.

unlikely the enterprises would complete a "regionally significant project" as defined in the Proposed Rule, the enterprises may undertake projects that qualify as GHG Mitigation Measures under the Proposed Rule. It is not clear in the Proposed Rule if projects that reduce GHG emissions undertaken by the Enterprises could be used as mitigation measures by CDOT and the MPOs to meet the reduction targets. Moreover, it is not clear if the modeling conducted for Table 1 and Table 2 of the Proposed Rule account for any enterprise projects, either in the baseline or the reduction targets. Accurate accounting of GHG reduction projects is critical to avoid double counting and to understand CDOT and the MPOs' compliance options. The Proposed Rule should foster collaboration among agencies to reduce GHG emissions. Accordingly, Weld County recommends that CDOT revise the Proposed Rule to recognize enterprise activities as GHG Mitigation Measures.

Finally, the Proposed Rule does not define the process for selecting, measuring, confirming, and verifying GHG Mitigation Measures. That process does not occur until *after* the Proposed Rule has been adopted. Section 8.02.3. To ensure compliance with the Proposed Rule is even feasible for much of the state, CDOT should clarify what GHG Mitigation Measures are available to non-urban areas.

G. The Proposed Rule Does Not Include Guidance Regarding How to Demonstrate Compliance Through Modeling.

No guidance is provided as to how regulated entities should conduct modeling to demonstrate compliance with the reduction targets in Table 1. For example, the Proposed Rule does not specify the following:

- What model inputs, assumptions, and methodology the regulated entities should use to conduct the GHG emissions analysis required in Sections 8.02.1 and 8.02.5.1;
- How the Intergovernmental Agreement ensures consistent modeling assumptions and methodology for GHG emissions analyses; and
- Whether CDOT and the MPOs must meet the reduction levels in Table 1, or instead an absolute GHG emissions target determined based on baseline projections and reduction levels in each target year.[18]

[18] For example, Section 8.02.1 states that "[t]he emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in Table 1." This section suggests GHG emissions analyses must estimate total CO2e emissions and compare those values to the baseline specified in Table 1. However, other sections—including Sections 8.02.4.1, 8.02.5.1, 8.02.5.3, and 8.05—specifically refer to demonstrating compliance based on the reduction levels. In particular, Section 8.05 states that "[t]he Commission shall review all GHG Transportation Reports to determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance." Thus, it is not clear whether CDOT and the MPOs must meet

Weld County recommends CDOT revise the Proposed Rule to clarify how the TC will assess compliance. In addition, Weld County recommends developing guidance that describes the modeling methodology that should be used to determine compliance. This guidance should be developed through a public stakeholder process by April 1, 2022 and should inform the development of the Intergovernmental Agreement described under Section 8.02.2.

IV. Concerns with CDOT's CBA.

A. Interpolation and Extrapolation of Results from Statewide Model Runs

Based on the information presented in the CBA, the statewide travel model was not run for 2040 or 2050, two target years for GHG emission reductions in the proposed rule. On Page 17, the CBA states that "[a]t the time of the analysis the statewide model was set up for 2015, 2030, and 2045. Results from 2030 and 2045 runs were interpolated to obtain 2040 estimates. Results from 2045 runs were extrapolated to represent 2050." No further information or explanation is provided as to why the decision was made to interpolate and extrapolate results from existing model runs, rather than running the model for the target years in the Proposed Rule. Therefore, it is not clear if the results of the analysis would materially change if the statewide travel model were set up to run for 2040 and 2050. Further, there is no information provided on the assumptions and methodology used to extrapolate results to 2050 based on results from 2045. Weld County recommends CDOT run the statewide model for all years necessary to derive the GHG emission estimates in the Proposed Rule, or explain why doing so would not materially change the results of the analysis.

B. Technical Inaccuracies and Inconsistencies Between the CBA and the Proposed Rule

Weld County has several concerns with the information presented in Tables A.13, A.14, and A.15 in Appendix A of the CBA. Weld County's specific concerns include:

- Table A.13 presents Light-Duty Vehicle Electrification Projections and appears to have two numerical errors.
    - First, the *EV% of Stock* in 2050 is reported as 83%. However, Section 8.01.1 of the Proposed Rule states that 97% of all light duty vehicles are electric vehicles in 2050. It is not clear why the discrepancy exists, when electric vehicle population numbers in the Proposed Rule agree with *EV Stock* numbers in Table A.13 of the CBA in years 2030 and 2040.

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the reduction levels in Table 1, or instead an absolute GHG emission target determined based on baseline projections and reduction levels in each target year. To illustrate this issue, take DRCOG's compliance requirements in 2030. To demonstrate compliance, would DRCOG need to demonstrate its GHG emissions are 10.98 MMT (11.8 minus 0.82), or would it need to demonstrate, by modeling two or more scenarios, that it met a reduction level of 0.82 MMT? If compliance is assessed based on meeting reduction levels, it is not clear why Section 8.02.1 requires comparing emissions to the baseline.

- Second, the *EV Sales* numbers in 2030 shown in Table A.13 appear inconsistent with the *EV Sales %* reported for the same year and the *EV Sales* and *EV Sales %* values reported in other years. For example, in 2025, 17% EV sales are reportedly equal to 66,858 vehicles. In 2040, 100% EV sales are equal to 458,267 vehicles. In contrast, 50% EV sales in 2030 are reported as only 21,800 vehicles, a factor of approximately 10 too low.

- The final paragraph on Page 24 of the CBA states, "Table A.14 shows projected total GHG emissions from on-road sources for the rule and alternatives, while Table A.15 shows the expected GHG reductions in 2025, 2030, 2040, and 2050 respectively, for the rule and alternatives." However, Table A.14 and Table A.15 do not show any data for the year 2025.

- Table A.14 is stated as showing "projected total GHG emissions from on-road sources for the rule and alternatives," and includes the *Proposed Rule Implementation: Travel Choices + Transit + Land Use* scenario. However, it is not clear what these values represent, as the values reported in this scenario appear inconsistent with values derived from Table 2 in the Proposed Rule and Table A.15 of the CBA for the same scenario. For example, Table 2 in the Proposed Rule shows baseline emissions (assuming a high level of electrification of the future vehicle fleet), and Table A.15 of the CBA shows the GHG emissions change from baseline by year for different scenarios, including if the Proposed Rule is implemented. However, in the scenario where the Proposed Rule is implemented, subtracting the GHG emissions change from baseline in Table A.15 from the baseline values presented in Table 2 of the Proposed Rule does not produce the GHG emissions in Table A.14 for the same scenario.

- Table A.15 presents GHG Emissions Change from Baseline Forecast by Year. However, the value shown for 2030 in the *Proposed Rule Implementation: Travel Choices + Transit + Land Use* scenario—which is 1.70 MM—does not match the total value in the Proposed Rule for this year—1.50 MMT.

CDOT should clarify these discrepancies and revise the CBA and Proposed Rule accordingly to correct any errors.

C. Concerns with Technical Assumptions and Methodology used in the CBA

Weld County is concerned about several other assumptions presented in the CBA. First, the CBA states that "[e]nergy use and GHG emissions from EVs are assumed not to be sensitive to the level of congestion or delay." However, this assumption fails to account for the effects of speed and acceleration on energy consumption and the potentially significant energy load associated with the heating, ventilation, and air conditioning ("HVAC") system in electric vehicles. Electric vehicle energy consumption is highly dependent upon vehicle speed and acceleration, as well as other factors such as use of vehicle HVAC systems. According to Chiara Fiori et al., "differences in speed and acceleration distributions can significantly affect the

instantaneous energy consumption level."[19] For two trips with the same average speed, vehicles consume significantly more energy for the trip with higher maximum speeds but more stops. Additionally, the use of cooling or heating can reduce energy efficiency by up to 24%.[20,21] Thus, not only does EV energy use depend upon speed and acceleration, which are directly impacted by the level of congestion, but overall energy use increases with increased commute time and increased use of the HVAC system. Temperature extremes, such as the high summer temperatures and low winter temperatures experienced in many parts of Colorado, will only tend to increase the energy use associated with the HVAC system and thus the sensitivity of EV energy use to the level of congestion or delay.

Second, the light-duty vehicle electrification projections assumed in the analysis may be double counting improvements in vehicle fuel economy, and in turn, reductions in GHG emissions per VMT, from electrification of light duty vehicles. MOVES3, published in November 2020, accounts for the effects of regulations on vehicle emissions, including Federal Safer Affordable Fuel Efficient Vehicle[22] and Greenhouse Gas (GHG) and Corporate Average Fuel Economy[23] standards. MOVES3 assumes that light duty vehicle fleets are compliant with applicable federal greenhouse gas standards.[24] Vehicle manufacturers meet federal fuel economy and GHG standards by selling a fleet of vehicles that comply with applicable standards in a given model year. Thus, while MOVES3 does not explicitly include electric vehicles in the model default fleet mix, manufacturers sell a combination of fossil-fueled and electric vehicles to meet federal standards, as shown in Table 1, *supra*. Because MOVES3 incorporates these standards, GHG emission factors in the model account for electric vehicle penetration, even if the number of electric vehicles in the model is assumed to be zero. Indeed, MOVES3 assumes zero additional penetration of electric light duty vehicles beyond compliance with federal fuel economy and GHG standards:

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[19] Chiara Fiori, Kyoungho Ahn, and Hesham A. Rakha, *Power-Based Electric Vehicle Energy Consumption Model: Model Development and Validation*, APPLIED ENERGY 168, 257–68 (April 15, 2016), https://doi.org/10.1016/j.apenergy.2016.01.097.

[20] Tugce Yuksel and Jeremy J. Michalek, *Effects of Regional Temperature on Elec. Vehicle Efficiency, Range, and Emissions in the United States*, ENV'T SCIENCE & TECH. 49, 3974–80 (Mar. 17, 2015), https://doi.org/10.1021/es505621s.

[21] R. Farrington and J. Rugh, *Impact of Vehicle Air-Conditioning on Fuel Economy, Tailpipe Emissions, and Electric Vehicle Range: Preprint*, NREL (Sep't 22, 2000), https://www.osti.gov/biblio/764573.

[22] The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, 85 Fed. Reg. 84 (April 30, 2020).

[23] 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 199 (Oct. 15, 2012).

[24] EPA, *Greenhouse Gas and Energy Consumption Rates for Onroad Vehicles in MOVES3*, EPA-420-R-20-015 (2020), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M5F.pdf.

> *In MOVES, all electric passenger cars are modeled in the national case to have zero penetration. This is because electric vehicle market penetration varies widely by geographic region and MOVES does not have the capabilities to model this variance accurately at the national scale.*[25]

Therefore, any analysis assuming additional penetration of electric vehicles into the fleet should consider the extent to which electric vehicles penetrating the fleet are already accounted for in the fleet standards. Without doing so, the benefits of electric vehicles may be double counted in the model. It is incorrect to assume that all electric vehicles penetrating the fleet will result in additional improvements in fuel economy or GHG emission reductions, above and beyond applicable federal fleet standards. Weld County recommends CDOT confirm whether it has addressed this double counting issue in the model, and further provide guidance to ensure that light duty vehicle electrification projections used to develop the GHG emission estimates do not result in double counting.

Third, the methodology and modeling data used to estimate changes in emissions of particulate matter (PM) and oxides of nitrogen (NOx) as described in Appendix A of the Proposed Rule is inconsistent with that used to estimate GHG emissions. For example, emission rates were sourced from MOVES2014 rather than MOVES3, the most recently approved version of the air quality model used in the GHG emission estimates. According to the EPA, "MOVES3 includes many updates to exhaust emission rates to better estimate the real-world emissions of new vehicle technologies."[26] Further, emission rates were sourced from two different studies, and it is not clear if these studies focused on Colorado or used the same model configuration and assumptions. As stated in the CBA, "[t]he MOVES model accounts for Colorado-specific factors such as the age of the vehicle fleet, the distribution of VMT by different vehicle types and road types, and the speeds at which vehicles travel." Therefore, utilizing MOVES data from studies of other geographic areas with potentially inconsistent model configuration and assumptions is not appropriate and may not be representative of emission factors in Colorado.

Finally, rather than running the MOVES model for the analysis years, emission factors were interpolated between discrete years for which data was available from these studies. This interpolation methodology is particularly problematic when emission rates are obtained from two different studies. Criteria air pollutant emission factors are very sensitive to meteorological conditions and fleet characteristics (among other factors), which vary based on geographic region. Additionally, interpolation of emission factors fails to account for changes due to age distribution and other model parameters which are typically nonlinear. This flawed methodology raises significant concerns regarding the accuracy of the PM and NOx emission estimates, and the corresponding pollutant damage values and cost savings associated with air pollution presented in the CBA. Weld County therefore recommends CDOT revise the CBA to accurately estimate the air pollution impacts of the Proposed Rule using the approved air quality model, following a

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[25] EPA, *Population and Activity of Onroad Vehicles in MOVES3*, EPA-420-R-21-012 (2021), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1011TF8.pdf.

[26] EPA, *EPA Releases MOVES3 Mobile Source Emissions Model: Questions and Answers* (2020), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M06.pdf.

methodology that accounts for Colorado-specific factors such as the age of the vehicle fleet, the distribution of VMT by different vehicle types and road types, and the speeds at which vehicles travel. Weld County also recommends the CBA include estimates of criteria air pollutant emission reductions achieved by the Proposed Rule.

D. Other Concerns with Assumptions in the CBA

CDOT's CBA claims of significant cost savings are unfounded because their estimated reductions in VMT are unlikely to be realized. The CBA is driven by aspirational assumptions about transport mode shifts that are unrealistic. History convincingly demonstrates that programs to reduce VMT have failed. In addition, the CBA does not recognize new post-pandemic transportation realities. The pandemic has accelerated decentralization for both jobs and residences, which will reduce transit ridership because mass transit does not work well in decentralized areas. Policies encouraging transit ridership, bicycle use, and walking have failed in the past and face even greater headwinds given the post-pandemic trends toward decentralization. Accordingly, the Proposed Rule shifting highway funds to programs to get people out of their cars will not result in cost savings and instead will reduce public safety and increase traffic congestion with minimal reductions in GHG emissions.

The CBA is driven by unrealistic assumptions for the adoption of alternative transportation modes. For example, CDOT assumes a three-fold increase in tele-travel, a 37-77% increase in bicycle travel and walking, 151% increase in transit, and a 30-50% increase in population density. These assumptions are not supported by any empirical analysis or modeling. As CDOT states, these are the assumptions required to meet the stated GHG emission reduction goals. In this sense, the analysis is reversed engineered in which the modeling is designed to achieve a preconceived outcome. As a result, the estimated cost savings are illusory.

Another issue with CDOT's CBA is that it fails to consider new transportation realities created by the COVID-19 pandemic. Vehicle miles travel fell to 73 percent of the pre-pandemic levels during the second quarter of 2020 compared to the second quarter of 2019. *See* Figure 1. In contrast, transit ridership fell to 24 percent of pre-pandemic levels over the same interval and remain far below previous levels. *See* Figure 2. The pandemic may have completely undermined efforts to make transit ridership appealing. Young, upwardly mobile professionals who intended to use transit are now working from home and many may never go back to the office. Since the pandemic, many people who were taking transit switched to driving. As a result, per capita transit ridership is likely to be far lower after the pandemic.[27]

[27] R. O'Toole, *Zero-base Transportation Policy: Recommendations for 2021 Transportation Reauthorization*, Cato Institute, Policy Analysis No. 913 (2021), https://www.cato.org/policy-analysis/zero-based-transportation-policy-recommendations-2021-transportation.

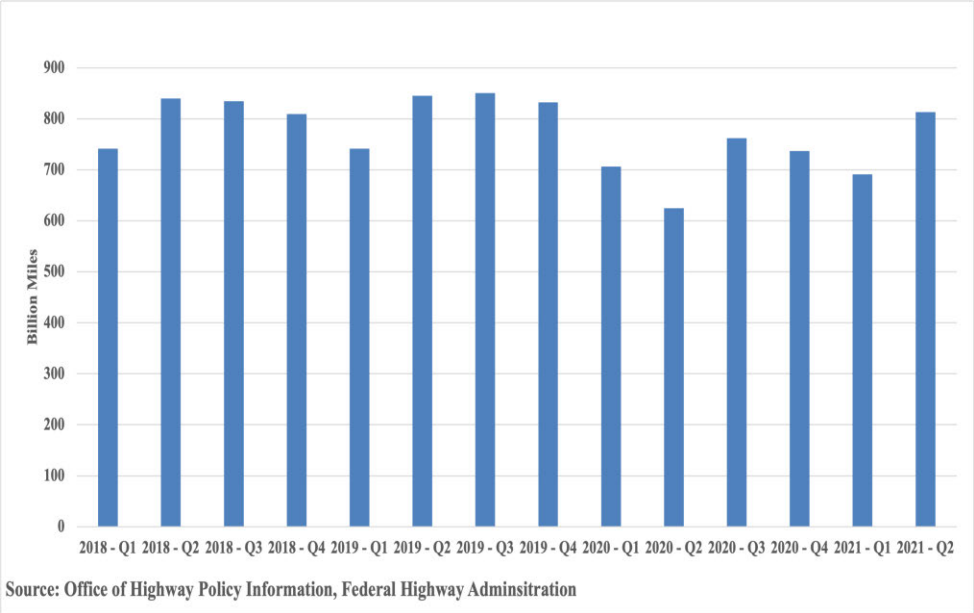

Figure 1: Vehicle miles traveled

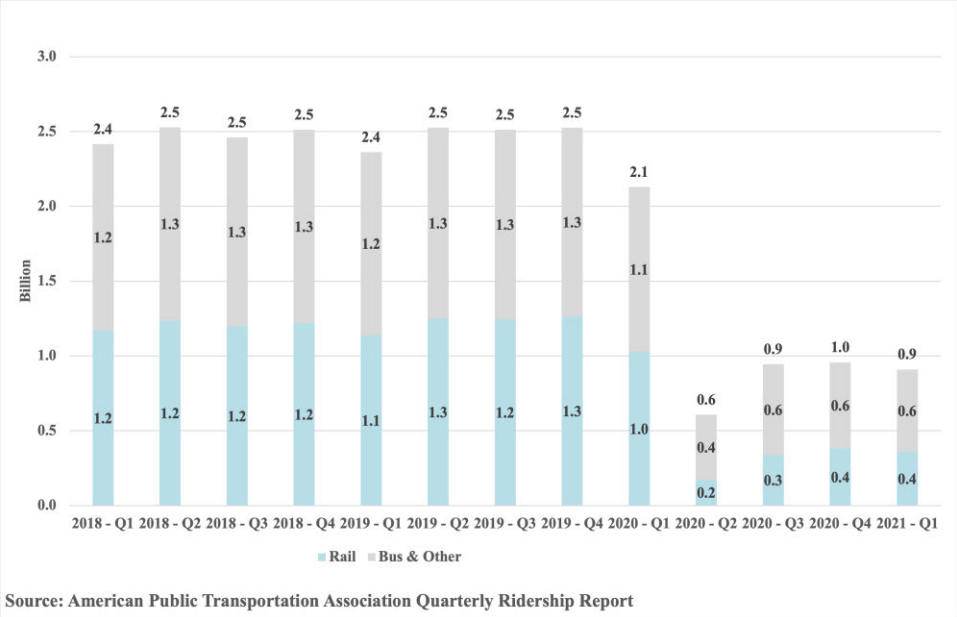

Figure 2: Transit Ridership

The CDOT study also includes walking and bicycling as alternative mitigation measures. Complete streets or road diets that increase congestion are a popular movement in American cities to encourage walking and cycling. Most cities with high rates of bicycle commuting, such as Boulder, are college towns with young populations. Therefore, demographics rather than street design may have the greatest influence on cycling and walking. Colorado is a diverse state. Estimating the costs and benefits of programs to encourage walking and bicycling should recognize that this diversity affects rates at which these alternatives are adopted. For example, while bicycling and walking may be popular in Boulder, they may be impractical in Sterling. The pandemic has accelerated decentralization for both jobs and residences, which will reduce transit

ridership because mass transit does not work well in decentralized areas. Even city dwellers are now wary of crowded transport options. If this trend continues, policies to increase density may not be effective. This implies that CDOT's estimated benefits from policies to encourage greater density may be overestimated.

History has demonstrated that efforts to get people to drive less fail.[28] The EPA was created in 1970 with a mandate to reduce air pollution by adopting a two-pronged strategy: first to reduce driving by encouraging states and cities to find alternatives to single-occupancy vehicle travel and second to reduce tailpipe emissions. The first strategy failed—the total number of miles driven in the United States nearly tripled between 1970 and 2019. As discussed in Section V, GHG reduction targets for the MPOs are among the list of failed strategies to reduce VMT. Nonetheless, air pollution from motor vehicles declined 88 percent during the same period. An average car today emits less than 4 percent of the pollution from the average car in 1970. New cars sold in 2019 produce only about 1 percent of the pollution as 1970 vehicles. Thus, reducing emissions is best accomplished on-board vehicles via efficiency improvements, rather than rules focused on changing behavior.

Overall, the proposed GHG emission mitigation rule to divert transportation funds from improving highway capacity to policies encouraging people to get out of their cars is a losing proposition, achieving little emission savings at a significant cost to travelers from traffic congestion and diminished public safety. As described previously, Weld County is concerned that the Proposed Rule requires CDOT and the MPOs to prioritize GHG emission reductions over projects that effectively and safely move people and goods throughout Colorado.

V. GHG Reduction Targets for MPOs Have Proven to be Ineffective at Reducing VMT in Other States

In 2008, California adopted Senate Bill 375,[29] which required the MPOs to meet GHG reduction targets by incorporating a sustainable communities strategy as part of the long-range regional transportation plans. In November 2018, the California Air Resources Board ("CARB") published a report[30] on the progress made under SB 375. This report showed that SB 375 did not have any impact on the statewide VMT, and in fact, the VMT per capita increased from 2008 to 2018. CDOT should review this report to understand the factors that affect travel behavior and provide the appropriate guidance for the MPOs in developing their long-range regional transportation plans ("RTP"). Below are key highlights of the issues identified in CARB's progress report that are outside the control of MPOs:

- Economic factors such as employment rates and fuel prices can have significant impact on travel choices. Increases in employment generally leads to increases in vehicle

[28] *Id*.

[29] Cal. SB 08-375.

[30] Cal. Air Res. Bd., Tracking Progress – Sustainable Communities, https://ww2.arb.ca.gov/resources/documents/tracking-progress.

ownership. Increased vehicle ownership and reduced gas prices can lead to an increase in per capita VMT; and

- Job and housing imbalances and the lack of affordable housing can lead to increased VMT. As housing costs rise in urbanized areas, residents tend to move into suburban regions, thereby increasing the home-work commute trip lengths. Therefore, prior to developing the long-range RTP, it is essential to gather and analyze regional-level data that provides information on the balance of low-wage jobs and low-cost housing. Further, the MPOs will have to coordinate with other state and local agencies to address any job and housing imbalances that are identified.

Accordingly, the MPOs cannot be solely responsible for reducing VMT. Agencies at both the state and local level should coordinate to effect change that addresses the interconnected relationship of land use, housing, economic and workforce development, transportation investments, and travel choices. This is also reflected in Colorado's GHG Roadmap.[31] The Roadmap highlights the role of various state and local agencies, including the Division of Housing within the Colorado Department of Local Affairs, the Colorado Housing and Finance Authority, local governments, and transit agencies, in increasing the availability of affordable housing and improving access to job location, healthcare, and other services.

CONCLUSION

Weld County is committed to protecting air quality and supports efforts to provide more sustainable travel options to achieve reductions in air pollution from the transportation sector. But that commitment does not extend to a rushed rulemaking that exceeds CDOT's rulemaking authority, presents significant compliance challenges, and rests on technical inaccuracies and inconsistencies. Accordingly, Weld County asks that CDOT schedule an additional hearing before the close of the extended comment period. Weld County reserves the right to submit additional written comments following its review of the revised Proposed Rule and the recently received data. Weld County appreciates the opportunity to participate in this rulemaking and thanks CDOT and the TC in advance for their attention to these written comments.

[31] Colo. Greenhouse Gas Pollution Reduction Roadmap (Jan. 14, 2021), https://www.codot.gov/programs/research/pdfs/other-reports/colorado-greenhouse-gas-pollution-reduction-roadmap/co-ghg-pollution-reduction-roadmap-final-report.pdf.

WeldCo_EX-001

DEPARTMENT OF TRANSPORTATION

Transportation Commission

RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

2 CCR 601-22

[Editor s Notes follow the text of the rules at the end of this CCR Document.]

August 13, 2021, Version

Please note the following formatting key:

Font Effect	Meaning
Underline	New Language
~~Strikethrough~~	Deletions
[Blue Font Text]	Annotation
~~Green Strikethrough~~	Suggested Deletions from Weld County
Green Underline	Suggested New Language from Weld County

[Note: The Commission proposes to add nineteen (19) new definitions. New proposed defined terms include: Applicable Planning Document, Approved Air Quality Model, Baseline, Carbon Dioxide Equivalent, Congestion Mitigation and Air Quality, Disproportionately Impacted Communities, Four-Year Prioritized Plan, Greenhouse Gas, Greenhouse Mitigation Measures, Greenhouse Gas Reduction Levels, Mitigation Action Plan, MPO Model, Multimodal Transportation and Mitigation Options Fund, Regionally Significant Project, State Interagency Consultation Team, Statewide Travel Model, Surface Transportation Block Grant, Vehicle Miles Traveled, and 10-Year Plan. Only minor non-substantive changes, such as correcting grammar errors or capitalizing defined terms, were made to the existing forty-six (46) defined terms.]

1.00 Definitions

1.01 Accessible - ensure that reasonable efforts are made that all meetings are reachable by persons from households without vehicles and that the meetings will be accessible to persons with disabilities in accordance with the Americans with Disabilities Act (ADA), and also accessible to persons with Limited English Proficiency. Accessible opportunities to comment on planning related matters include those provided on the internet and through such methods as telephone town halls.

1.02 Applicable Planning Document - refers to MPO Fiscally Constrained RTPs,TIPs for MPOs in NAAs, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

1.03 Approved Air Quality Model - he most recent Environmental Protection Agency issued model that quantifies GHG emissions from on-road transportation.

Commented [A1]: To ensure the same air quality model is used for GHG budget setting and compliance assessments, Weld County recommends CDOT revise the Proposed Rule to require the GHG emission estimates in Table 1 and Table 2 be updated following the release of a new (or update to an existing) Approved Air Quality Model as shown here and in Section 8 01.1.

1.04 Attainment Area - any geographic region of the United States that meets the national primary or secondary National Ambient Air Quality Standards (NAAQS) for the pollutants as defined in the Clean Air Act (CAA) (Amendments of 1990).

1.05 Baseline - estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using ~~the MPO Models or~~ the Statewide Travel Model. Estimates must include GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules.

Commented [A2]: If baseline emissions are prepared using only the statewide travel model, the definition should be revised as shown.

1.06 Carbon Dioxide Equivalent (CO_2e) - a metric measure used to compare the emissions from various GHG based upon the 100-year global warming potential (GWP). CO_2e is multiplying the mass amount of emissions (metric tons per year), for each GHG constituent by that gas's GWP, and summing the resultant values to determine CO_2e (metric tons per year). This calculation allows comparison of different greenhouse gases and their relative impact on the environment over different time periods.

1.07 Commission - the Transportation Commission of Colorado created by § 43-1-106, C.R.S.

1.08 Congestion Mitiga ion and Air Quality (CMAQ) - a federally mandated program established in 23 U.S.C § 149 to improve air quality in Nonattainment and Maintenance Areas for ozone, carbon monoxide, and particulate matter. References related to this program include any successor programs as established by the federal government.

1.09 Corridor - a transportation system that includes all modes and facilities within a described geographic area.

1.10 Corridor Vision - a comprehensive examination of a specific transportation Corridor, which includes a determination of needs and an expression of desired state of the transportation system that includes Transportation Modes and facilities over a planning period.

1.11 Department or CDOT - the Colorado Department of Transportation created by § 43-1-103, C.R.S.

1.12 Disproportionately Impacted Communities - defined in § 24-38.5-302(3), C.R.S. as a community that is in a census block group, as determined in accordance with the most recent United States Decennial Census where the proportion of households hat are low income is greater than forty percent (40%), the proportion of households that identify as minority is greater than forty percent (40%), or the proportion of households hat are housing cost-burdened is greater than forty percent (40%).

1.13 Division - the Division of Transportation Development within CDOT.

1.14 Division Director - the Director of the Division of Transportation Development.

1.15 Fiscally Constrained - the financial limitation on transportation plans and programs based on the projection of revenues as developed cooperatively with the MPOs and the rural TPRs and adopted by the Commission that are reasonably expected to be available over the long-range transportation planning period and the TIP and STIP programming periods.

1.16 Four-Year Prioritized Plan - a four-year subset of the 10-Year Plan consisting of projects prioritized for near-term delivery and partial or full funding.

1.17 Greenhouse Gas (GHG) - for purposes of hese Rules, GHG is defined as the primary transportation greenhouse gases: carbon dioxide, methane, and nitrous oxide.

1.18 Greenhouse Gas (GHG) Reduction Level - the amount of the GHG expressed as CO_2e reduced from the projected Baseline that CDOT and MPOs must attain through transportation planning.

1.19 Greenhouse Gas (GHG) Mi igation Measures - non-Regionally Significant Project strategies implemented by CDOT and MPOs that reduce transportation GHG pollution and help meet the

GHG Reduction Levels.

1.20 Intergovernmental Agreement - an arrangement made between two or more political subdivisions that form associations for the purpose of promoting the interest and welfare of said subdivisions.

1.21 Intermodal Facility - a site where goods or people are conveyed from one mode of transportation to another, such as goods from rail to truck or people from passenger vehicle to bus.

1.22 Land Use - the type, size, arrangement, and use of parcels of land.

1.23 Limited English Proficiency - individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English.

1.24 Long-Range Planning - a reference to a planning period with a minimum 20-year planning horizon.

1.25 Maintenance Area - any geographic region of the United States previously designated by the U.S. Environmental Protection Agency (EPA) as a Nonattainment Area pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequen ly redesignated to attainment subject to the requirement to develop a maintenance plan under § 175A of the CAA, as amended in 1990.

1.26 Memorandum of Agreement (MOA) - a written agreement between two or more parties on an intended plan of action.

1.27 Metropolitan Planning Agreement (MPA) - a written agreement between the MPO, he State, and the providers of public transportation serving the Metropolitan Planning Area that describes how they will work cooperatively to meet their mutual responsibili ies in carrying out the metropolitan planning process.

1.28 Metropolitan Planning Area - a geographic area determined by agreement between the MPO for the area and the Governor, in which the metropolitan transportation planning process is carried out pursuant to 23 U.S.C. § 134.

1.29 Metropolitan Planning Organization (MPO) - an organization designated by agreement among the units of general purpose local governments and he Governor, charged to develop the RTPs and programs in a Metropolitan Planning Area pursuant to 23 U.S.C. § 134.

1.30 Mitigation Ac ion Plan - an element of the GHG Transportation Report that specifies which GHG Mitigation Measures shall be implemented that help achieve the GHG Reduction Levels.

1.31 Mobility - the ability to move people, goods, services, and information among various origins and destinations.

1.32 MPO Models - one (1) or more of the computer-based models maintained and operated by he MPOs which depict the MPO areas' transportation systems (e.g., roads, transit, etc.) and development patterns (i.e., number and location of households and jobs) for a defined year (i.e., past, present, or forecast) and produce estimates of roadway VMT, delays, operating speeds, transit ridership, and other characteristics of transportation system use.

1.33 Multimodal - an integrated approach to transportation that takes into account all modes of travel, such as bicycles and walking, personal mobility devices, buses, transit, rail, aircraft, and motor vehicles.

1.34 Multimodal Transportation and Mitigation Options Fund (MMOF) - a program created in the State Treasury pursuant to § 43-4-1003, C.R.S. which funds bicycle, pedestrian, transit and other Multimodal projects as defined in § 43-4-1002(5), C.R.S. and GHG Mitigation projects as defined in § 43-4-1002(4.5), C.R.S.

1.35 National Ambient Air Quality Standards (NAAQS) - are those established by the U.S. Environmental Protection Agency for air pollutants considered harmful to public health and

environment. These criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, ozone, small particles, and sulfur dioxide.

1.36 Nonattainment Area - any geographic region of the United States which has been designated by the EPA under section 107 of the CAA for any pollutants for which a NAAQS exists.

1.37 Non-Metropolitan Area - a rural geographic area outside a designated Metropolitan Planning Area.

1.38 Plan Integration - a comprehensive evaluation of the statewide transportation system that includes all modes, an identification of needs and priorities, and key information from other related CDOT plans.

1.39 Planning Partners - local and tribal governments, the rural TPRs and MPOs.

1.40 Project Priority Programming Process - the process by which CDOT adheres to 23 U.S.C. § 135 and 23 C.F.R. Part 450 when developing and amending he STIP.

1.41 Regional Planning Commission (RPC) - a planning body formed under the provisions of § 30-28-105, C.R.S., and designated under these Rules for the purpose of transportation planning within a rural TPR.

1.42 Regionally Significant Project - a transportation project hat is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team.

1.43 Regional Transportation Plan (RTP) - a long-range plan designed to address the future transportation needs for a TPR including, but not limited to, Fiscally Constrained or anticipated funding, priorities, and implementation plans, pursuant to, but not limited to, § 43-1-1103, C.R.S. and 23 C.F.R. Part 450. All rural and urban TPRs in the state produce RTPs.

1.44 State Interagency Consultation Team - consists of he Division Director or the Division Director's designee, the Colorado Department of Public Health and Environment (CDPHE) Director of Air Pollution Control Division or the Director's designee, and the Director of each MPO or their designee.

1.45 State Transportation System - refers to all state-owned, operated, and maintained transportation facilities in Colorado, including, but not limited to, interstate highways, other highways, and aviation, bicycle and pedestrian, transit, and rail facilities.

1.46 Statewide Transportation Advisory Committee (STAC) - the committee created by § 43-1-1104, C.R.S., comprising one representative from each TPR and one representative from each tribal government to review and comment on RTPs, amendments, and updates, and to advise both the Department and the Commission on the needs of the transportation system in Colorado.

1.47 Statewide Transportation Improvement Program (STIP) - a Fiscally Constrained, multi-year, statewide, Multimodal program of transportation projects which is consistent with the Statewide

Transportation Plan and planning processes, with Metropolitan Planning Area plans, Transportation Improvement Programs and processes, and which is developed pursuant to 23 U.S.C. § 135.

1.48 Statewide Travel Model - the computer-based model maintained and operated by CDOT which depicts the state's transportation system (roads, transit, etc.) and development scale and pattern (number and location of households, number and location of firms/jobs) for a selected year (past, present, or forecast) and produces es imates of roadway VMT and speed, transit, ridership, and o her characteristics of transportation system use.

1.49 Statewide Transportation Plan - the long-range, comprehensive, Multimodal statewide transportation plan covering a period of no less than 20 years from time of adoption, developed through the statewide transportation planning process described in these Rules and 23 U.S.C. § 135, and adopted by the Commission pursuant to § 43-1-1103, C.R.S.

1.50 Surface Transportation Block Grant (STBG) - a flexible federal funding source established under 23 U.S.C. § 133 for state and local transportation needs. Funds are expended in the areas of the State based on population. References related to this program include any successor programs established by the federal government.

1.51 System Continuity - includes, but is not limited to, appropriate intermodal connections, integration with state modal plans, and coordination with neighboring RTPs, and, to the extent prac icable, o her neighboring states' transportation plans.

1.52 Traditionally Underserved - refers to groups such as seniors, persons with disabilities, low-income households, minorities, and student populations, which may face difficulties accessing transportation systems, employment, services, and other amenities.

1.53 Transit and Rail Advisory Committee (TRAC) - an advisory committee created specifically to advise the Executive Director, the Commission, and the Division of Transit and Rail on transit and rail-related activities.

1.54 Transportation Commonality - the basis on which TPRs are established including, but not limited to: Transportation Commission Districts, the Department's Engineering Regions, Travelsheds, Watersheds, geographic unity, existing Intergovernmental Agreements, and socioeconomic unity.

1.55 Transportation Improvement Program (TIP) - a staged, Fiscally Constrained, multi-year, Multimodal program of transportation projects developed and adopted by MPOs, and approved by the Governor, which is consistent with an MPO's RTP and which is developed pursuant to 23 U.S.C. § 134.

1.56 Transportation Mode - a particular form of travel including, but not limited to, bus, motor vehicle, rail, transit, aircraft, bicycle, pedestrian travel, or personal mobility devices.

1.57 Transportation Planning and Programming Process - all collaborative planning-related activities including the development of regional and Statewide Transportation Plans, he Department's Project Priority Programming Process, and development of the TIPs and STIP.

1.58 Transportation Planning Region (TPR) - a geographically designated area of the state, defined by sec ion 2.00 of these Rules in consideration of the criteria for Transportation Commonality, and for which a regional transportation plan is developed pursuant to the provisions of § 43-1-1102 and 1103, C.R.S. and 23 U.S.C. § 134. The term TPR is inclusive of these types: non-MPO TPRs, MPO TPRs, and TPRs with both MPO and non-MPO areas.

1.59 Transportation Systems Planning - provides the basis for identifying current and future deficiencies on he state highway system and outlines strategies to address those deficiencies and make improvements to meet Department goals.

1.60 Travelshed - the region or area generally served by a major transportation facility, system, or Corridor.

1.61 Tribal Transportation Improvement Program (TTIP) - a multi-year Fiscally Constrained list of proposed transportation projects developed by a tribe from the tribal priority list or tribal long-range transportation plan, and which is developed pursuant to 25 C.F.R. Part 170. The TTIP is incorporated into the STIP without modification.

1.62 Urbanized Area - an area with a popula ion of 50,000 or more designated by the Bureau of the Census.

1.63 Vehicle Miles Traveled (VMT) - the traffic volume of a roadway segment or system of roadway segments multiplied by he length of the roadway segment or system.

1.64 Watershed - a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

1.65 10-Year Plan - a vision for Colorado's transportation system that includes a specific list of projects categorized across priority areas as identified in the Statewide Transportation Plan.

8.00 GHG Emission Requirements

8.01 Establishment of Regional GHG Transportation Planning Reduction Levels

8.01.1 The GHG emission reduction levels within Table 1 apply to MPOs and the Non-MPO area within the state of Colorado as of the effective date of these Rules. Baseline values are specific to each MPO and CDOT area and represent estimates of GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules. Table 2 reflects the difference in Baseline levels from year to year assuming a rapid growth in electric vehicles across the State (940 000 light duty electric vehicles in 2030, 3.38 million in 2040 and a total of 97% of all light duty vehicles in 2050). Values in both tables include estimates of population growth as provided by the state demographer. The GHG emission reduction levels in Table 1 and Table 2 shall be reevaluated upon a change in he Approved Air Quality Model as defined in Sec ion 1.03.

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	2050 Reduction Level (MMT)
DRCOG	14.9	0.27	11.8	0.82	10.9	0.63	12.8	0.37
NFRMPO	2.3	0.04	1.8	0.12	1.9	0.11	2.2	0.07
PPACG	2.7	N/A	2.2	0.15	2.0	0.12	2.3	0.07
GVMPO	0.38	N/A	0.30	0.02	0.30	0.02	0.36	0.01

PACOG	0.50	N/A	0.40	0.03	0.30	0.02	0.4	0.01
CDOT/Non-MPO	6.7	0.12	5.3	0.37	5.2	0.30	6.1	0.18
TOTAL	27.4	0.5	21.8	1.5	20.6	1.2	24.2	0.7

8.01.3 Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles

Table 2: Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles

	2025 Projections (MMT)	2030 Projections (MMT)	2040 Projections (MMT)	2050 Projections (MMT)
TOTAL	27.0	20.0	14.0	8.9

8.02 Process for Determining Compliance

8.02.1 Analysis Requirements When Adop ing or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to es imate total CO2e emissions. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and determine whether he applicable reduction targets ~~compare these emissions to the Baseline specified~~ in Table 1 have been met. This provision shall not apply to MPO TIP amendments.

8.02.2 Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior to the adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel Model, and Approved Air Quality Model.

8.02.3 By April 1, 2022, CDOT shall establish an ongoing administrative process, through a public process, for selecting, measuring, confirming, and verifying GHG Mitigation Measures, so that CDOT and MPOs can incorporate one or more into each of their plans in order to reach he Regional GHG Planning Reduction Levels in Table 1. Such a process shall include, but not be limited to, determining the relative impacts of GHG Mitigation Measures, measuring and prioritizing localized impacts to communities and Disproportionately Impacted Communi ies in particular. The mitigation credit awarded to a specific solu ion shall consider both aggregate and community impact.

8.02.4 By April 1, 2022, CDOT shall develop, through a public process, a guidance document that describes the modeling methodology that should be used to conduct the GHG emissions analysis described in Section 8.02.1 and the process for assessing compliance with the GHG Transportation Planning Reduction Levels specified in Table 1. This guidance document shall describe how the actions taken by the Enterprises created under SB21-260 that reduce GHG emissions may be counted as GHG Mitigation Measures to comply with the reductions level specified in Table 1.

8.02.4 Timing for Determining Compliance

8.02.4.1 By October 1, 2022, CDOT shall update their 10-Year Plan and DRCOG

Commented [A3]: Weld County recommends CDOT provide guidance regarding the number of significant figures to be used in GHG emissions estimates, particularly regarding rounding for regional area totals compared against the values in Table 1, to ensure actual reductions are consistent with expected totals.

Furthermore, Weld County recommends CDOT clarify the calculation of the TOTAL row in Table 1 of the Proposed Rule, particularly for 2025. Weld County also recommends revising Table 1 to show the same significant figures for all of the values, or providing additional detail in a technical support document.

Commented [A4]: Other sections (i.e., 8.02.4.1, 8.02.5.1, 8.02.5.3, 8.05, etc.) specifically refer to meeting or demonstrating compliance with the reduction levels. t is not clear why Section 8.02.1 requires comparing emissions to the baseline if compliance is assessed based on meeting reduction levels.

Weld County recommends CDOT revise the rule language to clarify how compliance is assessed and develop a guidance document that describes the modeling methodology that should be used to determine compliance with the Proposed Rule as shown in Section 8.02.4 below.

If compliance is assessed based on meeting reduction levels, comparison to the baseline should not be required and Section 8 02.1 should be revised as shown.

Commented [A5]: Weld County recommends that additional language be added to the proposed rule in Section 8 02.2 to specify the items that must be addressed and information that must be included in the Intergovernmental Agreement.

Commented [A6]: Weld County recommends CDOT revise the rule language to clarify how compliance is assessed and develop a guidance document that describes the modeling methodology that should be used to determine compliance with the Proposed Rule. Weld County recommends this guidance document be developed through a public stakeholder process by April 1, 2022 and inform the development of the Intergovernmental Agreement described in Section 8.02 2.

Commented [A7]: Weld County recommends that CDOT clarify, through revised rule language or a guidance document accompanying the Proposed Rule, how Enterprise activities interact with the actions taken by CDOT and MPOs as a part of the Proposed Rule, particularly as related to GHG mitigation measures. Weld County believes that the Proposed Rule should foster collaboration to reduce GHG emissions, and thus the rule should allow CDOT and MPOs to take credit for GHG emission reductions from transportation in their respective regional areas regardless of the project proponent (i.e., local governments, enterprises, etc.).

and NFRMPO shall update their RTPs pursuant to § 43-4-1103, C.R.S. and meet the reduction levels in Table 1 or the requirements pursuant to § 43-4-1103, C.R.S and restrictions on funds.

8 02.4.2 After October 1, 2022

8.02.4.2.1 CDOT must for each Applicable Planning Document, meet either the reduction levels within Table 1 for Non-MPO areas or the requirements as set forth in Rule 8 05.

8.02.4.2 2 MPOs must meet either the corresponding reduc ion levels within Table 1 for each Applicable Planning Document, or the relevant MPO and CDOT each must meet the requirements as set forth in Rule 8 05.

8.02.5 Demonstrating Compliance. At least thirty (30) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to the Commission a GHG Transportation Report containing the following information:

8 02.5.1 GHG emissions analysis demonstrating that the Applicable Planning Document is in compliance wi h the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1 or that the requirements in Rules 8.02.5.1.1 or 8.02 5.1.2., as applicable, have been met.

8.02.5.1.1 In non-MPO areas or for MPOs hat are not in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the Department utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in hose areas on projects that reduce GHG emissions.

8.02.5.1 2 In MPO areas that are in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the MPO utilizes those funds on projects or approved GHG Mi igation Measures that reduce GHG emissions, and CDOT utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in that MPO area, on projects that reduce GHG emissions.

8 02.5.2 Identification and documentation of the MPO Model or the Statewide Travel Model and the Approved Air Quality Model used to determine GHG emissions in MMT of CO2e.

8 02.5.3 A Mitigation Action Plan that identifies GHG Mitigation Measures needed to meet the reduction levels within Table 1 shall include:

8.02.5.3.1 The anticipated start and completion date of each measure.

8.02.5.3 2 An estimate, where feasible, of the GHG emissions reductions in MMT of CO2e achieved by any GHG Mitiga ion Measures.

8.02.5.3 3 Quantifica ion of specific co-benefits including reduction of co-pollutants (PM2 5, NOx, etc.) as well as travel impacts (changes to VMT, pedestrian/bike use, transit ridership numbers, etc. as applicable).

8.02.5.3.4 Description of benefits to Disproportionately Impacted Communities.

8.02.6 Reporting on Compliance- Annually by April 1, CDOT and MPOs must provide a status report to the Commission on an approved form with the following items for each GHG Mitigation Measure identified in their most recent GHG Transportation Report:

8 02.6.1 The implementation timeline;

8 02.6.2 The current status;

8 02.6.3 For measures that are in progress or completed, quantification of the benefit or impact of such measures; and

8 02.6.4 For measures that are delayed, cancelled, or substituted, an explanation of why that decision was made.

8 03 GHG Mitigation Measures. When assessing compliance with the GHG Reduction Levels, CDOT and MPOs shall have the opportunity to utilize approved GHG Mitigation Measures as set forth in Rules 8.02.3 and 8.02.5.3 to offset emissions and demonstrate progress toward compliance. Illustrative examples of GHG Mi igation Measures include, but are not limited to:

8 0.3.1 The addition of transit resources in a manner that can displace VMT.

8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.

8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use in a way that links and rewards transporta ion project investments with the city making these changes.

8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.

8.03.5 Improving the safety and efficiency of crosswalks for pedestrians, bicyclists, and other non-motorized vehicles, including to advance compliance with the ADA.

8.03.6 Adopting locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.

8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.

8.03.8 Establishing policies for clean construction that result in scalable improvements as a result of factors like lower emission materials, recycling of materials, and lower truck emissions during construction.

8.03.9 Adoption of transportation demand management practices that reduce VMT.

8.03.10 Encourage local adoption or expansion of school bus programs or a school carpool programs to reduce private vehicle trips.

8.03.11 Encourage the replacement of high congestion traffic controls with roundabouts to smoo h traffic flow, reduce idling, eliminate bottlenecks, and manage speed.

8.03.12 Electrify loading docks to allow transporta ion refrigeration units and auxiliary power units to be plugged into the electric grid at the loading dock instead of running on diesel.

8.04 Air Pollution Control Division (APCD) Confirmation and Verification

8.04.1 At least forty-five (45) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to APCD for review and verification of the technical data contained in he draft GHG Transportation Report required per Rule 8.02.5. If APCD has not provided written verification or committed to a review schedule within hirty (30) days, CDOT will commission review by an outside contractor ~~the document shall be considered acceptable~~.

8.04.2 At least thirty (30) days prior to adoption or amendment of policies per Rule 8.02.3, CDOT shall provide APCD the opportunity to review and comment. If APCD has not provided written comment within forty-five (45) days, the document shall be considered acceptable.

8.05 Enforcement. The Commission shall review all GHG Transportation Reports to determine whe her the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance. The Commission may not review a GHG Transportation Report until the report has undergone APCD confirmation and verification per Section 8.04.1 and has been deemed acceptable. The Commission shall review and act, by resolution, on a GHG Transportation Report within thirty (30) days of receipt of the report or at the next regularly scheduled Commission Meeting, whichever is later.

8.05.1 If the Commission determines the requirements of Rule 8.02.5 have been met, the Commission shall, by resolution, accept the GHG Transportation Report.

8.05.2 If the Commission determines, by resolution, the requirements of Rule 8 02.5 have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02 5.1.1 or 8.02.5.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG. Prior to the enforcement of such restriction, an MPO, CDOT or a TPR in a non-MPO area, may, within thirty (30) days of Commission action, issue one or bo h of the following opportunities to seek a waiver or to ask for reconsideration accompanied by an opportunity to submit addi ional information:

8 05.2.1 Request a waiver from the Commission imposing restrictions on specific projects not expected to reduce GHG emissions. The Commission may waive the restrictions on specific projects when applicants use CDOT's waiver form that specifies ~~on~~ the following ~~basis~~:

Commented [A8]: Weld County recommends that CDOT evaluate the feasibility of, and provide examples of, transportation GHG mitigation measures for rural areas. Three examples are provided in revised rule language in Section 8.03.

Commented [A9]: t is not clear what steps would need to be taken if the APCD does not consider a GHG Transportation Report acceptable.

Weld County recommends establishing a process for CDOT and the MPOs to follow if the APCD considers a GHG transportation report unacceptable, including the process and timeframes for revisions and resubmission for review, as needed.

Commented [A10]: Weld County recommends revising this section to ensure GHG Transportation Reports undergo technical review and verification.

Commented [A11]: Weld County recommends adding this language to ensure GHG Transportation Reports have undergone review and verification of the technical data by the APCD prior to review and evaluation by the TC.

Commented [A12]: Weld County recommends adding this language to ensure the TC reviews and evaluates the compliance of GHG Transportation Reports within a specified timeframe.

Commented [A13]: It is not clear when funding restrictions would be implemented or to which projects they would apply. Weld County therefore recommends the Proposed Rule be modified to specify the timeframe for enforcement and applicability to projects.

8.05.2.1.1 The GHG Transporta ion Report reflected significant effort and priority placed, in total, on projects and GHG Mitigation Measures that reduce GHG emissions; and

8.05.2.1.2 In no case shall a waiver be granted if such waiver results in a substantial increase in GHG emissions when compared to the required reduction levels in this Rule.

Commented [A14]: Weld County understands that some flexibility in the waiver review process may be desirable, but nonetheless recommends that CDOT clarify the criteria used to evaluate waivers. For example, guidance on how "significant effort" will be evaluated should be provided, and a "substantial increase in GHG emissions when compared to the required reduction levels" should be quantified. CDOT should provide a standardized waiver form.

8.05.2.2 Request reconsideration of a non-compliance determination by the Commission and provide written explanation of how the requirements of Rule 8.02.5 have been met.

8.05.2.3 The Commission shall act, by resolution, on a waiver or reconsideration request within thirty (30) days of receipt of the waiver or reconsideration request or at the next regularly scheduled Commission Meeting, whichever is later. ~~If no action is taken within this time period, the waiver or reconsidera ion request shall be deemed to be denied.~~

8.05.3 Notwithstanding any other provision of this Rule, CDOT, DRCOG and NFRMPO must meet the requirements of § 43-4-1103, C.R.S.

8.06 Reporting. Beginning July 1, 2025, and every 5 years thereafter, the Executive Director on behalf of CDOT shall prepare and make public a comprehensive report on the statewide GHG reduction accomplishments.

9.00 Materials Incorporated by Reference

9.01 The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements in Rule 9.01.1 and federal funding programs in Rules 9.01.2 and 9.01.3, which are incorporated into the Rules by this reference, and do not include any later amendments.

9.01.1 Fixing America's Surface Transportation Act or the "FAST Act"), 23 U.S.C. §§ 134, 135 and 150, Pub. L. No. 114-94, signed into law on December 4, 2015, and its accompanying regulations, where applicable, contained in 23 C.F.R.Part 450, including Subparts A, B and C in effect as of November 29, 2017, and 25 C.F.R. § 170 in effect as of November 7, 2016.

9.01.2 Congestion Mitigation and Air Quality Improvement (CMAQ) Program, 23 U.S.C. § 149, in effect as of March 23, 2018.

9.01.3 Surface Transporta ion Block Grant (STBG) Program, 23 U.S.C. § 133, in effect as of December 4, 2015.

9.02 Also incorporated by reference are the following federal laws and regula ions and do not include any later amendments:

9.02.1 Americans with Disabilities Act (ADA), 42 U.S.C. § 12101, *et. seq.*, in effect as of January 1, 2009.

9.02.2 Clean Air Act (CCA), 42 U.S.C. §§ 7407-7410, and 7505a, in effect as of November 15, 1990.

9.02.2 Transportation Conformity Regulations, 40 C.F.R. § 93.101, in effect as November 24,1993.

9.03 Also incorporated by reference are the following documents, standards, and models and do not include any later amendments:

9.03.1 Greenhouse Gas Pollution Reduction Roadmap by the Colorado Energy Office and released on January 14, 2021.

Commented [A15]: Weld County recommends striking this language to avoid denial of waivers or reconsideration requests simply due to inaction.

9.03.2 MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity released by the U.S. Environmental Protection Agency, in effect as of January 7, 2021.

9.04 All referenced laws and regulations are available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.

9.05 Copies of the referenced federal laws and regulations, planning documents, and models.

9.05.1 Copies of the referenced United States Code (U.S.C.) may be obtained from the following address:

Office of the Law Revision Counsel
U.S. House of Representatives
H2-308 Ford House Office Building
Washington, DC 20515
(202) 226-2411
https://uscode.house.gov/browse.xhtml

9.05.2 Copies of the referenced Code of Federal Regulations (C.F.R.) may be obtained from the following address:

U.S. Government Publishing Office
732 North Capitol State, N.W.
Washington, DC 20401
(866) 512-1800
https://www.govinfo.gov/

9.0.5.3 Copies of the Greenhouse Gas Pollution Reduction Roadmap (Roadmap) may be obtained from the following address:

Colorado Energy Office
1600 Broadway, Suite 1960
Denver, CO 80202
(303) 866-2100
energyoffice.colorado.gov

9.0.5.4 To download MOVES3 released by the U.S. Environmental Protec ion Agency may be obtained from the following address:

U.S. Environmental Protection Agency
The Office of Transportation and Air Quality
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
(734) 214–4574 or (202) 566-0495
mobile@epa.gov
https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

10.00 Declaratory Orders

10.01 The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.

Editor's Notes

History

Entire rule eff. 12/15/2012.

Section SB&P eff. 05/30/2013.

Entire rule eff. 09/14/2018.

Annotations

Rules 1.22, 1 25, 1.42, 2.03.1 – 2.03.1.4, 4.01, 4.02.1 – 4.02.3, 4.02.5.9, 4.04.2.2, 4.04.2.4, 4.06.1.7, 6 01.2, 7.01, 7.03 – 7.04 (adopted 10/18/2012) were not extended by Senate Bill 13-079 and therefore expired 05/15/2013.

WeldCo_EX-002

From: Elizabeth Relford
Sent: Friday, August 6, 2021 10:32 AM
To: shoshana.lew@state.co.us
Cc: rebecca.white@state.co.us
Subject: CDOT Rulemaking/Project Questions

Hi Executive Director Lew,

As the Deputy Director for Weld County Public Works, I have been paying special attention to CDOT's rulemaking process, and in particular the Greenhouse Gas Pollution Reduction Planning Rulemaking. I have several questions about
the process I hope you can help answer:

- Creating CDOT's Regulatory Agenda
    - How does CDOT create its annual Regulatory Agenda, including the new rules it intends to propose?
    - What criteria does CDOT use to select transportation projects for its Regulatory Agenda?
    - In the 10-year Development Plan, what criteria is CDOT using to decide which 5-10 year projects are being advanced over years 1-4 projects?
    - Following finalization of GHG Pollution Reduction Roadmap in HB-19 1261 and SB 21-260, how does CDOT select projects for funding to further the Roadmap's objectives?
- Altering CDOT's Regulatory Agenda
    - How does CDOT decide to alter the Regulatory Agenda?
    - What criteria does CDOT use to determine whether the Regulatory Agenda should be altered in light of recent legislation?
    - Does CDOT issue a record of decision or other formal justification supporting its decision to alter the Regulatory Agenda?

Lastly, would you please provide information related to CDPHE's inputs and outputs from EPA's Motor Vehicle Emission Simulator (MOVES) model, including fleet characteristics like age distribution and vehicle type, and any associated documentation/data source references?

If you have any questions or are unclear on what I am requesting, please do not hesitate to contact me. I know you are busy so I really appreciate your time.

Sincerely,

[redacted]
Deputy Director
Weld County Public Works

WeldCo_EX-003

[redacted]

August 26, 2021

[redacted]

Re: Request for Cost-Benefit Analysis and Regulatory Analysis Under the Colorado Administrative Procedure Act in the Matter of Proposed Revisions to Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions, 2 CCR 601-22

Executive Director Lew and Executive Director Salazar:

The Board of County Commissioners of Weld County, Colorado ("Weld County") submits this request to the Colorado Department of Regulatory Agencies ("DORA") for a cost-benefit analysis under C.R.S. § 24-4-103(2.5) and a regulatory analysis under C.R.S. § 24-4-103(4.5) regarding the Colorado Department of Transportation's ("CDOT") proposed revisions to the rules governing the statewide transportation planning process and transportation planning regions, 2 CCR 601-22 (the "Proposed Rule").[1]

[1] It is not clear whether CDOT or the Transportation Commission is the proponent of this proposed rule. *See, e.g.*, *Project Fact Sheet Regarding Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards*, Colo. Dep't of Transp. (stating "*CDOT* is

I. BACKGROUND

On August 13, 2021, CDOT filed a Notice of Proposed Rulemaking with the Colorado Secretary of State to consider revisions to the Proposed Rule. Among other things, the Proposed Rule aims to reduce greenhouse gas ("GHG") emissions from the transportation sector. If finalized, the rule would require CDOT and the state's five Metropolitan Planning Organizations ("MPOs") to determine the total GHG emissions expected from future transportation projects and take steps to ensure that emissions do not exceed set GHG reduction amounts.

The transportation sector is one of the largest contributors to GHG and ozone precursor emissions, and Weld County generally supports efforts to reduce air pollution, including GHG emissions, from this sector. The Proposed Rule will impact individuals living in Weld County, as well as transportation projects planned throughout the county. As an interested stakeholder, Weld County must be able to assess the impacts of the Proposed Rule. However, CDOT has not yet provided any documentation or analysis to explain the rule or how it calculated the baseline emissions or reduction levels. Accordingly, Weld County submits this request for a cost-benefit analysis and regulatory analysis to provide this missing information.

II. LEGAL STANDARD

Under two separate provisions of the APA, "any person" may request additional economic and regulatory impact analyses. C.R.S. §§ 24-4-103(2.5), (4.5). Given the lack of analysis or supporting documentation accompanying the Proposed Rule, Weld County requests both a cost-benefit analysis and regulatory analysis to ensure the Transportation Commission fully considers the economic and regulatory impacts of the Proposed Rule.

A. DORA-Ordered Cost-Benefit Analysis Under C.R.S. § 24-4-103(2.5)

Under C.R.S. § 24-4-103(2.5)(a) "any person may, within five days after publication of the notice of proposed rule-making in the Colorado Register, request that [DORA] require the agency submitting the proposed rule or amendment to prepare a cost-benefit analysis." Such cost-benefit analysis shall include the following:

1. The reason for the rule or amendment;

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proposing a new standard to reduce greenhouse gas emissions from the transportation sector . . . .") (emphasis added); *Press Release Regarding Colorado Developing New Pollution Reduction Planning Standards to Address Climate Change and Air Quality*, Colo. Dep't of Transp. (stating the "*Colorado Transportation Commission* today proposed bold new transportation pollution reduction planning standards . . . .") (emphasis added). This request for a cost-benefit analysis and regulatory analysis is directed to CDOT. If this is incorrect, Weld County asks that this request be redirected to the Transportation Commission.

2. The anticipated economic benefits of the rule or amendment, which shall include economic growth, the creation of new jobs, and increased economic competitiveness;

3. The anticipated costs of the rule or amendment, which shall include the direct costs to the government to administer the rule or amendment and the direct and indirect costs to business and other entities required to comply with the rule or amendment;

4. Any adverse effects on the economy, consumers, private markets, small businesses, job creation, and economic competitiveness; and

5. At least two alternatives to the proposed rule or amendment that can be identified by the submitting agency or a member of the public, including the costs and benefits of pursuing each of the alternatives identified.

C.R.S. § 24-4-103(2.5)(a)(I) – (V).

CDOT has not yet provided an economic analysis of the Proposed Rule or otherwise addressed these considerations. To assess the factors set forth above, Weld County requests a complete cost-benefit analysis under C.R.S. § 24-4-103(2.5).

B. Regulatory Impact Analysis Under § 24-4-103(4.5)

Under C.R.S. § 24-4-103(4.5) "upon [the] request of any person, at least fifteen days prior to the hearing, the [Division] shall issue a regulatory analysis of a proposed rule." Such regulatory analysis must contain:

1. A description of the classes of persons who will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule;

2. To the extent practicable, a description of the probable quantitative and qualitative impact of the proposed rule, economic or otherwise, upon affected classes of persons;

3. The probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues;

4. A comparison of the probable costs and benefits of the proposed rule to the probable costs and benefits of inaction;

5. A determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule; and

6. A description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule.

24-4-103(4.5)(a)(I) – (VI).

To assess the factors set forth above, Weld County requests a complete regulatory analysis under C.R.S. § 24-4-103(4.5).

III. WELD COUNTY REQUESTS BOTH A COST-BENEFIT ANALYSIS AND A REGULATORY IMPACT ANALYSIS UNDER THE STATE APA

Weld County requests that DORA require CDOT to perform both a cost-benefit analysis pursuant to C.R.S. § 24-4-103(2.5) and a regulatory impact analysis under C.R.S. § 24-4-103(4.5) with respect to the Proposed Rule.

As an initial matter, Weld County submits this request in advance of publication of the Proposed Rule in the Colorado Register and well before the first hearing scheduled on September 14, 2021. *See* C.R.S. §§ 24-4-103(2.5), (4.5). Moreover, the DORA website states that requests for a cost benefit analysis for the Proposed Rule are due on August 30, 2021. Rules Governing Statewide Transportation Planning Process and Transportation Planning Region, https://www.dora.state.co.us/pls/real/SB121_Public_Comment_GUI.submission_form?p_rule_id=8981. Because this request is being submitted on August 26, 2021, it is timely.

Importantly, CDOT has not provided any type of analysis or the underlying documentation supporting its Proposed Rule. For instance, Table 1 and Table 2 listed on page 25 of the Proposed Rule set forth the GHG transportation planning reduction levels and baseline emissions, respectively. CDOT has not provided critical information regarding these tables, such as what methodology was used to reach these figures and what inputs and assumptions were used in the modeling. Accordingly, there is no way to evaluate the reasonableness of these figures or the efficacy of the Proposed Rule.

To allow interested stakeholders and the Transportation Commission to adequately evaluate the Proposed Rule, Weld County requests that CDOT provide supporting documentation—such as a technical support document, if available—describing the methods used to conduct the analysis for the GHG estimates in Table 1 and Table 2 of the Proposed Rule. Specifically, Weld County requests the following information be provided to all stakeholders and the Transportation Commission:

- Model inputs and outputs for all models used in the analysis, i.e., Land Use Model(s), EERPAT, MPO Models and Statewide Travel Model, and the Approved Air Quality Model, as applicable;

- Assumptions used in all models;

- Population growth data and assumptions;

- Data, assumptions, or modeling related to electric sector grid mix in future target years;

- Description of different scenarios considered in the modeling, if any, and which scenario was selected to determine GHG estimates shown in Table 1 and Table 2 of the Proposed Rule; and

- Description of any qualitative or off-model adjustments used to determine the GHG estimates in Table 1 and Table 2 of the Proposed Rule.

Weld County has separately requested from CDOT data regarding the Proposed Rule. To ensure that this information is provided to all interested stakeholders, and to enable the Transportation Commission to make an informed decision, Weld County requests that DORA require CDOT to produce this information in connection with its cost-benefit analysis and its regulatory impact analysis. This is what the Colorado APA requires. *See* C.R.S. §§ 24-4-103(2.5), (4.5).

IV. CONCLUSION

For the above-stated reasons, Weld County respectfully requests that DORA require CDOT to conduct a cost-benefit analysis under C.R.S. § 25-7-103(2.5) and a separate regulatory impact analysis under C.R.S. § 25-7-103(4.5). This information will enable the Transportation Commission to make a better-informed decision on the proposed revisions to the rules governing the statewide transportation planning process and transportation planning regions, 2 CCR 601-22.

WeldCo_EX-004

September 17, 2021

VIA ONLINE SUBMISSION

Colorado Department of Transportation ("CDOT")
2829 W Howard Place
Denver, Colorado 80204

Re: Colorado Open Records Act Request

Dear Custodian of Records,

Pursuant to the Colorado Open Records Act ("CORA"), §§24-72-201 *et seq.*, Weld County respectfully requests copies of the following public records (including all Correspondence, Electronic Mail, and Writings, as such terms are defined in § 24-72-202):

- All documents, files, and correspondence (including emails) describing the methods used to conduct the analysis for the greenhouse gas ("GHG") estimates in Table 1 and Table of CDOT's proposed revisions to the rules governing the statewide transportation planning process and transportation planning regions, 2 CCR 601-22 (the "Proposed Rule"), and specifically:
    - Model inputs and outputs for all models used in the analysis, i.e., Land Use Model(s) (including but not limited to UrbanSim), EERPAT, MPO Models and Statewide Travel Model, and the Approved Air Quality Model, as applicable;
    - Assumptions used in all models and any deviations from default model inputs and assumptions;
    - Population growth data and assumptions;
    - Data, assumptions, or modeling related to electric sector grid mix in future target years;

- Description of different scenarios considered in the modeling, if any, and which scenario was selected to determine GHG estimates shown in Table 1 and Table 2 of the Proposed Rule; and

- Description of any qualitative or off-model adjustments used to determine the GHG estimates in Table 1 and Table 2 of the Proposed Rule.

Weld County will pay all reasonable fees associated with this request, up to a maximum of $500. If the applicable fees associated with this request are expected to exceed this amount, please notify me of the expected amount and obtain my authorization to pay the additional amount before processing this request any further.

As you know, the deadline to respond to this request under the statute is within three working days following receipt of this letter. *See* C.R.S. § 24-72-203(3)(b).

If all or any of the requested records are not in your custody or control, please state to the best of your knowledge the reason for the absence of the records, their location, and what person or persons has custody or control of the records. *See* C.R.S. § 24-72-203(2)(a). If you deny any or all of this request, please cite each specific exemption that you believe justifies the refusal to release the information.

If you have any questions about this letter, or are unclear on what we are requesting, please do not hesitate to call me.

Sincerely,

WeldCo_EX-005

[redacted]

October 8, 2021

[redacted]

Re: Colorado Department of Transportation ("CDOT") Response to Colorado Open Records Act ("CORA") Request, Dialog Case No. 86981

Dear Director Lew and Mr. Hogle:

Your response to the Board of County Commissioners of Weld County, Colorado's ("Weld County") CORA Request is insufficient to satisfy your obligations under Colorado law. Weld County respectfully requests you supplement your response as soon as possible.

"CORA creates a presumptive right of public inspection of public records." *Mountain-Plains Inv. Corp. v. Parker Jordan Metro. Dist*., 2013 COA 123, ¶ 38, 312 P.3d 260 (citing C.R.S. §§ 24–72–201, 24–72–203(1)(a), 24–72–204(1)). Thus, courts "must narrowly construe exceptions from CORA's presumption in favor of public access to public records." *City of Fort Morgan v. E. Colorado Pub. Co*., 240 P.3d 481, 486 (Colo. App. 2010). "When the custodian [of public records] is a government agency, the burden of proving that a record is not public is on that agency …." *Mountain-Plains*, ¶ 23. So, too, in the context of a CORA request, "[t]he burden of establishing the applicability of [a] privilege rests with the claimant of the privilege." *Black v. Sw. Water Conservation Dist*., 74 P.3d 462, 467 (Colo. App. 2003); *see also City of Colorado Springs v. White*, 967 P.2d 1042, 1056 (Colo. 1998) ("As it does in the discovery context, the government entity asserting the privilege has the initial burden of proof in response to a public records request.").

CDOT's response to Weld County's CORA request is deficient because the agency has not provided the requested information, nor has it established its basis for withholding that information. In an email dated October 1, 2021, Mr. Hogle explained that CDOT responded to Weld County's request by withholding "three otherwise responsive records" on the basis of privilege, and indicated that Weld County would receive a signed, notarized *Vaughn* index detailing these records soon. To date, Weld County has not received that index. Moreover, Weld County does not believe the index will provide an adequate basis for withholding the requested modeling data and data sources on the basis of privilege.

On multiple occasions, Weld County has requested MOVES modeling data (including model inputs and outputs) and associated documentation, data sources, and references regarding CDOT's revisions to 2 CCR 601-22, Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions ("Proposed Rule"). Weld County first requested this information by email on August 6, 2021, and again on August 27, 2021, in its request for a cost-benefit analysis and regulatory analysis. CDOT provided a cost-benefit and regulatory analysis before the first rulemaking hearing, but this analysis did not include the requested modeling data, nor did it provide the information necessary to fully understand and review the assumptions and methodology used in the modeling.

Given CDOT's failure to respond to Weld County's multiple data requests, Weld County submitted a CORA request on September 17, 2021. After extending the deadline on at least one occasion, CDOT finally responded to Weld County on October 1, 2021, just two weeks before written comments on the Proposed Rule close. Here again, CDOT failed to provide the requested model input and output files for the MOVES model,[1] including:

- MariaDB or mySQL input databases from MOVES
- MariaDB or mySQL output databases from MOVES
- Run specification file, i.e. runspecs (.mrs) from MOVES
- MOVES lookup tables (rate per distance, rate per vehicle) exported as .csv files from databases
- Post-processing files (excel spreadsheets, scripts, etc.) used to calculate GHG emissions based on MOVES EFs and VMT inputs

Simply put, CDOT should provide all files necessary for stakeholders to be able to run the model and verify the greenhouse gas ("GHG") emission estimates in the Proposed Rule.

To date, CDOT has not provided some of the key analyses, data, and the underlying documentation used to develop the Proposed Rule. This information is critical to evaluating the reasonableness of the Proposed Rule's GHG emission estimates and the overall efficacy of the Proposed Rule. Without this data, Weld County and the public have been deprived of a meaningful opportunity to comment on the Proposed Rule. Indeed, other stakeholders noted in their comments that they have requested—but not yet received—technical information that is

[1] Weld County referred to the MOVES model as the "Approved Air Quality Model" in the CORA request, following the definition in the Proposed Rule.

critical to their analysis of the Proposed Rule. Moreover, because CDOT has failed to provide the *Vaughn* index to date, Weld County has not had a meaningful opportunity to examine CDOT's claims of privilege or exception.

Accordingly, Weld County reiterates its request for modeling files and supporting documentation, such as a technical support document, describing the methods used to conduct the analysis for the GHG estimates in Table 1 and Table 2 of the Proposed Rule. Similarly, Weld County requests that you provided a *Vaughn* index identifying and describing in detail each document that has been withheld, including the document's author, recipient and subject matter, and a description of the privilege or exception asserted. We request that this information be provided no later than October 11, 2021.

If the CDOT denies this request in whole or in part, this letter constitutes Weld County's statutory notice of its intention to apply for the assistance of the district court to show cause why the documents are being withheld. *See* C.R.S. § 24-72-204(5).

Thank you in advance for your prompt attention to and consideration of this request.

WeldCo_EX-006

-----Original Message-----
From: [redacted]
Sent: Friday, October 8, 2021 4:02 PM
To: [redacted]
Subject: RE: Dialog case #86981 - CORA Request: [redacted] [ref:_00DF08MQ5._5002I2LbiqM:ref]

[redacted]

We are in receipt of your follow up email concerning MOVES input and output files. The Colorado Department of Transportation is not in possession of any additional records responsive to your records request.

In our initial response to your request, we provided you with the same files that we gave to Air Pollution Control Division (APCD) at the Colorado Department of Public Health and Environment, which constitute our inputs to MOVES. We also provided you with the output files that APCD provided to us. Since APCD runs MOVES, please contact Gary Kaufman at CDPHE (garrison.kaufman@state.co.us) regarding any additional files they may have.

You will find attached the privilege log relating to the three withheld records, as well as an invoice for CDOT staff time spent responding to your request.

Please consider your request closed.

Thank you,
Andrew

---------- Original Message ----------
From: [redacted]]
Sent: 10/6/2021 5:18 PM
To: dot_info@state.co.us
Cc [redacted];
[redacted]
Subject: RE: Dialog case #86981 - CORA Request: [redacted] [ ]

Mr. Hogle:

Thank you for the information.

Upon review of the information, we see that CDOT did not provide MOVES input and output files. We did receive model files for EERPAT and the statewide travel model, and some GIS files that seem to show roadway/traffic data (such as roadway lengths, etc.), but no files that are directly used in the MOVES model.

The MOVES input and output files are critical for our review of the proposed CDOT GHG rules. Is there some reason those files were not provided? Are they considered to be privileged? If so, for what reason?

Additionally, I have not yet seen your Vaughn Index as of today.

[redacted]

[Logo 2012 Color]

From: [redacted]
Sent: Friday, October 1, 2021 5:06 PM
To: [redacted]
Subject: Dialog case #86981 - CORA Request: [redacted]

[redacted]

We are in receipt of your September 17, 2021 records request concerning the GHG rulemaking 2 CCR 601-22. The need to cite extenuating circumstances, specifically C.R.S. § 24-72-203(3)(b)(II)(A), was due to the fact that CDOT is currently attempting to schedule and hold nine public hearings within a three week period. Many of the subject matter experts and other staff that would have been responsible for gathering responsive records are also directly involved in preparing for and executing these hearings. Thank you for your patience and understanding.

You will find the records you requested at the following Google Drive link.

[redacted]

[redacted]

Note that there are three otherwise responsive records which are being withheld for privilege. A signed and notarized Vaughn Index detailing these records will be prepared and sent to you next week. An invoice for staff time spent responding to your request will also be sent to you.

Andrew Hogle
Records Request Officer
Colorado Department of Transportation, Office of Communications
2829 W. Howard Place, Denver, CO 80204

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment for GHG Reduction Standards

1 me age

[redacted] Thu, Oct 14, 2021 at 5:33 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Good Evening,

After reading about the proposed transportation projects I had a question regarding the building materials.

Since con truction project can produce a great deal of Greenhou e Ga emi ion will u tainable material be u ed in the proposed transportation projects?

If so, which ones and what research has been done on the potential materials?

Thank you for your time and the opportunity to submit my comment.

Very Respectfully,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Input on Greenhouse Gas Transportation Planning Standard

1 me age

[redacted] Thu, Oct 14, 2021 at 6:44 PM

To: dot_rules@state.co.us

Cc [redacted]

Thanks for the opportunity to provide input.
Please see attached from Community Cycles.
Thank you

--

[redacted]

Join the Movement, Become a Member!

CC Comment on Greenhou e Ga propo ed rule (1) pdf
62K

COMMUNITY CYCLES
Creating a culture of cycling

[redacted]

COMMUNITYCYCLES.ORG

10/14/2021

Community Cycles' comments on the proposed Greenhouse Gas Transportation Planning Standard

We commend CDOT and the State of Colorado for acknowledging the climate crisis and the need for urgent action. In order to meet our emissions reductions targets, we support CDOT's proposed Greenhouse Gas Transportation Planning Standard. We suggest the following amendments to strengthen this rule.

Given the magnitude of the climate crisis, we urge CDOT to establish the greatest amount of emissions reductions under consideration for this rulemaking: 1.5 million metric tons. In other words, don't water it down!

Electric cars will help to reduce greenhouse gases (GHG) emissions, but they alone won't solve the problem, especially in the short term. Electric cars are currently only a small portion of the private vehicle fleet and it will take them decades to displace fossil-fuel-powered vehicles. Meanwhile, much of our electric generation mix remains far from GHG-free. Therefore, a reduction in Vehicle Miles Traveled (VMT) is the only effective means to meet the 2025 and 2030 targets. Reducing VMT has other benefits, including:

- reducing the negative impacts of driving on historically impacted communities
- improved safety
- decreased local air pollution
- reduced noise
- decreased traffic congestion.

Reducing VMT also addresses one of Community Cycles' primary concerns, making bicycling safer.

We believe that projects that maintain our infrastructure in a state of good repair – such as bridge repair, guardrails, resurfacing, and ongoing maintenance -- and which are greenhouse-gas neutral, should be among the state's highest road and highway priorities. In order to meet the GHG reductions targets, spending on expansion of highway capacity – including new general purpose lanes, road widening, and higher capacity interchanges and intersections – should be severely restricted. Funds should be placed towards making transit, cycling, and walking safer, easier, faster, and less expensive than driving.

We are concerned about the waiver process as currently proposed. The rulemaking is like putting yourself on a diet. The waiver process is like giving yourself permission to have an extra dessert. Unless that dessert is within the limits of your diet, your diet will not succeed. As currently proposed, isn't the waiver process much like letting ourselves eat to our heart's content?

The very existence of a waiver process that allows capacity expansion, leading to more VMT, would undermine the whole purpose of the rule. However, we do support a waiver process for safety projects that do not induce higher VMT. They may not reduce emissions, but they also don't increase emissions. In cases where the state or an MPO are failing to meet GHG targets, waivers should only be allowed to fund safety projects.

We commend CDOT for acknowledging the phenomenon of induced demand. However, we believe that CDOT and the Transportation Commission have not fully recognized the variety of projects that contribute to induced demand. In addition to adding lane miles, everything else we do to make driving easier – including additional turn lanes, intersection operation improvements, and additional auxiliary lanes – adds capacity and thereby causes people to drive more miles. As long as we continue to spend our transportation money on making it easier to drive, VMT will increase and traffic congestion will always return, undoing any short-term GHG reductions achieved from less car idling. This reality – which is now broadly acknowledged by state and national DOTs – has direct bearing on how these projects should be modeled.

Thank you for your thorough public process and for advancing this necessary change that can decrease Colorado's contribution to global warming.

Sincerely,
Community Cycles Advocacy Committee

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards, 2 CCR 601-22 - Comments

1 message

[redacted] Thu, Oct 14, 2021 at 11:24 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Dear Colorado Department of Transportation and Governor Polis,

Thank you for the opportunity to comment on the Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards, 2 CCR 601-22, and for your efforts in this rulemaking process. I am a concerned citizen from Avon, Colorado and formerly a natural re ource and finance profe ional with a focu on u tainability My concern for the climate crisis grows every day. As the UN Secretary General noted, the most recent IPCC report is signaling "Code Red" for humanity

I support a strong GHG standard for future transportation projects because our mountain communities are suffering from increasing fires, floods, mudslides, and heat. Seriously addressing transportation emissions is an important step to mitigating the e threat

I upport the following

Require tran portation project to meet the tate climate roadmap goal that call for a 10% reduction in vehicle mile traveled (VMT) by 2030 with clear targets and enforcement mechanisms.

Implement the rules as soon as possible to meet our GHG reduction goals.

- Prioritize multimodal transit, bike lanes, and walking projects -- these sustainable modes of transportation mitigate and reduce both highway expansion pollution and VMTs.

- Consider harmful air-pollution when selecting transportation improvement projects; all projects should have to model VMT impacts.

- I am also writing to ask that the rule include more investment in public transportation such as a rail system in the mountain re ort area We are eeing ignificantly increa ed vehicle traffic on I 70 Thi tretch of road i becoming congested and more dangerous due to increased vehicle miles traveled, traffic accidents, recurring bad weather, closures and detours. This not only causes fatalities to CO citizens and guests but also results in negative economic impact to businesses and employees as a result of frequent highway closures. Connecting Denver to the e area and connecting the e area to each other via rail would be very beneficially impactful to the state and CO could serve as a great example to the rest of the world.

- I would like to suggest that across Colorado, communities lack access to non-polluting, reliable, and affordable transportation options, which impacts their access to healthcare, education, employment, recreation and food.

New roads are not only environmentally harmful, but they're also financially unsustainable because they commit future dollars to expensive road maintenance. Studies show that widening highways leads to more traffic and pollution

Climate change i happening right now in Colorado, and the tate mu t hift it prioritie to en ure the health and afety of all Coloradoans. The primary set of transportation solutions can no longer be on infrastructure that supports single occupancy vehicles. We are calling on you to be creative and shift the focus to reducing vehicle miles traveled via multimodal, accessible, and transportation options that are beneficial for all.

Thank CDOT for undertaking the project. We are excited by the possibilities. The future is literally in your hands.

Thank you,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Rulemaking Public Comments

1 me age

Willis - CDOT, Aaron <aaron.willis@state.co.us> Fri, Oct 15, 2021 at 8:48 AM
To: DOT_Rules@state.co.us

Hello Aaron,

I understand you are involved in helping with GHG rulemaking. I am writing to express my opinion that telework should be a MAJOR part of it. If people can work remotely, they should! This is the biggest thing we can do to reduce pollution from the car It will al o free up peak our traffic for tho e who need it like ervice ector worker and parent with children in school. So, I believe ther is also an equity aspect to telework.

Please, do not raise taxes. It's already hard enough to live in Colorado. If you take money from people, it should be voluntary That i to ay without force

Please, no new taxes and greater emphasis on teleworking.

Thank !

[redacted]

Sent with ProtonMail Secure Email.

Aaron Willis
Statewide and Regional Planning Section Manager

COLORADO
Department of Transportation
Division of Transportation Development

2829 W. Howard Place, Denver CO, 80204
aaron.willis@state.co.us | www.codot.gov | http://ytp.codot.gov/

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Pollution Planning comment

1 me age

[redacted] Fri, Oct 15, 2021 at 1:03 PM

To: dot_rules@state.co.us

Good afternoon,

Please see the following as some of my thoughts and concerns surrounding the current rule making. Thank you for the opportunity to comment.

Best regards,
[redacted]

****

July was the hottest month ever recorded, our Earth is hotter than it's ever been since the beginning of the last ice age, and yet Colorado is not on track to meet its climate targets! **It is critical that our state agencies embrace bold, transformative policies that drive broad scale decarbonization.** The current draft rule is a good start, but should be more ambitious to ensure that we meet our emissions reduction targets.

As a matter of environmental justice, **disproportionately impacted communities and communities of color must be at the heart of any decision making process** to en ure acce to affordable, multimodal, transportation options that reduce toxic air pollution and traffic congestion. Please also develop an equity framework beyond thi rulemaking that en ure that individual from di proportionately impacted communities are given a real seat at the decision making table.

GHG reduction levels in the draft rules do not add up to the 12.7 million metric tons of CO2e reductions from Transportation by 2030 figure outlined in the state's GHG Pollution Reduction Roadmap issued by Governor Polis' Office in January of this year. Coloradans deserve a clear, enforceable, and equitable plan to reduce GHG emissions from the transportation sector — not more account tricks.

The draft rules rely heavily upon optimistic electric vehicle (EV) adoption rates and provide no alternative propo al for achieving the e GHG reduction if EV adoption i lower than anticipated Therefore, this rule should adopt stricter carbon budgets that will allow us to meet our emissions reduction target given the liklihood that EV adoption doe not occur a fa t a thi rule anticipate

Instead of more highway expansion projects, Coloradans need more and better transportation alternatives to driving a vehicle — like electric bicycles and scooters for shorter trips, affordable and efficient public tran it for longer trip , e panded light rail and bu rapid tran it along major route , and better land use decisions to provide more bike lanes, sidewalks, and pedestrian-centric urban centers. This rule hould impo e a moratorium on highway e pan ion , a thi trategy ha only hown to increa e traffic, air pollution and displace neighborhoods.

The draft rules do not account for all greenhouse gas sources from vehicles. Hydrofluorocarbons (HFCs) are not included in the definition of a greenhouse gas. This is a significant omission because HFCs from vehicle air conditioners and refrigeration trucks are powerful GHGs with Global Warming Potentials (GWPs) hundreds to thousands of times greater than that of CO2.

Transportation models, assumptions, estimates and **figures used to guide transportation policy by CDOT must be transparent for the public** to engage in decision making processes that impact public health, traffic congestion and our state's GHG emissions.

Sent from my iPhone

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment for Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards

1 message

[redacted] Fri, Oct 15, 2021 at 3:09 PM

To: dot_rules@state.co.us

Dear Colorado Department of Transportation and Governor Polis,

Thank you for the opportunity to comment on the Greenhou e Ga Pollution Reduction for Tran portation Planning Proposed Standards, 2 CCR 601-22, and for your efforts in this rulemaking process. I am a concerned citizen as well as the Manager for the Eagle County Climate Action Collaborative. In this role, it is my job to work with community partners, local governments, utilities, and businesses to implement climate mitigation strategies in our mountain community.

I support a strong GHG standard for future transportation projects because such standards will help the state reach its emissions reduction goals, encourage multi-modal transportation methods that reduce vehicle miles traveled and improve the health and safety of all Colorado residents. We cannot expect that electric vehicles will be enough to stop emissions from the Tran portation Sector In addre ing thi global i ue of climate change, we have an opportunity to re think the way we design our systems of transportation to be more focused on people and community than on cars and highways. This opportunity cannot be squandered and the GHG Standard for CDOT will ensure that data is driving the decisions for any transportation systems we design and deploy.

Without a GHG standard in place, CDOT will continue to make decisions that drive us away from a clean energy economy rather than closer to it. The primary set of transportation solutions can no longer be on infrastructure that supports single-occupancy vehicles. We are calling on you to be creative and shift the focus to reducing vehicle miles traveled via multimodal, acce ible, and ju t tran portation option that are beneficial for all

The aggressive GHG reduction goals set for the State of CO will only be possible with a full-scale change in the way we currently do business. Carbon reduction must be at the center of every decision from every department at the State of CO Without thi full focu on the goal ahead, we will not be able to meet our GHG target and we will put our elve at the mercy of the risks brought on by a changing climate.

Our mountain community is currently, and will continue to be on the frontlines of climate change risks. From forest fires to poor air quality, to changing precipitation level that threaten our outdoor indu try We cannot let climate change run unchecked, and therefore I urge you to pass the GHG Standard for CDOT. Our future livelihood depends on it.

Thank you for your consideration,

[redacted]

walking mountains
sustainability

for everyone

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Sierra Club- Written Comments & Petition - Draft Transportation GHG Rule

1 me age

[redacted] Fri, Oct 15, 2021 at 5:19 PM

To: dot_rules@state.co.us, Shoshana.Lew@state.co.us

Cc Herman Stockinger CDOT Herman Stockinger@ tate co u , Jennifer Uebelher CDOT <Jennifer.Uebelher@state.co.us>

Dear CDOT Commissioners and CDOT Executive Director Shoshana Lew,

Thank you for your continued work to addre greenhou e ga (GHG) emi ion and other air pollutant from the transportation sector.

On August 12th, we delivered a petition signed by 119 Coloradans asking for strong transportation greenhouse gas rules. Following the draft rule relea e, an additional 278 Coloradan who re ide in 75 different citie igned the attached petition asking you to promulgate stronger rules to reduce greenhouse gas emissions from the transportation sector. Of those 278 who signed the second petition, 79 also made personal comments noting the urgency of the situation; those comments are in the attached document as well.

Thank you for your attention and consideration of these community voices in the rulemaking.

[redacted]

Sierra Club- Written Comments & Petition - Draft Transportation GHG Rule.pdf
359K

SIERRA CLUB
COLORADO

October 15, 2021

Colorado Department of Transportation
2829 W Howard Pl.
Denver, CO 80204

Re: Transportation GHG Rulemaking - Written Public Comments and Petition

Dear CDOT Commissioners and CDOT Director Shoshana Lew,

Thank you for your work on the Transportation Greenhouse Gas (GHG) Rulemaking.

On August 12th, we delivered a petition signed by 119 Coloradans asking for strong transportation greenhouse gas rules. Following the draft rule release, an additional 278 Coloradans who reside in 75 different cities signed the below petition asking you to promulgate stronger rules to reduce greenhouse gas emissions from the transportation sector. Of those 278 who signed the second petition, 79 also made personal comments noting the urgency of the situation; those comments are below as well.

Thank you for your attention and consideration of these community voices in the rulemaking.

Sincerely,

SIERRA CLUB
COLORADO

1) 79 Personal Written Public Comments

Arvada	
[redacted]	As a state we owe it to each other to reduce our impact on the health of the planet.
Bayfield	
[redacted]	Colorado needs to Focus on public transportation and clean emissions!
Boulder	
[redacted]	Be a frontrunner and change to electric NOW.
[redacted]	As someone who cares deeply about our planet and mitigating global warming I am disappointed in the goals CDOT has proposed. Please do more!
[redacted]	Air pollution including from motor vehicles has limited the time I've been able to spend outside including working in my yard and garden. It affects the quality of my life.
[redacted]	Transportation is a major source of Greenhouse Gas emissions. Pollution clean-up tends to drive adoption of electric vehicles
[redacted]	Emissions from motor vehicles are a leading cause of climate change and local air pollution (not to mention the death and injuries they cause). We can and must address this now. CDOT must stop building highways that harm us and start building transit including rail to preserve our health (reduce asthma obesity and traffic injuries and improve mental health) and prevent further greenhouse gas emissions. Electric cars are not enough. They pollute too. They kill too. The status quo is driving us into fires and drought. Real action is needed now. We need transit! We need to increase the price of driving gas powered vehicles and use the funds to create the clean and quiet transportation of the future.
[redacted]	I recently stood on the corner of Broadway and Baseline for about 30 minutes helping with my daughter's fundraiser for school. I had black mucus and had to cough for several hours afterwards. This is what our kids are breathing. We can do better.
[redacted]	The current state of pollution in this state is downright foul. While vehicle travel is only one part of this rulemaking, a statewide initiative to reduce these miles will be much more effective than simply

[redacted]

	encouraging people to drive less in a place with barely viable public transportation. I urge both of you to take this issue seriously.
[redacted]	This matters to me because my wife recently died unexpectedly of a cerebral hemorrhage, one of a variety of cardiovascular diseases in which petrochemical air pollution is implicated. I also have several cardiovascular conditions likely caused or aggravated by pollution. In addition the notoriously high ozone levels of the Front Range produced both by motor vehicles and by fracking force me to remain inside much of the summer. Thus both my family's health and my daily activities have been harmed by pollution.
[redacted]	People/corporations must be held accountable for their products. If you bake a cake and you promise it'll be gluten free sample cakes should be tested to make sure they are as advertised. Same goes for making vehicles - if they're supposed to emit fewer toxins into the air they should be tested and held to the advertised standard. If fewer miles traveled has been advertised as a reason for building a particular transit entity, steps/enticements must be taken to lessen the number of miles traveled.
Broomfield	
[redacted]	With cars & highways spewing out pollutants enough to rank Denver as one of the most polluted places to be...well we need to place an emphasis on reduced car usage and more emphasis on bikes and public transportation. This misguided idea that once we get "electric vehicles" everything will change is nothing but a lot of wishful thinking nonsense. Most electricity is still generated from fossil fuels. Get off the fossil-fuel sponsored crap! NOW!
Centennial	
[redacted]	Fossil fuel emissions need to be lowered now. This past summer has had too many ozone action days that negatively affect our human health and those of all living things in Colorado. This air pollution is causing illness among our young who will require asthma treatment for the rest of their lives and lives made short. Covid patients also are negatively affected by the bad air quality thwarting their recovery. Older people are becoming asthmatic and also have their lives shortened. This issue is not to be pushed off into a non-existent future that all of us may not have. NOW is the time to switch to electric run vehicles and large equipment that is powered by clean energy. The UN put out a CODE RED warning requiring emissions are at the tipping point and we must act NOW!!!!
[redacted]	I have three children who couldn't play or exercise outside on multiple

[redacted]

[redacted]	days this summer due to poor air quality. I know we Coloradans cannot fix California's fire problem but we can improve the air here at home!
[redacted]	Thank you Governor Polis and all the Colorado Elected Officials who worked to align State Spending with Our Climate Obligations!
Clifton	
[redacted]	I'm worried about climate changes. They are already happening now. I have grandchildren and I am very worried about their futures
Colorado Springs	
[redacted]	Transportation is the leading cause of greenhouse gas emissions in the country. We have made great advances in the utility sector. It is now time to take on transportation.
[redacted]	Public transportation is a safer cleaner alternative to gas-guzzling automobiles and it would open up a world of opportunity to underprivileged people that need reliable transportation but can't afford a car.
[redacted]	The city of Colorado Springs has ZERO emissions testing for gasoline vehicles. Tens of thousands of these gasoline vehicles commute to the Denver metro area every day. Also every single petroleum station in Colorado Springs lacks VOC vapor capturing on the gasoline nozzles. Combined these two major forms of front range pollution will continue to plague the entire state of Colorado from one city's mayor who is just waiting for out of attainment status. Instead of being proactive Colorado Springs is decades behind the most conservative cities in the conservative State of Texas. How does that make sense for a beautiful mountainous state such as Colorado? It doesn't. El Paso County and Colorado Springs will continue to permeate our air quality with ozone and other pollutants until the State of Colorado decides to reduce funding for the city and county. Please focus on this as it's our greatest opportunity for reducing pollution across the entire Front Range. Thanks
Cortez	
[redacted]	I want my descendants to have a clean world to live in.
[redacted]	I would love to see our state ahead in the fight to control climate change. With good common sense we can do it!
Craig	
[redacted]	My native Denver used to be healthy; now it is a polluted mess!!!

[redacted]

SIERRA CLUB
COLORADO

Denver	
[redacted]	Air quality in Denver is too toxic to safely exercise outside much of the year. It's hard to see the mountains at times due to smog. A lot of this is caused by cars. And that same pollution is heating up the planet and causing more very hot days in the Front Range and more wildfire risk. We desperately need to get gas powered cars off the road.
[redacted]	As I learned in grad school 15 years ago transportation accounts for the biggest portion of greenhouse gas emissions so we must at this crucial juncture in time do everything we can to curb those emissions and keep us from going beyond the tipping point.
[redacted]	We can't see the beautiful mountains some days. I understand a portion was from wildfires. But a lot had to do with our own pollution as well.
[redacted]	Lead by example CDOT! Let's clean up Denver's air so we can enjoy our city and breathe clean air.
[redacted]	The GHG Rule needs to reduce greenhouse gas emissions. Not codify the status quo of business as usual.
[redacted]	Clean air and a healthy place to live is important for us now and even more important for future generations.
[redacted]	The proposed rules for greenhouse gas emissions proposed by CDOT are not strong enough.
[redacted]	I am a citizen of Denver and of the world; I want to breathe cleaner air. Please help!
[redacted]	I am a U.S. citizen and Colorado resident with an MBA and twenty years experience. I am writing to urge you to ensure the Transportation Greenhouse Gas Rulemaking is strengthened through stronger enforcement guidelines. Thank you.
[redacted]	It is time for Colorado to step up and be a leader in reducing pollution. We have the know-how - where is the will?
[redacted]	We have the worst air in the world!!! It's beyond time to take action.
[redacted]	More comprehensive actions are required in order for CO to meet the environmental goals set during the campaign. Please work harder to live up to the goals set.
[redacted]	We are at a tipping point on this planet. Humans have really messed it up. Now it behooves us to make things better. Strengthening the GHG rule can really help.

[redacted]

[redacted]	Air quality continues to decline in our city of Denver making it an undesirable place to live. We need to get off of fossil fuels to improve the quality of our air!
[redacted]	We in Colorado decided to clean up our air in the 1970s and we actually DID IT! But we've now slowly devolved into putrid highly polluted air again....and with the fires it's extremely bad. Why can't we make the same commitment and clean up our air again? Make it healthy!! [redacted]
[redacted]	My child and I have asthma and suffer from all the pollution in the Denver metro area. We are considering moving after two summers of horrible smoke that makes the usual high ozone pollution more unlivable. Please please do something to help those of us with health conditions that are dying from exposure to this pollution
Durango	
[redacted]	Colorado's and my local economy depend greatly upon a stable climate and I feel we must do our part to lower emissions in our state and with transportation contributing the highest level of co2 emissions we MUSt reduce transportation pollution. Please act NOW.
[redacted]	Colorado must set an example to others. Every little bit helps in protecting the environment.
Eagle	
[redacted]	Let us be the ancestors our descendants will thank!
Erie	
[redacted]	We need to protect our environment.
Estes Park	
[redacted]	Make us a gold standard leader in all aspects of using renewable energy!
[redacted]	WE NEED TO REDUCE POLLUTION. MORE ELECTRIC BUSSES.
Evergreen	
[redacted]	This is just the logical way to start!!!
Fort Collins	
[redacted]	I care very much about reducing air pollution and have learned that transportation is now the single largest source in the nation. We must do more to significantly mitigate this!

[redacted]

[redacted]	We aren't meeting air quality standards. We need bold action to address this. Low income residents who live near freeways should not bear the further injury of harm to their health.
Golden	
[redacted]	I want myself and my family to breathe clean air. Please create stronger rules that address the 2 million tons of GHG emissions shortfall of what needs to be reduced.
[redacted]	Please do your part to make our air breathable!
[redacted]	I'd like to be able to breathe the air outside my house without fear that it is making me sick and shortening my life. That's not possible with all the NO2 spewing out of tailpipes.
Grand Junction	
[redacted]	We must address the issue that transportation is the number one source of climate change pollutants.
[redacted]	You need to help get the amount of pollution from transportation under control. We only have one planet. The more each state does to get control of the pollution the better our planet will be.
Greeley	
[redacted]	We need clean air now!
Lakewood	
[redacted]	All pollution must be minimized. Emissions from transportation is a huge public safety issue. Don't replace it with electric cars. Their dead batteries cause even more pollution hazards. Figure it out if it isn't already too late. I have grandkids.
[redacted]	We need effective action now to cut our greenhouse gas emissions. Please adopt stronger standards to help meet our climate goals.
Littleton	
[redacted]	This bill has the opportunity to address two crucial issues facing America today: the environment and racial injustice.
Longmont	
[redacted]	It is vital that ALL people be responsible for cleaning up the mess we've made no matter where it is made. All of our lives depend on it!
[redacted]	Let's make this rule really effective by beefing up necessary enforcement, closing enforcement loopholes and creating impactful

[redacted]

	target reductions of GHGs.
[redacted]	NOTHING is more important than to begin to address the amount of GHG pollution.
[redacted]	I have two children who are asthmatic. And we know it does not help with asthma. We need high-speed rail roads going from Fort Collins to Colorado Springs in Denver to Silverthorne! This would help take so many cars off the streets!
Louisville	
[redacted]	Our air pollution is some of the worst in the country. The transportation GHG is a big contributor to this. Please protect our air and quality of life.
Loveland	
[redacted]	Please do the right thing for the future of our children and grandchildren.
[redacted]	I moved to Colorado four years ago from Utah and I am disgusted by the horrific air quality all along the front Rangeâ€¦. To the point that we are planning to leave Colorado. Colorado has some of the worst air quality in the world and yet nothing is being done to stop fossil fuel emissions or move to all EV vehicles. Besides the poor air quality that affects everyone's health in this state the roads here are in dire need of repair and have been for decades. Not sure where all the revenue from pot sales are going but they're not going into cleaning up our environment air quality and improving our roads and infrastructure. NOT a great state!
[redacted]	Why aren't all buses and light rail electric? When is light rail going to follow I 25 and I 70? It could be put in the median.
[redacted]	I constantly see trucks that spew black smoke and leave a stench in their wake. That is only a small portion of pollution that other vehicles are also leaving. Please tighten up your pollution emissions testing and regulations. Cheep is not the answer. our breath is much more important.
Lyons	
[redacted]	My grandchildren's quality of life and perhaps life itself depends on slowing climate change. Transportation is a big contributor.
Manitou Springs	
[redacted]	This is critically important because we must get off fossil fuels which will improve our air quality and will decrease the exacerbation of cardiovascular and pulmonary illnesses that are directly related to

[redacted]

	breathing the horrible air we now have to breathe. We need to decrease CO2 and this is one way to do it.
Montrose	
[redacted]	I live in Montrose CO because the freeways/congestion in Denver is unbelievable. Colorado needs stronger emission rules, incentives for electric vehicles and higher taxes on gas guzzling vehicles.
Salida	
[redacted]	Now is the moment to switch our thinking to renewable energy for transportation. Not only has President Biden stepped forward in support of electric vehicles for government agencies but now Ford has laid over 11 billion dollars on the table to construct an all-electric F-150 pickup (which has over 150 000 orders already!) and battery manufacture. Tesla is manufacturing hundreds of thousands of all-electric cars each year and GM is committed to compete with Tesla over the next few years. Please help make Colorado a leader in this grand revolution and put all-electric transportation front and center in all of your deliberations!!
Silverthorne	
[redacted]	CDOT has developed draft rules for the state's transportation sector to reduce its greenhouse gas emissions however the current draft rule falls short by about 2 million metric tons of GHG emissions These rules need to be stronger by making a sufficient commitment to the state's transportation greenhouse gas reduction targets (as outlined in the Governor's GHG roadmap).
Telluride	
[redacted]	Colorado is one of the most beautiful and precarious climates that I have ever lived in. I adore this place and am willing to go out of my way to protect it. Are you?
[redacted]	Reduced pollution is reduced CO2 emissions! The time for action is now!
Timnath	
[redacted]	Common sense please. We need the strongest standards in Colorado.
Trinidad	
[redacted]	We need strong regulations to keep Colorado air clean.
Wheat Ridge	

[redacted]

[redacted]	One planet = one chance!

2) 278 Petition signatures addressing the current draft rule

[redacted]

SIERRA CLUB
COLORADO

Dear CDOT Commissioners and CDOT Director Shoshana Lew,

Thank you for your work on the Transportation Greenhouse Gas (GHG) Rulemaking. If successful, this rulemaking will be among the first of its kind in the country. To be successful, the rule must be strengthened in the following ways:

The rule must include the 10% reduction in Vehicles Miles Traveled (VMT) outlined in the Governor's GHG roadmap. There is a gap of 2 million metric tons that must be achieved through stronger targets in the rule, to meet the state's transportation GHG reduction targets.

The rule must close enforcement loopholes. For example, as the draft rule is currently written, mitigation measures have no deadline and can be delayed or cancelled without enforcement.

The rule must direct CDOT to develop both a Transportation Equity Framework, and a plan for how to include representatives of disproportionately impacted and marginalized communities in developing, monitoring and implementing the rule. Multimodal investments and mitigation efforts must be prioritized in disproportionately impacted neighborhoods.

The rule must improve project-level modeling by modeling for and explicitly prioritizing individual projects that maximize VMT and GHG reductions. It must mandate a periodic reassessment of the model based on how well it performs against real-world data, and that report should be transparent with all relevant information easily accessible.

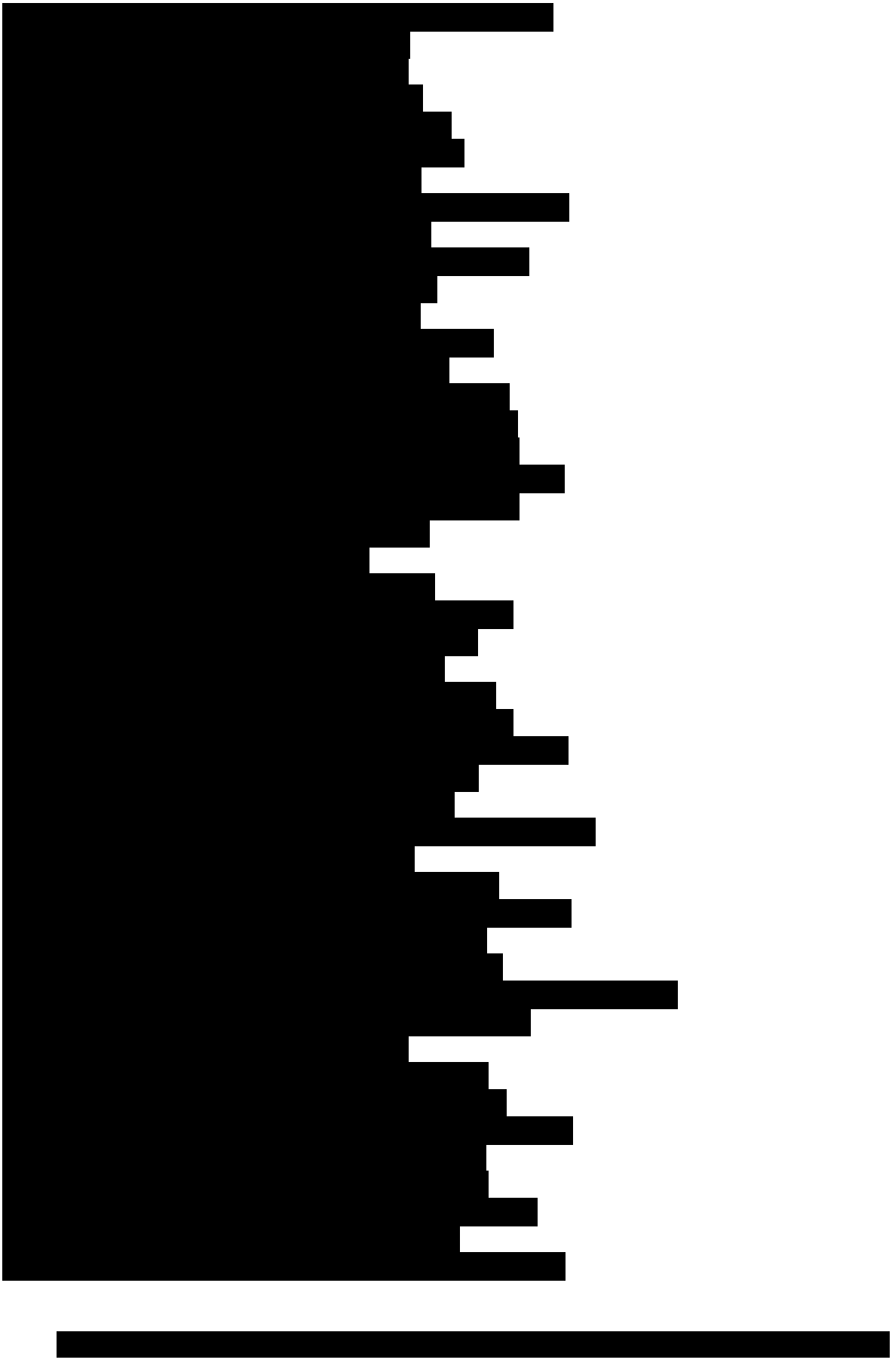
Thank you for your consideration.

Sincerely,

[redacted]

[redacted]

SIERRA CLUB
COLORADO



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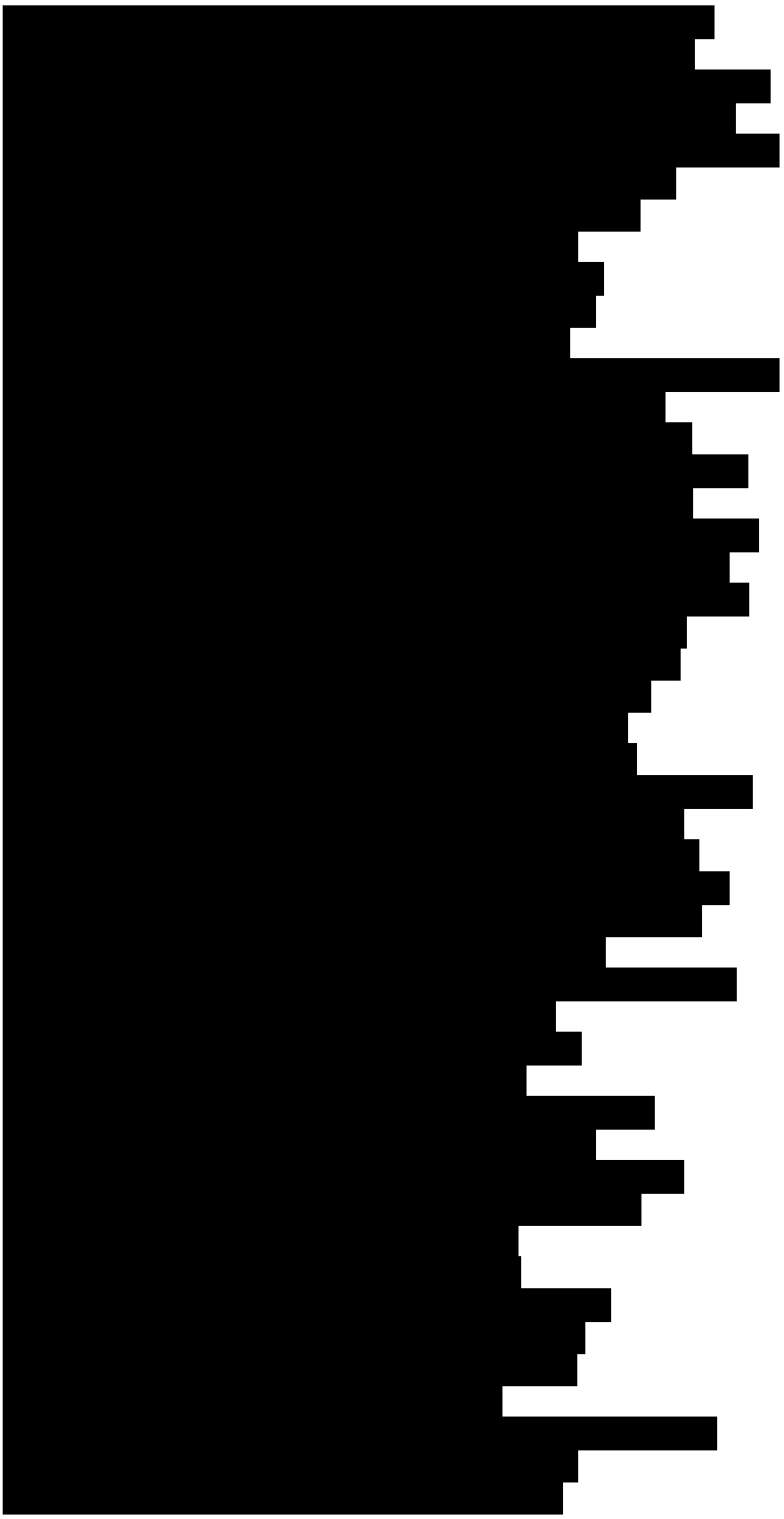

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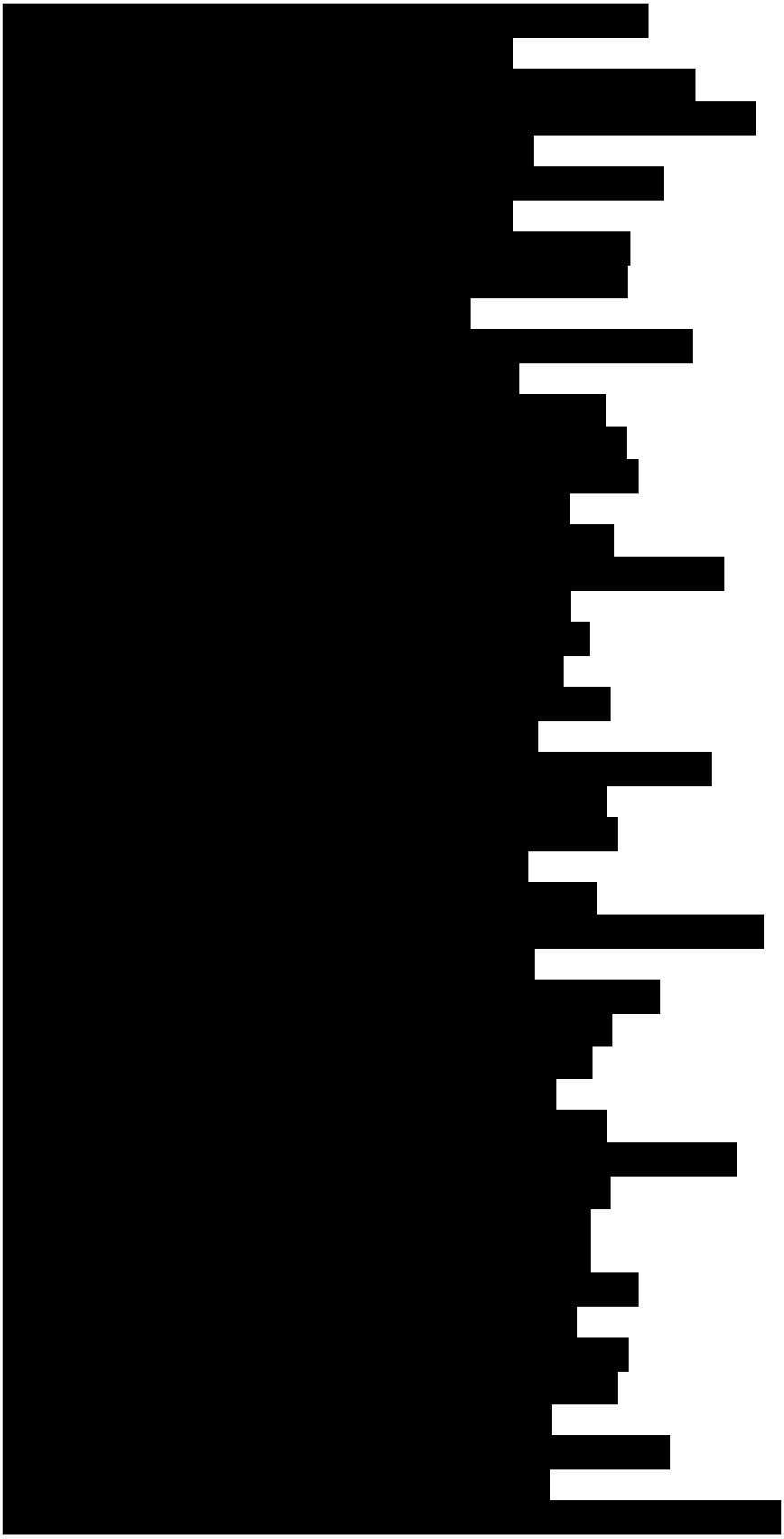

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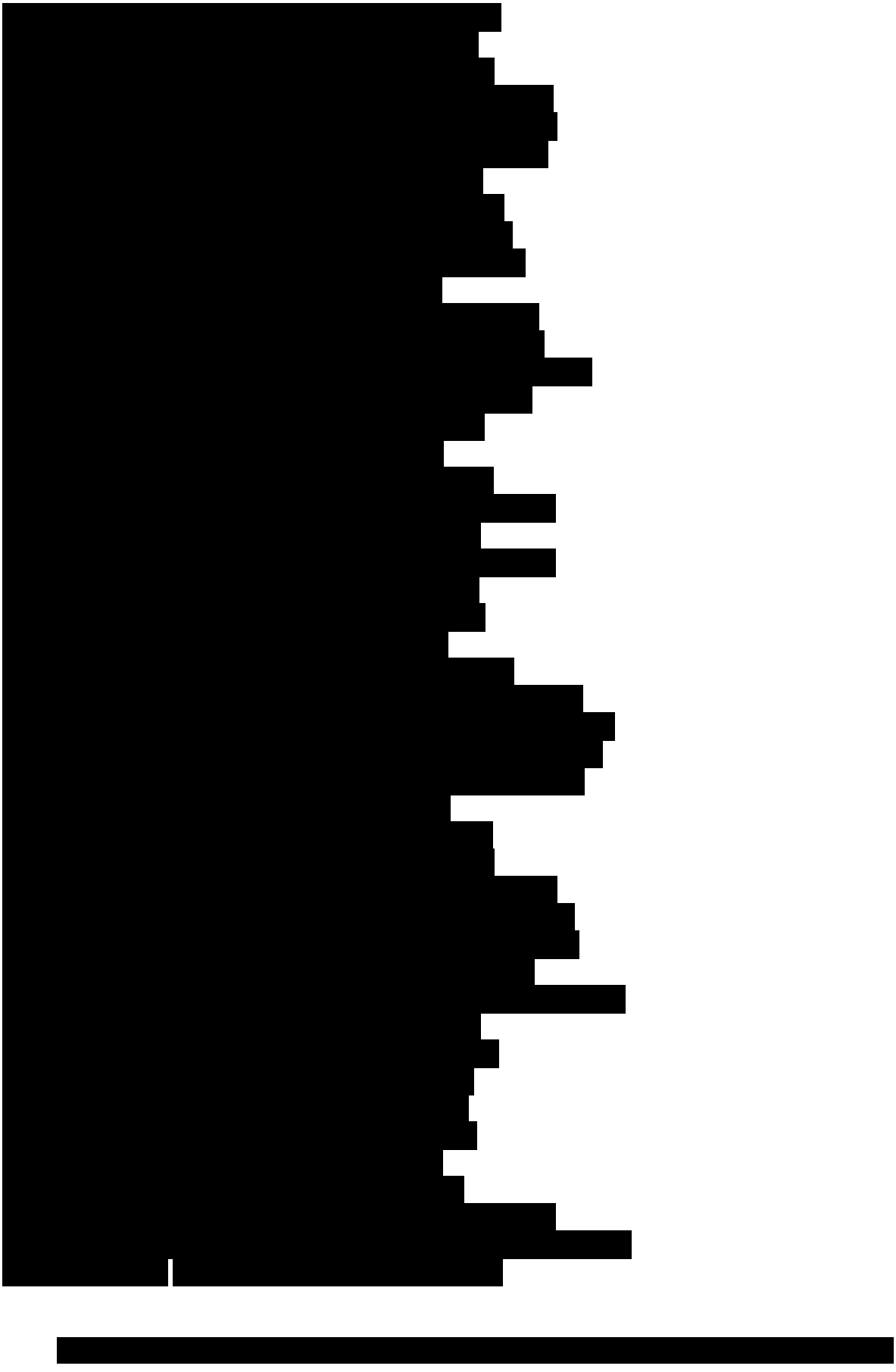

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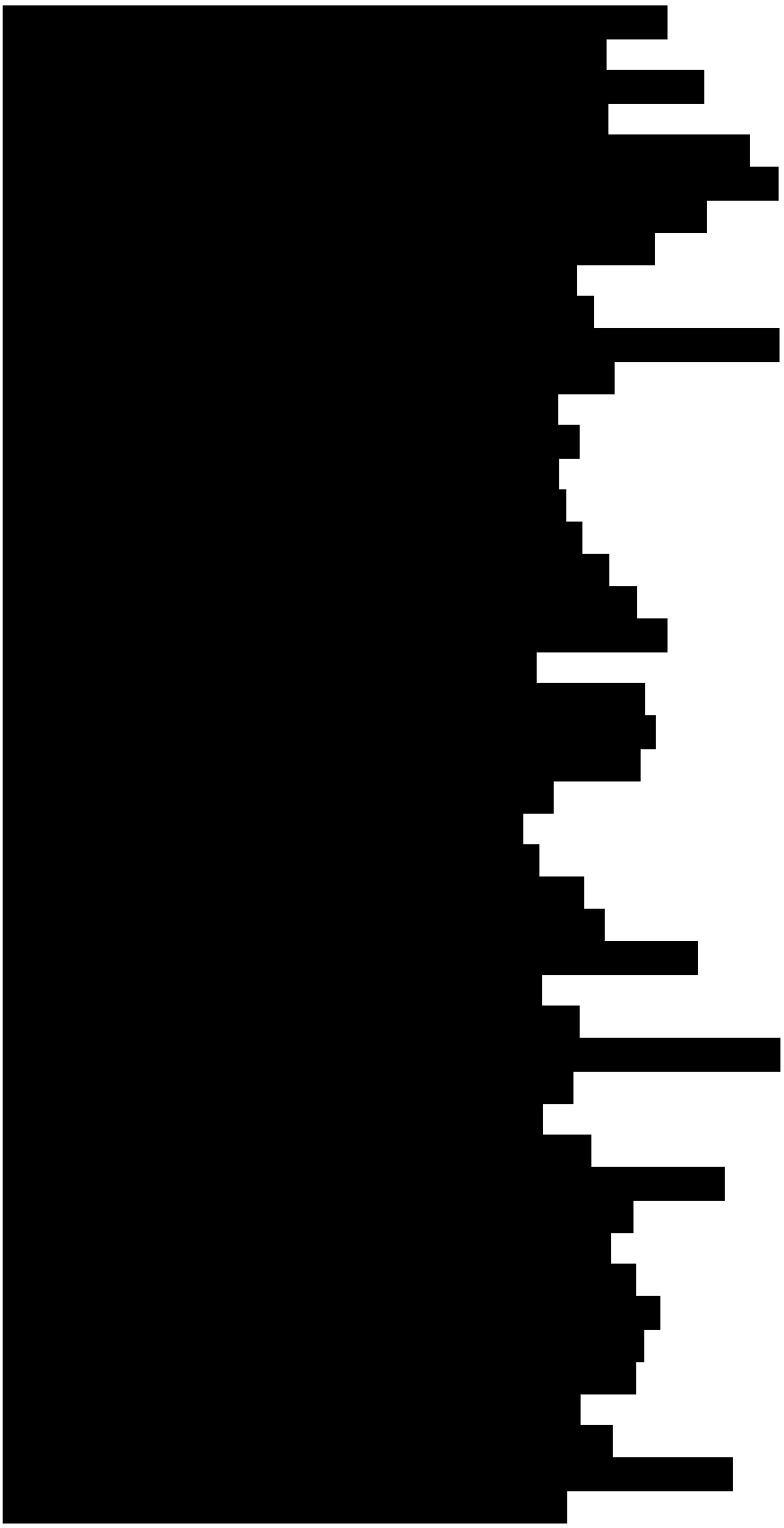

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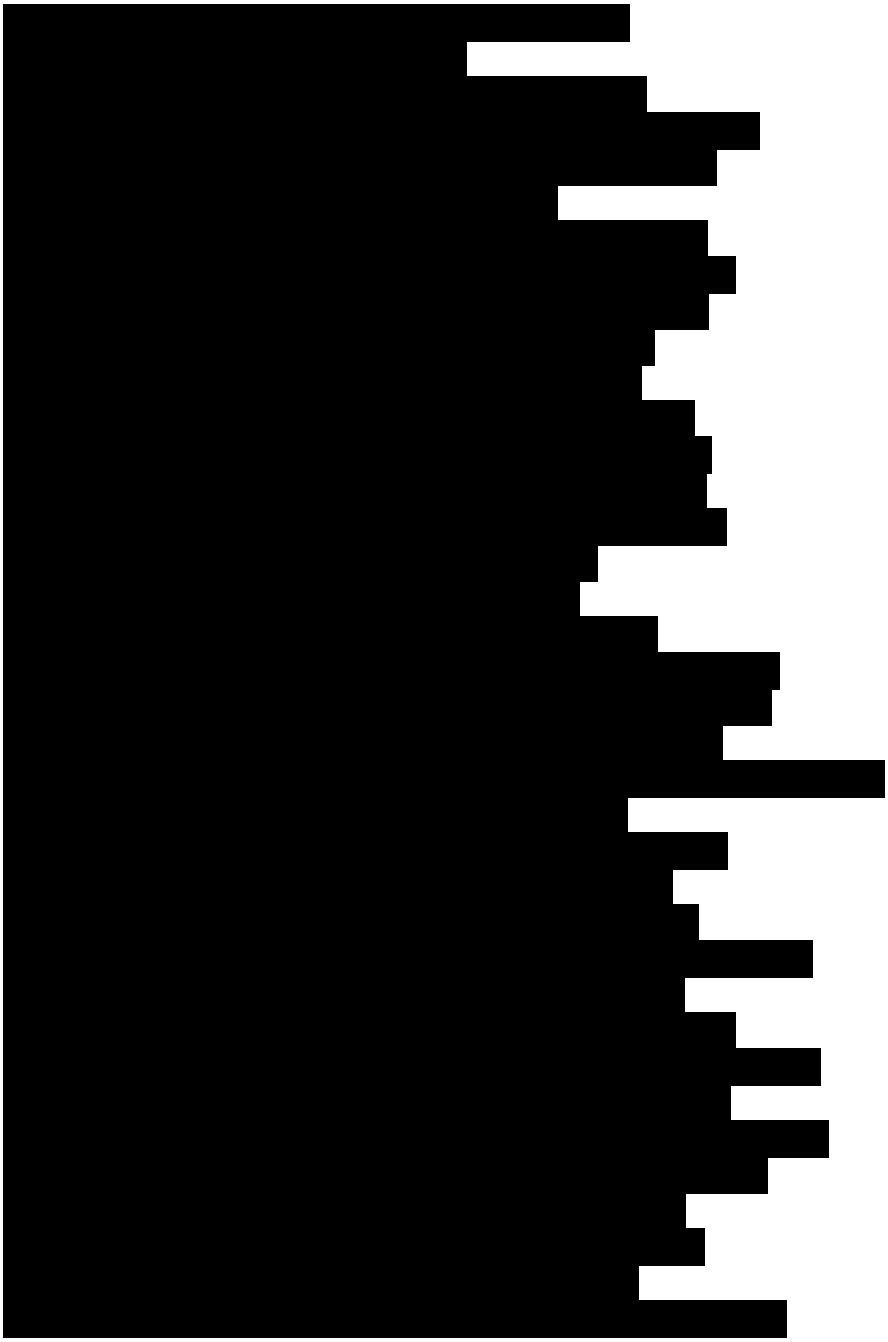

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments & Alternate Proposal of Community Groups

1 me age

[redacted] Sat, Oct 16, 2021 at 9:59 AM

To: dot_rules@state.co.us

Cc [redacted]

Hello,

Plea e find attached initial comment & a propo ed alternate rule on CDOT' propo ed Rule Governing Statewide Transportation Planning Process and Transportation Planning Regions: 2 CCR 601-22. These comments are submitted by Earthjustice on behalf of the Community Groups (the Elyria and Swansea Neighborhood Association and GreenLatinos).

Best regards,

[redacted]

2 attachments

Community Groups Ex. 1 Proposed Alternate Rule.pdf
572K

Community Groups Comment.pdf
462K

[redacted]

EARTHJUSTICE

October 16, 2021

Transportation Commission of Colorado
2829 W. Howard Place
Denver, CO 80204-2305

Submitted via email: dot_rules@state.co.us

Re: Comments on Notice of Proposed Rulemaking: Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions: 2 CCR 601-22.

Dear Commissioners:

Earthjustice submits these comments on behalf of the Elyria and Swansea Neighborhood Association and GreenLatinos (together, Community Groups). These comments respond to the Transportation Commission of Colorado's (Commission) Notice of Proposed Rulemaking for Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions: 2 CCR 601-22.

The proposed rule would require transportation planning organizations (including the Colorado Department of Transportation (CDOT) and Metropolitan Planning Organizations (MPOs)) to determine the total greenhouse gas emissions from future transportation project plans and ensure that those emissions do not exceed set limits.

As explained below, the Community Groups urge the Commission to adopt a strong, equitable rule that prioritizes Disproportionately Impacted Communities (DICs) and ensures reductions in greenhouse gases (GHGs), air toxics, and other harms stemming from the transportation sector. The transportation system has been built on a legacy of racist and classist planning decisions that have shunted disproportionate harms onto frontline communities.

[redacted]

To address these inequities and reduce emissions, the Commission should amend the proposed rule to prohibit the funding of highway expansions. New and expanded highways disproportionately harm low-income and minority communities and drive increases in GHGs and air pollutants. The Commission should therefore take immediate action to prevent further harm to communities that already suffer disproportionate harms from transportation infrastructure.

The Commission should additionally include more robust protections for DICs in the final rule. Recent legislation requires the Commission to address the inequities in the transportation sector, yet the proposed rule offers no protections or benefits for DICs. The Community Groups recommend a number of amendments to provide substantive protections and benefits to DICs and to ensure that future decision-making processes are equitable and inclusive.

In addition, more robust reduction targets that focus on reducing traffic are necessary for Colorado to meet its GHG reduction targets, as required by law. The Community Groups recommend stronger reduction targets that specifically target Vehicle Miles Traveled (VMT). Finally, the Community Groups urge the Commission to ensure the final rule's effectiveness by eliminating loopholes and by strengthening requirements around reporting and modeling.

Elyria and Swansea Neighborhood Association

The Elyria and Swansea Neighborhood Association (ESNA) is a Registered Neighborhood Organization with the City of Denver. It represents residents and small business owners within the geographical neighborhoods of Elyria and Swansea in north Denver. ESNA's mission is to educate and inform the community and facilitate informed discussion of the many unique issues and challenges facing its neighborhoods. It provides grassroots access for residents and property owners to the dialogue formulating and implementing the common future we all share. That mission includes public meetings and outreach, advocacy of its common interests and goals to its civic leaders, as well as specific projects that provide tangible benefit for the community. The future in Elyria and Swansea is threatened at all levels: many large, outside forces are acting on these neighborhoods, and ESNA is an advocate for the interests of its residents, and a bulwark against outside interests interfering with the cohesion of these affected communities.

GreenLatinos

GreenLatinos is a national nonprofit organization that convenes a broad coalition of Latino leaders committed to addressing environmental, natural resources, and conservation issues that significantly affect the health and welfare of the Latino community. GreenLatinos engages in this advocacy at the national, regional, and local levels. It strives to amplify the voices of minority, low-income, and tribal communities and to advance health equity, environmental justice, and community resilience. Environmental justice, clean transportation, clean air, and climate change are among the organization's core priorities.

CONTENTS

BACKGROUND

PROPOSAL

BACKGROUND

I. Our Transportation System Is Broken

A. The Transportation System Is a Major Contributor to Air Pollution and Climate Change, Threatening Community Health

After suffering through a record number of high ozone days in 2021 and an unprecedented wildfire season in 2020, the importance of reducing transportation emissions has never been clearer in Colorado.

Pollution from the transportation system—including from traffic and from construction impacts—causes asthma, lung cancer, heart disease, respiratory illnesses, and death. These health impacts are primarily caused by fine particular matter (PM), ground-level ozone precursors, nitrogen oxide, and carbon monoxide emitted from vehicles.[1] Localized pollution means that communities overburdened by traffic are most at risk. Living near major roads, particularly between roughly 150 to 5,000 feet, increases the risk of asthma and reduced lung function, the onset of childhood asthma, and cardiovascular death.[2]

PM is fine particulate matter that can be made up of hundreds of different chemicals and comes from many sources including vehicle exhaust, construction, fires, and more.[3] When this microscopic particulate material enters your lungs, serious health problems result. It causes premature death, asthma, aggravated asthma, decreased lung function, difficulty breathing and more.[4] PM also

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[1] Shireen Malekafzali, *Healthy, Equitable Transportation Policy Recommendations and Research*, PolicyLink Prevention Inst. Convergence P'ship 22 (last visited Oct. 12, 2021), https://www.preventioninstitute.org/sites/default/files/publications/Healthy%20Equitable%20Transportation%20Policy%20Recommendations%20and%20Research.pdf.

[2] *Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects*, Health Effects Inst. 3–4 (2010) [hereinafter "*HEI Literature Review*"], https://www.healtheffects.org/system/files/SR17TrafficReview_Exec_Summary.pdf.

[3] *What is PM, and how does it get into the air?*, U.S. Env't Prot. Agency, (last visited Oct. 12, 2021), https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#PM.

[4] *Health and Environmental Effects of Particular Matter (PM)*, U.S. Env't Prot. Agency, https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm (last visited on Oct. 12, 2021).

exacerbates severity of Covid-19 outcomes; even a "small increase in long-term exposure" to PM results in a "large increase" in deaths from Covid-19.[5]

Ground-level ozone, caused in part by the transportation sector, has plagued Coloradans for years. Ozone results from a chemical reaction between sunlight, heat, and a mix of pollutants such as nitrogen oxides and volatile organic compounds that are produced by industrial facilities, electric utilities, and motor vehicle exhaust.[6] Ozone pollution aggravates lung diseases such as asthma, and children and the elderly are particularly vulnerable. This asthma vulnerability compounds with the heightened vulnerability that children living near high traffic areas and highways already face. As a result of ozone pollution, Coloradans are faced with unnecessary asthma attacks, missed days of school and work, and even premature death.

This summer, Coloradans living on the Front Range suffered through a record 65 days of ozone levels in excess of the standards set to protect public health.[7] The Denver Metro/North Front Range area has been in nonattainment with federal ozone standards for over a decade. It is currently designated as a "serious" nonattainment area for the 2008 75 parts per billion (ppb) ozone standard, but designation as "severe" is imminent in early 2022 as a result of continued violations picked up by air monitors.[8] Unable to attain the 75 ppb standard, the state shows no signs of complying with the 2015 70 ppb ozone standard.

Beyond air pollution impacts, transportation also has an outsized effect on the climate crisis. In 2020, the transportation sector was the largest source of GHG emissions in Colorado, with passenger vehicles contributing the largest share of

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[5] X. Wu et al., *Air pollution and Covid-19 mortality in the United States: Strengths and limitations of an ecological regression analysis*, 6 Sci. Advances (2020), https://projects.iq.harvard.edu/covid-pm.

[6] *Ground-level Ozone Basics*, U.S. Env't Prot. Agency, https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics#formation (last visited on Oct. 12, 2021).

[7] Kelsey Vlamis, *People are flocking to Colorado for the great outdoors, but the air pollution is so bad, it's forcing many to stay inside*, Bus. Insider (Oct. 2, 2021), https://www.businessinsider.com/air-pollution-colorado-wildfires-climate-threatening-access-to-the-outdoors-2021-10.

[8] *See* Shale Daily, *Colorado Officials to Ramp Up Ozone Controls on Natural Gas, Oil Industry*, Nat. Gas Intel. (Dec. 28, 2020), https://www.naturalgasintel.com/colorado-officials-to-ramp-up-ozone-controls-on-natural-gas-oil-industry/.

emissions within the sector.[9] These emissions are exacerbating the climate crisis, which is already hitting home with increased severe weather events. In fact, 2020 was the state's most active fire season in recorded history, scorching over 700,000 acres.[10] Governor Polis has recognized that the size of these destructive fires is due to a "hotter, drier climate."[11] And as the director of the Colorado Energy Office has noted, these severe impacts of climate change are "happening much earlier than expected."[12] This new reality heightens the urgency of the Commission's mandate to reduce emissions from the transportation sector.

B. Disproportionately Impacted Communities Bear the Brunt of the Transportation System's Harms

The widespread harms of the transportation sector are not distributed equally. Instead, harms are concentrated in lower-income communities and communities of color. Here in Colorado, the north Denver area—including Denver neighborhoods Elyria-Swansea and Globeville, and Commerce City in Adams County—endures heavy traffic and the resulting pollution from intersecting highways I-70, I-25, and I-270. Historic disinvestment in these neighborhoods has led to poor transit infrastructure that results in limited mobility: roads are disconnected due to intersecting railroad tracks, making it challenging to travel around the neighborhood by walking; sidewalks are far and few between; bike infrastructure is lacking; and many public bus stops do not have benches or places to wait safely.[13] These deficiencies in public health and mobility

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[9] Governor Jared Polis, *Colorado Greenhouse Gas Pollution Reduction Roadmap* III (Jan. 14, 2021) [hereinafter "*Roadmap*"], https://drive.google.com/file/d/1jzLvFcrDryhhs9ZkT_UXkQM_0LiiYZfq/view.

[10] Wilson Beese, *Looking back at Colorado's historic 2020 wildfire season*, 9News (May 2, 2021), https://www.9news.com/article/news/local/wildfire/colorado-2020-historic-wildfire-season/73-c9458147-c945-45e6-bea9-a1d426cca102; Hillary Rosner, *Boulder, Colorado wakes up to the threat of worsening wildfires*, Nat'l Geographic (Oct. 26, 2020), https://www.nationalgeographic.com/environment/article/boulder-isnt-ready-to-evacuate-for-wildfires.

[11] John Fialka, *Colorado Contends with Record-Setting Wildfires*, Sci. Am. (Oct. 26, 2020), https://www.scientificamerican.com/article/colorado-contends-with-record-setting-wildfires1/.

[12] Bruce Finley, As Colorado wildfires burn, fears that climate change is causing "multi-level emergency" mount, Denver Post (Oct. 25, 2020), https://www.denverpost.com/2020/10/25/colorado-wildfires-climate-change/.

[13] Gretchen Armijo & Gene C. Hook, *How Neighborhood Planning Affects. Health in Globeville and Elyria Swansea,* Denver Dep't of Env't Health 39 (2014) [hereinafter "*Health Impact Assessment*"], https://www.denvergov.org/content/dam/denvergov/Portals/746/documents/HIA/HIA%20Composite%20Report_9-18-14.pdf.

collectively impact the wellbeing of residents who report delays in transit due to train and truck traffic, concerns about constant and excessive pollution exposure, and a constant presence of noise and construction.[14]

The communities most impacted by the transportation sector already endures disproportionate harms from other sources of air pollution. North Denver suffers from some of the greatest environmental health risks in the country.[15] For example, the Suncor oil refinery contributes significantly to pollution in north Denver with its long history of permit noncompliance that has resulted in accidents so significant that schools and residents have had to shelter in place to avoid toxic ash.[16] These routine "upsets" fill the air with pollutants that cause respiratory problems and heart disease. As a result of the cumulative harms from transportation, industry, superfund sites, and other sources of pollution, north Denver residents suffer some of the highest rates of cardiovascular disease, diabetes, and asthma in the metro area.[17] Yet these same residents also have more limited access to health care, further compounding these harms.[18]

Transportation harms also have far-reaching consequences that extend beyond air pollution impacts. The transportation sector contributes to noise pollution; congestion and stress; limited mobility and inaccessibility to public transit; and traffic accidents. Once again, DICs like those in north Denver bear the brunt of these harms.

The transportation sector also contributes to inequitable economic conditions. Public transportation users are disproportionately made up of minorities with

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[14] *Id.* at 7.

[15] The Denver zip code 80216, which includes Elyria-Swansea and Globeville, carries the highest environmental hazard housing risk in the county. To conduct the report, ATTOM Data Solutions evaluated 8,665 U.S. zip codes for four environmental risk factors: superfund sites, brownfields, polluters and poor air quality. *Home Prices in Highest-Risk Zips for Environmental Hazards Increased at Faster Pace Than U.S. Average Over Past Decade,* ATTOM Data Solutions (Feb. 22, 2018), https://www.attomdata.com/news/risk/2017-environmental-hazard-housing-risk-index/.

[16] *See Enforcement Actions Against Suncor*, Colo. Dep't of Pub. Health & Env't, https://cdphe.colorado.gov/enforcement-actions-against-suncor (last visited Oct. 12, 2021); Bruce Finley, *Suncor oil refinery's release of clay-like "catalyst" triggers alarm, prompts air tests north of Denver,* Denver Post, (Dec. 11, 2019), https://www.denverpost.com/2019/12/11/suncor-refinery-emissions-alarm/.

[17] *Health Impact Assessment*, *supra* note 13, at 5.

[18] *Id.* at 6.

low to moderate incomes.[19] In Denver, over a third of public transit riders earn less than $25,000 per year.[20] These households that rely on public transit are forced to spend a larger share of their income on transportation than middle- and higher-income families.[21] Yet poor public transit offerings make it more difficult for low-income and minority households to access affordable housing, jobs, and services. Thus, to achieve an equitable transportation system, public transit must increase in routes and frequency while lowering costs.

C. Decades of Racist and Classist Planning Decisions, Which Continue Today, Are Responsible for These Harms.

The manifest disparities in today's transportation system are rooted in decades of planning decisions that have favored high-income and white communities over low-income and minority communities.[22] For example, when constructing the country's interstate highway system, agencies frequently sited projects in low-income communities as part of so-called "slum clearance" and "urban renewal."[23] These highways "displaced or physically divided entire communities."[24] DICs have been permanently harmed by the resulting segregation and by the loss of homes, churches, and schools that were razed to make way for traffic.[25] Ultimately, our transportation system has "contributed to

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[19] Thomas W. Sanchez, Rich Stolz, & Jacinta S. Ma, *Moving to Equity: Addressing Inequitable Effects of Transportation Policies on Minorities*, The Civ. Rts. Project Harvard Univ. VII (2003) [hereinafter "*Moving to Equity*"], https://civilrightsproject.ucla.edu/research/metro-and-regional-inequalities/transportation/moving-to-equity-addressing-inequitable-effects-of-transportation-policies-on-minorities/sanchez-moving-to-equity-transportation-policies.pdf.

[20] Shelly Tan et al., *Amid the pandemic, public transit is highlighting inequalities in cities*, Wash. Post (May 15, 2020), https://www.washingtonpost.com/nation/2020/05/15/amid-pandemic-public-transit-is-highlighting-inequalities-cities/.

[21] In 2014, lower-income households spent 16 percent of their income on transportation, whereas high-income households spent only 8 percent of their income. *Household Expenditures and Income*, The Pew Charitable Tr. (Mar. 30, 2016), https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2016/03/household-expenditures-and-income.

[22] *See, e.g.*, *Moving to Equity*, *supra* note 19, at 3 ("Post-World War II surface transportation policies were not favorable to minority and low-income communities.").

[23] *Id*. at 3; *see also* Noel King, *A Brief History Of How Racism Shaped Interstate Highways*, NPR (Apr. 7, 2021), https://www.npr.org/2021/04/07/984784455/a-brief-history-of-how-racism-shaped-interstate-highways.

[24] *Moving to Equity*, *supra* note 19, at 3.

[25] Noel King, *supra* note 23.

today's intense racial segregation and concentrated racialized poverty, and created physical, psychological, and economic trauma that persist to this day."[26]

We can see these impacts right here in Colorado. Denver's I-70 "ravaged the largely Latinx neighborhoods in its path" when it was first completed in 1964.[27] Homes were destroyed by the elevated viaduct, and "[t]hose who stayed saw their neighbors replaced by dangerous exhaust fumes and roaring traffic."[28]

Today, transportation planning continues to disproportionately harm low-income and minority communities. For instance, Denver's light rail serves low-ridership and whiter suburban routes, while high-ridership transit routes that serve more minorities are stuck with buses in slow-moving mixed traffic.[29] In another glaring example, the state is intensifying I-70's harmful impacts, having begun construction in 2019 on the Central 70 project in the face of immense community opposition. The project expands the I-70 highway in the Elyria-Swansea and Globeville neighborhoods in north Denver.[30] Instead of selecting a tree-lined boulevard that would cater to local traffic and public transit options, as well as create a green community space, CDOT chose to further degrade the air quality for the residents of these neighborhoods by rebuilding and expanding the highway.[31] The project displaced five percent of people in the neighborhood, demolished a local elementary school playground, and increased the number of residents living within unhealthy proximity to the highway.[32] Worse yet, and as

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[26] Deborah N. Archer, *Transportation Policy and the Underdevelopment of Black Communities*, 106 Iowa L. Rev. 2125, 2136 (2021).

[27] *Building Roads to a Just & Equitable Future: Highway Advocacy Toolkit*, Center on Race, Inequality, & the Law, NYU School of Law 17 (2020) [hereinafter "*Building Roads*"], https://www.law.nyu.edu/sites/default/files/Highway%20Advocacy%20Toolkit%20v2_508_0.pdf; *see also* Andrew R. Goetz & E. Eric Boschmann, *Metropolitan Denver: Growth and Change in the Mile High City* 138 (2018).

[28] *Building Roads*, *supra* note 27, at 17.

[29] Christof Spieler, *Racism has shaped public transit, and it's riddled with inequities*, Rice Univ. Kinder Inst. for Urb. Rsch. (Aug. 24, 2020), https://kinder.rice.edu/urbanedge/2020/08/24/transportation-racism-has-shaped-public-transit-america-inequalities.

[30] *Central 70 Project*, Colo. Dep't of Transp., https://www.codot.gov/projects/i70east (last visited Oct. 10, 2021).

[31] Ben Crowther, *Ditch the ditch: Citizens respond to I-70 expansion*, Cong. for the New Urbanism (Apr. 8, 2019), https://www.cnu.org/publicsquare/2019/04/08/ditch-ditch-citizens-respond-i-70-expansion.

[32] *Freeways Without Futures 2019*, Cong. for the New Urbanism 22–23 (2019), https://www.cnu.org/sites/default/files/FreewaysWithoutFutures_2019.pdf.

discussed below, the state has doubled down with a proposed expansion to I-270 that would harm these same communities.[33]

Disparities in infrastructure placement lead to disparities in health. Neighborhoods within 1,500 feet of a highway suffer the greatest impacts for air pollution—and marginalized communities are more likely to live within 500 feet of a major road.[34] These impacts hit home in Elyria-Swansea, which is bordered by I-70 and I-270 and is the most polluted neighborhood in the country.[35] Children who live near I-70 are hospitalized for asthma almost 40% more frequently than the rest of Denver.[36] Heart disease is more prevalent in the area, as well.[37] For these communities, I-70 is "not just destructive—it [is] deadly."[38]

II. This Rulemaking Must Improve Equity and Expand Transportation Options

Given the high burdens of the transportation system, particularly on Disproportionately Impacted Communities, this rulemaking presents an opportunity to rethink Colorado's approach to transportation planning. Rather than building a system for cars, we can—and must—build a system for *people*. Such a system would increase mobility options, particularly within DICs, thereby reducing Vehicle Miles Traveled (VMT) and GHG emissions, air pollution, and noise, all while increasing safety and resident access to housing, jobs, and services.

A. Expanded Transportation Options Would Benefit Communities by Reducing Vehicle Miles Traveled and Emissions While Improving Safety and Access

[33] *See* below, at 22.

[34] Courtnee Melton, *How Transportation Impacts Public Health*, The Sycamore Inst. 2 (Feb. 21, 2017), https://www.sycamoreinstitutetn.org/wp-content/uploads/2017/02/How-Transportation-Impacts-Public-Health.pdf.

[35] Julie Turkewitz, *Colorado Aims to Expand a Main Artery, but Beleaguered Neighbors Balk*, New York Times (Feb. 19, 2017), https://www.nytimes.com/2017/02/19/us/denver-interstate-70-expansion.html.

[36] *Health Impact Assessment*, *supra* note 13, at 16.

[37] *Id.* at 16, Figure 6.

[38] *Building Roads*, *supra* note 27, at 17.

Adopting a GHG reduction rule with an emphasis on VMT reduction will improve public health and alleviate inequities. To reduce VMT, planning agencies must increase travel options for residents, such as by increasing public transit and by improving walkability and bikeability—through both targeted land use reform and improved infrastructure. These increased options materially benefit residents in numerous ways, and those benefits are further multiplied when improvements are concentrated in DICs. By increasing travel choices, community members will have increased access to housing, jobs, and services. Communities will also benefit greatly from the reduced air pollution and noise. Further health benefits will be realized from residents being able to safely walk or bike in their neighborhood. In this rulemaking, we can remake our transportation systems to foster both a cleaner environment and healthy, sustainable lifestyles for all residents.

Expanding public transit options—both by increasing routes and frequency, and by lowering costs to riders—has the dual benefit of improving equity and reducing emissions. Because low-income residents are more reliant on public transit and spend a great proportion of their income on transportation, reducing or eliminating fares and increasing service would create a more equitable and just transportation system.[39] Those measures would also result in increased ridership and decreased VMT—lowering emissions of GHGs and other air pollutants like PM and ozone precursors. Critically, increased transportation options would also improve residents' access to jobs, housing, and services. In just one example, increasing RTD service by forty percent would allow Westwood residents in Denver to access four times—that's 400 percent—as many jobs within a 30-minute transit commute.[40]

Indeed, other jurisdictions have recognized the benefits of increased travel choices. For example, Minnesota has proposed an ambitious reduction target of

[39] *See* above, at 9–10.

[40] *See Colorado Greenhouse Gas Pollution Standard Rulemaking: An opportunity to reduce transportation pollution and increase mobility options for all Coloradans*, Southwest Energy Efficiency Project Transit Center, Slide 20 (2021) (citing Transit Center 2021) [hereinafter "*SWEEP Presentation*"], https://docs.google.com/presentation/d/1oKt11Qw-Ccl4rvFqghznTh1zQxxVMTvbhiGuawTcms8/edit#slide=id.ge49193fea1_3_0.

VMT per capita: 20% by 2050.[41] In doing so, Minnesota acknowledged that cutting VMT "will have immediate, lasting benefits for those who have historically been marginalized," who "breathe worse air and are at higher risk of traffic crashes."[42] For its part, Albuquerque will eliminate bus fares in 2022, recognizing that access to free transit "will open a lot of doors for low-income" residents while improving climate justice.[43] In stark contrast, Denver's bus and train fares "are the most expensive in the nation."[44] Colorado must do better. This rulemaking must encourage similarly bold solutions to improve travel options and reduce VMT.

Another critical approach to reducing VMT and protecting communities is to target commercial and travel-through users. Neighborhoods like north Denver, with large highways cutting through them as well as numerous industrial sources, may have high volumes of VMT as a result of through traffic, rather than trips originating or ending in the community. Those trips may be heavily composed of truck traffic, contributing even more to harmful air pollution.[45] Origin-destination studies are necessary to better understand these traffic patterns and determine the best ways to reduce VMT.[46]

Reducing vehicle emissions by investing in infrastructure that supports active mobility such as biking, walking, and public transit (public transit use increases walking) also leads to significant health benefits from increased physical activity

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[41] *MnDOT Response: 2020 Sustainable Transportation Advisory Council Recommendations*, Minnesota Dep't of Transp. 31–33 (revised Apr. 28, 2021), http://www.dot.state.mn.us/sustainability/docs/advisory%20council/stac-recommendations-response-2020.pdf.

[42] *Id.* at 32.

[43] *See, e.g.*, *Albuquerque will eliminate bus fares for riders in 2022*, KOB4 (updated Sept. 21, 2021), https://www.kob.com/albuquerque-news/albuquerque-will-eliminate-bus-fares-for-riders-in-2022/6244103/#:~:text=ALBUQUERQUE%2C%20N.M.,on%20the%20ABQ%20RIDE%20system.

[44] Andy Bosselman, *Denver's New Bus and Train Fares Are the Most Expensive in the Nation*, StreetsBlog Denver (Jan. 2, 2019), https://denver.streetsblog.org/2019/01/02/denvers-bus-and-train-fares-now-the-most-expensive-of-major-cities/.

[45] *See* Ean Thomas Tafoya, Presentation to the Colorado Transp. Legislation Rev. Comm. at 4:32:56 (Oct. 13, 2021) (noting high volumes of trucks in north Denver and concerns about increases in air toxics), https://sg001-harmony.sliq.net/00327/Harmony/en/PowerBrowser/PowerBrowserV2/20211013/20/12400#info_.

[46] *See What is an O/D (Origin-Destination) Study?*, Quality Counts, https://www.qualitycounts.net/Newsfeed/38 (last visited Oct. 15, 2021) ("Origin-destination studies serve as a foundation for transportation planning and are essential to understanding traffic patterns.").

such as lower incidents of cardiovascular disease and diabetes.[47] In fact, heart disease is one of the leading causes of death in Denver.[48] Investing in cycling infrastructure like bike lanes, separated bike lanes, shared-used paths, and bike boulevards will incentivize citizens to shift their travel method to cycling and increase the number of personal miles cycled—and the same is true of walking. The more sidewalk infrastructure available, the more citizens will be able to walk when they wish to, leading to a cycle of further emissions reductions from decreased VMT.[49]

Importantly, transportation systems that reduce VMT also have mortality-related benefits from avoiding fatal traffic accidents and increasing physical activity. One study on the mortality implications of increased infrastructure that supports active mobility under the Transportation and Climate Initiative (TCI) estimates hundreds of lives saved as a result of heightened physical activity. [50] This translates into dramatic monetized benefits—billions of dollars saved from deaths avoided.[51] Investing in transportation infrastructure that increases choice will also leads to windfalls for thousands of Coloradans who reduce their spending on transportation and escape costly health care bills.

Although the proposed rule will bring roughly $40 billion in net benefits to Coloradans by 2050, those benefits could be much greater.[52] Critically, the Cost-

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[47] Guijing Wang et al., *Physical activity, cardiovascular disease, and medical expenditures in U.S. adults*, 28 Ann. Behav. Med. 88 (2004), https://doi.org/10.1207/s15324796abm2802_3 (cardiovascular disease); Susan P. Helmrich et al, Physical Activity and Reduced Occurrence of Non-Insulin-Dependent Diabetes Mellitus, 325 New Engl. J. Med. 147 (1991), https://doi.org/10.1056/NEJM199107183250302 (diabetes).

[48] *Health Impact Assessment*, *supra* note 13, at 16.

[49] L.D. Gunn et al., *The cost-effectiveness of installing sidewalks to increase levels of transport-walking and health*, 67 Preventative Med. 322 (2014), https://www.sciencedirect.com/science/article/pii/S0091743514002904?via%3Dihub; Jing Gu et al., *The cost-effectiveness of bike lanes in New York City*, 23 Injury Prevention 239 (2017), https://doi.org/10.1136/injuryprev-2016-042057.

[50] Matthew Raifman et al., *Mortality Implications of Increased Active Mobility for a Proposed Regional Transportation Emission Cap-and-Invest Program*, 98 J. Urban Health 315 (2021), https://link.springer.com/article/10.1007%2Fs11524-020-00510-1; *see also* Maggie L. Grabow et al., *Air Quality and Exercise-Related Health Benefits from Reduced Car Travel in the Midwestern United States*, 120 Env't Health Perspectives 68 (2012), https://doi.org/10.1289/ehp.1103440.

[51] Matthew Raifman et al., *supra* note 50, at 315.

[52] *See Cost-Benefit Analysis For Rules Governing Statewide Transportation Planning*, Colo. Dep't of Transp. 4–5 Table 2 (2021) [hereinafter "CBA"]. Note that Table 2's description erroneously references "millions" of dollars; the narrative makes clear that the unit is, in fact, billions. *Id.* at 4–5. The CBA offers a "very

Benefit Analysis (CBA) suggests a proportional relationship between spending and benefits. In other words, more aggressive action to reduce GHGs from transportation would result in correspondingly greater benefits.[53] Our transportation system has the potential to work for people, beyond just on-road emissions reduction and decreased air pollution. Investments dedicated to public transit, biking, and pedestrian infrastructure have myriad benefits: enhanced equity, reduced tailpipe emissions, and improved health as a result of improved air quality and safety as well as increased physical activity. The Commission must use this rulemaking as an opportunity to capitalize on these benefits for the good of all Coloradans.

B. Zero-Emission Vehicles Are Only One Part of the Solution.

Vehicle electrification has garnered much attention in Colorado as the primary solution for reduction the transportation sector's GHG emissions. Vehicle electrification is undoubtedly an important component of Colorado's clean transportation future. But reducing VMT will also play a critical role in both reducing the transportation sector's GHG emissions and ensuring that Colorado's future transportation system is equitable. The Commission should thus not focus solely on the electrification of vehicles to meet GHG reduction targets, as doing so would miss the opportunity to take advantage of the myriad co-benefits that accompany reduced VMT.[54]

As Colorado works to reduce the transportation sector's GHG emissions, it cannot rely exclusively on transportation electrification to meet our GHG targets. Even with policymaking that accelerates the statewide transition to zero-emission vehicles (ZEVs), the transition will take nearly three decades to complete—incurring substantial GHG emissions in the interim from the gas-powered vehicles still on the road.[55] During this transition, electricity is still being produced with fossil fuels, meaning that electrification impacts frontline

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conservative" estimate because it does not account for the value of the lives saved as a result of increased physical activity. *Id.* at 5 n.2.

[53] *See id.* at 11 Table 5 (estimating lower net benefits if fewer measures are implemented).

[54] *See generally* Steven Higashide et al., *A Green New Deal For City And Suburban Transportation*, TransitCenter (Mar. 2020) [hereinafter "*A Green New Deal*"], https://t4america.org/wp-content/uploads/2020/03/20.03_GND-Transit_use_v4.pdf.

[55] *Roadmap*, *supra* note 9, at 114–15.

communities, where power plants are often located. Even the most optimistic estimates of electric vehicle (EV) adoption would result in 4.8 million gas cars on Colorado roads in 2030, compared to only 1 million EVs.[56] But to avoid the worst impacts of climate change, we need to drastically reduce GHG emissions *now*. Reducing VMT provides an immediate opportunity to reduce these GHG emissions as well as non-tailpipe PM emissions from vehicles.[57]

Critically, VMT reductions will also help address many of the structural inequities in our current transportation system, while merely replacing gas-powered vehicles with EVs will not. Only VMT reductions come with the myriad co-benefits to communities described above. "Simply swapping gas guzzlers for EVs will not improve safety . . ., will leave our communities overwhelmed by congestion and non-tailpipe emissions, and will not make jobs and services available to people" who rely on public transit.[58] Accordingly, Colorado must reduce VMT to alleviate the transportation harms experienced by DICs. This rulemaking is an opportunity to tackle the deep inequities caused currently embedded in our transportation system by requiring VMT reductions.

C. Applicable Law Requires the Commission to Center Equity and Address Vehicle Miles Traveled.

Equitable access to transportation services is critical for communities across the state to thrive. The legislature has recognized the need to improve equity across all sectors, declaring that the state "has a responsibility to achieve environmental justice, health equity, and climate justice for all communities by ***avoiding and mitigating harm***."[59]

The legislature has also recognized the importance of equity within the transportation sector. For example, the legislature has defined a sustainable

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[56] *See SWEEP Presentation*, *supra* note 40, at Slide 5.

[57] While zero-emission vehicles eradicate tailpipe-generated pollution, they still produce non-exhaust pollutants such as particular matter (PM) during normal brake and tire wear. *HEI Literature Review*, *supra* note 2, at 3.

[58] *A Green New Deal*, *supra* note 54, at 7; *see also* Ean Thomas Tafoya, *supra* note 45, at 4:23:54 ("This idea that electric vehicles are going to save us in the short term isn't necessarily reality for the people who live in this [north Denver] community.").

[59] 2021 Colo. Legis. Serv. Ch. 411 (H.B. 21-1266) (1)(c)(I)–(III) (emphasis added).

transportation system as one that "[a]ddresses inequities in transportation access and the increased exposure to transportation-related air pollution for communities," including DICs, communities near highways, and Black and LatinX communities.[60] This rulemaking in particular must "fully evaluate" potential environmental and health impacts to DICs.[61] Accordingly, the Commission must prioritize equity concerns in this rulemaking by ensuring that, first, the rule inflicts no additional harm on DICs, and second, that the rule's benefits address the disproportionate harms endured by DICs.

In addition to its directive to improve equity, the Commission has a mandate to reduce VMT in this rulemaking. First, as discussed, equity and increased travel options—which result in decreased VMT—go hand in hand.[62] To improve equity, the Commission must also address VMT.

In addition, the state's 2020 Greenhouse Gas Pollution Reduction Roadmap calls for "[m]ak[ing] changes to transportation planning and investment and land use planning to encourage alternatives to driving."[63] The Roadmap goes on to explain the need for at least a ten percent reduction in VMT by 2030.[64] This rulemaking must ensure those goals are met. The state of Colorado, including the Commission, is also required to "use all available practical methods which are technologically feasible and economically reasonable so as to reduce, prevent, and control air pollution throughout the state of Colorado."[65] The Commission must abide by that requirement and enforce the use of VMT reduction policies in this rulemaking in order to achieve the transportation sector's GHG reduction targets.

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[60] 2021 Colo. Legis. Serv. Ch. 250 (SB 21-260) (1)(b)(IV) ("A sustainable transportation system . . . Addresses inequities in transportation access and the increased exposure to transportation-related air pollution for communities, including disproportionately impacted communities, communities near major roadways, and, as documented in multiple peer-reviewed scientific studies, communities where many of the residents are Black or Hispanic.").

[61] Colo. Rev. Stat. § 43-1-128(3).

[62] *See* above, at 12–16.

[63] *GHG Pollution Reduction Roadmap*, Colo. Energy Office, https://energyoffice.colorado.gov/climate-energy/ghg-pollution-reduction-roadmap (last visited Oct. 10, 2021).

[64] *Roadmap*, *supra* note 9, at 63.

[65] Colo. Rev. Stat. § 25-7-102(1).

Further, when the Denver/North Front Range Ozone Nonattainment Area is downgraded to Severe, Transportation Demand Management (TDM) requirements will likely be required.[66] Some TDM strategies encourage non-single occupancy vehicle travel, such as public transit and carpooling.[67] The Commission can help tackle Colorado's ozone problem by adopting a strong rule that increases travel options and decreases VMT.

At bottom, this rulemaking is an opportunity for the Commission to fulfill a "key recommendation" from the Roadmap by taking the lead in building a sustainable transportation system that reduces VMT. [68] CDOT has asserted that other rulemakings will better address the user side of transportation infrastructure, such as the Employer-based Trip Reduction Program (ETRP).[69] But the Colorado Department of Public Health and Environment (CDPHE) has since abandoned the ETRP rule.[70] With CDPHE abdicating their statutory authority to address individual behavior in the transportation sector, Coloradans need the Transportation Commission to step up and take the necessary steps to reduce VMT in order to achieve the state's GHG emissions reduction targets.

The Commission has an unprecedented opportunity to address the deep inequities in our transportation system. We urge the Commission to adopt an ambitious rule, as described below, that protects all Coloradans and charts a path to equitable, cleaner future.

PROPOSAL

CDOT's proposed rule would set GHG reduction targets for each Metropolitan Planning Organization (MPO) and for CDOT. These planning organizations would each be required to model GHG emissions resulting from packages of

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[66] *Roadmap*, *supra* note 9, at 64.

[67] *Id.*

[68] *Transportation GHG Roadmap Briefing Update*, Colo. Dep't of Transp. Multimodal Planning Branch 2 (July 13, 2021), https://codot.gov/programs/environmental/greenhouse-gas/ghg-briefing-memo-july-2021.pdf.

[69] *Id*. at 16.

[70] Chase Woodruff, *Colorado backs off plan to require large employers to encourage reduced car travel*, Colo. Newsline (July 20, 2021), https://coloradonewsline.com/2021/07/20/colorado-backs-off-plan-to-require-large-employers-to-encourage-reduced-car-travel/.

planned transportation projects. The modeling must demonstrate the applicable GHG reductions, and if it does not, the planning organization must implement GHG-reducing projects selected from an approved list of mitigation measures. If a planning organization is not in compliance, funds will be restricted to the use of GHG-reducing projects.

The Community Groups' attached redline proposes improvements to the rule. First and foremost, the rule should not allow any additional funding for highway expansions. These projects devastate communities and result in increased GHG emissions, and should not be allowed to continue.

In addition to prohibiting highway expansions, the Commission should also strengthen the proposed rule in numerous ways. The Community Groups' amendments would (a) further equity, (b) ensure that the rule achieves ambitious VMT reductions, (c) eliminate loopholes that undermine the rule's effectiveness, and (d) improve transparency and accuracy.

III. The Commission Should Prohibit All Future and Planned Highway Capacity Expansions

This rulemaking should ensure that our transportation system advances equity, benefits communities, and minimizes GHG emissions. The most straightforward path to achieving these goals is to ***stop expanding our highways***.

Highway expansions are usually justified as a way to reduce congestion and improve travel times. But time and again, experience has shown that highway expansions ultimately result in more traffic, longer travel times, and more emissions. When highways are expanded, more drivers are drawn to that road, adding new trips that were previously avoided. Studies have shown that VMT increases in lockstep with the addition of new highway lane miles at a 1:1 ratio.[71] This phenomenon, known as induced demand, is well-documented and leads to

[71] Kent Hymel, *If you build it, they will drive: Measuring induced demand for vehicle travel in urban areas*, 76 Transp. Pol'y 57 (2019), https://doi.org/10.1016/j.tranpol.2018.12.006.

any short-term congestion reductions evaporating within five to ten years—leaving communities worse off than before the construction projects.[72]

Nationwide, an increase in freeway lane-miles of 42% over two and a half decades has nevertheless resulted in a 144% increase in delay—despite population growth of only 32%.[73] Denver has seen even worse results. Over the same time period, population grew by 66%; freeway lane-miles grew by 51%; and delay grew up a whopping 310%.[74] Boulder and Colorado Springs have suffered similar trends.[75] The lesson is clear: Colorado cannot pave its way out of congestion. The state must fundamentally shift its focus to allow for more accessible and interconnected travel choices. This shift begins with banning all highway expansions.[76]

As discussed above, these projects result in serious harm to communities both in the short and long term.[77] In the short-term, construction contributes to localized air pollution, noise, and disruption to the community. Construction demands from highway projects can also supercharge polluting industries like asphalt and cement plants, which in turn exacerbates air quality problems in far-flung communities. And in the long-term, because of the impacts of induced demand, impacted communities are left worse off than before the expansion.

These lessons are readily apparent here in Colorado. The state widened I-25 in 2006 through Denver to the tune of $1.67 billion dollars.[78] Yet, within a mere five years, congestion was as bad as it was before the project.[79] In contrast, spending those funds on expanded public transit would have produced lasting benefits for communities. But Colorado has still not learned from its mistakes. The state is

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[72] *Id.*
[73] Rayla Bellis et al., *The Congestion Con: How more lanes and more money equals more traffic*, Transp. for Am. 9 (Mar. 2020), https://t4america.org/wp-content/uploads/2020/03/Congestion-Report-2020-FINAL.pdf.
[74] *Id.* at 12 Table 1.
[75] *Id.*
[76] *See* http://www.dot.state.mn.us/sustainability/docs/advisory%20council/stac-recommendations-response-2020.pdf at 35; *see also* https://coloradosun.com/2021/02/18/covid-relief-funds-opinion/.
[77] *See* above, at 10–12.
[78] Evan Derby, *Colorado leaders must kick their road-widening addiction to enable a livable future*, Colo. Newsline (Apr. 27, 2021), https://coloradonewsline.com/2021/04/27/colorado-leaders-must-kick-their-road-widening-addiction-to-enable-a-livable-future/.
[79] *Id.*

currently constructing a controversial expansion to I-70 and is plowing ahead with an expansion to I-270, with both projects imposing additional harms on north Denver communities that already overburdened by air pollution.[80]

Unfortunately, Colorado has yet to fully reckon with the far-reaching negative impacts of highway expansions. For example, the Cost-Benefit Analysis for this rulemaking does acknowledge that adding highway capacity results in induced demand.[81] Yet the recently released Environmental Assessment for the proposed I-70 Floyd Hill Expansion estimates that adding capacity to the highway will *decrease* VMT.[82] This assertion flies in the face of accepted transportation planning science. In fact, a team of researchers estimate that Colorado's currently planned highway expansions will, together, increase VMT by at least a billion miles by 2030—a 2% increase.[83] These planned projects will take Colorado in precisely the wrong direction, and, once again, the impacts will be felt most by vulnerable communities. The Commission should therefore prohibit all Regionally Significant Projects that would add more than one mile of lane capacity. This provision would allow for passing lanes but restrict the construction of new and expanded highways.[84]

The Commission must acknowledge the documented negative impacts of highway expansions and prohibit funding for new and planned expansions, including the planned I-270 expansion. Each additional highway expansion propels Colorado in the wrong direction for its climate goals by increasing VMT and, accordingly, GHGs.[85] This single step would ensure that Colorado abides by

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[80] *See* above, at 10–12; *see also* Allen Cowgill, *Commentary: I-270 Expansion Will Harm Latino Communities, Increase Air Pollution, and Accelerate Climate Change*, StreetsBlog Denver (Feb. 23, 2021), https://denver.streetsblog.org/2021/02/23/commentary-i-270-expansion-will-harm-latino-communities-increase-air-pollution-and-accelerate-climate-change/.

[81] CBA, *supra* note 52, at 22.

[82] *Environmental Assessment: I-70 Floyd Hill to Veterans Memorial Tunnels*, U.S. Dep't of Transp. & Colo. Dep't of Transp. 46 (July 2021), https://www.codot.gov/projects/i70floydhill/assets/ea/floydhill-environmental-assessment.pdf.

[83] Nathaniel Minor, *Colorado Is Sure It Can Expand Highways While Also Meeting Climate Goals. History Suggests That'll Be A Tough Climb.*, Colo. Pub. Radio (May 19, 2021), https://www.cpr.org/2021/05/19/colorado-is-sure-it-can-expand-highways-while-also-meeting-climate-goals-history-suggests-thatll-be-a-tough-climb/.

[84] Community Groups' Proposed Alternate Rule, Ex. 1, § 8.02.2.3.

[85] *See id*.

the principle of first doing no harm and could work in conjunction with CDOT's proposed rule.

IV. The Commission Should Further Strengthen CDOT's Proposed Rule.

A. The Commission Should Strengthen Provisions to Protect Disproportionately Impacted Communities Throughout the Rule

The Commission can and must strengthen the proposed rule's environmental justice provisions. The final rule should provide protections for all communities that are disproportionately impacted. In doing so, the rule should lessen the disparities felt by Disproportionately Impacted Communities by protecting DICs from harmful projects and by directing benefits to DICs. The rule should also require the creation of a Transportation Equity Framework to help guide future equitable decision-making. Finally, the rule should provide for robust public participation, ensuring that members of DICs have meaningful opportunities to influence future transportation planning decisions.

1. The Commission Should Widen the Scope of Protections

The proposed rule includes only a narrow definition of Disproportionately Impacted Communities, which unduly risks excluding communities that face disproportionate environmental harms.

The definition of Disproportionately Impacted Community for the Transportation Commission is set by statute.[86] This definition includes quantitative factors for identifying DICs.[87] However, this definition is more narrow than the definition used by the Air Quality Control Commission (AQCC).[88] That definition includes the same quantitative factors, but also allows for the Commission to identify additional communities based on qualitative

[86] Colo. Rev. Stat. § 24-38.5-302(3).
[87] Under the definition, a census block qualifies as a DIC if any more than 40% of households are low income, identify as minorities, or are housing cost-burdened. *Id.*
[88] *Id.* § 24-4-109(2)(b)(II).

factors such as a history of environmental racism.[89] To identify those communities, CDPHE is currently developing a screening tool, expected to be completed in 2022.[90]

These inconsistencies create serious difficulties for DICs. A strong rule, as proposed by the Community Groups and explained below, would offer specific protections and benefits for DICs—for example, by prohibiting projects that would harm frontline communities. If this rule were to utilize only the underinclusive definition of DICs, some communities that have been harmed by systemic racism—such as the practice of redlining—might continue to suffer harmful impacts from the transportation system with no opportunity for recourse.

Further, air pollution impacts from transportation are disproportionately concentrated in areas near major roadways.[91] For the purposes of a transportation rule, these communities also need additional protections. Studies have shown that various harmful pollutants, including PM, are elevated near roadways with a capacity of more than 30,000 vehicles per day.[92] These disproportionate impacts are felt at a range of up to 5,000 feet.[93] Thus, communities living within 5,000 feet of a roadway that carries more than 30,000 vehicles per day should also be prioritized for the benefits stemming from this rule.

We urge the Commission to rectify these deficiencies and ensure that all impacted communities are treated uniformly while complying with the statutory

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[89] Any community can qualify as a DIC under this definition if: "The community has a history of environmental racism perpetuated through redlining, anti-Indigenous, anti-immigrant, anti-Hispanic, or anti-Black laws; or the community is one where multiple factors, including socioeconomic stressors, disproportionate environmental burdens, vulnerability to environmental degradation, and lack of public participation, may act cumulatively to affect health and the environment and contribute to persistent disparities." *Id.*

[90] *Colorado EnviroScreen*, Colo. Dep't of Public Health & Env't, https://cdphe.colorado.gov/enviroscreen (last visited Oct. 10, 2021).

[91] *See* above, at 6, 12.

[92] Doug Brougge et al., *Near-highway pollutants in motor vehicle exhaust: A review of epidemiologic evidence of cardiac and pulmonary health risks*, 6 Env't Health (2007), https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-6-23.

[93] *HEI Literature Review*, *supra* note 2, at 3–4.

definitions. The Commission can accomplish this goal by defining a new term, "Additionally Impacted Communities" (AICs), and extending protections to DICs and AICs alike. AICs would include communities located near major roadways, as well as communities identified by other state agencies such as the AQCC. Thus, if the AQCC uses the Colorado EnviroScreen tool to identify communities with a history of environmental racism, those communities should automatically qualify as AICs for the purposes of the Transportation Commission and should be subject to the same protections and benefits as DICs.[94] This approach would ensure that all impacted communities are protected from transportation system harms.[95]

We urge the Commission to adopt these revisions and thereby extend protections to ***all*** communities in the state that have been historically harmed by environmental racism.

2. The Rule Should Prohibit Projects that Will Contribute to Further Harms in Disproportionately Impacted Communities and Additionally Impacted Communities

As explained above, DICs and AICs already suffer from disproportionately high pollution burdens, in large part due to the transportation system. Going forward, new Regionally Significant Projects must not be built if they will further contribute to harms in these communities. Planning Agencies must be required to apply an equity analysis to Regionally Significant Projects that examines cumulative health impacts to the surrounding communities. If that analysis shows adverse cumulative health impacts to a DIC or an AIC, that project must not be built.[96]

3. Mitigation Measure Funds Should Be Prioritized in Disproportionately Impacted Communities and Additionally Impacted Communities

[94] CDPHE is currently developing the EnviroScreen tool and expects to finalize it in 2022. *See id.*
[95] Community Groups' Proposed Rule, Ex. 1, § 1.03 (definition of AICs); *id.* §§ 1.10, 4.02.1, 4.02.5.1, 4.02.5.2, 4.02.5.4, 4.06.1.9, 8.02.2.3, 8.02.3, 8.02.5.2.3, 8.02.5.3.3, 8.05, 8.05.5 (extending protections and benefits to AICs).
[96] *Id.* § 8.02.2.3.

The final rule must begin to rectify decades of transportation injustice in DICs and AICs. As discussed above, low-income and minority communities have long suffered from destructive infrastructure projects in their communities, while simultaneously having limited access to public transit and other beneficial infrastructure. This rule must address these historic inequities.[97]

At a minimum, the rule should require that at least forty percent of funds expended under a Mitigation Action Plan will benefit DICs and AICs.[98] Mitigation Action Plans will only be implemented when an Applicable Planning Document does not comply with the required GHG reductions. By definition, the Plans will reduce air pollution and will often come with co-benefits such as increased accessibility to housing, jobs, and services for residents. These benefits must be concentrated in communities that currently bear an outsized burden of harms from the transportation system. Of course, the specific types of funded projects are also critical: to improve air quality, mitigation projects in DICs should target air toxics. The Community Groups' proposals below concerning community engagement would work in concert with this provision to ensure that the funds are expended on effective projects.

Forty percent is an appropriate funding target for several reasons. First, under the quantitative definition, roughly forty percent of the state's population lives within a DIC.[99] When qualitative factors are taken into account, that proportion will likely rise. Because these communities bear an outsized burden, any equitable funding equation must, at a bare minimum, direct a proportional amount of funding to DICs and AICs.

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[97] See above, at 8–12.

[98] Community Groups' Proposed Rule, Ex. 1, § 8.02.5.3.3.

[99] Until the EnviroScreen tool is finalized, CDPHE has launched a draft tool to identify DICs in Colorado. The draft tool estimates that 2.398 million Coloradans reside within a DIC as defined by the quantitative factors set forth in HB 21-1266. *Draft Data Viewer for Disproportionately Impacted Communities in Colorado*, Colo. Dep't of Public Health & Env't, https://cohealthviz.dphe.state.co.us/t/EnvironmentalEpidemiologyPublic/views/EJActDICommunities-Public/HB21-1266DICommunities?%3AshowAppBanner=false&%3Adisplay_count=n&%3AshowVizHome=n&%3Aorigin=viz_share_link&%3AisGuestRedirectFromVizportal=y&%3Aembed=y (last visited Oct. 10, 2021). The population of Colorado is roughly 5.8 million. *QuickFacts: Colorado*, U.S. Census Bureau, https://www.census.gov/quickfacts/CO (last visited Oct. 10, 2021).

Second, forty percent is a familiar and achievable target in Colorado. Qualifying utilities are required to direct at least forty percent of their renewable energy investments to DICs and low-income customers.[100] This provision is explicitly intended to "address historical equity issues."[101] The transportation sector similarly suffers from "historical equity issues," and the Commission should accordingly take appropriate steps to address those disparities.

Third, a forty percent commitment would align with President Biden's Justice40 Initiative. Justice40 is a government-wide initiative to ensure that DICS reap at least forty percent of the benefits from federal investments in climate and clean energy.[102] By aligning the final rule with Justice40, the Commission can demonstrate its commitment to environmental justice and take an important step towards rectifying the inequities in our current transportation system.

4. The Commission Should Implement a Transportation Equity Framework

The Commission should utilize this rulemaking to direct the development of an equity framework that is specific to the transportation sector. Currently, the state's Draft Climate Equity Framework offers guidance on community engagement and key questions for gauging the impacts of proposed rules.[103] The proposed Transportation Equity Framework would help to ensure that all future transportation planning decisions and rulemakings are inclusive and equitable. In addition, the Transportation Equity Framework would support the intent of SB 21-260, which requires transportation capacity projects to include measures to increase public participation by members of DICs.[104] The new environmental

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[100] Colo. Rev. Stat. § 40-2-124(1)(g)(I)(D).

[101] *Id.*

[102] Exec. Order No. 14,008, *Tackling the Climate Crisis at Home and Abroad* (Feb. 1, 2021); *see also The Path to Achieving Justice40*, The White House Briefing Room (July 20, 2021), https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/ (last visited Oct. 10, 2021).

[103] *Draft Climate Equity Framework*, Colo. Air Pollution Control Div., https://docs.google.com/document/d/1wY19usrbJd3fXQkeEkX8V4reWE1pr5hzz4h_E0MFD08/edit (last visited Oct. 10, 2021).

[104] Colo. Rev. Stat. § 43-1-128(6).

justice and equity branch created by SB 21-260 would be well-positioned to develop and implement such a framework.[105]

The development of the Transportation Equity Framework must be driven by the communities most impacted by transportation system harms. In developing a Framework, CDOT can benefit from the draft Climate Equity Framework but also learn from its shortcomings. Community and environmental groups have explained how to improve the draft Climate Equity Framework. In particular, a successful framework must "reimagine how decisions are made, and what must be necessary outcomes, by transforming our decision making structures and procedures."[106] The Commission should thus adopt provisions requiring the development and use of a Transportation Equity Framework.[107]

5. The Final Rule Must Ensure a Transparent, Equitable Process for Reducing Harm in Transportation Planning Decisions

The Commission should amend the proposed rule to include additional procedural requirements, which would ensure that DICs and AICs have a meaningful seat at the table for future planning decisions. These amendments would implement statutory requirements for a more inclusive planning process.[108] The Community Group's specific amendments addressing an equitable planning process occur throughout the rule and should be read as a whole.[109]

The Statement of Basis and Purpose must explicitly recognize the importance of including disproportionately impacted perspectives. In addition, the rule must require more than mere listening sessions with community members; it must allow for meaningful input from communities, including full dialogue with regulatory agencies. For example, planning agencies must *respond* to community

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[105] *See id.* § 43-1-116(5).
[106] Adrienne Dorsey et al., Letter to CDPHE re Equity Framework Comments 1 (Mar. 25, 2021), https://www.nrdc.org/sites/default/files/cdphe-equity-framework-joint-comments-20210325.pdf.
[107] Community Groups' Proposed Rule, Ex. 1, § 1.10 (definition of Transportation Equity Framework); *id.* §§ 4.02.1, 4.02.5.4, 4.03.7, 4.04.1.6 (requiring development and use of Framework).
[108] *See* Colo. Rev. Stat. § 43-1-116(5); 2021 Colo. Legis. Serv. Ch. 411 (H.B. 21-1266) (1)(c)(I)–(III).
[109] Community Groups' Proposed Rule, Ex. 1, §§ 4.02.1, 4.02.2, 4.02.3, 4.02.4, 4.02.5.2, 4.02.5.4, 4.03.7, 4.04.1.6, 4.06.1.9, 8.02.4, 8.02.5.2.3, 8.02.5.3.4, 8.01.2.2, 8.05, 8.06, 8.06.2.

concerns, either by remedying the concerns in their final decisions or by explaining, in writing, why those concerns were not addressed.

Meaningful public participation is necessary at several stages in the planning process. First, public participation is absolutely critical in developing the policy for scoring mitigation measures. Not all mitigation measures will be equal. Some measures will come with greater air pollution reductions; some will come with greater co-benefits for impacted communities. The scoring process must address both of these considerations, and address how to balance those considerations if they are in tension. Other issues concerning the specifics of each mitigation measure will also need to be addressed during the policy process.[110] Public participation, especially from members of DICs, will thus be crucial to shaping the scoring policy. Further, the directory of mitigation measures will be a living list, subject to additions and deletions. Those supplementary decisions must not be made without robust public participation.

Second, if an Applicable Planning Document is not in compliance and a planning agency must turn to the mitigation list to develop a Mitigation Action Plan, affected communities must be included in the process of selecting mitigation measures that will reduce harm. DICs and AICs will likely wish to see mitigation measures implemented that reduce air toxics, and they must have a meaningful voice in the Plan development to ensure their concerns are addressed. In addition, even the strongest scoring system may not be able to account for local conditions. For example, a bicycle path may work well in one locale, but it may not be safe to use in another community suffering from poor air quality. Instead, the community might prefer another option, such as a measure that improves access to public transit. Further, communities may have differing levels of through-traffic, as demonstrated by origin-destination studies. A community with high levels of through-traffic may wish to employ a different suite of mitigation measures than communities with mostly local traffic.[111] Thus, to ensure well-tailored and effective mitigation measures, communities must have meaningful input in the development of each mitigation plan.

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[110] For example, if tree coverage is proposed as a possible mitigation, steps must be taken to ensure continuity of care—without continued maintenance, tree coverage as a mitigation will not be long-lasting. Community members must be consulted in order to identify and resolve these types of issues with mitigation measures.

[111] *See* above, at 14.

B. The Rule Should Specifically Target Vehicle Miles Traveled and Ensure that Colorado Reaches Its Greenhouse Gas Reduction Targets for the Transportation Sector

We urge the Commission to both (1) strengthen the targets listed in the rule and (2) to include corresponding VMT reduction targets.[112]

First, the GHG reduction targets listed in the proposed rule's Table 1 are insufficient and must be strengthened. The Roadmap has listed a number of approaches for the state to reduce GHGs from the transportation sector, and estimated the impacts of each. Even with strong proposals to speed electrification, a large gap remains for the transportation sector to hit the 2030 goal.[113] This rule, as the only proposed rule to achieve VMT reductions, must close that gap. We therefore urge the Commission to adopt a target of 3.7 MMT for 2030, and corresponding targets for each planning agency and other target years, in order to ensure that Colorado meets its statutory targets.

Second, the final rule must explicitly target GHG reductions via VMT reductions. As discussed above, electrification—while critically important—is insufficient to meet Colorado's 2030 GHG targets.[114] Further, increasing transportation choice (and thereby reducing VMT) comes with extensive co-benefits that are particularly valuable to DICs and AICs. The Commission should recognize these considerations and explicitly target this rulemaking at the VMT problem, in line with the Roadmap, SB 260, and Colorado's environmental justice goals.[115] Accordingly, the Commission should require Applicable Planning Documents to

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[112] Community Groups' Proposed Rule, Ex. 1, §§ 8.01.1, 8.01.2, Tables 1 & 2.

[113] *See Greenhouse Gas Pollution Reduction Standard for Transportation Planning: Frequently Asked Questions*, Colo. Dep't of Transp. 3 (Aug. 30, 2021) (explaining that the transportation sector has a reduction target of 12.7 MMT of CO2e by 2030, and that 8 MMT is achievable through electrification and improvements in fuel efficiency, leaving 4.7 MMT of reductions to achieve by 2030. The proposed Advanced Clean Truck Rule would increase the share of emission truck sales to 40% by 2030. *See* Roadmap, *supra* note 9, at 112. The Community Groups estimate that Colorado cannot count on more than 1.0 MMT in reductions from truck electrification by 2030. The remaining gap to be addressed by VMT reductions is thus 3.7 MMT by 2030.

[114] *See* above, at 16–17.

[115] *See* above, at 12–16.

comply both with the GHG reduction targets and with the VMT reduction targets shown below.

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	2050 Reduction Level (MMT)
DRCOG	14.90	0.67	11.80	2.02	10.90	1.55	12.80	0.91
NFRMPO	2.30	0.10	1.80	0.30	1.90	0.27	2.20	0.17
PPACG	2.70	0.12	2.20	0.37	2.00	0.30	2.30	0.17
GVMPO	0.38	0.02	0.30	0.05	0.30	0.05	0.36	0.02
PACOG	0.50	0.02	0.40	0.07	0.30	0.05	0.40	0.02
CDOT/Non-MPO	6.70	0.30	5.30	0.91	5.20	0.74	6.10	0.44
TOTAL	27.40	1.23	21.80	3.70	20.60	2.96	24.20	1.73

Table 2: VMT Transportation Planning Reduction Levels (in millions)

Regional Areas	2025 Baseline Projections	2025 Reduction Level	2030 Baseline Projections	2030 Reduction Level	2040 Baseline Projections	2040 Reduction Level	2050 Baseline Projections	2050 Reduction Level
DRCOG	30,855	4,495	33,364	8,991	37,311	10,776	41,258	12,593
NFRMPO	5,387	784	5,826	1,569	6,515	1,736	7,204	2,450
PPACG	5,877	856	6,355	1,712	7,107	2,066	7,859	2,420
GVMPO	980	142	1,059	285	1,184	401	1,310	390
PACOG	980	142	1,059	285	1,184	401	1,310	339
CDOT/Non-MPO	14,693	2,140	15,888	4,281	17,767	5,022	19,647	6,193
Total VMT	58,771	8,563	63,551	17,126	71,069	20,405	78,587	24,388

C. The Commission Should Eliminate Loopholes from the Rule

Various exemptions included in the proposed rule would constrain the rule's impact. The Community Groups recommend several revisions to eliminate loopholes and ensure that the final rule is effective. First, all Transportation Improvement Programs (TIPs) should be subject to the rule. Second, all Metropolitan Planning Organizations should be subject the rule beginning in 2025. Third, the Commission should eliminate the waiver provision. Fourth, the rule should apply to TIP amendments. And finally, mitigation measures must be timely implemented.

1. All Transportation Improvement Programs Should Be Subject to the Rule, Regardless of the Metropolitan Planning Organization's Geographical Location

Greenhouse gas pollution and the resulting climate crisis have no physical boundaries. Yet the proposed rule exempts TIPs for MPOs outside of the Ozone Nonattainment Area (NAA), although this rule is not focused on ozone reductions. The Commission should eliminate this exemption and instead apply the rule to all TIPs.[116]

While MPOs outside of the NAA may currently have less experience with advanced modeling techniques, that is no excuse to indefinitely exempt those MPOs' TIPs from the final rule. If the MPOs need assistance, they can seek input from CDOT's modeling experts. If the Commission chooses not to fully eliminate this exemption, then at minimum the Commission should direct the MPOs to build up their modeling expertise during 2022 and begin applying the rule to their TIPs in 2023. An indefinite exemption is unwarranted and places Colorado's GHG goals at risk.

[116] Community Groups' Proposed Rule, Ex. 1, § 1.04.

2. All Metropolitan Planning Organizations Should Be Subject to Reduction Goals Beginning in 2025

The proposed rule currently does not set a reduction level for 2025 for the Pikes Peak Area Council of Governments (PPACG), Grand Valley MPO (GVMPO), and Pueblo Area Council of Governments (PACOG). As a result of this exemption, the state will not be able to meet its total reduction level of .5 MMT in 2025: the reduction levels for the remaining planning agencies, as listed in the proposed rule, add up to only .4 MMT, amounting to a 20% shortfall.

This exemption is unwarranted: Colorado needs to begin securing reductions across the state immediately. These MPOs are not minimal contributors that can be overlooked. For example, the baseline emissions estimate for PPACG is higher than the baseline for the North Front Range MPO, which is subject to the 2025 limits.[117] Further, these MPOs have resources available to address GHGs and VMT from the transportation system and, in fact, have plans to use those resources. PPACG, for example, has been allocated over six million dollars to implement multimodal projects within the MPO and has put out a call for projects.[118]

The Commission should eliminate this exemption and apply the rule to all MPOs equally beginning in 2025.[119] At minimum, if the Commission chooses to retain the 2025 exemption for the three MPOs, the 2025 reduction goal of .5 MMT and corresponding VMT reduction goal should be redistributed between the remaining agencies to ensure that Colorado meets its climate goals.

3. The Commission Should Eliminate the Waiver Provision

The proposed rule allows for noncompliant planning agencies to request a waiver from the Commission, which, if granted, would allow the agency to build a GHG-increasing project even when the region is already behind on its GHG

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[117] CDOT Proposed Rule § 8.01.2, Table 1 (noting 2025 baselines of 2.7 MMT for PPACG and 2.3 MMT for NFRMPO).

[118] *Multimodal Options Fund (MMOF) – PPACG Call for Projects*, Pikes Peak Area Council of Gov'ts, https://www.ppacg.org/multimodal-options-fund-mmof-ppacg-call-for-projects/ (last visited Oct. 15, 2021).

[119] Community Groups' Proposed Rule, Ex. 1, §§ 8.01.1, 8.01.2, Tables 1 & 2.

goals.[120] This unjustified waiver provision undermines the proposed rule's effectiveness and is likely to perpetuate harm to communities. The waiver provision prioritizes only one kind of safety: that relating to vehicle crashes. It fails to account for the safety and health impacts resulting from air pollution. The concept of safety must include the need for reductions in air toxics and the improvement of public health.

Further, the waiver provision is unnecessary because planning agencies have other options available. If a planning agency feels that a single project is critical, whether for safety or other reasons, yet the Applicable Planning Document (APD) is not in compliance, the agency can amend the project to include GHG-mitigation measures that would protect the surrounding community. In addition, agency can amend the APD by replacing other, less-critical proposed projects with GHG-beneficial projects to balance the regionwide impacts. There is no need for a waiver provision when planning agencies already have full control over the composition of their APDs. The Commission should therefore eliminate the waiver provision.

4. The Rule Should Apply to Transportation Improvement Program Amendments

The proposed rule specifically exempts MPO TIP amendments. This exemption threatens the effectiveness of the rule and should be removed.[121] TIPs consist of prioritized lists of transportation projects—in other words, projects that will be implemented in the near term.[122] If an MPO chooses to amend a TIP, for example by adding a planned project, the revised plan must not escape scrutiny.

RTPs include a relatively length list of projects that the region can afford, while TIPs include only a subset of RTP projects that are actually being built.[123]

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[120] CDOT Proposed Rule §§ 8.05.2–8.05.2.1.2.

[121] Community Groups' Proposed Rule, Ex. 1, §§ 8.02.1.1, 8.02.1.2.

[122] *Project Planning, TIP/STIP*, Colo. Dep't of Transp., https://www.codot.gov/business/localagency/manual/overview/project-planning (last visited Oct. 10, 2021).

[123] *See 2022-2025 Transportation Improvement Program: Public Hearing Draft*, Denver Reg'l Council of Gov'ts 9 (Mar. 17, 2021), https://drcog.org/sites/default/files/resources/DRCOG_2022-2025_TIP_Public_hearing_Draft.pdf.

Imagine an MPO that wishes to pull a project from the RTP and include it in an amended TIP. Both the RTP and the original TIP both underwent modeling and demonstrated compliance with the rule's GHG and VMT targets. But that does not mean that the newly amended TIP will necessarily comply with the targets.

First, RTPs contain numerous projects, which might not all end up being built. Even if the overall RTP is in compliance with the targets, any given subset of projects may not be. That is why TIPs must be modeled in the first place. If MPOs are permitted to amend TIPs without verifying compliance with the rule, they could simply shift up GHG- and VMT-increasing projects from the RTP while snubbing beneficial projects. Second, timing also matters: if a major project is moved up to the near-term plan, that change may affect the MPO's ability to comply with the near-term GHG and VMT targets. Accordingly, the Commission should reject this potential loophole.

5. Planned Mitigation Measures Must Be Timely Implemented

The proposed rule allows planning agencies to explain why a mitigation measure was "delayed, cancelled, or substituted." However, the proposed rule does not require any remedial or punitive action to account for delayed or cancelled mitigation measures, creating an unacceptable loophole that would allow planning agencies to renege on their commitments. Planning agencies must not be permitted to unilaterally delay or cancel mitigation measures. Rather, only substitutions are acceptable, and those are only acceptable when the substitution is subject to full public participation and input.[124]

D. The Rule Should Be Transparent and Accurate

Finally, the Commission should adopt the Community Groups' proposed revisions that would ensure a transparent, accurate process moving forward. The rule should include (1) strong reporting requirements for planning agencies, and (2) robust modeling requirements that ensure accuracy and consistency.

[124] Community Groups' Proposed Rule, Ex. 1, § 8.01.2.2.

1. All Planning Agencies Should Be Subject to Transparent Reporting

Any strong rule must be subject to transparent reporting requirements that allow the public to easily assess progress. This rule is no different. The Community Groups have accordingly proposed amendments throughout the rule to strengthen reporting requirements.

For example, the proposed rule requires planning agencies to submit a GHG Transportation Report at least thirty days before the adoption of any Applicable Planning Document. These reports should be required to include additional information concerning technical methodology as well as underlying data, including, for instance, demographic changes in the region.[125]

In another example, the proposed rule requires CDOT to publish a comprehensive report on GHG reductions every five years. This report should be required to include an explanation of whether Colorado is meeting its GHG and VMT reduction targets. If Colorado is not meeting its targets, CDOT should be required to develop and propose additional requirements to the Commission.[126] This requirement would align with similar requirements at the AQCC and ensure that state agencies are consistently addressing Colorado's climate progress.[127] In addition, the report must include information about specific projects that impact DICs and AICs, as well as a review of modeling techniques.

2. Modeling Requirements Should Be Strengthened to Ensure Accuracy and Consistency

An effective planning rule must be based on sound modeling. Inaccurate estimates of VMT and GHG emissions would effectively eviscerate the proposed rule by allowing planning agencies to artificially circumvent limits. The Community Groups therefore urge the Commission to adopt a number of

[125] Community Groups' Proposed Rule, Ex. 1, §§ 8.02.5.2.1, 8.02.5.2.2, 8.02.5.2.3.
[126] *Id.* §§ 8.06, 8.06.1, 8.06.2, 8.06.3.
[127] Colo. Rev. Stat. § 25-7-105(1)(e)(VII) (requiring that, if the emission reduction targets are not being met, CDPHE must "develop and propose additional requirements to the [AQCC]" to make up the shortfall).

amendments to bolster the required modeling and improve transparency around the modeling process.

First, the Commission should require estimates of GHG and VMT reductions for all mitigation measures.[128] Estimates are necessary for to enable meaningful public input. Estimates are also necessary as a practical matter. CDOT has proposed that difficult-to-estimate mitigation measures will be scored, perhaps with a points system. But even a points system must somehow be converted to GHG emissions and VMT reductions, such that planning agencies can calculate how many points they need to make up for their failure to meet the required targets. To illustrate: imagine that an MPO models its TIP and finds that it has missed their required reduction target by .3 MMT. As a result, the MPO must adopt a Mitigation Action Plan identifying a suite of GHG Mitigation Measures. The available measures are scored on a points system. But how many points does the MPO need to accumulate in order to comply with the rule? The MPO needs to know how many points are equivalent to .3 MMT. For the mitigation plans to work, therefore, planning agencies must use a consistent scale to convert points to GHG and VMT reductions (if a point system is even necessary). Thus, there is no excuse for failing to estimate GHG and VMT reductions from each mitigation measure.

Second, the Commission should define "Induced Travel Elasticity" and set the value at 1.0 for freeways and .75 for arterials.[129] Induced Travel Elasticity identifies the impacts of increased capacity on induced demand. An elasticity of 1.0 indicates that a given percent increase in lane miles will cause the same percent increase in VMT—a one to one ratio. These values are critical to define in order to ensure that planning agencies use consistent assumptions in their modeling. In addition, the values of 1.0 for freeways and .75 for arterials are supported by recent modeling estimates.[130]

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[128] Community Groups' Proposed Rule, Ex. 1, §§ 8.01.2.1.1, 8.02.2.6.

[129] Community Groups' Proposed Rule, Ex. 1, §§ 1.20, 8.02.2.1.

[130] Jamey Volker et al., *Induced Vehicle Travel in the Environmental Review Process*, 2674 Transp. Rsch. Rec. 468 (2020), https://journals.sagepub.com/doi/abs/10.1177/0361198120923365?journalCode=trra; *see also* CBA, *supra* note 52, at 22 (acknowledging that elasticity values selected by CDOT are on the low end of estimates).

Third, planning agencies should be required to use Activity-Based Models by 2023.[131] Activity-Based Models are currently the most accurate transportation models available. This phase-in period will allow the planning agencies time to build out the necessary technical expertise. Further, the models should be regularly reevaluated and continually improved to ensure a strong, lasting rule.

V. Conclusion

The Commission has a statutory obligation to remedy disparities and reduce pollution caused by the transportation system. Further, in the wake of protests that underscored the deep racial inequities in this country and in light of a global pandemic that has further exposed injustices in our health and economic systems, the Commission has an indisputable moral obligation to take decisive actions that protect frontline communities from additional harm. We urge the Commission to prohibit future funding of highway capacity expansions and adopt CDOT's proposal with the changes described in the Community Groups' attached redline.

[131] Community Groups' Proposed Rule, Ex. 1, § 8.02.2.7.

EXHIBIT 1

DEPARTMENT OF TRANSPORTATION

Transportation Commission

RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

2 CCR 601-22

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

August 13, 2021, Version

Please note the following formatting key:

Font Effect	Meaning
Underline	New Language
~~Strikethrough~~	Deletions
[Blue Font Text]	Annotation
Blue underlined	Community Groups - New Language
~~Blue strikethrough~~	Community Groups - Deletions

STATEMENT OF BASIS AND PURPOSE, ~~AND~~ STATUTORY AUTHORITY AND PREAMBLE

The purpose of the Rules Governing the Statewide Transportation Planning Process and Transportation Planning Regions (Rules) is to prescribe the statewide transportation planning process through which a long-range ~~multimodal~~Multimodal, comprehensive ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~ Plan will be developed, integrated, updated, and amended by the Colorado Department of Transportation (Department or CDOT), in cooperation with local governments, Metropolitan Planning Organizations (MPOs) , Regional Planning Commissions, Indian tribal governments, relevant state and federal agencies, the private sector, transit and freight operators, Disproportionately Impacted Communities, Additionally Impacted Communities, ~~special interest groups,~~ and the general public. This cooperative process is designed to coordinate regional transportation planning, guided by the statewide transportation policy set by the Department and the ~~transportation~~ Transportation ~~commission~~ Commission of Colorado ("Commission"), as a basis for developing the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan. The result of the statewide transportation planning process shall be a long-range, financially feasible, environmentally sound, ~~multimodal~~ Multimodal transportation system plan for Colorado that will reduce traffic and smog, reduce Colorado's Greenhouse Gas (GHG) emissions, and reduce inequities in Colorado's transportation system.

Further, the purpose of the Rules is to define the state's Transportation Planning Regions for which long-range Regional Transportation Plans are developed, prescribe the process for conducting and initiating transportation planning in the non-MPO Transportation Planning Regions and coordinating with the ~~Metropolitan Planning Organizations~~MPOs for planning in the metropolitan areas. Memoranda of Agreement (MOA) that serve as the Metropolitan Planning Agreements (MPAs) ~~per~~ pursuant to 23 C.F.R.

§ 450 between the Department, each MPO, and applicable transit provider(s) further prescribe the transportation planning process in the MPO ~~transportation~~ Transportation ~~planning~~ Planning ~~regions~~Regions. In addition, the purpose of the Rules is to describe the organization and function of the Statewide Transportation Advisory Committee (STAC) as established by § 43-1-1104, Colorado Revised Statutes (C.R.S.).

The Rules are promulgated to meet the intent of both the U.S. Congress and the Colorado General Assembly for conducting a continuing, cooperative, and comprehensive statewide performance-based ~~multimodal~~ Multimodal transportation planning process for producing a Statewide Transportation Plan and Regional Transportation Plans that address the transportation needs of the ~~state~~State. This planning process, through comprehensive input, results in systematic project prioritization and resource allocation.

The Rules, governing the statewide planning process, emphasize Colorado's continually greater integration of Multimodal, cost-effective, and environmentally sound means of transportation which leads to cleaner air and reduced traffic. The Rules reflect the Commission's and the Department's focus on Multimodal transportation projects including highways, transit, rail, bicycles and pedestrians. Section 8 of these Rules establishes an ongoing administrative process for identifying, measuring, confirming, and verifying those best practices and their impacts, so that CDOT and MPOs can easily apply them to their plans in order to achieve the pollution and Vehicle Miles Traveled reduction levels required by these Rules.

The Rules are promulgated by the Commission pursuant to the specific statutory authority in § 43-1-1103 (5), C.R.S., and § 43-1-106 (8)(k), C.R.S.

Preamble for 2018 Rulemaking

In 2018, rulemaking was initiated to update the rules to conform to recently passed federal legislation, update expired rules, clarify the membership and duties of the ~~Statewide Transportation Advisory Committee~~STAC pursuant to HB 16-1169 and HB 16-1018, and to make other minor corrections. ~~The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements contained in 23 United States Code (U.S.C.) §§ 134, 135 and 150, Pub. L. No. 114-94 (Fixing America's Surface Transportation Act or the "FAST Act") signed into law on December 4, 2015, and its implementing regulations, where applicable, contained in 23 Code of Federal Regulations (C.F.R.) Part 450, including Subparts A, B and C and 25 C.F.R. § 170.421 in effect as of August 1, 2017, which are hereby incorporated into the Rules by this reference, and do not include any later amendments. All referenced laws and regulations shall be available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.~~

~~Copies of the referenced United States Code may be obtained from the following address:~~

~~Office of the Law Revision Counsel~~
~~U.S. House of Representatives~~
~~H2-308 Ford House Office Building~~
~~Washington, DC 20515~~
~~(202) 226-2411~~

~~Copies of the referenced Code of Federal Regulations may be obtained from the following address:~~

~~U.S. Government Publishing Office~~
~~732 North Capitol Street, N.W.~~
~~Washington, DC 20401~~
~~(202) 512-1800~~

~~The Statewide Planning Rules, governing the statewide planning process, emphasize Colorado's continually greater integration of multimodal, cost-effective and environmentally sound means of transportation. The Rules reflect the Department's focus on multimodal transportation projects including highways, aviation, transit, rail, bicycles and pedestrians.~~

~~The Rules are promulgated by the Commission pursuant to the specific statutory authority in § 43-1-1103 (5), C.R.S., and § 43-1-106 (8)(k), C.R.S. The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.~~

Preamble for 2021 Rulemaking

Overview

Section 8 of these Rules establishes Greenhouse Gas (GHG) pollution reduction planning levels for transportation that will improve air quality, reduce smog, start to address inequities in our transportation system, and provide more sustainable options for travelers across Colorado. The purpose of these requirements is to limit the GHG pollution which would result from the transportation system if the plan was implemented by providing more transportation options, consistent with the state greenhouse gas pollution reduction roadmap. This is accomplished by requiring CDOT and MPOs to establish plans that meet targets through a mix of long-range and short-term projects that limit and mitigate air pollution and improve quality of life and Multimodal options. CDOT and MPOs will be required to demonstrate through travel demand modeling and approved air quality modeling that statewide and regional aggregate emissions and net Vehicle Miles Traveled resulting from its state or regional plans do not exceed a specified levels. In the event that a plan fails to comply, CDOT and MPOs have the option to ~~commit to~~ implement~~ing~~ GHG Mitigation Measures that provide travelers with cleaner and more equitable transportation options such as safer pedestrian crossings and sidewalks, better transit and transit-access, or infrastructure that supports access to housing, jobs, and retail.

Examples of these types of mitigations, which also benefit quality of place and the economic resilience of communities, will include but not be limited to: adding bus rapid transit facilities and services, enhancing first-and-last mile connections to transit, adding bike-sharing services including electric bikes, improving pedestrian facilities like sidewalks and safe accessible crosswalks, investments that support vibrant downtown density and local zoning decisions that favor sustainable building codes and inclusive multi-use facilities downtown, and more. The process of identifying and approving mitigations will be established by a policy process that allows for ongoing innovations from MPOs, local governments, impacted communities, and other partners to be considered on an iterative basis. The process of identifying and approving mitigations will also be conducted in conjunction with Disproportionately Impacted Communities and Additionally Impacted Communities to ensure that approved mitigations are equitable.

The process of identifying and approving mitigations will also be conducted in conjunction with Disproportionately Impacted Communities to ensure that approved mitigations are equitable. This process will be facilitated by the adoption, by rule or policy, of a Transportation Equity Framework. n order to address past inequities, and to prevent perpetuating inequitable practices, no projects will be allowed that add additional highway capacity. Further, no projects will be allowed that will cause adverse environmental or public health impacts to a Disproportionately Impacted Community that is already experiencing degraded environmental conditions relative to the state population unless those environmental or public health impacts are entirely mitigated. Additionally, 40% of funds expended on mitigation measures to decrease GHG pollution and VMT must directly benefit populations in Disproportionately Impacted Communities and Additionally Impacted Communities.

If compliance still cannot be demonstrated, even ~~after committing to~~ with the inclusion of GHG Mitigation Measures, the Commission shall restrict the use of certain funds, requiring that dollars be focused on projects that help reduce transportation emissions, reduce Vehicle Miles Traveled, and are recognized as approved mitigations. These requirements address the Colorado General Assembly's directive to reduce statewide GHG pollution in § 25-7- 102(2)(g), C.R.S., while reducing vehicle miles traveled, § 43-1-128(3), C.R.S, as well as the directive for transportation planning to consider environmental stewardship and reducing GHG emissions, § 43-1-1103(5), C.R.S., in a manner that addresses the inequities of our current transportation system inflicted on Disproportionately Impacted Communities and Additionally Impacted Communities. § 43-1-128 C.R.S.

Context of Section 8 of these Rules Within Statewide Objectives

The passage of House Bill (HB)19-1261 set Colorado on a course to dramatically reduce GHG emissions across all sectors of the economy. In HB 19-1261, now codified in part at §§ 25-7-102(2) and 105(1)(e),

C.R.S., the General Assembly declared that "climate change adversely affects Colorado's economy, air quality and public health, ecosystems, natural resources, and quality of life[,]" acknowledged that "Colorado is already experiencing harmful climate impacts[,]" and that "many of these impacts disproportionately affect" certain Disproportionately Impacted Communities and Additionally Impacted Communities. *see* § 25-7-102(2), C.R.S. The General Assembly also recognized that "[b]y reducing [GHG] pollution, Colorado will also reduce other harmful air pollutants, which will, in turn, improve public health, reduce health care costs, improve air quality, and help sustain the environment." *see* § 25-7-102(2)(d), C.R.S.

Since 2019, the State has been rigorously developing a plan to achieve the ambitious GHG pollution reduction goals in § 25-7-102(2)(g), C.R.S. In January 2021, the State published its Greenhouse Gas Pollution Reduction Roadmap (Roadmap). The Roadmap identified the transportation sector as the single largest source of statewide GHG pollution as of 2020, with passenger vehicles the largest contributor within the transportation sector. Additionally, the Roadmap determined that emissions from transportation are a "significant contributor to local air pollution that disproportionately impacts lower-income communities and communities of color." *see* Roadmap, p. XII.

A key finding in the Roadmap recognized that "[m]aking changes to transportation planning and infrastructure to reduce growth in driving is an important tool" to meet the statewide GHG pollution reduction goals. *see* Roadmap, p. 32. Section 8 of these Rules also advances the State's goals to reduce emissions of other harmful air pollutants, including ozone.

Why the Commission is Taking This Action

Senate Bill 21-260, signed into law by the Governor on June 17, 2021, and effective upon signature, includes a new § 43-1-128, C.R.S., which directs CDOT and MPOs to engage in an enhanced level of planning, modeling and other analysis to minimize the adverse environmental and health impacts of planned transportation capacity projects. Section 43-1-128, C.R.S. also directs CDOT and the Commission to take steps to account for the impacts of transportation capacity projects on GHG pollution and Vehicle Miles Traveled and to help achieve statewide GHG pollution targets established in § 25-7-102(2)(g), C.R.S.

Under Colorado law governing transportation planning, CDOT is charged with and identified as the proper body for "developing and maintaining the state transportation planning process and the state transportation plan" in cooperation with Regional Planning Commissions and local government officials. *see* § 43-1-1101, C.R.S.

The Commission is responsible for formulating policy with respect to transportation systems in the State and promulgating and adopting all CDOT financial budgets for construction based on the Statewide Transportation Improvement Programs. *see* § 43-1-106(8), C.R.S. The Commission is statutorily charged "to assure that the preservation and enhancement of Colorado's environment, safety, mobility and economics be considered in the planning, selection, construction and operation of all transportation projects in Colorado." *see* § 43-1-106(8)(b), C.R.S. In addition, the Commission is generally authorized "to make all necessary and reasonable orders, rules and regulations in order to carry out the provisions of this part . . ." *see* § 43-1-106(8)(k), C.R.S.

As such, CDOT and the Commission are primarily responsible for ensuring compliance with GHG and Vehicle Miles Traveled reductions in transportation planning.

What Relevant Regulations Currently Apply to Transportation Planning

Transportation planning is subject to both state and federal requirements. Under federal law governing transportation planning and federal-aid highways, it is declared to be in the national interest to promote transportation systems that accomplish a number of mobility objectives "while minimizing transportation-related fuel consumption and air pollution through metropolitan and statewide transportation planning processes…" *see* 23 U.S.C. § 134; *see also* 23 U.S.C. § 135(a)(1). In the metropolitan planning process, consideration must be given to projects and strategies that will "protect and enhance the environment, promote energy conservation, improve the quality of life…" *see* 23 U.S.C. § 134(h)(1)(E); *see also* 23 C.F.R. Part 450, Subpart B (federal regulations governing statewide transportation planning and programming). The same planning objective applies to statewide transportation planning. *see* 23 U.S.C. §

135(d)(1)(E); *see also* 23 C.F.R. Part 450, Subpart C (governing metropolitan transportation planning and programming). Further, the Statewide Transportation Plan shall be developed, as appropriate, in consultation with State...local agencies responsible for...environmental protection…" *see* 23 U.S.C. § 135(f)(2)(D)(i).

Under conforming Colorado law, the Statewide Transportation Plan is developed by integrating and consolidating Regional Transportation Plans developed by MPOs and regional transportation planning organizations into a "comprehensive statewide transportation plan" pursuant to rules and regulations promulgated by the Commission. *see* § 43-1-1103(5), C.R.S. The Statewide Transportation Plan must adress a number of factors including, but not limited to, "environmental stewardship" and "reduction of greenhouse gas emissions." *see* § 43-1-1103(5)(h) and (j), C.R.S.

Regional Transportation Plans must account for the "expected environmental, social, and economic impacts of the recommendations in the plan, including a full range of reasonable transportation alternatives...in order to provide for the transportation and environmental needs of the area in a safe and efficient manner." *see* § 43-1-1103(1)(d), C.R.S. Further, in developing Regional Transportation Plans, MPOs "[s]hall assist other agencies in developing transportation control measures for utilization in accordance with state...regulations...and shall identify and evaluate measures that show promise of supporting clean air objectives." *see* § 43-1-1103(1)(e), C.R.S.

Putting Section 8 of these Rules into Perspective

Section 8 establishes GHG regulatory requirements that are among the first of their kind in the U.S. However, from an air pollutant standpoint, connecting transportation planning to emissions is not a new policy area. In fact, transportation conformity provisions within the Clean Air Act approach ozone much the same way. Transportation conformity ensures that federally funded or approved highway and transit activities within a Nonattainment Area are consistent with or "conform to" a state's plan to reduce emissions. Colorado's front range has been in ozone nonattainment for many years, which has required the North Front Range and the Denver Regional Council of Governments' MPOs to demonstrate conformity with each plan adoption and amendment.

However, because the transportation sector encompasses the millions of individual choices people make every day that have an impact on climate, a variety of strategies are necessary to achieve the State's climate goals. Section 8 of these Rules is one of many steps needed to achieve the totality of reduction goals for the transportation sector.

Purpose of GHG Mitigation Measures

The transportation modeling conducted for this rulemaking may demonstrate that certain projects increase GHG pollution for a variety of reasons. These reasons may include factors such as induced demand as a result of additional lane mileage attracting additional vehicular traffic, or additional traffic facilitated by access to new commercial or residential development in the absence of public transit options or bicycle/pedestrian access that provides consumers with other non-driving options. Transportation infrastructure itself can also increase or decrease GHG and other air pollutants by virtue of factors like certain construction materials, removal or addition of tree cover that captures carbon pollution, or integration with vertical construction templates of various efficiencies that result in higher or lower levels of per capita energy use. The pollution impacts of various infrastructure projects will vary significantly depending on their specifics and must be modeled in a manner that is context-sensitive to a range of issues such as location, footprint of existing infrastructure, design, and how it fits together with transportation alternatives.

Furthermore, other aspects of transportation infrastructure can facilitate reductions in Vehicle Miles Traveled and emissions and thus serve as mitigations rather than contributors to pollution. For example, the addition of transit resources in a manner that can displace Vehicle Miles Traveled can reduce emissions. Moreover, improving downtown pedestrian and bike access, particularly in areas that allow individuals to shift multiple daily trips for everything from work to dining to retail, can improve both emissions and quality of life.

Reduction of Vehicle Miles Traveled through planning is one of the more effective GHG Mitigation measures. It is also a separate goal identified in legislation. See § 43-1-128, C.R.S. Reducing Vehicle

Miles Traveled is necessary for meeting Colorado's GHG reduction goals, but there are numerous co-benefits such as reductions in vehicle fatalities, air pollution, water pollution, wildlife mortality, and traffic congestion, while improving public health, worker productivity, and Colorado's economy.

There is an increasing array of proven best practices for reducing pollution and smog and improving economies and neighborhoods that can help streamline decision-making for state and local agencies developing plans and programs of projects.

[Note: The Commission proposes to repeal Section 1 of these Rules in its entirety and re-enact Section 1 of these Rules below to re-format the numbering of the administrative rules into alphabetical order.]

[Note: The Commission proposes to add nineteen (19) new definitions. New proposed defined terms include: Applicable Planning Document, Activity-Based Model, Additionally Impacted Communities, Approved Air Quality Model, Baseline, Carbon Dioxide Equivalent, Congestion Mitigation and Air Quality, Disproportionately Impacted Communities, Four-Year Prioritized Plan, Greenhouse Gas, Greenhouse Mitigation Measures, Greenhouse Gas Reduction Levels, Induced Travel Elasticity, Mitigation Action Plan, MPO Model, Multimodal Projects, Multimodal Transportation and Mitigation Options Fund, Regionally Significant Project, State Interagency Consultation Team, Statewide Travel Model, Surface Transportation Block Grant, Transportation Equity Framework, Vehicle Miles Traveled (Net), Vehicle Miles Traveled (VMT), Per Capita, Vehicle Miles Traveled (VMT) Reduction Level, and 10-Year Plan. Only minor non-substantive changes, such as correcting grammar errors or capitalizing defined terms, were made to the existing forty-six (46) defined terms.]

1.00 Definitions.

1.01 Accessible - ensure that reasonable efforts are made that all meetings are reachable by persons from households without vehicles and that the meetings will be accessible to persons with disabilities in accordance with the Americans with Disabilities Act (ADA), and also accessible to persons with Limited English Proficiency. Accessible opportunities to comment on planning related matters include those provided on the internet and through such methods as telephone town halls.

1.02 Activity-Based Model - estimates travel demand based on individual daily activity patterns. The model predicts the type of activity, the time the activity occurs, the activity location, the activity duration, the number of individual trips, and the travel mode choice.

1.03 Additionally Impacted Communities – any community identified or approved by another state agency as a Disproportionately Impacted Community pursuant to § 24-4-109(2)(b)(II), C.R.S, and any community located within 5,000 feet of a roadway carrying more than 30,000 vehicles per day.

1.04 Applicable Planning Document - refers to MPO Fiscally Constrained RTPs,TIPs for MPOs ~~in NAAs~~, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

1.05 Approved Air Quality Model - the most recent Environmental Protection Agency issued model that quantifies GHG emissions from transportation.

1.06 Attainment Area - any geographic region of the United States that meets the national primary or secondary National Ambient Air Quality Standards (NAAQS) for the pollutants as defined in the Clean Air Act (CAA) (Amendments of 1990).

1.07 Baseline - estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using the MPO Models or the Statewide Travel Model. Estimates must include GHG

emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules.

1.08 Carbon Dioxide Equivalent (CO_2e) - a metric measure used to compare the emissions from various GHG based upon the 100-year global warming potential (GWP). CO_2e is multiplying the mass amount of emissions (metric tons per year), for each GHG constituent by that gas's GWP, and summing the resultant values to determine CO_2e (metric tons per year). This calculation allows comparison of different greenhouse gases and their relative impact on the environment over different time periods.

1.09 Commission - the Transportation Commission of Colorado created by § 43-1-106, C.R.S.

1.10 Congestion Mitigation and Air Quality (CMAQ) - a federally mandated program established in 23 U.S.C § 149 to improve air quality in Nonattainment and Maintenance Areas for ozone, carbon monoxide, and particulate matter. References related to this program include any successor programs as established by the federal government.

1.11 Corridor - a transportation system that includes all modes and facilities within a described geographic area.

1.10 Corridor Vision - a comprehensive examination of a specific transportation Corridor, which includes a determination of needs and an expression of desired state of the transportation system that includes Transportation Modes and facilities over a planning period.

1.11 Department or CDOT - the Colorado Department of Transportation created by § 43-1-103, C.R.S.

1.12 Disproportionately Impacted Communities - defined in § 24-38.5-302(3), C.R.S. as a community that is in a census block group, as determined in accordance with the most recent United States Decennial Census where the proportion of households that are low income is greater than forty percent (40%), the proportion of households that identify as minority is greater than forty percent (40%), or the proportion of households that are housing cost-burdened is greater than forty percent (40%); or is any other community as identified or approved by a state agency, if: the community has a history of environmental racism perpetuated through redlining, anti-Indigenous, anti-immigrant, anti-Hispanic, or anti-Black laws; or the community is one where multiple factors, including socioeconomic stressors, disproportionate environmental burdens, vulnerability to environmental degradation, and lack of public participation, may act cumulatively to affect health and the environment and contribute to persistent disparities.

1.13 Division - the Division of Transportation Development within CDOT.

1.14 Division Director - the Director of the Division of Transportation Development.

1.15 Fiscally Constrained - the financial limitation on transportation plans and programs based on the projection of revenues as developed cooperatively with the MPOs and the rural TPRs and adopted by the Commission that are reasonably expected to be available over the long-range transportation planning period and the TIP and STIP programming periods.

1.16 Four-Year Prioritized Plan - a four-year subset of the 10-Year Plan consisting of projects prioritized for near-term delivery and partial or full funding.

1.17 Greenhouse Gas (GHG) - for purposes of these Rules, GHG is defined as the primary transportation greenhouse gases: carbon dioxide, methane, and nitrous oxide.

1.18 Greenhouse Gas (GHG) Reduction Level - the amount of the GHG expressed as CO_2e reduced from the projected Baseline that CDOT and MPOs must attain through transportation planning.

1.19 Greenhouse Gas (GHG) Mitigation Measures - non-Regionally Significant Project strategies

implemented by CDOT and MPOs that reduce transportation GHG pollution and reduce VMT and help meet the GHG and VMT Reduction Levels.

1.20 Induced Travel Elasticity - the percentage change in VMT / the percentage change in lane miles. An elasticity of 1.0 indicates that a given percent increase in lane miles will cause the same percent increase in VMT.

1.21 Intergovernmental Agreement - an arrangement made between two or more political subdivisions that form associations for the purpose of promoting the interest and welfare of said subdivisions.

1.22 Intermodal Facility - a site where goods or people are conveyed from one mode of transportation to another, such as goods from rail to truck or people from passenger vehicle to bus.

1.23 Land Use - the type, size, arrangement, and use of parcels of land.

1.24 Limited English Proficiency - individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English.

1.25 Long-Range Planning - a reference to a planning period with a minimum 20-year planning horizon.

1.26 Maintenance Area - any geographic region of the United States previously designated by the U.S. Environmental Protection Agency (EPA) as a Nonattainment Area pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under § 175A of the CAA, as amended in 1990.

1.27 Memorandum of Agreement (MOA) - a written agreement between two or more parties on an intended plan of action.

1.28 Metropolitan Planning Agreement (MPA) - a written agreement between the MPO, the State, and the providers of public transportation serving the Metropolitan Planning Area that describes how they will work cooperatively to meet their mutual responsibilities in carrying out the metropolitan planning process.

1.29 Metropolitan Planning Area - a geographic area determined by agreement between the MPO for the area and the Governor, in which the metropolitan transportation planning process is carried out pursuant to 23 U.S.C. § 134.

1.30 Metropolitan Planning Organization (MPO) - an organization designated by agreement among the units of general purpose local governments and the Governor, charged to develop the RTPs and programs in a Metropolitan Planning Area pursuant to 23 U.S.C. § 134.

1.31 Mitigation Action Plan - an element of the GHG Transportation Report that specifies which GHG Mitigation Measures shall be implemented that help achieve the GHG Reduction Levels.

1.32 Mobility - the ability to move people, goods, services, and information among various origins and destinations.

1.33 MPO Models - one (1) or more of the computer-based models maintained and operated by the MPOs which depict the MPO areas' transportation systems (e.g., roads, transit, etc.) and development patterns (i.e., number and location of households and jobs) for a defined year (i.e., past, present, or forecast) and produce estimates of roadway VMT, delays, operating speeds, transit ridership, and other characteristics of transportation system use.

1.34 Multimodal Projects - capital or operating costs for fixed route and on-demand transit, transportation demand management programs, multimodal mobility projects enabled by new technology, multimodal transportation studies, modeling tools, greenhouse gas mitigation projects, and bicycle or pedestrian projects.

1.35 Multimodal Transportation and Mitigation Options Fund (MMOF) - a program created in the State Treasury pursuant to § 43-4-1003, C.R.S. which funds bicycle, pedestrian, transit and other Multimodal Projects as defined in § 43-4-1002(5), C.R.S. and GHG Mitigation projects as defined in § 43-4-1002(4.5), C.R.S.

1.36 National Ambient Air Quality Standards (NAAQS) - are those established by the U.S. Environmental Protection Agency for air pollutants considered harmful to public health and environment. These criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, ozone, small particles, and sulfur dioxide.

1.37 Nonattainment Area - any geographic region of the United States which has been designated by the EPA under section 107 of the CAA for any pollutants for which a NAAQS exists.

1.38 Non-Metropolitan Area - a rural geographic area outside a designated Metropolitan Planning Area.

1.39 Plan Integration - a comprehensive evaluation of the statewide transportation system that includes all modes, an identification of needs and priorities, and key information from other related CDOT plans.

1.40 Planning Partners - local and tribal governments, the rural TPRs and MPOs.

1.41 Project Priority Programming Process - the process by which CDOT adheres to 23 U.S.C. § 135 and 23 C.F.R. Part 450 when developing and amending the STIP.

1.42 Regional Planning Commission (RPC) - a planning body formed under the provisions of § 30-28-105, C.R.S., and designated under these Rules for the purpose of transportation planning within a rural TPR.

1.43 Regionally Significant Project - a transportation project that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team.

1.44 Regional Transportation Plan (RTP) - a long-range plan designed to address the future transportation needs for a TPR including, but not limited to, Fiscally Constrained or anticipated funding, priorities, and implementation plans, pursuant to, but not limited to, § 43-1-1103, C.R.S. and 23 C.F.R. Part 450. All rural and urban TPRs in the state produce RTPs.

1.45 State Interagency Consultation Team - consists of the Division Director or the Division Director's designee, the Colorado Department of Public Health and Environment (CDPHE) Director of Air Pollution Control Division or the Director's designee, and the Director of each MPO or their designee.

1.46 State Transportation System - refers to all state-owned, operated, and maintained transportation facilities in Colorado, including, but not limited to, interstate highways, other highways, and aviation, bicycle and pedestrian, transit, and rail facilities.

1.47 Statewide Transportation Advisory Committee (STAC) - the committee created by § 43-1-1104, C.R.S., comprising one representative from each TPR and one representative from each tribal government to review and comment on RTPs, amendments, and updates, and to advise both the Department and the Commission on the needs of the transportation system in Colorado.

1.48 Statewide Transportation Improvement Program (STIP) - a Fiscally Constrained, multi-year, statewide, Multimodal program of transportation projects which is consistent with the Statewide Transportation Plan and planning processes, with Metropolitan Planning Area plans, Transportation Improvement Programs and processes, and which is developed pursuant to 23 U.S.C. § 135.

1.49 Statewide Travel Model - the computer-based model maintained and operated by CDOT which depicts the state's transportation system (roads, transit, etc.) and development scale and pattern (number and location of households, number and location of firms/jobs) for a selected year (past, present, or forecast) and produces estimates of roadway VMT and speed, transit, ridership, and other characteristics of transportation system use.

1.50 Statewide Transportation Plan - the long-range, comprehensive, Multimodal statewide transportation plan covering a period of no less than 20 years from time of adoption, developed through the statewide transportation planning process described in these Rules and 23 U.S.C. § 135, and adopted by the Commission pursuant to § 43-1-1103, C.R.S.

1.51 Surface Transportation Block Grant (STBG) - a flexible federal funding source established under 23 U.S.C. § 133 for state and local transportation needs. Funds are expended in the areas of the State based on population. References related to this program include any successor programs established by the federal government.

1.52 System Continuity - includes, but is not limited to, appropriate intermodal connections, integration with state modal plans, and coordination with neighboring RTPs, and, to the extent practicable, other neighboring states' transportation plans.

1.53 Traditionally Underserved - refers to groups such as seniors, persons with disabilities, low-income households, minorities, and student populations, which may face difficulties accessing transportation systems, employment, services, and other amenities.

1.54 Transit and Rail Advisory Committee (TRAC) - an advisory committee created specifically to advise the Executive Director, the Commission, and the Division of Transit and Rail on transit and rail-related activities.

1.55 Transportation Commonality - the basis on which TPRs are established including, but not limited to: Transportation Commission Districts, the Department's Engineering Regions, Travelsheds, Watersheds, geographic unity, existing Intergovernmental Agreements, and socioeconomic unity.

1.10 Transportation Equity Framework – policy to be created by the Department's Environmental Justice Division, that is informed by the state's Climate Equity Framework, and the Climate Equity Advisory Committee, codifying outreach practices and community empowerment in transportation planning and policy decisions. The Transportation Equity Framework must be developed in collaboration with environmental justice advocates and members of Disproportionately Impacted Communities and Additionally Impacted Communities, with final approval from these stakeholders needed in order to finalize the document.

1.56 Transportation Improvement Program (TIP) - a staged, Fiscally Constrained, multi-year, Multimodal program of transportation projects developed and adopted by MPOs, and approved by the Governor, which is consistent with an MPO's RTP and which is developed pursuant to 23 U.S.C. § 134.

1.57 Transportation Mode - a particular form of travel including, but not limited to, bus, motor vehicle, rail, transit, aircraft, bicycle, pedestrian travel, or personal mobility devices.

1.58 Transportation Planning and Programming Process - all collaborative planning-related activities including the development of regional and Statewide Transportation Plans, the Department's Project Priority Programming Process, and development of the TIPs and STIP.

1.59 Transportation Planning Region (TPR) - a geographically designated area of the state,

defined by section 2.00 of these Rules in consideration of the criteria for Transportation Commonality, and for which a regional transportation plan is developed pursuant to the provisions of § 43-1-1102 and 1103, C.R.S. and 23 U.S.C. § 134. The term TPR is inclusive of these types: non-MPO TPRs, MPO TPRs, and TPRs with both MPO and non-MPO areas.

1.60 Transportation Planning Reduction Level - the amount of reduction of VMT and GHG (expressed as CO2e) from the projected Baseline that CDOT and MPOs must attain through transportation planning.

1.61 Transportation Systems Planning - provides the basis for identifying current and future deficiencies on the state highway system and outlines strategies to address those deficiencies and make improvements to meet Department goals.

1.62 Travelshed - the region or area generally served by a major transportation facility, system, or Corridor.

1.63 Tribal Transportation Improvement Program (TTIP) - a multi-year Fiscally Constrained list of proposed transportation projects developed by a tribe from the tribal priority list or tribal long-range transportation plan, and which is developed pursuant to 25 C.F.R. Part 170. The TTIP is incorporated into the STIP without modification.

1.64 Urbanized Area - an area with a population of 50,000 or more designated by the Bureau of the Census.

1.65 Vehicle Miles Traveled (VMT), Net, the traffic volume of a roadway segment or system of roadway segments multiplied by the length of the roadway segment or system.

1.66 Vehicle Miles Traveled (VMT), Per Capita - is calculated as the total annual miles of vehicle travel divided by the total population in the state or in an urbanized area.

1.67 Watershed - a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

1.68 10-Year Plan - a vision for Colorado's transportation system that includes a specific list of projects categorized across priority areas as identified in the Statewide Transportation Plan.

2.00 Transportation Planning Regions (TPR).

2.01 Transportation Planning Region Boundaries. ~~Transportation Planning Region~~TPRs are geographically designated areas of the state with similar transportation needs that are determined by considering transportation commonalities. Boundaries are hereby established as follows:

2.01.1 The Pikes Peak Area ~~Transportation Planning Region~~TPR comprises the Pikes Peak Area Council of Governments' metropolitan area within El Paso and Teller counties.

2.01.2 The Greater Denver ~~Transportation Planning Region~~TPR, which includes the Denver Regional Council of Governments' planning area, comprises the counties of Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Gilpin, Jefferson, and parts of Weld.

2.01.3 The North Front Range ~~Transportation Planning Region~~TPR comprises the North Front Range Transportation and Air Quality Planning Council's metropolitan area within Larimer and Weld counties.

2.01.4 The Pueblo Area ~~Transportation Planning Region~~TPR comprises Pueblo County, including the Pueblo Area Council of Governments' metropolitan area.

2.01.5 The Grand Valley ~~Transportation Planning Region~~TPR comprises Mesa County, including the Grand Valley Metropolitan Planning Organization's metropolitan area.

2.01.6 The Eastern ~~Transportation Planning Region~~TPR comprises Cheyenne, Elbert, Kit Carson, Lincoln, Logan, Phillips, Sedgwick, Washington, and Yuma counties.

2.01.7 The Southeast ~~Transportation Planning Region~~TPR comprises Baca, Bent, Crowley, Kiowa, Otero, and Prowers counties.

2.01.8 The San Luis Valley ~~Transportation Planning Region~~TPR comprises Alamosa, Chaffee, Conejos, Costilla, Mineral, Rio Grande, and Saguache counties.

2.01.9 The Gunnison Valley ~~Transportation Planning Region~~TPR comprises Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel counties.

2.01.10 The Southwest ~~Transportation Planning Region~~TPR comprises Archuleta, Dolores, La Plata, Montezuma, and San Juan counties, including the Ute Mountain Ute and Southern Ute Indian Reservations.

2.01.11 The Intermountain ~~Transportation Planning Region~~TPR comprises Eagle, Garfield, Lake, Pitkin, and Summit counties.

2.01.12 The Northwest ~~Transportation Planning Region~~TPR comprises Grand, Jackson, Moffat, Rio Blanco, and Routt counties.

2.01.13 The Upper Front Range ~~Transportation Planning Region~~TPR comprises Morgan County, and the parts of Larimer and Weld counties, that are outside both the North Front Range and the Greater Denver (metropolitan) TPRs.

2.01.14 The Central Front Range ~~Transportation Planning Region~~TPR comprises Custer, El Paso, Fremont, Park, and Teller counties, excluding the Pikes Peak Area Council of Governments' metropolitan area.

2.01.15 The South Central ~~Transportation Planning Region~~TPR comprises Huerfano, and Las Animas Counties.

2.02 Boundary Revision Process.

2.02.1 TPR boundaries, excluding any MPO-related boundaries, will be reviewed by the Commission at the beginning of each regional and statewide transportation planning process. The Department will notify counties, municipalities, MPOs, Indian tribal governments, and RPCs for the TPRs of the boundary review revision requests. MPO boundary review shall be conducted pursuant to 23 U.S.C. § 134 and 23 C.F.R. Part 450 Subpart B and any changes shall be provided to the Department to update the Rules. All boundary revision requests shall be sent to the Division Director, and shall include:

2.02.1.1 A geographical description of the proposed boundary change.

2.02.1.2 A statement of justification for the change considering transportation commonalities.

2.02.1.3 A copy of the resolution stating the concurrence of the affected ~~Regional Planning Commission~~RPC.

2.02.1.4 The name, title, mailing address, telephone number, fax number and electronic mail address (if available) of the contact person for the requesting party or parties.

2.02.2 The Department will assess and STAC shall review and comment (as set forth in these Rules) on all ~~non~~Non-~~metropolitan~~ Metropolitan ~~area~~ Area TPR boundary revision requests based on transportation commonalities and make a recommendation to the Commission concerning such requests. The Department will notify the Commission of

MPO boundary changes. The Commission may initiate a rule-making proceeding under the ~~State~~ Colorado Administrative Procedure Act, § 24-4-103, C.R.S. to consider a boundary revision request. Requests received for a MPO or non-metropolitan TPR boundary revision outside of the regularly scheduled boundary review cycle must include the requirements identified above.

2.02.3 In the event that the Commission approves a change to the boundary of a TPR that has a ~~Regional Planning Commission~~RPC, the RPC in each affected TPR shall notify the Department of any changes to the ~~intergovernmental~~ Intergovernmental ~~agreement~~ Agreement governing the RPC as specified in these Rules.

2.03 Transportation Planning Coordination with MPOs.

2.03.1 The Department and the MPOs shall coordinate activities related to the development of ~~Regional Transportation Plan~~RTPs, the Statewide Transportation Plan, TIPs, and the STIP in conformance with 23 U.S.C. § 134 and 135 and § 43-1-1101 and § 43-1-1103, C.R.S. The Department shall work with the MPOs to resolve issues arising during the planning process.

2.04 Transportation Planning Coordination with Non-MPO RPCs.

2.04.1 The Department and RPCs shall work together in developing ~~Regional Transportation Plan~~RTPs and in planning future transportation activities. The Department shall consult with all RPCs on development of the Statewide Transportation Plan; incorporation of RTPs into the Statewide Transportation Plan; and the inclusion of projects into the STIP that are consistent with the RTPs. In addition, the Department shall work with the RPCs to resolve issues arising during the planning process.

2.05 Transportation Planning Coordination among RPCs.

2.05.1 If transportation improvements cross TPR boundaries or significantly impact another TPR, the RPC shall consult with all the affected RPCs involved when developing the ~~regional transportation plan~~RTP. In general, RPC planning officials shall work with all ~~planning~~ Planning ~~partners~~ Partners affected by transportation activities when planning future transportation activities.

2.06 Transportation Planning Coordination with the Southern Ute and the Ute Mountain Ute Tribal Governments.

2.06.1 Regional transportation planning within the Southwest TPR shall be coordinated with the transportation planning activities of the Southern Ute and the Ute Mountain Ute tribal governments. The long-range transportation plans for the tribal areas shall be integrated in the Statewide Transportation Plan and the ~~Regional Transportation Plan~~RTP for this TPR. The TTIP is incorporated into the STIP without modification.

3.00 Statewide Transportation Advisory Committee (STAC).

3.01 Duties of the ~~Statewide Transportation Advisory Committee (~~STAC~~)~~. Pursuant to § 43-1-1104 C.R.S. the duties of the STAC shall be to meet as necessary and provide advice to both the Department and the Commission on the needs of the transportation system in Colorado including, but not limited to: budgets, ~~transportation improvement programs~~TIPs of the ~~metropolitan planning organizations~~MPOs, the ~~Statewide Transportation Improvement Program~~STIP, transportation plans, and state transportation policies.

The STAC shall review and provide to both the Department and the Commission comments on:

3.01.1 All ~~Regional Transportation Plan~~RTPs, amendments, and updates as described in these Rules.

3.01.2 Transportation related communication and/or conflicts which arise between RPCs

or between the Department and a RPC.

3.01.3 The integration and consolidation of RTPs into the Statewide Transportation Plan.

3.01.4 Colorado's ~~mobility~~ Mobility requirements to move people, goods, services, and information by furnishing regional perspectives on transportation problems requiring interregional and/or statewide solutions.

3.01.5 Improvements to modal choice, linkages between and among modes, and transportation system balance and ~~system~~ System ~~continuity~~Continuity.

3.01.6 Proposed TPR boundary revisions.

3.02 Notification of Membership

3.02.1 Each RPC and tribal government shall select its representative to the STAC pursuant to § 43-1-1104(1), C.R.S. The Ute Mountain Ute Tribal Council and the Southern Ute Indian Tribal Council each appoint one representative to the STAC. Each TPR and tribal government is also entitled to name an alternative representative who would serve as a proxy in the event their designated representative is unable to attend a STAC meeting and would be included by the Department in distributions of all STAC correspondence and notifications. The Division Director shall be notified in writing of the name, title, mailing address, telephone number, fax number and electronic mail address (if available) of the STAC representative and alternative representative from each TPR and tribal government within thirty (30) days of selection.

3.03 Administration of ~~Statewide Transportation Advisory Committee~~STAC

3.03.1 STAC recommendations on Regional and Statewide Transportation Plans, amendments, and updates shall be documented in the STAC meeting minutes, and will be considered by the Department and Commission throughout the statewide transportation planning process.

3.03.2 The STAC shall establish procedures to govern its affairs in the performance of its advisory capacity, including, but not limited to, the appointment of a chairperson and the length of the chairperson's term, meeting times, and locations.

3.03.3 The Division Director will provide support to the STAC, including, but not limited to:

3.03.3.1 Notification of STAC members and alternates of meeting dates.

3.03.3.2 Preparation and distribution of STAC meeting agendas, supporting materials, and minutes.

3.03.3.3 Allocation of Department staff support for STAC-related activities.

4.00 Development of Regional and Statewide Transportation Plans.

4.01 ~~Regional Planning Commission~~RPCs, MPOs, and the Department shall comply with all applicable provisions of 23 U.S.C. § 134 and § 135, 23 C.F.R. Part 450, and § 43-1-1103, C.R.S. and all applicable provisions of Commission policies and guidance documents in development of regional and statewide transportation plans, respectively.

4.02 Public Participation

4.02.1 The Department, in coordination with the RPCs of the rural TPRs, shall provide early and continuous opportunity for public participation in the transportation planning process. The process shall be proactive and provide timely information, adequate public notice,

reasonable public access, and opportunities for public review and comment at key decision points in the process. Adequate public participation for Disproportionately Impacted Communities and Additionally Impacted Communities requires utilizing best practice notice and engagement methods as outlined in the Transportation Equity Framework. The objectives of public participation in the transportation planning process include: providing a mechanism for directly-impacted communities to provide leadership, share perspectives, needs, and ideas to be considered in the planning process; developing the Department's and public's understanding of the problems and opportunities facing the transportation system; demonstrating explicit consideration and response to public input through a variety of tools and techniques; and developing consensus on plans. The Department shall develop a documented public participation process pursuant to 23 C.F.R. Part 450.

4.02.2 Statewide Plans and Programs. Pursuant to 23 C.F.R. Part 450 Subpart B, the Department is responsible, in cooperation with the RPCs and MPOs, for carrying out public participation for developing, amending, and updating the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan, the ~~Statewide Transportation Improvement Program (~~STIP), GHG Mitigation Plans, and other statewide transportation planning activities.

4.02.3 MPO Plans and Programs. Pursuant to 23 C.F.R. Part 450 Subpart C, the MPOs are responsible for carrying out public participation for the development of ~~regional transportation plan~~RTPs, ~~transportation improvement programs~~TIPs, GHG Mitigation Plans, and other related regional transportation planning activities for their respective ~~metropolitan~~ Metropolitan ~~planning~~ Planning ~~areas~~Areas. Public participation activities carried out in a metropolitan area in response to metropolitan planning requirements shall by agreement of the Department and the MPO, satisfy the requirements of this subsection.

4.02.4 Non-MPO TPR Plans and Programs. ~~Regional Planning Commission~~RPCs for non-MPO TPRs are responsible for public participation related to regional planning activities in that TPR, including GHG Mitigation Plans, in cooperation with the Department. Specific areas of cooperation shall be determined by agreement between the ~~Regional Planning Commission~~RPC and the Department.

4.02.5 Public Participation Activities. Public participation activities at both the rural TPR and statewide level shall include, at a minimum:

4.02.5.1 Establishing and maintaining for the geographic area of responsibility a list of all known parties interested in transportation planning including, but not limited to: elected officials; municipal and county planning staffs; affected public agencies; local, state, and federal agencies eligible for federal and state transportation funds; local representatives of public transportation agency employees and users; freight shippers and providers of freight transportation services; public and private transportation providers; representatives of users of transit, bicycling and pedestrian, aviation, and train facilities; private industry; environmental and other interest groups; Indian tribal governments and the U.S. Secretary of the Interior when tribal lands are involved; and representatives of persons or groups that may be underserved by existing transportation systems, such as minority, low-income, seniors, persons with disabilities, Disproportionately Impacted Communities, Additionally Impacted Communities and those with ~~limited~~ Limited English ~~proficiency~~Proficiency; and members of the general public expressing such interest in the transportation planning process.

4.02.5.2 Providing reasonable notice and opportunity to comment through mailing lists and other various communication methods on upcoming transportation planning-related activities and meetings. Reasonable notice for Disproportionately Impacted Communities and Additionally

Impacted Communities requires the notice to be translated in the major languages spoken in the community.

4.02.5.3 Utilizing reasonably available internet or traditional media opportunities, including minority and diverse media, to provide timely notices of planning-related activities and meetings to members of the public, including ~~LEP~~ Limited English Proficiency individuals, and others who may require reasonable accommodations. Methods that will be used to the maximum extent practicable for public participation could include, but not be limited to, use of the internet; social media, news media, such as newspapers, radio, or television, mailings and notices, including electronic mail and online newsletters.

4.02.5.4 Implementation of the Transportation Equity Framework. Seeking out those persons, ~~or~~ groups, and communities Disproportionately and Additionally Impacted or ~~traditionally~~ Traditionally ~~underserved~~ Underserved by existing transportation systems including, but not limited to, seniors, persons with disabilities, minority groups, low- income, and those with ~~limited~~ Limited English ~~proficiency~~Proficiency, for the purposes of exchanging information, increasing their involvement, ~~and~~ considering their transportation needs in the transportation planning process, responding to public input, and providing leadership opportunities to propose transportation projects in coordination with the Environmental Justice and Equity Branch. Pursuant to § 43-1-601, C.R.S., the Department shall prepare a statewide survey identifying the transportation needs of seniors and of persons with disabilities.

4.02.5.5 Consulting, as appropriate, with ~~Regional Planning Commission~~RPCs, and federal, state, local, and tribal agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation concerning the development of long-range transportation plans.

4.02.5.6 Providing reasonable public access to, and appropriate opportunities for public review and comment on criteria, standards, and other planning-related information. Reasonable public access includes, but is not limited to, ~~LEP~~ Limited English Proficiency services and access to ADA-compliant facilities, as well as to the internet.

4.02.5.7 Where feasible, scheduling the development of regional and statewide plans so that the release of the draft plans may be coordinated to provide for the opportunity for joint public outreach.

4.02.5.8 Documentation of Responses to Significant Issues. ~~Regional Planning Commissions~~RPCs and the Department shall respond in writing to all significant issues raised during the review and comment period on transportation plans, and make these responses available to the public.

4.02.5.9 Review of the Public Involvement Process. All interested parties and the Department shall periodically review the effectiveness of the Department's public involvement process to ensure that the process provides full and open access to all members of the public. When necessary, the process will be revised and allow time for public review and comment per 23 C.F.R. Part 450.

4.03 Transportation Systems Planning. ~~Regional Planning Commission~~RPCs, and the Department, shall use an integrated ~~multimodal~~ Multimodal ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning approach in developing and updating the long-range ~~Regional Transportation~~

~~Plans~~RTPs and the long-range Statewide Transportation Plan for a minimum 20-year forecasting period. ~~Regional Planning Commission~~RPCs shall have flexibility in the methods selected for ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning based on the complexity of transportation problems and available resources within the TPR. The Department will provide guidance and assistance to the ~~Regional Planning Commission~~RPCs regarding the selection of appropriate methods.

4.03.1 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs and the Department shall consider the results of any related studies that have been completed. ~~Regional Planning Commission~~RPCs and the Department may also identify any ~~corridor~~Corridor(s) or sub-area(s) where an environmental study or assessment may need to be performed in the future.

4.03.2 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs shall consider ~~corridor vision~~ needs and desired state of the transportation system including existing and future land use and infrastructure, major activity centers such as industrial, commercial and recreation areas, economic development, environmental protection, and modal choices.

4.03.3 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs shall include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and ~~mobility~~ Mobility of people goods, and services.

4.03.4 Transportation ~~systems~~ Systems ~~planning~~ Planning by the Department should include capital, operations, maintenance and management strategies, investments, procedures, and other measures to ensure the preservation and most efficient and effective use of the ~~state~~ State ~~transportation~~ Transportation ~~system~~System.

4.03.5 Transportation ~~systems~~ Systems P~~p~~lanning by the Department shall consider and integrate all modes into the Statewide Transportation Plan and include coordination with Department modal plans and modal committees, such as the ~~Transit and Rail Advisory Committee~~ (TRAC).

4.03.6 Transportation Systems Planning by RPCs and the Department shall consider and integrate GHG Roadmap objectives into the Statewide Transportation Plan and include coordination and review with APCD and the Colorado Energy Office,

4.03.7 Transportation Systems Planning by RPCs and the Department shall implement the Transportation Equity Framework for community engagement and identifying projects that effectively promote racial equity and economic justice while meeting transportation and GHG Roadmap objectives.

4.03.8 Transportation Systems Planning by the Department shall provide for the establishment and use of a performance-based approach to transportation decision-making to support the national goals described in 23 U.S.C. § 150 (FAST Act, P.L. 114-94). Performance targets that the Department establishes to address the performance measures described in 23 U.S.C. § 150, where applicable, are to be used to track progress towards attainment of critical outcomes for the state. The state shall consider the performance measures and targets when developing policies, programs, and investment priorities reflected in the Statewide Transportation Plan and STIP.

4.04 Regional Transportation Plans (RTP). Long-range ~~regional transportation plans~~RTPs shall be developed, in accordance with federal (23 U.S.C. § 134 and § 135) and state (§ 43-1-1103 and § 43-1-1104, C.R.S.) law and implementing regulations. Department selection of performance targets that address the performance measures shall be coordinated with the relevant MPOs to ensure consistency, to the maximum extent practicable.

4.04.1 Content of ~~Regional Transportation Plan~~RTPs. Each RTP shall include, at a

minimum, the following elements:

4.04.1.1 Transportation system facility and service requirements within the MPO TPR over a minimum 20-year planning period necessary to meet expected demand, and the anticipated capital, maintenance and operating cost for these facilities and services.

4.04.1.2 State and federal transportation system planning factors to be considered by ~~Regional Planning Commission~~RPCs and the Department during their respective ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning shall include, at a minimum, the factors described in § 43-1-1103 (5), C.R.S., and in 23 U.S.C. § 134 and § 135.

4.04.1.3 Identification and discussion of potential environmental mitigation measures, ~~corridor~~ Corridor studies, or ~~corridor~~ Corridor ~~visions~~Visions, including a discussion of impacts to minority and low-income communities.

4.04.1.4 A discussion of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan.

4.04.1.5 Include an analysis of how the RTP is aligned with Colorado's climate goals and helps reduce, prevent, and mitigate GHG pollution throughout the Region.

4.04.1.6 Include an analysis of how the RTP is aligned with the Transportation Equity Framework in engaging the community and identifying projects that effectively promote racial equity and economic justice.

4.04.1.7 For rural RTPs, the integrated performance-based ~~multimodal~~ Multimodal transportation plan based on revenues reasonably expected to be available over the minimum 20-year planning period. For metropolitan RTPs, a ~~fiscally~~ Fiscally ~~constrained~~ Constrained financial plan.

4.04.1.8 Identification of reasonably expected financial resources developed cooperatively among the Department, MPOs, and rural TPRs for ~~long~~Long-~~range~~ Range ~~planning~~ Planning purposes, and results expected to be achieved based on regional priorities.

4.04.1.9 Documentation of the public notification and public participation process pursuant to these Rules.

4.04.1.10 A resolution of adoption by the responsible ~~Metropolitan Planning Organization~~MPO or the ~~Regional Planning Commission~~RPC.

4.04.2 Products and reviews

4.04.2.1 Draft Plan. ~~Transportation Planning Region~~TPRs shall provide a draft of the RTP to the Department through the Division ~~of Transportation Development~~.

4.04.2.2 Draft Plan Review. Upon receipt of the draft RTPs, the Department will initiate its review and schedule the STAC review (pursuant to these Rules). The Department will provide its comments and STAC comments to the ~~Transportation Planning Region~~TPR within a minimum of 30 days of receiving the draft RTP. ~~Regional transportation plan~~RTPs

in metropolitan areas completed pursuant to the schedule identified in 23 C.F.R. § 450.322 shall be subject to the provisions of this section prior to being submitted to the Department for consideration as an amendment to the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan.

4.04.2.3 Final Plan. ~~Transportation Planning Region~~TPRs shall provide the final RTP to the Department through the Division ~~of Transportation Development~~.

4.04.2.4 Final Plan Review. Upon receipt of the final RTP, the Department will initiate its review and schedule the STAC review (pursuant to these Rules) of the final RTPs to determine if the plans incorporate the elements required by the Rules. If the Department determines that a final RTP is not complete, including if the final RTP does not incorporate the elements required by these Rules, then the Department will not integrate that RTP into the statewide plan until the ~~Transportation Planning Region~~TPR has sufficiently revised that RTP, as determined by the Department with advice from the STAC. The Department will provide its comments and STAC comments to the ~~Transportation Planning Region~~TPR within a minimum of 30 days of receiving the final RTP. ~~Transportation Planning Region~~TPRs shall submit any RTP revisions based on comments from the Department and STAC review within 30 days of the Department's provision of such comments. ~~Regional transportation plans~~RTPs in metropolitan areas completed pursuant to the schedule identified in 23 C.F.R. § 450.322 shall be subject to the provisions of this section prior to being submitted to the Department for consideration as an amendment to the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan.

4.05 Maintenance and Nonattainment Areas. Each RTP, or RTP amendment, shall include a section that:

4.05.1 Identifies any area within the TPR that is designated as a ~~maintenance~~ Maintenance or ~~nonattainment~~ Nonattainment ~~area~~Area.

4.05.2 Addresses, in either a qualitative or quantitative manner, whether transportation related emissions associated with the pollutant of concern in the TPR are expected to increase over the ~~long~~Long ~~range~~ Range ~~planning~~ Planning period and, if so, what effect that increase might have in causing a ~~maintenance~~ Maintenance ~~area~~ Area for a~~n~~ NAAQS pollutant to become a ~~nonattainment~~ Nonattainment ~~area~~Area, or a ~~non-attainment~~Nonattatinment ~~area~~ Area to exceed its emission budget in the approved State Implementation Plan.

4.05.3 If transportation related emissions associated with the pollutant are expected to increase over the ~~long~~Long ~~range~~ Range ~~planning~~ Planning period, identifies which programs or measures are included in the RTP to decrease the likelihood of that area becoming a ~~nonattainment~~ Nonattainment ~~area~~ Area for the pollutant of concern.

4.06 Statewide Transportation Plan. The ~~Regional Transportation Plans~~RTPs submitted by the ~~Regional Planning Commissions~~RPCs shall, along with direction provided through Commission policies and guidance, form the basis for developing and amending the Statewide Transportation Plan. The Statewide Transportation Plan shall cover a minimum 20-year planning period at the time of adoption and shall guide the development and implementation of a performance-based ~~multimodal~~ Multimodal transportation system for the State.

4.06.1 The Statewide Transportation Plan shall:

4.06.1.1 Integrate and consolidate the RTPs and the Department's systems

planning, pursuant to these Rules, into a long-range 20-year ~~multimodal~~ Multimodal transportation plan that presents a clear, concise path for future transportation in Colorado.

4.06.1.2 Include the long-term transportation concerns of the Southern Ute Indian Tribe and the Ute Mountain Ute Tribe in the development of the Statewide Transportation Plan.

4.06.1.3 Coordinate with other state and federal agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation.

4.06.1.4 Include a discussion of potential environmental mitigation activities and potential areas to carry out these activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan developed in consultation with federal, state, and tribal wildlife, land management and regulatory agencies.

4.06.1.5 Include a comparison of transportation plans to state and tribal conservation plans or maps and to inventories of natural or historical resources.

4.06.1.6 Provide for overall ~~multimodal~~ Multimodal transportation system management on a statewide basis.

4.06.1.7 The Statewide Transportation Plan shall be coordinated with metropolitan transportation plans pursuant to 23 C.F.R. Part 450, § 43-1-1103 and § 43-1-1105, C.R.S. Department selection of performance targets shall be coordinated with the MPOs to ensure consistency, to the maximum extent practicable.

4.06.1.8 Include an analysis of how the Statewide Transportation Plan is aligned with Colorado's climate goals and helps reduce, prevent, and mitigate GHG pollution and VMT throughout the State.

4.06.1.9 Include an analysis of how the Statewide Transportation Plan helps prevent, reduce, and mitigate GHG pollution, VMT, and hazardous co-pollutants within Disproportionately Impacted Communities and Additionally Impacted Communities.

4.06.1.10 Includes the 10-Year Plan as an appendix.

4.06.2 Content of the Statewide Transportation Plan. At a minimum, the Statewide Transportation Plan shall include priorities as identified in the RTPs, as identified in these Rules and pursuant to federal planning laws and regulations. The Statewide Transportation Plan shall be submitted to the ~~Colorado Transportation~~ Commission for its consideration and approval.

4.06.3 Review and Adoption of the Statewide Transportation Plan.

4.06.3.1 The Department will submit a draft Statewide Transportation Plan to the Commission, the STAC, and all interested parties for review and comment. The review and comment period will be conducted for a minimum of 30 days. The Statewide Transportation Plan and appendices~~The publication~~ will be available in physical form upon request~~at public facilities, such as at the Department headquarters and region offices, state depository libraries, county offices, TPR offices, Colorado Division offices of the Federal Highway Administration and Federal Transit Administration~~, and made available on the internet.

4.06.3.2 The Department will submit the final Statewide Transportation Plan to the ~~Colorado Transportation~~ Commission for adoption.

5.00 Updates to Regional and Statewide Transportation Plans.

5.01 Plan Update Process. The updates of ~~Regional Transportation Plan~~RTPs and the Statewide Transportation Plan shall be completed on a periodic basis through the same process governing development of these plans pursuant to these Rules. The update cycle shall comply with federal and state law and be determined in consultation with the ~~Transportation~~ Commission, the Department, the STAC and the MPOs so that the respective update cycles will coincide.

5.02 Notice by Department of Plan Update Cycle. The Department will notify ~~Regional Planning Commission~~RPCs and the MPOs of the initiation of each plan update cycle, and the schedule for completion.

6.00 Amendments to the Regional and Statewide Transportation Plans.

6.01 Amendment Process

6.01.1 The process to consider amendments to ~~Regional Transportation Plan~~RTPs shall be carried out by rural RPCs and the MPOs. The amendment review process for ~~Regional Transportation Plan~~RTPs shall include an evaluation, review, and approval by the respective RPC or MPO.

6.01.2 The process to consider amendments to the Statewide Transportation Plan shall be carried out by the Department, either in considering a proposed amendment to the Statewide Transportation Plan from a requesting RPC or MPO or on its own initiative.

6.01.3 The process to consider amendments to the 10-Year Plan shall be carried out by CDOT in coordination with the rural RPCs and the MPOs.

7.00 Transportation Improvement Programs (TIPs) and Statewide Transportation Improvement Program (STIP).

7.01 TIP development shall occur in accordance with 23 C.F.R. Part 450, Subpart C. The Department will develop the STIP in accordance with 23 C.F.R. Part 450, Subpart B.

7.02 The Department will work with its ~~planning~~ Planning ~~partners~~ Partners to coordinate a schedule for development and adoption of TIPs and the STIP.

7.03 A TIP for an MPO that is in a ~~non-attainment~~Nonattainment or Maintenance Area must first receive a conformity determination by FHWA and FTA before inclusion in the STIP pursuant to 23
C.F.R. Part 450.

7.04 MPO TIPs and Colorado's STIP must be ~~fiscally~~ Fiscally ~~constrained~~Constrained. Under 23 C.F.R. Part 450, each project or project phase included in an MPO TIP shall be consistent with an approved metropolitan RTP, and each project or project phase included in the STIP shall be consistent with the long-range ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan. MPO TIPs shall be included in the STIP either by reference or without change upon approval by the MPOs and the Governor.

8.00 GHG Emission and VMT Transportation Planning Reduction Requirements

8.01 Establishment of Regional GHG and VMT Transportation Planning Reduction Levels

8.01.1 ~~The GHG emission reduction levels within Table 1 apply to MPOs and the Non-MPO area within the state of Colorado as of the effective date of these Rules.~~ MPOs and the Non-MPO areas within the state of Colorado shall comply with the GHG and VMT reduction targets set forth in Tables 1 and 2. Baseline values are specific to each MPO and CDOT area and represent estimates of GHG emissions and VMT resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules. ~~Table 2 reflects the difference in Baseline levels from year to year assuming a rapid growth in electric vehicles across the State (940,000 light duty electric vehicles in 2030, 3.38 million in 2040 and a total of 97% of all light duty vehicles in 2050).~~

Values in both tables include estimates of population growth as provided by the state demographer.

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	2050 Reduction Level (MMT)
DRCOG	14.90	0.67	11.80	2.02	10.90	1.55	12.80	0.91
NFRMPO	2.30	0.10	1.80	0.30	1.90	0.27	2.20	0.17
PPACG	2.70	0.12	2.20	0.37	2.00	0.30	2.30	0.17
GVMPO	0.38	0.02	0.30	0.05	0.30	0.05	0.36	0.02
PACOG	0.50	0.02	0.40	0.07	0.30	0.05	0.40	0.02
CDOT/Non-MPO	6.70	0.30	5.30	0.91	5.20	0.74	6.10	0.44
TOTAL	27.40	1.23	21.80	3.70	20.60	2.96	24.20	1.73

~~8.01.1 Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles~~

Table 2: VMT Transportation Planning Reduction Levels (in millions of miles) ~~Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles~~

	~~2025 Projections (MMT)~~	~~2030 Projections (MMT)~~	~~2040 Projections (MMT)~~	~~2050 Projections (MMT)~~
~~TOTAL~~	~~27.0~~	~~20.0~~	~~14.0~~	~~8.9~~

Table 2: VMT Transportation Planning Reduction Levels (in millions)

Regional Areas	2025 Baseline Projections	2025 Reduction Level	2030 Baseline Projections	2030 Reduction Level	2040 Baseline Projections	2040 Reduction Level	2050 Baseline Projections	2050 Reduction Level
DRCOG	30,855	4,495	33,364	8,991	37,311	10,776	41,258	12,593
NFRMPO	5,387	784	5,826	1,569	6,515	1,736	7,204	2,450
PPACG	5,877	856	6,355	1,712	7,107	2,066	7,859	2,420
GVMPO	980	142	1,059	285	1,184	401	1,310	390
PACOG	980	142	1,059	285	1,184	401	1,310	339
CDOT/Non-MPO	14,693	2,140	15,888	4,281	17,767	5,022	19,647	6,193
Total VMT	58,771	8,563	63,551	17,126	71,069	20,405	78,587	24,388

*Assumes GHG and VMT targets apply to all MPOs and CDOT on the same timeframe.

8.02 Process for Determining Compliance

8.02.1 Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions and a net VMT analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to estimate total CO2e emissions and net VMT. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects.

8.02.1.1 The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in Table 1. ~~This provision shall not apply to MPO TIP amendments.~~

8.02.1.2 The net VMT analysis will estimate the expected net VMT that would result from the Regionally Significant Projects in the applicable planning document as compared to the reductions required in net VMT in the chart above.

8.02.2 Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior to the adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel Model, and Approved Air Quality Model.

8.02.2.1 The Induced Travel Elasticity for roadway capacity projects shall be set at 1.0 for freeways and 0.75 for arterials.

8.02.2.2 MPOs will agree to participate in measuring actual VMT on regionally significant projects to assess the accuracy of the models used in

predicting VMT.

8.02.2.3 Regionally Significant Projects will be run through an equity analysis that examines cumulative health impacts to the surrounding communities. Parties to the intergovernmental agreement will commit that no Regionally Significant Project will cause adverse environmental or public health impacts to a Disproportionately or Additionally Impacted Community that is already experiencing degraded environmental conditions relative to the state population.

8.02.2.4 Parties to the intergovernmental agreement will commit that no Regionally Significant Project will add more than 1 mile of new or added lanes.

8.02.2.5 Every five years the parties will reassess and improve the models based on how well they have performed against past Induced Travel and GHG emissions data. Third-party experts will be invited to evaluate the modeling and share those findings publicly.

8.02.2.6 The Parties will work to develop calculators to accurately estimate the GHG and VMT impacts of individual projects, on both a total and per capita level, including the smaller projects on the GHG Mitigation Menu.

8.02.2.7 By January 1, 2023, CDOT and MPOs are required to use a consistent Activity-Based Model.

8.02.3 By April 1, 2022, CDOT shall establish an ongoing administrative process, through a public process, for selecting, measuring, confirming, and verifying GHG Mitigation Measures, so that CDOT and MPOs can incorporate one or more into each of their plans in order to reach the Regional GHG and VMT Planning Reduction Levels in Table 1 and Table 2. Such a process shall include, but not be limited to, determining the relative and absolute impacts of GHG Mitigation Measures, measuring and prioritizing localized impacts to communities and Disproportionately Impacted Communities and Additionally Impacted Communities in particular. The scoring of competing projects shall be public and transparent. The mitigation credit awarded to a specific solution shall consider both aggregate and community impact and benefit.

8.02.4 Timing for Determining Compliance

8.02.4.1 By October 1, 2022, CDOT shall update their 10-Year Plan and DRCOG and NFRMPO shall update their RTPs pursuant to § 43-4-1103, C.R.S. and meet the reduction levels in Table 1 and Table 2 or the requirements pursuant to § 43-4-1103, C.R.S and restrictions on funds.

8.02.4.2 After October 1, 2022

8.02.4.2.1 CDOT must for each Applicable Planning Document, meet either the reduction levels within Table 1 and in Table 2 for Non-MPO areas or the requirements as set forth in Rule 8.05.

8.02.4.2.2 MPOs must meet either the corresponding reduction levels within Table 1 and in Table 2 for each Applicable Planning Document, or the relevant MPO and CDOT each must meet the requirements as set forth in Rule 8.05.

8.02.5 Demonstrating Compliance. At least thirty (30) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to the Commission a GHG Transportation Report containing the following information:

8.02.5.1 GHG emissions and VMT analysis demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels

in MMT of CO2e for each compliance year in Table 1 and net VMT for each compliance year in Table 2 or that the requirements in Rules 8.02.5.1.1 or 8.02.5.1.2., as applicable, have been met.

8.02.5.1.1 In non-MPO areas or for MPOs that are not in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the Department utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in those areas on projects that reduce GHG emissions and reduce VMT.

8.02.5.1.2 In MPO areas that are in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the MPO utilizes those funds on projects or approved GHG Mitigation Measures that reduce GHG emissions, and CDOT utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in that MPO area, on projects that reduce GHG emissions and reduce VMT.

8.02.5.2 Identification and documentation of the MPO Model or the Statewide Travel Model and the Approved Air Quality Model used to determine GHG emissions in MMT of CO2e and net VMT.

8.02.5.2.1 The technical methodology must be found to yield accurate estimates of GHG emissions and VMT.

8.02.5.2.2 The data or documentation provided to support the estimates of GHG emissions and VMT must be sufficient for AQCC and CDOT to review.

8.02.5.2.3 To improve transparency, the GHG Transportation Report will include:

- Changes in population.
- Changes in regional population-weighted density.
- Share of housing and employment with ½ mile of high-frequency transit.
- Share of low-income households, Disproportionately Impacted Communities, and Additionally Impacted Communities with access to high-quality transit, biking, and walking infrastructure.
- Total number of housing units and employment density for each local government.

8.02.5.3 A Mitigation Action Plan that identifies GHG Mitigation Measures needed to meet the reduction levels for each compliance year within Table 1 and Table 2 shall include:

8.02.5.3.1 The anticipated start and completion date of each measure.

8.01.2.1.1 An estimate~~, where feasible,~~ of the GHG emissions reductions in MMT of CO2e and the anticipated net VMT reductions achieved by any GHG Mitigation Measures.

8.02.5.3.2 Quantification of specific co-benefits including reduction of co-pollutants (PM2.5, NOx, etc.) as well as travel impacts (changes to per capita VMT within the project area, pedestrian/bike use, transit ridership numbers, etc. as applicable).

8.02.5.3.3 At least 40% of funds allocated to projects that

benefit Disproportionately Impacted Communities and Additionally Impacted Communities, and a ~~D~~description of those benefits.

8.02.5.3.4 Records of input received during the public comment process for development of the Mitigation Action Plan and responses to input received.

8.02.6 Reporting on Compliance- Annually by April 1, CDOT and MPOs must provide a status report to the Commission on an approved form with the following items for each GHG Mitigation Measure identified in their most recent GHG Transportation Report:

8.02.6.1 The implementation timeline;

8.02.6.2 The current status;

8.02.6.3 For measures that are in progress or completed, quantification of the benefit or impact of such measures; and

8.01.2.2 For measures that are ~~delayed, cancelled, or~~ substituted, an explanation of why that decision was made and the public input received on the substitution decision.

8.03 GHG Mitigation Measures. When assessing compliance with the GHG and VMT Reduction Levels, CDOT and MPOs shall have the opportunity to utilize approved GHG Mitigation Measures as set forth in Rules 8.02.3 and 8.02.5.3 to offset emissions, reduce VMT, and demonstrate progress toward compliance. Illustrative examples of GHG Mitigation Measures include, but are not limited to:

8.0.3.1 The addition of transit resources in a manner that can displace VMT.

8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.

8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use in a way that links and rewards transportation project investments with the city making these changes.

8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.

8.03.5 Improving the safety and efficiency of crosswalks for pedestrians, bicyclists, and other non-motorized vehicles, including to advance compliance with the ADA.

8.03.6 Adopting locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.

8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.

8.03.8 Establishing policies for clean construction that result in scalable improvements as a result of factors like lower emission materials, recycling of materials, and lower truck emissions during construction.

8.03.9 Adoption of transportation demand management practices that reduce VMT.

8.04 Air Pollution Control Division (APCD) Confirmation and Verification

8.04.1 At least forty-five (45) days prior to adoption of any Applicable Planning Document,

CDOT for Non-MPO areas and the MPOs for their areas shall provide to APCD for review and verification of the technical data contained in the draft GHG Transportation Report required per Rule 8.02.5. If APCD has not provided written verification within thirty (30) days, the document shall be considered acceptable.

8.04.2 At least thirty (30) days prior to adoption or amendment of policies per Rule 8.02.3, CDOT shall provide APCD the opportunity to review and comment. If APCD has not provided written comment within forty-five (45) days, the document shall be considered acceptable.

8.05 Enforcement. The Commission shall review all GHG Transportation Reports to determine whether the applicable reduction targets in Table 1 and Table 2 have been met, ~~and~~ the sufficiency of any GHG Mitigation Measures needed for compliance, and adverse environmental or public health impacts to Disproportionately and Additionally Impacted Communities are avoided.

8.05.1 If the Commission determines the requirements of Rule 8.02.5 have been met, the Commission shall, by resolution, accept the GHG Transportation Report.

8.05.2 If the Commission determines, by resolution, the requirements of Rule 8.02.5 have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG and VMT. Prior to the enforcement of such restriction, an MPO, CDOT or a TPR in a non- MPO area, may, within thirty (30) days of Commission action~~, issue one or both of the following opportunities to seek a waiver or to~~ ask for reconsideration accompanied by an opportunity to submit additional information:

8.05.2.1 ~~Request a waiver from the Commission imposing restrictions on specific projects not expected to reduce GHG emissions. The Commission may waive the restrictions on specific projects on the following basis:~~

~~8.01.1.1.1 The GHG Transportation Report reflected significant effort and priority placed, in total, on projects and GHG Mitigation Measures that reduce GHG emissions; and~~

~~8.01.1.1.2 In no case shall a waiver be granted if such waiver results in a substantial increase in GHG emissions when compared to the required reduction levels in this Rule.~~

8.05.2.2 Request reconsideration of a non-compliance determination by the Commission and provide written explanation of how the requirements of Rule 8.02.5 have been met.

8.05.2.3 The Commission shall act, by resolution, on a ~~waiver or~~ reconsideration request within thirty (30) days of receipt of the ~~waiver or~~ reconsideration request or at the next regularly scheduled Commission Meeting, whichever is later. If no action is taken within this time period, the ~~waiver or~~ reconsideration request shall be deemed to be denied.

8.05.3 Notwithstanding any other provision of this Rule, CDOT, DRCOG and NFRMPO must meet the requirements of § 43-4-1103, C.R.S.

8.06 Reporting. Beginning July 1, 2025, and every 5 years thereafter, the Executive Director on behalf of CDOT shall prepare and make public a comprehensive report on the statewide GHG and VMT reduction accomplishments achieved by this rule. The report shall contain, without limitation, the following information:

8.06.1 Whether the state is meeting GHG emission and VMT reductions required by Rule 8.02.5 statewide, for each TPR, and for each MPO.

8.06.1.1 If the report indicates that statewide VMT and GHG reductions required by Rule 8.02.5 are not projected to be met under existing rules, CDOT shall develop and propose additional requirements to the Commission, no later than December 31 of the same year, to be adopted no later than March 31 of the following year, which must be designed to make up the difference between VMT and GHG reductions achieved and the VMT and GHG reductions necessary to comply with Rule 8.02.5.

8.06.2 The number and a description of projects affecting Disproportionately Impacted Communities and Additionally Impacted Communities and the net effect on VMT and GHG emissions of those projects.

8.06.3 A review of the mapping tools and any updates required by the analysis required by 8.03.2.4.

9.00 Materials Incorporated by Reference

9.01 The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements in Rule 9.01.1 and federal funding programs in Rules 9.01.2 and 9.01.3, which are incorporated into the Rules by this reference, and do not include any later amendments.

9.01.1 Fixing America's Surface Transportation Act or the "FAST Act"), 23 U.S.C. §§ 134, 135 and 150, Pub. L. No. 114-94, signed into law on December 4, 2015, and its accompanying regulations, where applicable, contained in 23 C.F.R.Part 450, including Subparts A, B and C in effect as of November 29, 2017, and 25 C.F.R. § 170 in effect as of November 7, 2016.

9.01.2 Congestion Mitigation and Air Quality Improvement (CMAQ) Program, 23 U.S.C. § 149, in effect as of March 23, 2018.

9.01.3 Surface Transportation Block Grant (STBG) Program, 23 U.S.C. § 133, in effect as of December 4, 2015.

9.02 Also incorporated by reference are the following federal laws and regulations and do not include any later amendments:

9.02.1 Americans with Disabilities Act (ADA), 42 U.S.C. § 12101, *et. seq*., in effect as of January 1, 2009.

9.02.2 Clean Air Act (CCA), 42 U.S.C. §§ 7407-7410, and 7505a, in effect as of November 15, 1990.

9.02.2 Transportation Conformity Regulations, 40 C.F.R. § 93.101, in effect as November 24,1993.

9.03 Also incorporated by reference are the following documents, standards, and models and do not include any later amendments:

9.03.1 Greenhouse Gas Pollution Reduction Roadmap by the Colorado Energy Office and released on January 14, 2021.

9.03.2 MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity released by the U.S. Environmental Protection Agency, in effect as of January 7, 2021.

9.04 All referenced laws and regulations are available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.

9.05 Copies of the referenced federal laws and regulations, planning documents, and models.

9.05.1 Copies of the referenced United States Code (U.S.C.) may be obtained from the following address:

Office of the Law Revision Counsel
U.S. House of Representatives
H2-308 Ford House Office Building
Washington, DC 20515
(202) 226-2411
https://uscode.house.gov/browse.xhtml

9.05.2 Copies of the referenced Code of Federal Regulations (C.F.R.) may be obtained from the following address:

U.S. Government Publishing Office
732 North Capitol State, N.W.
Washington, DC 20401
(866) 512-1800
https://www.govinfo.gov/

9.1.5.3 Copies of the Greenhouse Gas Pollution Reduction Roadmap (Roadmap) may be obtained from the following address:

Colorado Energy Office
1600 Broadway, Suite 1960
Denver, CO 80202
(303) 866-2100
energyoffice.colorado.gov

9.1.5.4 To download MOVES3 released by the U.S. Environmental Protection Agency may be obtained from the following address:

U.S. Environmental Protection Agency
The Office of Transportation and Air Quality
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
(734) 214–4574 or (202) 566-0495
mobile@epa.gov
https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

10.00 Declaratory Orders

10.01 The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.

Editor's Notes

History

Entire rule eff. 12/15/2012.
Section SB&P eff. 05/30/2013.
Entire rule eff. 09/14/2018.

Annotations

Rules 1.22, 1.25, 1.42, 2.03.1 – 2.03.1.4, 4.01, 4.02.1 – 4.02.3, 4.02.5.9, 4.04.2.2, 4.04.2.4, 4.06.1.7, 6.01.2, 7.01, 7.03 – 7.04 (adopted 10/18/2012) were not extended by Senate Bill 13-079 and

therefore expired 05/15/2013.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

REGIONAL AIR QUALITY COUNCIL PUBLIC COMMENTS REGARDING PROPOSED REVISED RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS (2 CCR 601-22)

1 message

[redacted] Mon, Oct 18, 2021 at 10 38 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc: [redacted]

Plea e find the attached public comment from the Regional Air Quality Council to the Colorado Tran portation Commission regarding the proposed greenhouse gas pollution reduction standards for transportation planning as proposed by the Colorado Department of Transportation.

Thank you.

[redacted]

In an effort to help mitigate the spread of COVID-19, I may be working remotely. During this time email will be the best way to reach me Thank you

RAQC
REGIONAL AIR QUALITY COUNCIL

Climate 2021 CDOT GHG Rule Public Comment to TC Oct pdf
586K

REGIONAL AIR QUALITY COUNCIL

October 18, 2021

Colorado Transportation Commission
CDOT Headquarters
2829 W. Howard Place
Denver, CO 80204
dot_rules@state.co.us

REGARDING PROPOSED REVISED RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS (2 CCR 601-22)

The Regional Air Quality Council (RAQC) encourages the Transportation Commission (Commission) to adopt greenhouse gas (GHG) pollution reduction standards for transportation planning as proposed by the Colorado Department of Transportation (CDOT). While there may be administrative and technical changes made to the proposal as the Commission considers public comment and deliberates, the RAQC supports the establishment of GHG emission reduction standards which require CDOT itself and Metropolitan Planning Organizations to ensure future transportation project emissions are in compliance with GHG reduction targets.

The RAQC serves as the lead agency for air quality planning for the Denver Metro/North Front Range ozone nonattainment area and has a vested interest in initiatives that will both reduce GHG emissions and assist the region attaining and maintaining the National Ambient Air Quality Standards for ozone. The proposal, if adopted and implemented as envisioned by CDOT, will establish GHG pollution reduction planning levels for transportation that will drive innovative and sustainable development, as well as transportation management approaches beyond what projected vehicle technology innovation can achieve on its own. This will ensure that fewer GHG's and air pollutants that contribute to the region's high ozone levels are emitted when compared to a transportation future without such regulatory standards.

As the Commission considers the proposal's adoption and future implementation, the RAQC again expresses its support for this regulatory initiative that quantitatively reduces emissions. The RAQC also encourages the Commission and CDOT to prioritize the funding of transit and other multi-modal initiatives that will assist affected regions of the State in their efforts towards achieving compliance with the regulatory requirements.

Respectfully

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

C3 and DMCC GHG Comments

1 me age

[redacted] Mon, Oct 18, 2021 at 11:55 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc [redacted]

Good Morning Director Lew

Attached are our combined comments regarding the Rules Governing Statewide Transportation Planning Proce and Tran portation Planning Region , 2 CCR 601 22 Thank you very much for the opportunity to share our feedback. Please feel free to reach out with any questions.

Warm regard ,

[redacted]

COLORADO Competitive COUNCIL

C3 and DMCC GHG Comments.pdf
149K

[redacted]

October 18, 2021

Director Shoshana Lew
Colorado Department of Transportation
2829 W Howard Place
Denver, CO 80204
via email: shoshana.lew@state.co.us

Dear Director Lew:

We are writing to share our concerns and those of our members regarding the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions, 2 CCR 601-22.

For 153 years, the Denver Metro Chamber of Commerce (Chamber) has been a leading voice for Colorado's business community. With a membership that spans the state, the Chamber is an effective advocate for small and large businesses. With a statewide reach, the Colorado Competitive Council (C3) is a business advocacy organization comprised of businesses, chambers of commerce, economic development organizations and professional associations across the state, all advocating to keep Colorado's economy competitive.

Both the Chamber and C3 are supportive of efforts to reduce greenhouse gas emissions and mitigate the impacts of air pollution. However, the regulations and interpretive guidance have gone well beyond the scope of the authorizing statute. More specifically, the Notice of Proposed Rulemaking (NOPR) references § 25-7-102(2)(g), C.R.S. and § 43-1-1103(5), C.R.S. as the statutory drivers for the NOPR. Yet, these two statutory provisions only generically address statewide emission reduction objectives (§ 25-7-102(2)(g), C.R.S.) and the need to, among other things, consider greenhouse gas emission reductions (§ 43-1-1103(5), C.R.S.) in statewide transmission plans. The General Assembly has been extremely active over the past three years in working to establish statewide emission reduction goals and effectuate sector-specific approaches to emission reductions. It is unclear how, if at all, the objectives of this NOPR interact with or otherwise align with greenhouse gas emission reduction planning for other sectors. The Chamber and C3, on behalf of their members, are concerned that this NOPR advancing ahead of other rulemaking affecting other sectors of the economy could result in misalignment and inefficient regulation of a sector that is fundamental to the economic climate of Colorado.

The Chamber and C3 appreciate that the Colorado Department of Transportation (CDOT) is acting following the passage of SB 21-260, and we support the efforts of this administration to ensure that Colorado remains the pristine landscape that we all enjoy today. We also recognize the fact that the

Greenhouse Gas Pollution Reduction Roadmap, as noted in the Preamble for the 2021 Rulemaking, "determined that emissions from transportation are a 'significant contributor to local air pollution that disproportionately impacts lower-income communities and communities of color.'" We further understand that "[a] key finding in the Roadmap recognized that '[m]aking changes to transportation planning and infrastructure to reduce growth in driving is an important tool' to meet the statewide GHG pollution reduction goals." But a key element of comprehensive greenhouse gas emission reduction regulations must be cost-effectiveness, and the General Assembly recognized as much with the passage of HB 19-1261 in the 2019 legislative session. Given the potentially significant impacts of this NOPR "on large transportation projects that make a fundamental change to our transportation system" — as denoted in the Fact Sheet for the NOPR — and the reality that our state will need such projects to maintain and enhance its competitive position as a business destination and regional economic driver, we are concerned that the impacts of these regulations have not been fully vetted or appreciated at this point in time.

Accordingly, our concerns with this proposed rule are twofold: the many unknowns left to chance and cost. There is simply a lack of data needed to properly consider the impacts this will have on future transportation planning. We need something that makes sense and puts together a long-term, proactive approach to reduce emissions, and we need to consider the specific nature of different sectors when doing so.

We strongly urge you to delay the rulemaking process until we have adequate data that will allow Metropolitan Planning Organizations to properly assess the implications and benefits of the rule. Once a rule is promulgated, it can be used in legal actions, so we need to be thoughtful in this process. Again, our members and our organizations support the reduction of greenhouse gas emissions. At the same time, we need to advance regulations to reduce greenhouse gas emissions from complicated sectors, like transportation, in a thoughtful, data-driven manner to avoid unintended consequences. We thank you for your consideration and commitment to ensuring these rules are well thought through and don't adversely affect Colorado employers and their employees.

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comment on 2 CCR 601-22

1 me age

[redacted] Wed, Oct 20, 2021 at 9:36 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Hello,

Please see the attached comment on CDOT's proposed rule 2 CCR 601-22.

[redacted]

GHG Rule RTD Comment pdf
133K

October 18, 2021

Transportation Commission of Colorado
2829 W. Howard Place
Denver, CO 80204
dot_rules@state.co.us

Subject: Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions – 2 CCR 601-22

Dear Commissioners,

Please find contained herein the Regional Transportation District (RTD) comments on Colorado Department of Transportation (CDOT) proposed revisions to rule to 2 CCR 601-22 regarding the reduction of greenhouse gases (GHGs).

RTD is the largest transit agency in Colorado with a service area representing 3.08 million residents and serving 40 cities in eight counties. As the primary transit provider throughout the Denver metro region, RTD plays a pivotal role is delivering multimodal transportation options that result in regional connectivity and mobility, environmental benefits, and improved quality of life. For example, over the past ten years, RTD is responsible for the reduction of 2.3 million tons of carbon dioxide and continues to displace an additional 210,000 tons of harmful emissions per year. As reflected in the agency's 2021-2026 Strategic Plan, RTD has the responsibility to be an active partner in solutions that help improve environmental conditions and assist in sustaining the planet.

With regards to CDOT's proposed rule, RTD urges the Commissioners and CDOT staff to consider the following suggestions when approving a final rule.

Transit Modeling
While it is encouraging that transit is included in the rule as a primary mitigation measure, it is important ensure that transit usage assumptions reflect the reality and forecasted travel trends that RTD utilizes. RTD suggests CDOT use current ridership for the region as the baseline. RTD ridership is approximately 50% of that experienced prior to the pandemic in March 2020. RTD and transit agencies nationally predict ridership to remain below pre-pandemic levels for the next several years. Moreover, transit is expected to see a permanent 20% decline in ridership compared to pre-pandemic levels. According to Zoe Jankel, Vice President and Senior Analyst at Moody's Investors Service: ""The shift to remote working, coupled with the increased use of online leisure and retail services, will lower demand and permanently reduce farebox revenues for mass transit systems in Europe and North America."

Using current ridership levels and projected increases will assist in providing reasonable and reliable ridership forecasts that will more accurately depict future customer utilization rates. These rates can then be used as a basis for the contribution of transit usage to GHG reduction targets and rulemaking.

Eligible Funding for Transit Mitigation Measures
Under current budget conditions, RTD predicts being able to support up to 85% of pre-pandemic service levels through 2027 supported by federal COVID-19 relief and rescue funding to supplement projected farebox revenues, sales and use tax revenues, and other subsidiary sources of income. Overall ridership remains low,

while current service delivery is approximately 70% of pre-pandemic levels at the time of this written comment. With prolonged budget challenges in mind, RTD urges CDOT to consider outlining specific funding to be triggered for use on transit service mitigation measures that is eligible for payroll operations support in a manner that allows for long-term expanded revenue service.

Funding eligible for payroll operations of transit will be critical to realizing any benefit from transit service focused mitigation measures. While the proposed rule directs federal funding sub-allocated to the Denver Regional Council of Governments (DRCOG) to be used on mitigation measures in the event GHG reduction targets are not met, the specific Congestion Mitigation and Air Quality and Surface Transportation Program funding is not eligible for transit payroll operating expenses on a predictable schedule that would allow for service planning and delivery increases.

Furthermore, all other federal transit funding received by DRGOC through the Federal Transit Administration area is only available for capital operating expenses (e.g. bus replacement) and therefore would not be available to help increase transit service as a mitigation measure as outlined in the proposed rule. For these reasons, RTD believes it will be difficult to achieve 6% annual growth in vehicle revenue miles as the proposed rule assumes. Historically, RTD has not experienced the financial or workforce environment to realize service increases at the rule's assumed level. Recognizing CDOT's aspirational goals on this matter, RTD can serve as a willing partner to ensure transit plays a significant role in reducing vehicle miles traveled.

Thank you for your time and attention to these important matters. RTD appreciates the hard work of CDOT staff to develop the proposed rule focused on transportation planning and applauds the effort to tackle complicated issues.

Sincerely,

STATE OF COLORADO

Rathburn - CDOT, Rebecca <rebecca.rathburn@state.co.us>

Fwd: public comment

4 me age

Uebelher - CDOT, Jennifer <jennifer.uebelher@state.co.us> Thu, Oct 21, 2021 at 10:06 AM
To: Rebecca White - CDOT <rebecca.white@state.co.us>, Theresa Takushi - CDOT <theresa.takushi@state.co.us>, "Rathburn CDOT, Rebecca" rebecca rathburn@ tate co u

Hello Everyone-

We received this comment at commission today. It was hard to hear her due to tech issues on her end but she was kind enough to ubmit the comment in writing o we don't mi anything To her la t point about the hearing time, I wa n't sure if we were ending at 5 or 7 so I just listed the start. Do you want me to add an end time? If so, when? Thanks.

Jen

Kind Regards,

Jennifer Uebelher
Transportation Commission Liaison
Office of Policy and Government Relations

P 303.757.9025
2829 W. Howard Place, Denver, CO 80204
Jennifer.Uebelher@state.co.us | www.codot.gov | www.cotrip.org

COLORADO
Department of Transportation
Office of Policy and Government Relations

Please consider the environment before printing this email

---------- Forwarded message ---------
From: [redacted]
Date: Thu, Oct 21, 2021 at 9:56 AM
Subject Re public comment
To: Uebelher - CDOT, Jennifer <jennifer.uebelher@state.co.us>

Comment

First, I want to thank CDOT and the Commission for your work on this rulemaking. You've put in many hours towards meeting with and listening to members of the public, and I hope the turnout has demonstrated that grassroots citizens care a lot about tran portation planning I al o want to thank you for haring the updated draft of the rule I plan to attend the final hearing on November 10 to give my comments in full, but I wish to make a few points before the full Commission today.

At nine public hearing acro the tate, member of the public demon trated overwhelming upport for the GHG Pollution Standard, while emphasizing the need for a stronger rule that incorporates equity, or environmental justice, and the reduction of vehicle miles traveled. You should also have received thousands of written comments with the same message.

The updated draft rule acknowledges the importance of measuring VMT as well as impact of transportation pollution on

disproportionately-impacted communities, so it's clear that CDOT is listening. However, the provisions in the current draft are not enough to address the disproportionate impacts of transportation pollution on low-income, Latinx, Black, Indigenous, and other people of color.

Because this rule reduces GHG emissions, it has an automatic benefit for all Coloradans. But unless guardrails are put in place, that benefit may be unequally distributed. Even within MPO regions, there is a wide gap between neighborhoods in term of air pollution and acce to mobility It i the tate' re pon ibility to begin to clo e that gap through pecific and measurable policy regulations.

The rule should be further amended to require at least thirty percent of funds in a Mitigation Action Plan to directly benefit di proportionately impacted communitie Thi number reflect the percentage of Colorado' population currently living in a disproportionately-impacted community as defined in statute by House Bill 21-1266.

There is precedent for this both statewide and nationally. The Biden administration has committed 40% of federal inve tment in climate and clean energy The Denver 2A climate initiative ha committed 50% of inve tment cel Energy has committed 40% of their renewable energy investments and 15% of their total Transportation Electrification Plan, including 30% of the budget for Research, Partnerships, and Innovation.

We were al o happy to ee yearly VMT report added to the rule However, the rule doe not quantify a "VMT decrea e" or define what revisions the Commission may consider if such a decrease does not occur.

Finally, I have noticed that the November 10 hearing begins at 3pm, but is listed without an end time. I urge the Commi ion to con ider the fact that many people who work during bu ine hour wi h to te tify, and were unable to do so during the previous hearings that ended at 5pm.

Thank you for your time this morning.

On Thu, Oct 21, 2021 at 9:14 AM Uebelher - CDOT, Jennifer <jennifer.uebelher@state.co.us> wrote:

[redacted]

Thank you for your comment Do you have them in writing? If o, can you plea e end them to me? Your comment cut off a bit so we want to be sure we captured your comments completely. Thank you.

Kind Regards,

Jennifer Uebelher
Transportation Commission Liaison
Office of Policy and Government Relations

P 303.757.9025
2829 W. Howard Place, Denver, CO 80204
Jennifer.Uebelher@state.co.us | www.codot.gov | www.cotrip.org

COLORADO
Department of Transportation
Office of Policy and Government Relations

Please consider the environment before printing this email.

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments on CDOT GhG rulemaking

1 me age

[redacted] Fri, Oct 22, 2021 at 12:47 PM
Reply-To: danny@copirg.org
To dot rule @ tate co u

Please accept this comment on behalf of CoPIRG, Bicycle Colorado, and the Denver Streets Partnership.

[redacted]

CoPIRG, Bicycle Colorado, Denver Street Partner hip comment CDOT GhG rule pdf
68K

Dear Colorado Department of Transportation Executive Director Shoshana Lew and Transportation Commissioners,

On behalf of CoPIRG, Bicycle Colorado and the Denver Streets Partnership, we are submitting the following comment regarding the proposed Greenhouse Gas Emissions Reduction rule, 2 CCR 601-22.

We believe that a focus on solutions that expand the modal options that people have is critical to meet our climate goals. The success of this rule should be measured by hitting our climate goals in a way that expands travel options and reduces the need to drive.

We applaud CDOT for launching this rulemaking process. The transportation sector is the single biggest contributor to greenhouse gas emissions in Colorado and it's critical that our state's Department of Transportation has a clear strategy for reducing pollution from our transportation system in line with the goals set out in the Governor's Greenhouse Gas Pollution Reduction Roadmap.

CDOT is leading the way nationally with this rulemaking. This rulemaking demonstrates that CDOT understands the critical role its decisions have on climate change and are taking on appropriate responsibility as an agency and as a collaborator with local and regional governments and planning bodies.

Our three organizations recognize that while transitioning our on-road vehicles to cleaner, electric-powered vehicles is a major greenhouse gas pollution reduction strategy, we believe this rulemaking should focus on ways to reduce pollution from our transportation system by increasing the travel options all Coloradans have through substantial investments in bicycle, pedestrian and transit infrastructure and expanded operational support for transit service.

According to the state's Greenhouse Gas Pollution Reduction Roadmap, even under an ambitious scenario, which includes the adoption of a zero emissions truck program and 1 million electric vehicles on the road by 2030, we will still need to reduce greenhouse gas pollution by about 3.5 MMT by 2030 from our transportation system.

Electric vehicles alone will not meet our 2030 goals.

Investing big in ways that expand travel options for people in the next few years is necessary to hit 2030 goals and also to mitigate the accumulation of greenhouse gas emissions that we cannot afford. The sooner the better too. Since greenhouse gas pollutants will stay in the atmosphere for decades, reducing emissions now can yield even bigger benefits versus waiting a few years.

A multimodal focus in this rule is not only critical to meet our climate goals but also offers some of the broadest additional societal benefits.

From air pollutants that fuel dirty ozone days to traffic deaths to accessibility and affordability challenges that undermine many Coloradans' freedom of opportunity, our current transportation system locks many of us into driving our own cars to complete our trips.

Focusing this rule on tackling greenhouse gas emissions in a way that expands travel options for people and reduces the need to drive to complete every trip, will make our system safer, more accessible, more affordable, and improve the quality of life for every Coloradan. It will help us not just meet our climate goals but our Vision Zero and mobility goals and will provide more long-term benefits than converting every vehicle on the road to electric-powered vehicles ever will.

<u>The success of this rule should be measured by hitting our climate goals in a way that expands travel options and reduces the need to drive</u>.

Based on the red-lined draft proposal, we have the following recommendations:

1. <u>Increase the 2030 goal for pollution reduction from 1.5 MMT to 2 MMT</u>. To achieve a higher goal will require a more ambitious plan and strategies for expanding travel options. We have so many options we are barely scratching the surface in terms of their potential impact. For example, in Seattle, a significant ramp up in transit service from 2006-2017 saw a 5% reduction in traffic volumes even while the region's population grew by 23%. For too long, transit, walking, and biking have been seen as something you add to a road or corridor project near the end. We need these modes and strategies to be the first thing we use and invest in. We need to maximize moving people before we move cars. We need to set the bar high to ensure we are significantly expanding choice and options versus the status quo.
2. <u>Prioritize limiting pollution not mitigating pollution</u>. We need to expand investments in transportation infrastructure and services that limit pollution. The cleanest mile of travel is the one that doesn't produce pollution to begin with. For too long we have sought to mitigate pollution once it has been created. We need to start by first limiting it before it's produced. In the current rule, it needs to be clear that mitigation is the last step and one that only happens on projects where there was no way to limit the pollution to begin with. Strategies to produce less pollution in the first place should not be labeled as mitigation - that implicitly places mitigation above limitation and could allow unnecessary pollution to be created.
3. <u>Modeling needs to err on the side of overestimating pollution not underestimating pollution</u>. The most direct influence on how we travel is the infrastructure and service around us. Therefore, if we build and focus dollars on moving cars, people are most likely to drive. Trying to change behavior later in ways that cut against the infrastructure often fails and is expensive, like when we try to reduce speeding and save lives on a

road designed for higher speeds and vehicle throughput. Therefore, if modeling underestimates pollution levels and we build car-oriented infrastructure but then try to go back later, we will be locked into an inefficient and costly battle to try to change behavior counter to the infrastructure. One place modeling has too often underestimated impacts is around vehicle-miles-traveled (VMT), which oftentimes results in an underestimation of pollution. Recent reviews of previous VMT estimates find that DOT's have often underestimated VMT. Therefore we must go out of our way to ensure we do not make similar mistakes and this rule should reflect that cautious approach, especially since every additional ton of greenhouse gas pollution we reduce now reduces the time that pollution sits in our atmosphere contributing to heating our planet.

   a. For example, in CDOT's cost-benefit analysis, it appears the estimated elasticity range for our interstates is between 0.67-1.06. According to a 2011 study by Duranton and Turner, elasticity for interstates is 1.03. In a 2021 study by Volker and Handy, the range is 0.77-1.06 for facilities in the US. Therefore, at the very least, CDOT should increase the elasticity to 0.77 and ideally to the higher end of 1.06 so we do not underestimate VMT and pollution.

4. Ensure pollution reduction measures are required for any project that could increase pollution within the same community or affected area. Because greenhouse gas emissions are considered a global pollutant, it would be possible to meet an overall pollution target by allowing pollution increases in one region but then reduce pollution by an equal or greater amount in another region. This matters because when a vehicle is emitting greenhouse gases it is also emitting more localized pollutants. Therefore, without considering local pollutant impacts, a GhG reduction strategy could result in communities that have a disproportionate pollution impact to see that impact stay the same or increase. Ensuring every project has pollution reduction measures ensures that we are not only meeting regional greenhouse gas targets but cleaning up the air in those communities that are more negatively impacted by our transportation system. Taking into account these other pollutants when reducing greenhouse gas emissions was specifically identified as a valuable benefit in § 25-7-102(2)(d), C.R.S.
5. A review of the modeling should happen after projects are implemented and if pollution exceeds what was estimated, additional reduction measures should be required. Models are estimates based on a set of assumptions and formulas. Once a project is completed, real data can be collected and should be used to test the accuracy of the initial model. If pollution exceeded what was expected, additional reductions should be required and the modeling should be updated.
6. Continue to highlight the breadth of pollution reduction measures that exist in the transportation system and reward network improvements. We appreciate that this draft rule envisions many different tools for reducing greenhouse gas emissions from our transportation system including adding transit resources that displace VMT, improving pedestrian and bike access in areas that allow people to shift trips away from driving, adding bike-sharing services like e-bikes and local zoning decisions that favor density and multi-use facilities. We encourage CDOT to consider adding ways to reward projects that consider the positive impacts of a network of travel options versus isolated improvements like a transit line or a bike lane. For example, rewarding projects that

show that new transit service is paired with sidewalk, biking, and safety improvements that feed the service by providing safer connections to the surrounding neighborhoods. Ultimately, we need better networks, not just individual projects.

7. We strongly support the requirement that Mitigation Action Plans need to measure the other pollution and travel impacts including ridership numbers and pedestrian/bike use. To meet our GHG emissions reduction levels we will need more travel options and they need to be safe, convenient, reliable, and affordable. A new transit line will see real ridership the more it is fast, frequent and direct. Therefore, it's critical to keep 8.02.5.3.3 and ensure we are actually calculating and measuring these benefits in Mitigation Action Plans. Any VMT reductions should include per-capita VMT reductions to reduce the likelihood of an unintended consequence that communities would adopt no-growth policies to avoid having VMT increases from population growth count against them.
8. Require CDOT and MPOs to consider local land use when modeling the GHG and VMT impacts of individual transportation projects and establish criteria to reward projects that reduce VMT per capita through additional transportation-efficient land use strategies. The model currently estimates that 75% of population and employment growth will happen in urban-mixed areas. That is far from the current trend. To maximize the benefits of transit, walking and biking investments, this rule needs to incentivize development that supports those modes. Projects and proposals that integrate transportation and land use to reduce emissions should be prioritized for funding.
9. Create a goal for an increase in transit service and reward projects that help the state meet that goal. In the Cost-Benefit Analysis, there is an assumption that transit service will increase by 70% by 2030. Increased transit service is a critical benchmark for achieving GhG reductions because they bring increased mobility benefits. For example, a TransitCenter study found a 40% increase in transit service on the west side of the City and County of Denver would quadruple access to employment. To achieve a large increase in service, we will need to see a large investment. To give a sense of scope, in 2019, Colorado transit agencies spent around $805 million on service so a 70% increase is in the $600 million range just for operating. This rule needs to clearly reward investments in transit service in a way that shifts dollars away from less impactful GhG reducing strategies.

Thank you for the opportunity to comment on this important rule. We are happy to answer any questions.

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

"roll coal"

1 me age

[redacted] Thu, Oct 28, 2021 at 5:27 PM

To: dot_rules@state.co.us

"rolling coal"

That is the term for diesel vehicles, particularly pickup trucks, that are purposely tuned and modified (away from the factory settings) so that the vehicle will spew huge amounts of particulates (black smoke) from the tailpipe when accelerating The vehicle owner will claim that thi i done in order to get more power or better performance from their trucks, but it is really nothing more than willful blatant pollution intended to rile the likes of "liberal tree huggers", i.e. people who care amount the planet and the air we all breathe.

http //en wikipedia org/wiki/Rolling coal

I grew up in a small, rural town and worked on my Father's grain and cattle farm operating diesel tractors for many years. I also worked concrete construction for ten years and drove heavy duty diesel pickup trucks in that job. I am not anti-die el I am anti tupid, anti wa te, and anti pollution Rolling coal check all three of tho e bo e
Sometimes the smoke is so thick that it creates a visual traffic hazard for any vehicles behind the offending "roller".

I hope that the proposed rule changes address this totally wasteful and unnecessary vehicle modification by encouraging enforcement of environmental rule /law and prohibiting the ale of device for aid purpo e

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

El Paso County Written Comment on CDOT Draft Rule

1 me age

[redacted] Tue, Nov 2, 2021 at 2:09 PM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

Good Afternoon,

Plea e find attached El Pa o County' written comment on CDOT' propo ed new tandard to reduce greenhou e ga emissions from the transportation sector, improve air quality and reduce smog, and provide more travel options.

If you have any questions, please do not hesitate to reach out directly to either myself or Ryan Parsell (cc'd).

Have a great afternoon.

Thanks,

[redacted]
Legi lative Policy Advi or
[redacted]

EPC Comment Letter CDOT.pdf
387K

EL PASO COUNTY
COLORADO

Comments on Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions 2 CCR 601-22

November 2, 2021
719-520-7276
[redacted]

Board of County Commissioners
[redacted]

November 2, 2021

State of Colorado Transportation Commission
CDOT Headquarters
2829 W. Howard Place
Denver, CO 80204

RE: Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions 2 CCR 601-22

Members of the Transportation Commission,

In response to your request for comment on this proposed rulemaking, please accept and consider the below comments from El Paso County, as you determine whether to implement the revisions outlined in the notice. Thank you for allowing us to share our perspective with you and we hope that you will give serious consideration to the alternatives being offered by impacted stakeholders.

El Paso County is now the largest county (by population) and one of the fastest-growing regions in the state. By the year 2040, the population of the Pikes Peak Region is projected to surpass one million residents. With rapid and sustained population growth comes unique transportation challenges. While we can all agree that there are more vehicles on Colorado roads and highways today than there were a decade ago, with more vehicle miles traveled (VMT), we do not think that the proposed revisions to the rules governing the statewide transportation planning process, in its current form, is the right approach for El Paso County or Colorado.

Greenhouse gas (GHG) emissions in the atmosphere are affected by a multitude of variables, such as prevailing weather patterns that regularly bring pollution to Colorado from other states, and even from other countries. Wildfires in neighboring states played an outsized role in the unhealthy air quality seen along the Front Range during the summer months and directly impacted air quality ratings across the state.

While we are willing to partner with the State of Colorado in its efforts to minimize the impact of GHG, we do not believe we should be held accountable to unknown data and assumptions put into a transportation model for greenhouse gases. Model results are informative at best and should not be used as a benchmark for attainment goals. Implementing rules based on this type of data can have serious implications for transportation planning efforts – one of those being that Colorado is expected to gain another 500,000 residents by 2030.

Compliance with the assumptions in the rulemaking will make it very difficult to plan and execute transportation projects that can both handle the increased volume of people, as well as comply with the state's climate goals laid out in the GHG Greenhouse Gas Pollution Reduction Roadmap. Transportation projects in the planning process should be "grandfathered" under this rulemaking and waivers granted with more flexibility around safety, operations, and maintenance issues related to compliance with these proposed standards.

Based on the statewide mandate to reduce GHG pollution, applying this rule to each MPO and region across the state, without consideration toward existing air quality and mitigation efforts, does not convey equitable application of the rule. While certain areas of the state are experiencing declining air quality, other regions have already implemented congestion reduction efforts and improved air quality to achieve attainment. The current rulemaking offers no recognition or credit towards these efforts for the areas which have worked hard to reach attainment.

The State of Colorado is behind in road spending and has been consistently ranked near the bottom nationwide in the amount of money going to roads. This has caused not only a backlog in projects but has also directly contributed to the traffic congestion we see and experience today. Locally, El Paso County needs more road miles to ease growing congestion and to plan for continued growth; not increased regulation that will result in a less safe and effective transportation system.

At a minimum, we would ask for a delay in implementation of this rulemaking to allow for additional time for review and comment on the proposal. If that is not feasible, we would then ask that you start with regions that are currently in non-attainment status. This is an unprecedented proposal and little information is available to understand the primary and secondary effects of this rulemaking. This leaves stakeholders, including El Paso County, unsure of what all the implications of this new policy will be and what the long-term impacts are to transportation planning efforts.

In addition to our comments, the below recommendations, authored by the Pikes Peak Area Council of Governments (PPACG), is supported by El Paso County. The comments focus on how the proposed rule can be improved to better address intent, with the shared desire to reduce emissions and improve air quality on a statewide basis.

1. **1.42 Regionally Significant Project** – The definition cited allows for the MPO to use a different definition if approved by the EPA. However, only MPOs in non-attainment would be required to have their definition approved by the EPA.

   Recommendation: Allow areas in Attainment to use the basic FHWA definition of all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel (with an emphasis placed on "offer an alternative to regional highway travel", meaning roadways that are functionally classified as State Highway and above in the federal functional classification system).

2. **8.02.1 Analysis Requirements** – It is our understanding that the rule requires the MPO to model TIP documents when they are first adopted for each of the horizon years. If we understand this correctly, there should be no change in results, as the modeling will be the same as when the long-range plan was first adopted. If the intent is to only model the projects included in the TIP against horizon year goals, this is meaningless unless greater direction is provided in the rule. Either way, the rule provides insufficient detail to apply to the adoption of TIP documents.

   Recommendation: Strike "TIP" from the definition of section 1.02 "Applicable Planning Document"

3. **8.02.2 Agreements on Modeling Assumptions** – This section requires the MPO to enter an IGA with CDOT on modeling assumptions. Currently, each region has the authority to make assumptions based on their region's size, population, and geographic and economic characteristics. Each MPO is different, and we feel it is inappropriate for CDOT, at the staff level, to inject itself into the MPO modeling process. For example, it is unlikely that PPACG staff would agree with CDOT on how the state is implementing the concept of "induced demand". While the rule makes it seem as if the MPO has a choice in the development of the IGA, the reality is that CDOT is not required to cooperatively develop the assumptions as the lack of an IGA would only harm the MPO.

Recommendation: Reword the section to remove the IGA requirement and have the MPO consult with CDOT on modeling assumptions. We believe that consultations are more consistent with the federal transportation planning guidelines.

4. **8.03 GHG Mitigation Measures** – We believe that this section is the key to making the rule workable in the long term. If the "credit" for implementing these activities is not meaningful, then, in concert with the sizable GHG reduction goals and CDOT modeling assumptions, federally funded capacity projects will be difficult if not impossible to program/implement.

   We understand that certain stakeholders may desire to eliminate future roadway capacity projects in the MPO areas. However, we believe that a de facto ban on capacity projects is bad public policy and in fact, could lead to more GHG through increased congestion and have the unintended consequence of directing future growth outside of the existing urban areas.

   Recommendation: Direct CDOT staff to develop a meaningful credit system that will allow important projects to move forward while at the same time promotes the implementation of mitigation measures that are appropriate as context-sensitive solutions to the needs of each MPO area.

5. **8.05.2.1 Waiver** – This section, and its subsections, allow for a waiver but then severely limits its application. We believe that it is bad public policy to have an appointed commission that cannot overturn decisions based on modeling, which is merely the output from a computer-based on human assumptions and interpretations of past data.

   Additionally, the rule allows the Transportation Commission to not act on a waiver request, which would automatically result in the denial of the request. We believe that this lacks transparency and accountability.

   Recommendation: At a minimum, the language that allows for waivers to be denied without action should be corrected to an automatic approval to encourage the Commission to act on each waiver request. Additionally, we would also recommend that the waiver section be rewritten to allow more human control and discretion over the waiver process (and not driven solely by model results).

Per PPACG, one last comment addresses something not currently included in the rule. The nature of federal funding is such that if projects have been started with federal funds (design, utility relocation, right-of-way acquisition, etc.), that project needs to be completed within 10 years, or the sponsoring jurisdiction is required to repay FHWA the funds expended to date. Although this may not be a pervasive issue, we anticipate the rule could impact such capacity projects, and we don't believe the canceling of projects already underway was the intent of the legislature when directing this rulemaking.

This could be addressed in the waiver process if it is adjusted to allow for the Transportation Commission to have greater flexibility. But if the PPACG recommendation on waivers is not accepted, we would strongly encourage that the Commission direct CDOT staff to draft additional language to address the need to "grandfather" capacity projects that have already expended federal funds and that are subject to repayment.

El Paso County appreciates the Transportation Commission's time and effort in reviewing this proposed rulemaking and we are hopeful the Commission will make the adjustments necessary for this rule to be more palatable for all parties involved.

Sincerely,

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse Gas Reduction Planning

1 me age

[redacted] Thu, Nov 4, 2021 at 4:20 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Good Evening,

After reading about the proposed transportation projects I had a question regarding the building materials
Since construction projects can produce a great deal of Greenhouse Gas emissions will sustainable materials be used in the proposed transportation projects?

I researched low/reduced carbon concrete and found that CDOT has used OneCem products previously for the C470 reconstruction project. I have attached the case study to this comment. I believe this could be a beneficial building material for future projects

Will similar products be used for the proposed transportation projects?

Thank you for your time and the opportunity to submit my comment

Very Respectfully,

[redacted]

OneCem Denver C470 Ca e Study pdf
1106K

BUILT WITH OneCem®

Keeping Denver on the Move with **OneCem** Portland Limestone Cement

Congestion on our roads has become a major national problem. The extra time needed for rush-hour travel has tripled over the last two decades and has cost Americans billions of dollars each year in lost wages, excess fuel consumption, and accidents. Constant stopping and starting in traffic jams negatively impacts the environment, as well, by increasing vehicle emissions that contribute to climate change.

When it comes to alleviating congestion on well-traveled routes, improving highway safety, and reducing environmental impacts, innovation matters. Compared to traditional asphalt pavement, high-performance concrete is the preferred choice for achieving a long service life, reducing maintenance requirements and lowering the carbon footprint of the transportation sector.

LAFARGE Holcim

The Challenge

Colorado State Highway 470 (C-470) is a vital transportation link connecting southwest Denver with Interstate 70. More than 100,000 vehicles each day travel along a 12.5-mile heavily congested corridor of the C-470 freeway, which is projected to be 30 percent over capacity by 2025. With traffic volumes forecast to increase 40 percent by 2035, correcting C-470 mobility deficiencies was an urgent need.

To relieve congestion along this stretch of C-470, the Colorado Department of Transportation (CDOT) initiated a massive reconstruction project that included new express and auxiliary lanes, reconfiguration of substandard curves and ramps, and other improvements. As with all large design-build projects, the C-470 work faced significant challenges. There was 688,000 cubic yards of soil to move, 233,000 square feet of MSE walls to build, 1.1 million square yards of concrete pavement to place, and 20 miles of barrier to install. Keeping the traveling public moving safely through the work zones was a top priority.

Given the scope of the C-470 project and its economic impact in environmentally minded Colorado, achieving high standards in concrete pavement quality, safety, and sustainable construction practices was of paramount importance to both CDOT and Castle Rock Construction Company.

The Solution

As part of its mission to continually improve its environmental performance, Colorado is committed to reducing emissions and promoting resource reuse in its transportation infrastructure. In support of this goal, CDOT relied on a variety of eco-friendly practices to reduce the environmental impact of C-470 construction activities. For example, all concrete removed during reconstruction was crushed and recycled on site into either Class 6 road base or concrete aggregate in the mix for the new pavement.

Another green approach involved the concrete mix design. At four strategically positioned plants at the jobsite, Castle Rock Construction produced concrete containing OneCem Portland Limestone Cement (PLC) and 20 percent Class F fly ash. Used seamlessly as a direct substitution for ordinary Portland cements, OneCem offers the same level of performance as Type I/II cements. Because it uses less clinker, carbon dioxide emissions are reduced by up to 10 percent per ton of cement. With 60,000 tons of OneCem used in the concrete, the reduced carbon footprint of the pavement was substantial.

"It [OneCem] also produced a consistent workable platform for the paver and a nice finish, eliminating delays due to problems of the mix in the equipment or reworking placement imperfections."

LAFARGE Holcim

Used in more than 30 projects by Castle Rock Construction over the past decade, OneCem has made significant contributions to improving the quality and sustainability of more than 900 lane miles of concrete pavement in Colorado. According to Amy Brooks, chief operating officer at Castle Rock Construction, the 9.5-inch pavement on C-470 was designed to last 30 years and the performance of the OneCem allowed the team to consistently surpass CDOT's strength requirements and durability goals. "It also produced a consistent workable platform for the paver and a nice finish, eliminating delays due to problems of the mix in the equipment or reworking placement imperfections."

The Results

The paving work on C-470 Express Lanes Project started in early 2017. The process of efficiently moving the traveling public through the work zones, keeping work crews going, and coordinating construction trucks in and out of the job site was a herculean effort.

Through some innovative thinking, Castle Rock Construction implemented various solutions to minimize construction delays and improve safety. For example, lack of room for a track line and string line due to phasing was solved by creating a new system to mount the string line directly on top of a temporary barrier wall. And to support paving operations for the middle segment of the project, a batch plant and conveyor system were built to transport concrete over the highway. This allowed the team to transport 6,000 truckloads of concrete to the paver and avoid taking those batch trucks in traffic.

C-470 construction also had an extremely demanding schedule and supply needs. "It was an ever-changing dynamic due to the phasing and other challenges of the work," said Brooks. "The Holcim team's logistics planning, flexibility, and responsiveness throughout the project were outstanding in ensuring we had on-time cement deliveries for an uninterrupted paving operation."

Now open to traffic, the new extended-life concrete lanes along this stretch of C-470 will offer broad and lasting benefits to Denver's transportation system, its economy, and environment for decades to come. With vehicles spread out over two extra lanes in each direction, motorists will enjoy a faster, safer, and more reliable commute with up to 18 minutes in travel-time savings.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG reduction rule making

1 me age

[redacted] Tue, Nov 9, 2021 at 10:49 AM

To: dot_rules@state.co.us

I am [redacted], a retired family phy ician and current co chair of the legi lative committee of the Colorado Sierra Club

I am encouraged that your proposed rule sets targets for reduction in Green House Gases and the co-pollutants of fossil fuel based transportation. Those co- pollutants, particularly PM2.5, without doubt increased the rates of diabetes, hyperten ion, heart di ea e and lung di ea e in the patient I aw during my long medical career erving patient in disproportionately impacted communities. Increased cancer rates have also been tied to the pollutants of fossil fueled based transportation. It is high time that we mitigate the impacts of our decades long pattern of siting high capacity fossil fuel based transportation projects in these same communities.

The targets that you are setting must be verifiable, particularly the targets around reducing VMT and pollutants that affect health. Disproportionately impacted communities must quickly see changes in the availability of multimodal transportation that truly is convenient, free, inexpensive, frequent and truly makes their lives easier. They must be able to review and comment on planned mitigation approache and their comment mu t be taken eriou ly and met with change in planned projects that meet their needs.

The Colorado Sierra Club stood firm last year in calling for equity provisions in SB260 that would decrease the continued impact of polluting tran portation project on DIC

It is time for the Colorado Department of Transportation to step up and put into rule long and short term planning that will truly decrease GHGs and co-pollutants for all of Colorado and be sure that a spirit of equity and pro-active concern for previou ly adver ely affected communitie guide all their deci ion going forward

Thank you for the opportunity to comment on your proposed GHG Reduction Rules.

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

NFRMPO Comments on Updated GHG Rule

1 me age

[redacted] Tue, Nov 9, 2021 at 12:46 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc [redacted]

Good afternoon,

Please see the attached letter which presents the comments of the North Front Range Metropolitan Planning Organization (NFRMPO) on the Transportation Commission's (TC's) updated proposed revision to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions.

Thank you,

[redacted]

Transportation and Air Quality Planner III

[redacted]

North Front Range Metropolitan Planning Organization

[redacted]

[redacted] **GHG Comment 11 5 2021 igned pdf**
458K

North Front Range Metropolitan Planning Organization

Date: November 5, 2021

To: Director Shoshana Lew, Hearing Officers Andrew Hogle and Christine Reece, and Transportation Commissioners (via email to dot_rules@state.co.us)

From: North Front Range Metropolitan Planning Organization (NFRMPO)

Re: NFRMPO Comments on the Updated GHG Rule

Introduction

Thank you for the opportunity to submit public comment on the Transportation Commission's (TC's) proposed revision to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions which identifies a process for addressing greenhouse gas (GHG) emissions and sets GHG standards for transportation plans. The North Front Range Transportation & Air Quality Planning Council, also known as the NFRMPO, is comprised of 15 elected officials representing portions of Larimer and Weld counties. As a Metropolitan Planning Organization (MPO), the NFRMPO will be responsible for demonstrating compliance with the proposed rule and NFRMPO staff have engaged extensively in the stakeholder process conducted by the Colorado Department of Transportation (CDOT) that began in January 2021.

The NFRMPO strongly supports development of a **data-driven, feasible, and effective rule** to reduce GHG emissions resulting from implementation of transportation plans. This comment letter supplements the comments submitted previously by the NFRMPO and addresses the updated rule released by CDOT on October 19, 2021. The previously submitted comments, which the NFRMPO still supports, include:

- Round 1 redline edits - submitted on September 8, 2021
- Letter requesting data and at least 30 days of public comment following release of the data to allow for data-driven comments and development of a data-driven rule – submitted on September 13, 2021
- Substantive comments on the original rule proposal and Round 2 redline edits – submitted on October 11, 2021

The NFRMPO appreciates the extension of the public comment period for this rulemaking. As explained in the comment letter the NFRMPO submitted on September 13, 2021, there are four datasets that should be released during the public comment period to allow fully informed decision making and meaningful stakeholder involvement, all of which had been requested by the NFRMPO in July and/or August, prior to sending the letter. Most of the requested datasets have been provided to the NFRMPO; however,

corrections to the GHG Reduction Levels have not been provided.[1] In addition, the NFRMPO identified concerns regarding the Cost Benefit Analysis (CBA) in the comment letter submitted on October 11, 2021, and NFRMPO staff have raised additional concerns on the CBA assumptions with CDOT staff, none of which have been addressed. We strongly encourage CDOT to resolve these requests and make the information available to the public as soon as possible and prior to the conclusion of the public comment period.

For additional information on the provisions of the proposed rule and analysis of relevant datasets informing the NFRMPO's recommendations, recordings of four presentations by NFRMPO staff are available at https://nfrmpo.org/air-quality/ghg-rulemaking/. These recordings are available as a resource for decision makers and stakeholders who wish to develop a greater understanding of the proposed rule and its implications.

Recommended Improvements

There were 13 recommendations to improve the clarity, effectiveness, and feasibility of the proposed rule which were submitted by the NFRMPO on October 11, 2021. As indicated in **Table 1**, most of these recommendations were **not** incorporated into the updated proposal released by CDOT on October 19, 2021. The NFRMPO continues to support all submitted recommendations and associated redline edits; please refer to the NFRMPO's letter submitted on October 11, 2021 for information on all 13 original recommendations. Some of the unimplemented recommendations are repeated in this letter with additional clarifications or new supporting analysis.

In addition to continuing to support the 13 original recommendations, the NFRMPO has identified three additional recommendations which are listed below and described in full in this letter. Because of the substantial number of recommendations for the proposed rule, the NFRMPO has identified four recommendations as critical for improving the rule. **These four critical recommendations are marked with a blue highlight and the NFRMPO strongly encourages the Transportation Commission to consider and implement these critical improvements to the rule.** See the bulleted lists below for the three new recommendations and the four critical recommendations, and please see the remainder of this letter for an explanation of these recommendations.

New recommendations:

- **Recommendation 14: Remove Requirement for TC to Consider Revising the Rule based on Changes in VMT per Capita**
- **Recommendation 15: Remove GHG Mitigation Measure principles from the Rule Preamble**
- **Recommendation 16: Clarify How Plans can Demonstrate Compliance with GHG Reduction Levels for Compliance Years Beyond the Plan's Horizon Year**

[1] The reason this correction is important for developing data-driven comments is described in the NFRMPO's comment letter dated September 13, 2021, which is available on pages 61-63 at https://www.codot.gov/business/rules/documents/08_redacted-written-comment_ghg-pollution-standard-10-22-21.pdf.

Critical Recommendations:

- **Recommendation 3: Develop Practicable GHG Reduction Levels**
- **Recommendation 6: Expand Implementers of GHG Mitigation Measures**
- **Recommendation 7: Include Operations Strategies in the GHG Mitigation Measures**
- **Recommendation 14: Remove Requirement for TC to Consider Revising the Rule based on Changes in VMT per Capita**

The NFRMPO is not submitting comments on the Draft "GHG Mitigation Policy Overview" or the Draft "Greenhouse Gas Modeling Process" in this letter but plans to engage with CDOT on the development of these documents outside of this rulemaking.

Table 1: Status of NFRMPO Submitted Recommendations in the Updated Proposed Rule

NFRMPO Recommendation		Status in Updated Proposed Rule
1	Remove or Update GHG Baselines	Implemented
2	Set Per Capita GHG Reduction Levels	**Not Implemented**
3	Develop Practicable GHG Reduction Levels	**Not Implemented**
4	Correct Errors in GHG Reduction Levels	In Progress
5	Require Reassessment of GHG Reduction Levels	**Not Implemented**
6	Expand Implementers of GHG Mitigation Measures	**Not Implemented**
7	Include Operations Strategies in the GHG Mitigation Measures	**Not Implemented**
8	Require a Vote of the TC to Deny Waiver and Reconsideration Requests	Implemented
9	Remove or Modify Requirement for TIPs	**Not Implemented**
10	Remove Restrictions on CMAQ-Funded Projects	**Not Implemented**
11	Allow Non-Regionally Significant Projects Funded with STBG to Proceed	**Not Implemented**
12	Additional Clarifications to Processes	**Partially Implemented**
13	Clarify and Update Assumptions in the Cost-Benefit Analysis	In Progress

2. Set Per Capita GHG Reduction Levels

Original Comments:

The GHG Reduction Levels in Table 1 of the proposed rule were developed based on current MPO boundaries and current projections for population and employment growth, both of which are subject to change. MPOs may choose to expand their planning area or may be required to expand their planning area due to updates to Urbanized Areas after a Decennial Census. Per federal planning requirements, MPOs obtain the latest population and employment growth forecasts prior to updating the long-range transportation plan. The updated forecasts may be higher or lower than the previous forecast.

The NFRMPO recommends the rule account for these two sources of change by setting GHG Reduction Levels on a per capita basis, thus allowing the GHG Reduction Levels to remain relevant regardless of changes to MPO planning area boundaries and growth forecasts. The per capita approach is used in

California, under SB 375, which requires MPOs meet GHG reductions in terms of percentage reductions in per capita emissions compared to 2005 levels.[2]

Additional Comments:
This recommendation is still important even with the removal of the baseline projections in the updated proposal. Without accounting for emissions per capita, the GHG Reduction Levels in the rule will be easier or more difficult to achieve as population forecasts are updated and boundaries change.

3. Develop Practicable GHG Reduction Levels **CRITICAL COMMENT**

Original Comments:
The GHG Reduction Levels in the proposed rule were developed from "illustrative policy choice packages"[3] intended to represent feasible reductions related to transportation policy/investment choices available to MPOs and CDOT. Some of the policy choices informing the GHG Reduction Levels include measures that are not within the control of MPOs or CDOT and/or reflect market forces instead of policy choices, such as:

- Changing land use to be more transportation-efficient. According to the CBA, this strategy is "assumed to be achieved mainly through the operation of market forces."[4] In addition to assuming the strategy will be implemented without any substantive policy changes, authority over land use decisions in the State of Colorado belongs to counties and municipalities, not to MPOs or CDOT. While there are some limited opportunities for MPOs and CDOT to encourage adoption of land use and zoning codes to reduce reliance on driving, such as through revised requirements or scoring criteria in Calls for Projects, these efforts should count in the GHG Mitigation Measure process instead of being factored into the GHG Reduction Levels. An additional benefit of removing the land use assumptions from the GHG Reduction Levels is it ensures the benefits from the two land use-related transportation strategies in the GHG Roadmap are not double counted (i.e. Indirect Source Rule and land use incentives).
- Increasing the share of workers teleworking by a factor of 3, from 6.3% to 18.9%. According to the CBA, this strategy "reflect[s] a continuation of trends observed during the COVID pandemic."[5] In addition to assuming the strategy will be implemented without any substantive policy changes, MPOs and CDOT do not have the authority to require employers to offer telework. Instead, the role of MPOs and CDOT is limited to providing information and grants to support telework efforts, the potential impact of which would be much less than tripling telework rates statewide.
- Expanding broadband access from 82.6 percent of households (as of 2019) to 97 percent of households by 2030, thus allowing households with new access to broadband to replace 10 percent of personal business trips such as banking or medical appointments with teletravel. The CBA states this strategy is anticipated to be implemented with federal and State funds and through the efforts of the Colorado Broadband Office.[6]

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[2] California Air Resources Board, "SB 375 Regional Plan Climate Targets", accessed on 10/4/2021 at https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets.
[3] CDOT, Cost-Benefit Analysis For Rules Governing Statewide Transportation Planning, 8/31/2021, accessed from https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf, page 2.
[4] IBID, page 15.
[5] IBID, page 18.
[6] IBID, page 12.

- Revising State health care regulations to permit or encourage more telehealth visits to the degree feasible and appropriate.[7]
- Expanding transit service by 151 percent between 2019 and 2050[8] (as compared with a population growth forecast of around 50 percent) and reducing transit fares by 50 percent.[9] Strategies to expand transit service and reduce transit fares are more closely related to the strategies available to MPOs and CDOT than the strategies listed above, but there are important caveats. MPOs and CDOT work cooperatively with transit agencies in the metropolitan and statewide planning process, respectively; however, service expansion and transit fare decisions are ultimately determined by each independent transit agency. Providing funding to transit agencies to expand transit service and reduce transit fares is a possibility through CDOT. In contrast, MPOs are severely restricted in the funding they can provide to transit agencies for those two strategies. None of the federal funding programs available through MPOs can provide ongoing transit fare subsidies and none can provide ongoing funding for transit operations.[10]

CDOT developed three scenarios to assess feasible ranges of GHG Reductions. The proposed rule uses the "Travel Choices + Transit + Land Use" scenario to set the GHG Reduction Levels, which is a collectively exhaustive list of all tested strategies, including the strategies listed previously that are assumed to occur through market forces and/or are not within the control of MPOs or CDOT. Instead of using the "Travel Choices + Transit + Land Use" scenario to set the GHG Reduction levels, the NFRMPO recommends setting the GHG Reduction Levels using policies and investment choices available to MPOs and CDOT, not on strategies outside their control or changes anticipated to occur through market forces.

Additional Comments:

The strategies identified above, which the NFRMPO still contends should be removed from the model scenario used to set the GHG Reduction Levels, are strategies that can be effectively implemented by mechanisms outside of the proposed rule. For example, the transportation-efficient land use strategy is addressed through two separate strategies in the GHG Roadmap that are both in development, including incentivizing land use to increase housing near jobs and the proposed Indirect Source Rule. Other strategies have clear implementers, as stated in the CBA, such as the Colorado Broadband Office for the expansion of broadband and State health care regulators for the expansion of telehealth trips.

Regarding the transit expansion strategy, upon review of the Energy and Emissions Reduction Policy Analysis Tool (EERPAT) documentation and the EERPAT_Scenario_Inputs.xlsx file provided by CDOT the NFRMPO is concerned the strategy is assuming a 151 percent increase in transit service *per capita*, not a 151 percent increase in transit service. When combined with an anticipated population growth of 50

[7] IBID.

[8] IBID, page 20.

[9] Permanent Rulemaking Exhibits, "Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions," GHG Pollution Standard GHG Reduction Targets & GHG Policy Paper, 7/13/2021, Exhibit 8, accessed on 10/4/2021 at https://www.codot.gov/business/rules/documents/00_2ccr60122_exhibits_redacted.pdf, See page 275.

[10] The Congestion Mitigation and Air Quality (CMAQ) program allows intermittent or limited funding for these strategies, including fare subsidies only during ozone action days and transit operations funding for new service for up to five years. The Surface Transportation Block Grant (STBG) program cannot subsidize transit fares or fund transit operations.

percent statewide, the resulting increase in transit service is 276 percent over 2019 levels, equivalent to a 3.76-fold increase. This level of increase is unprecedented. As shown in the redacted exhibits, a CDOT presentation notes transit service (specifically, vehicle revenue miles) increased by a factor of 1.75 between 2000 and 2019, while the scenario CDOT tested increased transit service by a factor of 2.3 between 2022 and 2050.[11] A 2.3-fold increase is less than the 151 percent increase described in the CBA and less than the 3.76-fold increase calculated based on the EERPAT input files and projected statewide population growth. CDOT should clarify if the transit expansion growth of 151 percent is per capita or total and ensure the operations costs identified in the CBA align with the projected growth in service.

In addition, the transit expansion strategy does not account for reduced transit service and reduced transit ridership due to COVID. These impacts are substantial and transit providers in the North Front Range are experiencing 20 to 60 percent reductions in ridership compared to pre-COVID levels. The transit expansion strategy should be revised to consider impacts from COVID to enable realistic assumptions about transit service and transit ridership.

6. Expand Implementers of GHG Mitigation Measures **CRITICAL COMMENT**

Original Comments:

The proposed rule defines GHG Mitigation Measures as "non-Regionally Significant Project strategies *implemented by CDOT and MPOs* that reduce transportation GHG pollution" (See §1.19, emphasis added). However, the illustrative examples of GHG Mitigation Measures in §8.03 of the proposed rule include several measures that cannot be implemented by MPOs, such as:

- Adding transit resources to displace VMT (see page 8 of this comment letter),
- Adopting parking policies, and
- Establishing clean construction policies.

The NFRMPO recommends the rule not restrict implementers of GHG Mitigation Measures to only CDOT and MPOs. Many of the illustrative examples of GHG Mitigation Measures are implemented by transit agencies and local governments and the efforts of those entities should count toward the region's transportation GHG emissions reductions targets.

Additional Comments:

The proposed rule creates a distinction between implementers of non-regionally significant projects and implementors of regionally significant projects without any legitimate basis for the distinction. Regionally significant projects must be included in the MPO Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP) regardless of which entity is sponsoring the project. In many cases, regionally significant projects are sponsored by local governments. Conversely, the rule restricts implementers of GHG Mitigation Measures to only CDOT and MPOs and does not provide credit to projects implemented by local governments that could otherwise be considered as GHG Mitigations. The NFRMPO continues to recommend expanding the implementers of GHG Mitigation Measures to additional entities; and specifically recommends agencies required to be consulted during the planning process as specified in CFR 23 §450 be considered eligible implementers of GHG Mitigation Measures.

[11] Permanent Rulemaking Exhibits, "Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions," GHG Pollution Standard GHG Reduction Targets & GHG Policy Paper, 7/13/2021, Exhibit 8, accessed on 10/4/2021 at https://www.codot.gov/business/rules/documents/00_2ccr60122_exhibits_redacted.pdf, See page 275.

7. Include Operations Strategies in the GHG Mitigation Measures **CRITICAL COMMENT**

Original Comments:

The illustrative examples of GHG Mitigation Measures in §8.03 of the proposed rule should include representative examples from the full range of strategies available to CDOT and MPOs to reduce GHG emissions from transportation, including operations strategies. As explained on page 4 of this comment letter, the CAA includes operations improvement strategies in the list of TCMs, and the CAA's TCMs should serve as a template and resource for the State's GHG rule.

Specifically, the NFRMPO recommends adding the following example to the illustrative list of GHG Mitigation Measures in §8.03 of the proposed rule:

> "Implementing or encouraging the implementation of operations improvements such as ramp metering, signal timing, intersection improvements, access control plans, anti-idling programs, incident management, and Intelligent Transportation Systems (ITS) strategies that result in GHG reductions."

Additional Comments:

The preamble of the updated proposed rule states "capacity expansion or technology measures that primarily benefit the flow of vehicular traffic without improving alternatives to driving single occupancy vehicles are not allowable for the purposes of approved mitigation." However, there is no technical basis for this decision provided in any of the rule's supplementary documents or in the rule itself. As noted in the Draft GHG Mitigation Policy Overview, these types of improvements can "reduce idle time in traffic, which --particularly for less efficient vehicles -- can reduce per vehicle emissions, though they also allow for the flow of more traffic, which can cause greater total emissions."[12] Because the net effect on GHG emissions vary based on the project type and the context for implementation, it is important for decisions on projects to be data driven and reflect the totality of anticipated impacts. The rule ought to follow the footsteps of the Clean Air Act (CAA), which identifies a wide range of transportation strategies that reduce emissions. The CAA includes 16 strategies, called Transportation Control Measures (TCMs), which reduce emissions by one of three mechanisms (emphasis added):

- reducing VMT (e.g., trip-reduction ordinances, improved public transit),
- improving operations (e.g., programs to control extended idling in vehicles, traffic flow improvement programs *that achieve emission reductions)*, or
- fleet improvements (e.g., programs to voluntarily remove pre-1980 vehicles from use).[13]

As with the CAA, the GHG rule should allow for operations improvements to count as GHG Mitigation Measures *as long as they achieve emission reductions*, which will be determined through appropriate modeling. Ensuring that all the tools in the toolbox are available to address GHG emissions from transportation will enable MPOs and CDOT to more effectively reduce GHG emissions.

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[12] CDOT, GHG Transportation Planning Standard: Mitigation Policy Overview, October 19, 2021, accessed on November 3, 2021 at https://www.codot.gov/business/rules/documents/draft-ghg-transportation-planning-standard-mitigation-policy-directive-10-19-21.pdf/.

[13] Clean Air Act, 42 U.S.C. §7408(f) (1990).

11. Allow Non-Regionally Significant Projects Funded with STBG to Proceed

Original Comments:

As explained in Recommendation #10, the proposed rule imposes restrictions on the types of projects eligible to receive CMAQ, STBG, and some 10-year Plan funds in the event the GHG Reduction Levels cannot be achieved. The 10-Year Plan fund restriction in the proposed rule applies only to regionally significant projects, whereas the CMAQ and STBG restriction applies to all projects. STBG funding is awarded to projects that meet needs identified in the federally required metropolitan planning process, such as safety, mobility, and operations.

The NFRMPO recommends non-regionally significant projects funded with STBG, such as important safety and operations improvements, be able to proceed without a waiver in the event the GHG Reduction Levels cannot be achieved, similar to non-regionally significant projects funded with the State's 10-Year Plan funds.

Additional Comments:

In the updated proposal, MPO areas that cannot achieve the GHG Reduction Levels will have all 10-Year Plan funds restricted to projects or GHG Mitigation Measures that reduce GHG emissions instead of only restricting the portion of 10-Year Plan funds anticipated to go toward regionally significant projects, as originally proposed. However, the updated proposal retains the allowance of non-regionally significant projects to proceed in non-MPO areas in the event the non-MPO area cannot achieve the GHG Reduction Levels. Important safety and maintenance projects occur in both rural and urban areas, and all areas of the State should be able to advance non-regionally significant projects without receiving a waiver from the Transportation Commission.

12. Additional Clarifications to Processes

Original Comments:

There are a variety of other process clarifications recommended in the attached redline, including, but not limited to the following:

- Allowing a waiver to be requested at any time, including concurrently with the submission of a GHG Transportation Report.
- Allowing up to sixty (60) days to submit a request for reconsideration instead of thirty (30) days.
- Clarifying which projects are subject to funding restrictions based on project implementation status.
- Allowing conflicts to be resolved through the Governor, similar to the process used in federal air quality conformity.
- Clarifying the timing and requirements of the Mitigation Action Plan.
- Ensuring the APCD Verification is available to the TC.
- Streamlining the Annual Status Report on GHG Mitigation Measures by allowing measures to be grouped.
- Identifying additional responsibilities for the State Interagency Consultation Team.
- Requiring TC Action on GHG Transportation Reports within sixty (60) days, instead of allowing an unlimited time for TC Action.

Additional Comments:
Many of the process clarifications the NFRMPO suggested were implemented in the updated proposed rule. Two of the process clarifications were partially implemented and two were not implemented.

In the updated proposal, there are internal conflicts regarding the two partially implemented process clarifications. These two clarifications include a) allowing a waiver to be requested at any time, including concurrently with a GHG Transportation Report, and b) allowing up to sixty (60) days to submit a request for reconsideration instead of thirty (30) days. In the updated proposal, the rule specifies a limit of sixty (60) days for both waivers and reconsiderations in §8.05.2 while specifying no time limit for waivers in §8.05.2.1.2 and a thirty (30) day limit for reconsiderations in §8.05.2.2. The NFRMPO recommends updating §8.05.2 and §8.05.2.2 as follows:

> 8.05.2 If the Commission determines, by resolution, the requirements of Rule 8.02.6 have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02.6.1.1 or 8.02.6.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG. Prior to the implementation of such restriction, an MPO, CDOT (upon concurrence with the applicable MPO) or a TPR in a non-MPO area, may~~, within sixty (60) days of Commission action,~~ pursue one or both of the following actions: seek a waiver or ask for reconsideration accompanied by an opportunity to submit additional information:
>
> 8.05.2.2 Request reconsideration of a non-compliance determination by the Commission and provide a written explanation of how the requirements of Rule 8.02.65 have been met. A request for reconsideration must be submitted within ~~thirty (30)~~ sixty (60) days of Commission action.

The NFRMPO continues to support the other two process clarifications that were not implemented in the updated proposal, including:

- Allowing conflicts to be resolved through the Governor, similar to the process used in federal air quality conformity; and
- Streamlining the Annual Status Report on GHG Mitigation Measures by allowing measures to be grouped.

13. Clarify and Update Assumptions in the Cost-Benefit Analysis

Original Comments:
The Cost-Benefit Analysis is an important resource for the proposed rule by providing an explanation of the policy choices included in the scenario selected to set the GHG Reduction levels and by assessing the costs and benefits of the proposed rule. The NFRMPO suggests clarifying the following assumptions in the CBA:

- The CBA identifies the total cost of projects in the five MPOs' long-range plans and CDOT's 10-Year Plan for 2022 through 2050 as $28B in 2021 dollars. This value is well below the sum of expenditures identified in the NFRMPO's 2045 RTP and DRCOG's 2050 RTP, which exceeds $100B. The CBA should clarify which project types were used to calculate the $28B cost. The CBA should also be updated to clarify that long-range plans are federally required to be fiscally constrained and to account for the cost of operations and maintenance.

- Several of the Tables in Appendix A: Detailed Analysis of Economic Benefits and Costs, appear to have sufficient explanations in the associated "basis for cost estimates" section to calculate the costs displayed in the associated table; however, NFRMPO staff have been unsuccessful in calculating the costs displayed in the table using the provided information. In each case, the values calculated by NFRMPO staff using the information in the "basis for cost estimates" result in costs that are 2.4 to 3.7 times higher than the costs displayed in the associated table. The CBA should be updated to clarify the "basis for cost estimates" and/or correct any errors in the identified costs.
- Several of the unit costs appear to be too low and rely on out-of-state or nationwide sources that may not apply to Colorado. For example, the CBA uses a unit cost of $170,000 per mile for new or replaced sidewalk sourced from the Florida Department of Transportation (FDOT). For Colorado, a report from CoPIRG Foundation and Southwest Energy Efficiency Project (SWEEP) identifies costs of $282,691 per mile of new sidewalk and $192,931 per mile of replaced sidewalk.[14]
- The CBA does not account for the costs of transit electrification or the costs of reducing transit fares but still references these strategies as included in the scenarios and therefore in the GHG Reduction Levels. It appears the benefits of transit electrification and reducing transit fares are included in the rule and CBA without accounting for their costs.
- The CBA estimates cost savings from improved safety by assuming fatality and injury motor vehicle crashes are "reduced in proportion to VMT reduced".[15] This assumption fails to consider the alarming increase in traffic fatalities that occurred concurrently with substantial reductions in VMT in 2020. According to the National Highway Traffic Safety Administration, early data indicate traffic fatalities increased 7.2 percent from 2019 to 2020 in the U.S. even as VMT decreased by an estimated 13.2 percent nationwide over the same time period.[16] The increase in fatalities is suspected to be due in part to speeding occurring when fewer vehicles are on the road.[17] The CBA should be updated to provide a more realistic estimate of the impacts of reduced VMT on safety and/or consider the costs of the necessary street calming efforts to ensure improved safety can be delivered concurrently with reduced VMT.

[14] CoPIRG and SWEEP, "Colorado's Transit, Biking & Walking Needs Over The Next 25 Years," August 2016, accessed on 10/4/2021 at https://copirgfoundation.org/sites/pirg/files/reports/COPIRG%20Transit%20Report_Screen.pdf. The report identifies costs of $36.54 per linear foot of sidewalk and $34.64 per linear foot of curb and gutter, which are assumed to be required in 50 percent of new sidewalks.

[15] CDOT, Cost-Benefit Analysis For Rules Governing Statewide Transportation Planning, 8/31/2021, accessed from https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf, page 26.

[16] NHTSA, "2020 Fatality Data Show Increased Traffic Fatalities During Pandemic", 6/3/2021, accessed on 10/4/2021 at https://www.nhtsa.gov/press-releases/2020-fatality-data-show-increased-traffic-fatalities-during-pandemic.

[17] Minor, Nathaniel. "Colorado's Roads are Emptier, But Deadlier So Far This Year," 9/2/2021, accessed on 10/4/2021 at https://www.cpr.org/2020/09/02/colorados-roads-are-emptier-but-deadlier-so-far-this-year/.

Additional Comments:
To expand upon the NFRMPO finding that many of the strategy costs reported in the CBA appear lower than what is calculated by following the methodology listed in the CBA, **Table 2** shows the costs estimated by the NFRMPO for each strategy, which add up to a total cost of $18.8B. The NFRMPO used the methodology identified in the CBA except where noted in the "Method Notes" column. Costs for some strategies were not estimated by the NFRMPO due to lack of methodology information in the CBA. In those cases, the reported costs from the CBA were used to calculate the total cost estimated by the NFRMPO. **The total cost estimated by the NFRMPO is four times higher than cost reported in the CBA.** The NFRMPO recommends CDOT clarify and update the CBA to address these cost discrepancies.

Table 2: NFRMPO Calculation of Costs by Strategy

Strategy	Cost Reported in CBA	Cost Estimated by NFRMPO Using CBA Methodology	NFRMPO Method Notes
Household-Based Trip Reduction	$35M	Not estimated	
Teletravel	$3M	$5M	
Sidewalk Repair/Expansion	$431M	$1.122B	
Bicycle Facility Expansion	$195M	$688M	
Sidewalk and Bike Facility Maintenance	$1.253B	Up to $3.347B	The CBA does not specify the ratio of sidewalk repair to sidewalk expansion, and maintenance costs of repaired sidewalk should not be counted. The NFRMPO estimate is the high-end assuming 0 percent repair.
E-Bicycles	$16M	Not estimated	
Transit Vehicle Expansion	$1.02B	$2.4B	The NFRMPO accounted for the cost of replacing new buses after they reach the end of their useful life, using an assumed useful life of 15 years.
Transit Operations	$3.293B	$12.094B	
Transit Fare Revenue	($1,826B)	($912B)	The NFRMPO accounted for the 50 percent fare reduction assumed in the modeling.
Land Use	$39M	Not estimated	
Total Cost	**$4.459B**	**$18.843B**	

14. Remove Requirement for TC to Consider Revising the Rule based on Changes in VMT per Capita **New** and **CRITICAL COMMENT**

As noted in the NFRMPO's comment letter submitted on October 11, 2021, SB260 requires CDOT to establish procedures and guidelines to *reduce* GHG emissions from transportation. SB260 also requires the procedures and guidelines *to account* for impacts of transportation capacity projects on Vehicle Miles Traveled (VMT) but does not require reductions in VMT. The proposed rule must remain razor

focused on the reduction of GHG emissions from transportation and any requirement to reconsider the provisions of the rule should be tied to GHG emissions, not to elements of the transportation system which do not have a 1:1 correlation to GHG emissions. VMT is one of many factors that impact GHG emissions from transportation, and reductions in VMT will not lead to reductions in GHG emissions if they are accompanied by increases in congestion that result in net increases in pollution.

15. Remove GHG Mitigation Measure principles from the Rule Preamble **New**

The GHG Mitigation Measure principles listed in the Rule Preamble differ from the principles listed in the GHG Mitigation Policy Overview in two important respects and it is unclear which set of principles CDOT intends to advance.

- In the first instance, the principle titled "Valuing Benefits to Disproportionately Impacted Communities" in the preamble states "[t]o that end, mitigation investments are an important opportunity to provide localized benefit to disproportionately impacted communities" while the GHG Mitigation Policy Overview states "[t]o that end, this policy shall include a methodology for crediting projects that achieve greater localized benefit to disproportionately impacted communities."
- In the second instance, in the principle titled "Holistic Air Quality Planning", the Preamble states "This principle is especially important for ensuring that disproportionately impacted communities that have often, historically, borne a significant share of the negative impacts of highway projects, are able to achieve direct project benefits associated with meeting mitigation requirements." The GHG Mitigation Policy Overview, however, does not include that sentence in the definition of the principle.

The principles identified in the Preamble to the Rule could require much more extensive modeling efforts during the long-range planning process and overly restrict the types of projects eligible for reducing GHG emissions. The NFRMPO recommends removing the principles from the Preamble to the Rule and addressing these principles through a public process and through a Policy Directive.

16. Clarify How Plans can Demonstrate Compliance with GHG Reduction Levels for Compliance Years Beyond the Plan's Horizon Year **New**

The proposed rule requires Plans to meet GHG Reduction Levels in each of the four compliance years, as long as the compliance year is not in the past but does not clarify how plans that do not include a future compliance year within the planning horizon can demonstrate reductions for those future years. For the NFRMPO, the current RTP has a horizon year 2045 and the NFRMPO is required to update this plan by October 1, 2022 in compliance with this proposed rule or restrictions will be imposed on Multimodal Transportation and Mitigation Options Funds (MMOF). Without having projects or funding identified for 2046 through 2050, it is unclear how an update to this Plan can demonstrate reductions in 2050 compared to the currently adopted 2045 RTP. This issue also applies to CDOT because the proposed rule applies to the 10-Year Plan but still requires CDOT to demonstrate reductions for compliance years beyond the horizon of the 10-Year Plan.

Conclusion

The NFRMPO recognizes the importance of reducing GHG emissions resulting from the implementation of transportation plans and contends that setting GHG reductions at feasible levels will provide meaningful contributions to the State's GHG reduction goals. In addition to helping to achieve GHG reductions, the proposed rule would also provide co-benefits by reducing ozone precursor emissions and expanding transportation options.

The NFRMPO appreciates the time and effort CDOT staff has committed to developing a rule to reduce GHG emissions resulting from implementation of transportation plans. We respectfully request the Hearing Officers, TC Ad Hoc Committee, and the TC consider the enclosed recommendations as well as all recommendations submitted previously. The NFRMPO looks forward to continuing the collaboration with CDOT staff in the development of this rulemaking and in subsequent implementation efforts. If you have any questions, please contact Medora Bornhoft at mbornhoft@nfrmpo.org.

Sincerely,

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments on GHG Rulemaking from Douglas County Transportation Forum

1 me age

Tue, Nov 9, 2021 at 4:15 PM

To: [redacted]

Hello Eula, Rebecca, and Herman,

Please find enclosed a memo with comments from the Douglas County Transportation Forum regarding the current Greenhouse Gas (GHG) Rulemaking. We appreciate the opportunity to submit our written comments to CDOT Transportation Commission concerning this important matter; and we look forward to your response and addressing our concerns and suggestions. I hope that we have submitted these comments to the appropriate persons and to the correct GHG rulemaking email link which we sent to dot_rules@state.co.us

If you have any questions or need clarifications regarding our comments, please contact [redacted] or myself at [redacted]

Sincerely,

[redacted]

[redacted]

DC Transportation Forum Technical Working Group Chair

GHG-rulemaking-DC-Forum-Chair-signed-11-09-2021-submitted.pdf
794K

Memorandum

Date: November 4, 2021

To: Colorado Transportation Commission
2829 West Howard Place
Denver, CO 80204

Sent Via Email Submittal to: **dot_rules@state.co.us**

Subject: Statewide Transportation Planning Process - Greenhouse Gas Rulemaking

Dear Chair Hall and other Transportation Commissioners,

On behalf of the **Douglas County Transportation Forum Steering Committee**, which is comprised of elected officials from the City of Castle Pines, City of Lone Tree, the City of Littleton, the Town of Castle Rock, Town of Larkspur, Town of Parker, and Douglas County, I am writing you to provide comments on proposed rulemaking / revisions to 2 CCR 601-22 to establish greenhouse gas reduction as it pertains to the transportation planning process.

In 2021, The Colorado Department of Transportation (CDOT) announced a new transportation planning rulemaking to curb existing and future greenhouse gas (GHG) emissions with consideration given to the Colorado Greenhouse Gas Pollution Reduction Roadmap and based upon the recommendations of House Bill 19-1261 and Senate Bill 21-260. The Denver Regional Council of Governments (DRCOG) staff has been tracking the proposed rules and has been meeting with CDOT related to such. Additionally, DRCOG Board sent a letter to CDOT, (dated October 7, 2021), regarding rulemaking (see attached); and the purpose of this letter is to expand on their comments, adding concerns of the **Douglas County Transportation Forum**.

There are several key provisions within the current GHG rulemaking, as well as potential mitigation measures that would be determined by CDOT through a separate process in the spring/summer of 2022. It is unclear at this time how these mitigation measures will be selected, measured, and managed overall by CDOT. It is also unclear what role DRCOG will have in establishing these mitigation measures and how these measures will influence DROCG's Transportation Improvement Program (TIP) project selection process or its other call for projects at both the regional and subregional forums.

The members of the **Douglas County Transportation Forum** certainly understand the issues associated with GHG emissions and its environmental impacts; and it's from that perspective that our local agencies plan for and deliver a variety of transportation projects that are largely emission-reducing in nature and multimodal-focused. Our local agency projects consistently improve safety, reduce congestion, improve traffic operations, are supportive of transit and first / last mile connections, and we often implement standalone pedestrian, bicycle, ITS projects. Furthermore, **Douglas County Transportation Forum** fully supports increasing transportation choices and options for the movement of people, goods, and services through our communities and the region.

While fully supporting the goal of reducing GHG emissions, this rulemaking and decision process causes concern for **Douglas County Transportation Forum** members. Including local government representation in the overall management and administration of the mitigation process is paramount; and there is some concern with what future role CDOT might have in the determination of land use decisions. The following is a list of our other major concerns / comments and items that require additional information regarding the GHG rulemaking for your consideration:

- GHG mitigation measures need to include consideration for the various subregions, especially as it relates to maturity of each subregion's transportation network and their anticipated potential growth. This is of particular concern given the projected populations growth in some areas.
- The current rule making process underway, followed by separately establishing mitigation measures after rulemaking adoption has occurred, is like ordering a four-door 65 MPG hybrid sedan, and then when it comes time to pick up the car, you find out you're getting a two-door 30 MPG diesel pickup truck; the similarity between the order and the delivered product being that they both have four wheels. These two elements, (rulemaking and establishing the mitigation criteria), really needs to be identified at the same time so all parties involved can see how they are integrated.
- The local jurisdictions should be included in the development of the standards allowed for selection of GHG mitigation measures. This would allow valuable feedback in the development of the standards and ensure local agency support of the mitigation plan.
- Colorado has an extensive backlog of transportation needs throughout the state, including both CDOT and local jurisdictional projects. A major concern for the **Douglas County Transportation Forum** is that the proposed rulemaking could mean less spending on roads and bridges that need improvements which could very well be the unintended or at worst the intended consequences of the rule making. The result of such rulemaking could include additional congestion and a less efficient transportation system resulting in an increase in GHG emissions. Adopting a policy of forced congestion in the hopes of forcing mode shift has not proven to be a successful strategy.
- In considering mitigation measures for a new, regionally significant project, current and / or past investments in adjacent / nearby major GHG reducing transportation infrastructure should be considered as part of the new project's eligible cumulative mitigation measures. In other words, an agency's new project should be rewarded, not penalized for its agency's decision to advance transit, bike or pedestrian GHG reducing projects. Their foresight to develop its integrated transportation plan that utilizes various TDM-oriented investments to increase mode shift away from SOV and provide transit and first/last mile travel options should be given consideration as part of the new project's GHG mitigation submission.

- Clarifications are needed as part of the current rule making process to determine which types of projects would require implementation of mitigation measures and determine which types of projects would be exempt: for example, exemptions should be granted to safety, operational and maintenance projects. GHG mitigation measures should focus on large "regionally significant" projects while the smaller operational improvement projects should simply be exempted from mitigation requirements. Exempt projects shouldn't need to be reviewed and approved by CDOT Transportation Commission as the waiver request process should not apply for the types of exempted projects mentioned above.
- A potential concern, with GHG mitigation is the need to prioritize GHG funding to the Denver metro area followed by the other congested front-range MPOs. With the goals and mitigation requirements shown to be significantly higher for the Denver metro area, additional increase in the share of GHG funding will be needed to assist Denver and the other MPOs to meet these higher goals and mitigation requirements. If this type of funding shift occurs, there will likely be an unfortunate consequence that rural counties and mountain communities, already facing limited funding concerns, will receive even less funding.
- The largest change in GHG reduction comes from the electrification of vehicles per CDOT reports; SB21-260 takes steps to jump start that transition, and if this is the change necessary, CDOT should drive this change as a primary mitigation measure and develop strategies to meet those goals, which should be expressed in this rulemaking.

In closing, we want to thank you for allowing us the opportunity to provide this information to CDOT; and we look forward to working with you in moving forward to address our concerns regarding GHG rulemaking. If you have any questions, contact me at [redacted]

Sincerely,

[redacted]

Douglas County Transportation Forum Steering Committee, Chair

Attachments: DRCOG Board letter to Transportation Commission (dated 10-7-2021)

[redacted]

[redacted]

October 7, 2021

Colorado Transportation Commission
2829 W Howard Pl
Denver, CO 80204

VIA EMAIL SUBMITTAL to dot_rules@state.co.us

Dear Chair Hall and Commissioners,

I am writing on behalf of the Denver Regional Council of Governments' Board of Directors to provide comments on the proposed revisions to 2 CCR 601-22 to establish greenhouse gas (GHG) reduction transportation planning requirements.

As the designated Metropolitan Planning Organization (MPO) for the Denver region, DRCOG, in a cooperative process with CDOT and RTD, is responsible for transportation planning in the metropolitan area and is the venue for effective transportation decision making. Under federal law and regulation, DRCOG must:

- prepare and adopt a fiscally constrained, long-range, multimodal Regional Transportation Plan (RTP) that identifies specific transportation investments in projects, programs, and services to meet future needs and provide a safe and efficient transportation system that provides mobility while not adversely impacting the environment;
- prepare, adopt, and maintain a near-term Transportation Improvement Program (TIP) that identifies specific transportation investments in projects, programs, and services consistent with the RTP; and
- ensure the regional plans comply with all federal requirements, including air quality conformity, to maintain the region's eligibility to receive and expend federal transportation funding.

DRCOG and its partners must consider 10 specific planning factors throughout the transportation planning process. These factors include economic vitality, safety, security, accessibility and mobility of people and freight, protecting and enhancing the environment, transportation system connectivity, system management and operation, system preservation, system resiliency and reliability, and travel and tourism.

Beyond federal requirements, DRCOG supports the goal of reducing surface transportation GHG emissions. The unanimously adopted Metro Vision states that "We're working toward a future where the region has clean water and air, and lower greenhouse gas emissions," supported by objectives and initiatives to "[i]mprove air quality and reduce greenhouse gas emissions," with progress regularly measured against DRCOG's latest travel and air quality modeling results. Improving air quality is also one of the six overarching investment priorities identified in the 2050 RTP.

The following comments are offered in the spirit of clarifying and improving the proposed rule, maximizing the opportunity for the rule to help achieve state and region goals to reduce GHG emissions,

[redacted]

and balancing the rule with DRCOG's federal responsibilities. The comments are organized by section with specific suggestions and supporting discussion points.

Section 8.01 Establishment of Regional GHG Transportation Planning Reduction Levels

- Remove the Baseline Projections from Table 1 and adopt baselines in a Transportation Commission policy directive and reference them in the Rule to allow refinement based on MPO modeling and more frequent updates.

  There should be a reasonable mechanism outside of a formal rulemaking process to review and update the baseline projections to which the reduction levels will be applied. The baseline projections have been developed using the CDOT statewide travel model and then "allocating" GHG emissions to areas based on share of statewide VMT. The relationship between VMT and GHG emissions using this distribution method may not reflect the relative fleet mix or operating characteristics that also influence GHG emissions. Further, DRCOG is required by federal law to adopt a new Regional Transportation Plan every four years and must align growth expectations with the most recent available population and employment forecasts from the State Demography Office, which are updated annually. These annual changes in population and employment forecasts can have a significant impact on travel model results and represent just one example of myriad changes to model inputs and internal model improvements that can change regional baseline measurements.

- Include 2025 Reduction Level (MMT) Values for PPACG, GVMPO and PACOG in Table 1.

  All five MPOs should be subject to demonstrating compliance with the rule for the 2025 horizon year to give the state the best chance of achieving the overall GHG reduction targets.

Section 8.02 Process for Determining Compliance

- Revise §8.02.1 to state "Such analysis shall include the existing transportation network, ~~implementation of~~ future completed regionally significant projects, and all non-regionally significant transportation system investments included in the Plan."

  §8.02.5.1 states that the required GHG Transportation Report contain a "GHG emissions analysis demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1…" Since these Applicable Planning Documents also include non-regionally significant program and project investments that have impacts on travel demand and GHG emissions, the required analysis should include the full set of investment priorities in order to fully assess the plan's estimated total CO2e emissions.

- Revise §8.02.1 to state that "The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the ~~Baseline specified in Table 1~~value derived by subtracting the Reduction Level from the Baseline Projection for that same year."

  A comparison to the Baseline Projections by themselves is not meaningful in the context of the Rule. Determining compliance should be based on an assessment of the estimated GHG emissions of the Applicable Planning Document against reduced GHG emission value.

[redacted]

- Revise §8.02.1 to add the following before the last sentence of the section. "When adopting a TIP, the required emissions analysis will apply to one horizon year corresponding with the last year of the TIP, using interpolation between Table 1 horizon years if the last year of the TIP does not correspond to a designated horizon year in Table 1."

  Federal regulations require TIPs to be consistent with Regional Transportation Plans and represent a near- term investment plan for those priorities established in the RTP. TIPs shall "reflect the investment priorities established in the current metropolitan plan…" (CFR 450.326(a)) and "each project or project phase included in the TIP shall be consistent with the approved [regional] transportation plan." (CFR 450.325(i)). Further, since TIPs represent a near term investment strategy, there is no meaningful result from analyzing those investments against longer term horizon years well beyond the term of the TIP since such analysis will have been completed for the Regional Transportation Plan.

- Add §8.02.2.1 MPOs and CDOT shall prepare and publish a calibration and validation report for their respective travel model. The report shall document model components and key parameters and should address how models account for induced travel demand associated with changes to the transportation system.

  As part of the required modeling assumptions agreement in §8.02.2, the MPOs and CDOT should document and make publicly available the travel model components and parameters.

- Revise §8.02.3 to state "By April 1, 2022, CDOT shall establish an ongoing administrative process and guidelines, through a public process and in consultation with MPOs, for selecting, measuring, confirming, and verifying GHG Mitigation Measures., ~~so that~~ CDOT and MPOs ~~can~~ may incorporate one or more GHG Mitigation Measures into ~~each of~~ their plans in order to reach the Regional GHG Planning Reduction Levels in Table 1. Such a process and guidelines shall include, but not be limited to, how CDOT and MPOs should determine~~ing~~ the relative impacts of GHG Mitigation Measures, and measure~~ing~~ and prioritize~~ing~~ localized impacts to communities and Disproportionately Impacted Communities in particular. The mitigation credit awarded to a specific solution shall consider both aggregate and community impact.

  §8.02.3 states that CDOT shall establish an ongoing administrative process…for selecting…GHG Mitigation Measures…" A statewide process may not reflect that some measures may be more appropriate in one area or another and their relative impact will likely differ depending on the context. The Rule should allow flexibility for MPOs to select appropriate mitigation measures, through their decision-making processes, with guidance developed by CDOT.

- Revise §8.02.5.1.2 to state "In MPO areas that are in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the MPO utilizes some or all of those funds on ~~projects or approved~~ GHG Mitigation Measures that reduce GHG emissions, and CDOT utilizes some or all 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in that MPO area, on projects that reduce GHG emissions as necessary to achieve the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1.

  The language in §8.02.5.1.2 is not clear about whether all CMAQ and STBG funds would have to be used on "projects or approved GHG Mitigation Measures…". In addition, specific federal requirements and regulations apply to the use of CMAQ funds. Restricting the use of

[redacted]

[redacted]

all CMAQ funds as proposed in the Rule may limit nonattainment areas from meeting current federal air quality standards. Likewise, restricting the use of all STBG funds to projects that reduce GHG emissions may limit the ability of DRCOG to invest in important safety, operations, reconstruction, and other non-regionally significant projects necessary for the RTP to address all required federal planning considerations. The provisions in §8.02.5.1.2 should allow flexibility for the MPO to specify only those funds that are to be spent on additional mitigation measures necessary to achieve the GHG emissions levels.

Section 8.03 GHG Mitigation Measures

- Add a provision to require sponsors of regionally significant roadway capacity projects to identify and include GHG Mitigation Measures when including the project in a TIP or the STIP.

  Many of the what the Rule calls GHG Mitigation Measures are planned investments already identified in the DRCOG 2050 RTP. And in the context of a 30-year RTP, these investments are not "mitigations" and should not be reported annually. Mitigations are actions that are taken to avoid, minimize, or compensate for the impacts of a specific action (project). Therefore, the more appropriate application of many mitigation measures is in the context of a specific roadway project and should be documented and tracked as part of the project's implementation through the TIP or STIP.

Section 8.05 Enforcement

- Revise §8.05.2 to state "If the Commission determines, by resolution, the requirements of Rule 8.02.5 have not been met, the Commission shall restrict the use of all CMAQ, STBG, and 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in the area ~~funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, as applicable~~, to projects and ~~approved~~ GHG Mitigation Measures that reduce GHG.

  This clarification is necessary so that these funds are only fully restricted if compliance is not demonstrated under §8.02.5 are not met. If, however, the MPO demonstrates that it is using some CMAQ and/or STBG funds on mitigation measures as necessary to achieve the GHG reduction levels, then there should be no further restriction on the remaining funds.

- Revise §8.05.2 to state ~~"Prior to the enforcement of such restriction, an~~ An MPO in a Metropolitan Planning Area, or CDOT and/or a TPR ~~in a non-MPO~~ outside a Metropolitan Planning Area ~~area~~, may, within ~~thirty~~ sixty (~~30~~60) days of Commission action, ~~issue one or both of the following opportunities to~~ seek a waiver or ~~to~~ ask for reconsideration as provided for in Rule 8.05.2.1 or Rule 8.05.2.2. Enforcement of such restriction shall not begin until the Commission has taken action on such requests under Rule 8.05.2.3. ~~accompanied by an opportunity to submit additional information:"~~

  The language in §8.05.2 is unclear about whether CDOT on its own can seek a waiver for a project within an MPO area. We believe the intent is that waiver requests for projects within MPO areas must go through the MPO process prior to submittal. We also believe that 60 days is a more appropriate timeframe in which an MPO can deliberate and decide whether to seek a waiver or reconsideration.

[redacted]

[redacted]

- Revise §8.05.2.1 to state "Request a waiver from the Commission imposing restrictions on specific Regionally Significant projects not expected to reduce GHG emissions. The Commission may waive the restrictions on specific projects on the following basis:"

  The Rule as written requires a waiver for any "specific project not expected to reduce GHG emissions" (e.g., safety, operations, reconstruction, multimodal corridor planning, TDM, etc.). MPOs should not be required to seek a waiver from the Transportation Commission to invest federal CMAQ or STBG funds in otherwise eligible projects or programs that are not regionally significant, would not have an adverse impact on GHG emissions, and are important for the MPO to achieve other important transportation objectives.

- The Rule should either clarify the meaning of "substantial increase" in §8.05.2.1.2 or CDOT and the Transportation Commission should provide guidance that clarifies how "substantial increase" will be evaluated when considering waiver requests.

  The term "substantial increase" is vague. The Rule or guidance should provide clearer direction to ensure fair and equitable evaluation of waiver requests.

- In §8.05.2.3, strike "If no action is taken within this time period, the waiver or reconsideration request shall be deemed to be denied."

  The full consideration of these requests should be documented and acted upon by the Transportation Commission through a vote on the record. A default denial of a request should not be the result of no action by the Commission.

DRCOG appreciates the state's leadership in addressing climate change and air quality challenges. We also want to thank CDOT staff for the outreach efforts to the MPOs during the development of this proposed rule.

DRCOG acknowledges that meeting the ambitious targets set by the rule is predicated on a partnership with the state on several critical issues that are largely outside of an MPO's authority to directly implement. The feasibility of achieving the targes will require the state to take meaningful action through supportive policies and direct funding within the DRCOG region to fully achieve the desired GHG reductions. We stand ready to continue working with the state to identify and implement relevant policies and funding initiatives.

Respectfully,

[redacted]

c: [redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Please strengthen the “Greenhouse Gas Pollution Standard”

1 me age

[redacted] Wed, Nov 10, 2021 at 8:10 AM

Reply-To: [redacted]

To Colorado Tran portation Commi ion dot rule @ tate co u

Dear Commissioners,

Le escribo para agradecerle por escuchar los comentarios comunitarios sobre el borrador actualizado del Estándar de Contaminación de Ga e de Efecto Invernadero, y para pedirle que tome má medida al re pecto

La reducción de las emisiones de gases de efecto invernadero beneficiaría a todos, pero según la política actual, es posible que esos beneficios no se distribuyan por igual. Los latinos, negros, indígenas y otras personas de color son los má afectado por la emi ione del tran porte y otra fuente de contaminación E ta comunidade merecen fondo dedicados en todos los planes de mitigación. Al garantizar proyectos de transporte limpio en estas comunidades, la Comisión puede dar un paso significativo hacia la justicia ambiental para todos los habitantes de Colorado.

Gracia por u arduo trabajo y liderazgo

I am writing to thank you for listening to community input in your updated draft of the Greenhouse Gas Pollution Standard, and to urge you to take further action.

Reducing greenhouse gas emissions will benefit everyone, but under the current policy, those benefits may not be distributed equally. Latinx, Black, Indigenous, and other people of color are hurt worst by transportation emissions as well as other sources of pollution. These communities deserve a dedicated dollar carveout in all mitigation plans. By ensuring clean tran portation project in the e communitie , the Commi ion can take a ignificant tep toward environmental justice for all Coloradans.

Thank you for your hard work and leadership.

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

CMCA Comments on Revised GHG Rule

1 me age

[redacted] Wed, Nov 10, 2021 at 12:50 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Please see the attached for comments on the Revised GHG rule.

Thank you for con idering the e comment ,

[redacted]

CMCA COLORADO MOTOR CARRIERS ASSOCIATION | TRUCKING Moves America Forward

CMCA Comments on Revised GHG Rule - 11-10-2021.pdf
267K

COLORADO MOTOR CARRIERS ASSOCIATION

November 10, 2021

Executive Director Shoshana Lew
and Colorado Transp. Commissioners
Colorado Dept. of Transportation
2829 W Howard Pl
Denver, CO 80204

Dear Director Lew and Colorado Transportation Commission:

Thank you for the opportunity to submit comments on the proposed revision to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions which identifies a process for addressing greenhouse gas (GHG) emissions and sets GHG standards for transportation plans. The Colorado Motor Carriers Association represents over 650 companies directly involved or affiliated with trucking in Colorado today. Over 115,000 people are employed in trucking related industries and our industry transports 84% of the state's manufactured freight.

Introduction

We would be remiss if we did not mention the bleak state of our supply chain within the country today. Over the last year our country has gone from one where there was an abundance of products in our stores and wide variety of different brands, to one where we are in many cases seeing shortages and limited choice in what we can buy. We now are being placed on waiting lists for items and goods. Further, where we once could obtain many items in 24 to 48 hours, there is little guarantee when we may receive certain products.

A major factor that has contributed to our supply chain problems is our aging and inadequate infrastructure where both on a federal and state level we have failed to make critical investments and improvements. This has led to various bottlenecks for freight throughout the country where trucks may be stuck in traffic or travel at a snail's pace either because of congestion or the deplorable condition of the highway or bridges. These bottlenecks exacerbate the problems now being encountered with our supply chain leading to even greater delays and higher costs for goods.

Both our State Legislature and Congress recognized the immense problems with our infrastructure, and both should be commended for passing major funding measures which hopefully will alleviate some of these bottlenecks. While the passage of those measures is good news, the reality is that those bottlenecks will remain until those critical highway and

bridge projects move forward.

It is critical as we look at these rules as well as others that we be sensitive to not inadvertently create additional hurdles or excessive delays to many of the critical highway and bridge improvements that are identified within CDOT's Ten Year Plan. Moving forward with those improvements is critical to addressing our supply chain problems not only for today but the future and will contribute to the well-being of the state.

Comments and Suggested Changes to the Rules

First, we wish to commend CDOT and its staff on the work to date on the rules. We believe several of the changes to the earlier draft were constructive. Below are our comments and suggested changes to the rules for consideration.

Tracking and Reporting

In the preamble for these rules, it notes as follows:

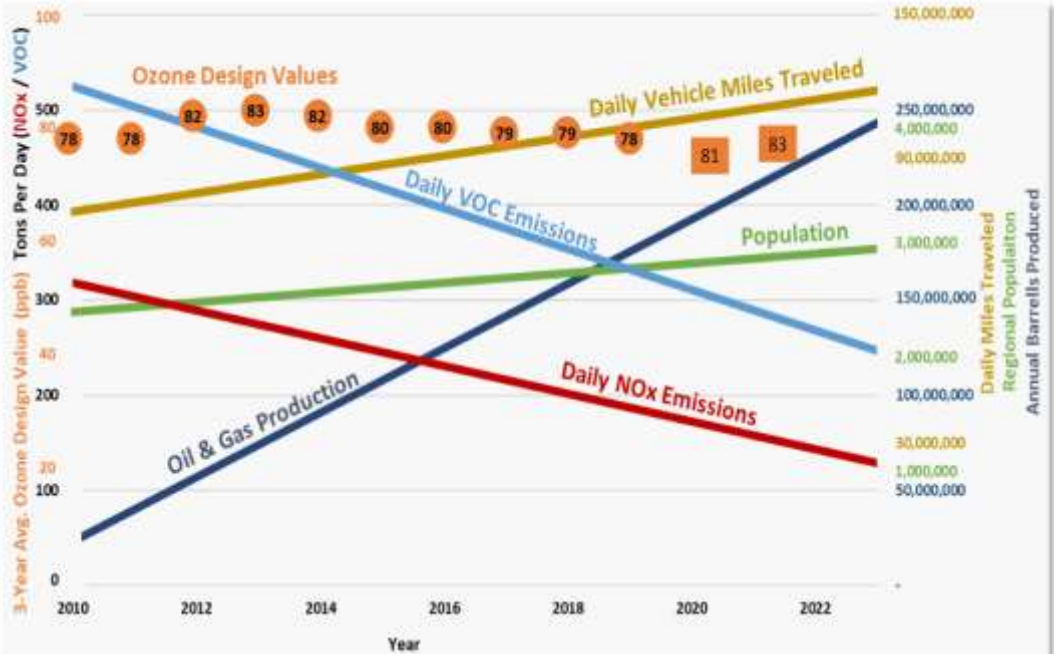
> Section 8 of these rules establishes Greenhouse Gas (GHG) pollution reduction planning levels for transportation that will improve air quality, reduce smog, and provide more sustainable options for travelers across Colorado. The purpose of these requirements is to limit the GHG pollution and provide more transportation mobility options.

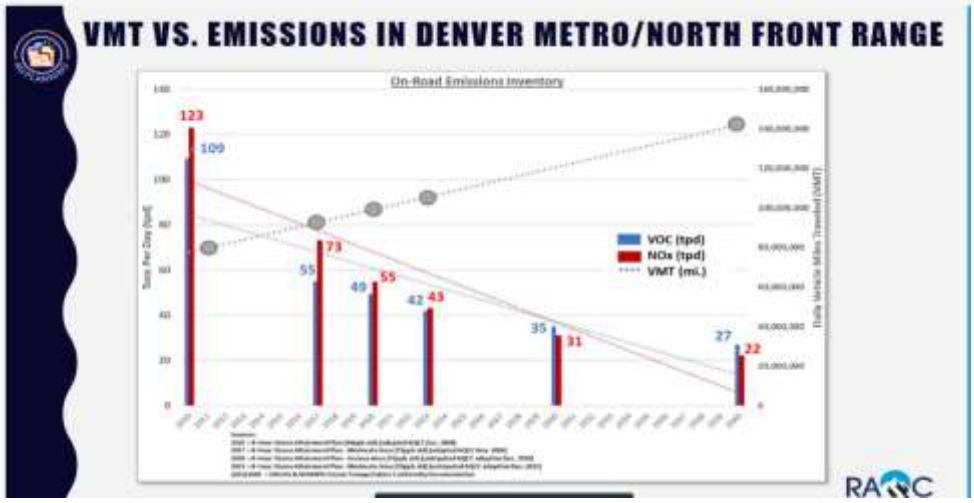
Vehicle Miles Traveled (VMT) is not mentioned in the Statement of Basis and Purpose for the Rules nor the Preamble to the Rules. The statement of basis and purpose of rules tends to reflect the parameters for rules and the fact that there is no reference to VMT implies that it was not a major consideration during the original drafting of the rules.

The revised draft rule now includes tracking and reporting of vehicle miles traveled (VMT) as can be seen in sections Section 8. Section 8.06.2 calls for the creation of an annual VMT report. Including total VMT per capita within the MPO areas and statewide for the past calendar year. Section 8.06.2.1 in the revised rule is disconcerting in that it states as follows:

> *If three consecutive years of reports demonstrate no decrease in VMT per capita in one or more areas, the Commission shall consider revisions to these rules in order to achieve reductions in VMT consistent with the intent of this rule.*

Inclusion of VMT in the revised rule assumes that there is a direct correlation between VMT and GHG, where an increase in VMT would translate into an increase in GHG and other emissions. While this may have been true in years past that no longer is the case. An increase in VMT does not necessarily translate into an increase in GHG. As may be seen in the charts below (which were prepared by the RAQC), they reflect that while VMT in the Denver Metro Region grew by over 25% over the past 10 years, while daily VOC and NOx emissions dropped by almost 50%.





Much of this reduction in VOCs and NOx is attributable to the turnover of the overall vehicle inventory in the region where older, higher-emitting vehicles were replaced with newer, lower-emitting ones. In addition, cleaner fuels also contributed to those reductions. Both of those trends are continuing which should point to lower emissions on a per capita basis than in the past. As a result, the relationship between GHG and VMT is becoming less and less relevant. Based on this trend, we could have a continuing increase in VMT while at the same time seeing a significant drop in GHG and meet the desired objective under the rules.

Including a data element such as VMT which is becoming less and less an indicator of emission levels and then linking possible reconsideration of the GHG rules if that data

element fails to drop, is nonsensical based on recent trends. Further the tracking and reporting of VMT presents the appearance that the State is seeking to employ the rule for other purposes beyond GHG reduction, which are outside the boundaries of these rules and should be considered in another forum.

We request that the annual report on VMT be stricken along with the provision for a reconsideration after three years if there has not been a decrease in VMT. Our reasons and arguments supporting the removal of references to VMT are below.

Regarding reporting, the revised draft also makes changes to the reporting requirement on statewide GHG reduction accomplishments which had been every three years versus five years in the revised draft. In addition, the revised rules indicate that this report is to be presented not only to the Transportation Commission, the authorizing body for these rules, but the Air Quality Control Commission. We question both the change in timeline for the report as well as a requirement that it be presented to the AQCC. Having such language in the rules implies some sort of approval by the AQCC which was not included in SB 260. If this is not the case, why include this language? We would anticipate that CDOT may present this report to various groups including MPOs and TPRs as well as trade groups such as ours. Realizing that SB 260 was very clear in designating that the Transportation Commission was the body charged with promulgating this rule and CDOT is the agency identified to administer this rule. Adding such language related to the AQCC confuses the matter as to who is the authorizing body for these rules.

Greenhouse Gas Reduction Targets

We recognize that the purpose of this rule and the intent of the Legislature was to balance transportation improvements while not adding to the problem related to greenhouse gas emissions. We do believe that the suggested reduction levels of CO_2 as shown on Page 26 appear to be ambitious and attaining those reductions especially in earlier years may prove very difficult. We would suggest that these proposed reductions be reconsidered.

Inclusion of Additional GHG Mitigation Measures

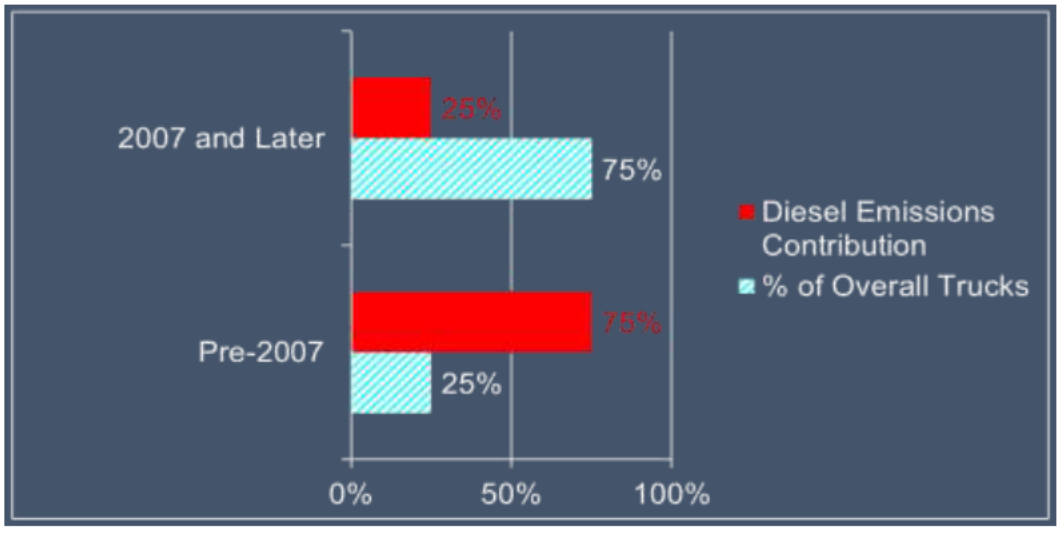
Scrappage and Replacement of Older, High Emitting Vehicles of Residents Adjacent to Major Highway Projects

The greatest reduction in emissions and GHG over the years has been due to the "greening" of the overall inventory of vehicles in the country. Newer vehicles emit far less due to modern emission control systems as well as being much more fuel efficient. A newer vehicle emits at least 25% less GHG emissions than one of 10 years ago. In addition, the newer vehicles are safer because of the additional safety improvements made to vehicles over the years.

As we look at GHG reduction strategies associated with a specific highway improvement, it is important that we recognize that a high percentage of the users and trips on that highway today are made by individuals living adjacent to and proximate to the roadway. The highway not only serves as a means for them to commute longer distances for work (in many cases where transit service is unavailable), shopping or recreation. It also serves as a form of a neighborhood roadway linking different parts of a neighborhood or community together as well as adjacent areas. In many cases the highway tends to be the most direct and fastest way for such local trips. While these trips may be short in distance, the overall volume of trips over the course of the year may be substantial.

Many of the residents living proximate or adjacent to major highways may be lower income individuals living within disadvantaged areas. These individuals tend to own older vehicles which are higher emitting and have a greater GHG footprint than a newer car. Recognizing this, we would suggest that the GHG rule include a mitigation measure whereby financial assistance be available to residents with vehicles that are 10 years or older to obtain a newer, lower emitting vehicle with the older vehicle being scrapped. This action would not only reduce GHG and other emissions but also enhance safety. This strategy would greatly reduce GHG and other emissions and remove permanently some of our oldest and highest emitting vehicles from our roadways. This strategy also allows those in lower income areas greater mobility and enhanced safety while leading to a substantial emission reduction.

Heavier industry and commercial developments tend to be proximate to highways because of the access it provides them. Because of their operations next to the highway, those businesses receive and ship products by truck daily. Like the removal of older cars, the scrappage and replacement of older diesel trucks with newer, cleaner trucks is a strategy that may substantially reduce GHG and other emissions in a low cost and efficient manner. Providing grant funds to help companies in these areas offset some of the cost of a newer vehicle should be considered. As can be seen in the chart below, 75% of the diesel on-road emissions are generated by 25% of the vehicles which are older units.



In addition, another strategy that should be added is diesel roadside emission testing whereby visible high emitting vehicles in the corridor may be flagged and tested. If the vehicle is shown to exceed emission levels, the owner would be required to make improvements within 30 days.

1) Last Mile Strategies

We would encourage a mitigation strategy including certain last mile action for freight. The addition of more freight-only loading zones would reduce package vehicles from excessive circling of blocks to find a parking space and curb double parking which adversely affects safety and mobility. Concepts such as smart parking where fleets could reserve a space ahead of time to make deliveries more efficient and reduce overall travel and idling. The concept of freight lockers in major buildings and stores, rather than having a delivery truck travel through the entire neighborhood would also reduce travel and idling.

Closing Remarks

CMCA wishes to express our appreciation to CDOT for engaging us and various other stakeholders in this process and allowing us the opportunity to present our concerns. We look forward to continuing to work with and collaborate with CDOT staff in the development of this rulemaking and in subsequent implementation efforts.

Sincerely,

[redacted]

President
Colorado Motor Carriers Association

CMCA COLORADO MOTOR CARRIERS ASSOCIATION | TRUCKING Moves America Forward

EPA SmartWay Affiliate

SmartWay

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

feedback comment on GHG Proposed Rules

1 me age

[redacted] Wed, Nov 10, 2021 at 4:27 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

As a resident of Jefferson County as well as a community social worker for over 20 years here in metro Denver, I appreciate the opportunity that CDOT is giving us It is the only way that we will be able to create and sustain the changes that will help us achieve our goals.
I personally have several friends that have lived here for decades, who have to move due to the harmful air qualify causing respiratory illnesses. That is devastating, but they are the fortunate ones, to have the resources to be able to move

1 the draft rules actually fall short by almost 2 million metric tons
2. while the revision was made to 3 years for evaluation of progress, this is just not often enough. A comprehensive evaluation process needs to have a stringent and consistent process that would be responsively responsive to areas that indicate a lag or ineffectiveness that needs to be modified in time enough to achieve GHG reductions
3. Creative multi-modal strategies need to be part of the implementation process that is inclusive of the county and interested/relevant parties that can mobilize resources that exist in the community The funds for these strategies that are earmarked for DI populations need to be directly benefitting communities' health, such as neighborhood electric transit support such as neighborhood vans that rotate locations but geared towards citizens having improved access to healthy food and health services These community transit support that is more localized can strengthen a cohesive community and create more safe and healthy neighborhoods.
4 Single vehicle use mitigation does need to outlined to reduce VMT even though some of the folks on the hearing disagree that vehicles contribute to GHG. Even if the mileage has improved in fossil fuel vehicles, the fact is that these automobiles contribute greatly to our problem
5. It is not efficient to expand highways. The infrastructure funds that will come from the federal government can shore up our roads and bridges Putting resources into solutions that created the problem is not a solution. NOW is the time to do it RIGHT. Bold, now, there is no choice but for CDOT to garner all the passion and purpose you all have shown in your careers into really making a difference.

Thank you.
[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

CDOT public comment

1 me age

[redacted] Wed, Nov 10, 2021 at 5:10 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Dear CDOT,

As an Indigenous Mom and community member. Transportation is necessary for our Communities and the state shouldn't leave the burden of cost to be the reason to not act on EV transitioning for Communities.

These transitions will need the support of industry polluters and state and federal funding to get EV Transportation going. We need Clean trucks and they need subsidies for these transitions.

Communitie don't need more burden added to an already unju t y tem Penaltie on worker and commuter i not the solution. We need an equitable solution and are Communities need subsidies to get us to net zero.

We need CDOT to fund public transportation and support EV public transit for at least 5 years before adjusting for fare price Free tran it for 5 year would put u on a path that en ure increa ed rider hip

Colorado is continuing to see our communities grow with each year we're seeing 1.5 million transients. Unjust registration emissions standards is not the solution to get us to reduce GHG emissions nor will it encourage drivers to drive EVs.

Free public transit will encourage public participation in ridership. Offering 5 year pilot plan would help shape routes and routines. But we need a state program that works with communities.

We cannot eparate communitie anymore but we mu t get citie to work together on public tran portation and acce

CDOT you can do a lot more to reduce GHG emissions. Fund and support EV public transit for communities and decrease traffic congestions.

Thank you for your time and please be bold for Climate Action.

[redacted]
Indigenous Peoples' Rights Advocate
Field Organizer, Moms Clean Air Force & EcoMadres
[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

CC4CA Supplemental Comments on the Transportation GHGs Rulemaking

1 me age

[redacted] Thu, Nov 11, 2021 at 11:04 AM

To: dot_rules@state.co.us

Cc Rebecca White rebecca white@ tate co u , There a Taku hi CDOT there a taku hi@state co u , Herman Stockinger <Herman.Stockinger@state.co.us>

Attached please find a supplemental comment letter (with one attachment) on the Transportation Commission GHGs rulemaking.

Kind regards,

[redacted]

[redacted] Executive Director
Colorado Communitie for Climate Action

2 attachments

CC4CA CDOT GHG Proposal Comments Attachment A Climate Equity Framework Evaluation.pdf
164K

CC4CA CDOT GHG proposal Comments Part 2 2021-11-11.pdf
254K

November 11, 2021

CDOT Transportation Commission
CDOT Headquarters 2829 W.
Howard Pl.
Denver, CO 80204

Dear Commissioners:

Thank you for the continued opportunity to provide public comments to the Transportation Commission on the proposed changes to the *Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions*, containing the Greenhouse Gas Transportation Planning Standard, proposed on August 13, 2021 and revised on October 19, 2021. Colorado Communities for Climate Action (CC4CA) previously submitted initial comments on the proposal on August 31, 2021. These comments respond to the recent revisions and focus on the key remaining issues that should be resolved.

This rule is one critical action for Colorado to tackle the climate crisis and to fulfill the equity intent of HB19-1261 and SB21-260. Additionally, the estimated cost savings for Coloradans from adoption of this rule are enormous. The cost savings are conservatively estimated at a stunning $9.4 billion by 2030, and a total of $40.3 billion by 2050, which takes into account the social cost of carbon.[1] Due to the revised proposal and conversations with the Colorado Department of Transportation (CDOT) since the last CC4CA comment letter that clarified some of our questions and positions on the proposed rule, we now have the following major comments: 1) Equity is currently not served by the proposal because quantified benefits to disproportionately impacted communities are not effectively prioritized in rule language, and greenhouse gas (GHG) reduction measures should be included as part of the compliance demonstration for transportation plans; 2) Implementation of GHG mitigation measures should not be optional after failure to demonstrate compliance with the GHG targets; 3) A waiver process could increase GHGs and inequity and should not be allowed except for GHG neutral projects; 4) The GHG budgets need to be strengthened and should apply across Colorado; and 5) Vehicle miles traveled (VMT) per capita reductions are critical.

The Proposed Rule Does Not Prioritize Disproportionately Impacted Communities in the Primary Planning Demonstration and Mitigation Measure Approaches are Inadequate

This GHG planning standard represents one of Colorado's best opportunities to simultaneously tackle our largest source of GHGs and to address longstanding inequities affecting communities

[1] CDOT, Cost-Benefit Analysis for Rules Governing Statewide Transportation Planning, August 31, 2021, p. 3, Table 2.

disproportionately impacted by climate change. Statutory requirements from HB19-1261, HB21-1266, and SB21-260 clearly intend, as Colorado's GHG Roadmap reinforces, that regulatory bodies implementing GHG reduction rules are required to "prioritize and direct the benefits of regulatory compliance, including economic, health, environmental, and resiliency benefits, to disproportionately impacted communities."[2] This requirement is also called out in the Climate Equity Framework among its key principles: "Principle 2: Prioritizing Benefits – For GHG reduction strategies with the potential to provide benefits to individuals or communities, disproportionately impacted communities should be prioritized. Intentionally investing in these communities, while actively reducing harms to them is critical to equitable climate action."[3] Despite the repositioning of this rule to the Transportation Commission (TC) from its original purview at the Colorado Air Quality Control Commission (AQCC), it's clear the requirement to prioritize disproportionately impacted ("DI") communities should and does still apply. Further, within SB21-260, the legislative declaration at Section 1(b)(IV) defines a sustainable transportation system as one that "Addresses inequities in transportation access and the increased exposure to transportation-related air pollution for communities, including disproportionately impacted communities, communities near major roadways, and, as documented in multiple peer-reviewed scientific studies, communities where many of the residents are Black or Hispanic" Further, the SB21-260 legislative declaration at 43-1-128(1)(c) C.R.S. states:

> "To minimize the adverse environmental and health impacts of planned transportation capacity projects and address inequitable distribution of the burdens of such projects, it is necessary, appropriate, and in the best interests of the state and all Coloradans to require the department and metropolitan planning organizations, which are the state's primary transportation planning entities with responsibility for selecting and funding transportation capacity projects, to engage in an enhanced level of planning, modeling and other analysis, community engagement, and monitoring with respect to such projects."

We interpret this to apply to the CDOT and Metropolitan Planning Organization's (MPO's) initial planning demonstrations through their Statewide Transportation Improvement Programs (STIPs) and Transportation Improvement Program (TIPs) as well as to any mitigation for unmet required reductions.

In its proposed rule, however, CDOT makes no effective quantitative commitment of benefits or investment to DI communities, nor any up-front provisions to avoid further harm from capacity projects that would increase traffic and necessitate mitigation. Most references to DI communities are in the *Preamble for 2021 Rulemaking* rather than in the enforceable rule. In its recent changes to its *Preamble*, CDOT appropriately reflects that the "ongoing administrative process … for selecting, measuring, confirming and verifying GHG Mitigation Measures … shall include … how CDOT and MPOs should … measure and prioritize localized benefitsimpacts [sic] to communities and Disproportionately Impacted Communities in particular" (Section 8.02.4) but this intention is not borne out in the rule. To "prioritize" DI communities requires using that word in the sense of "prior-" or "first." The CDOT proposed rule uses this sense of "priority" in "Four-Year Prioritized Plan" (Section 1.16 – "projects prioritized for near-term delivery and partial or full funding") but it does not prioritize DI communities in the same way. Instead, most of the specific provisions for DI communities are deferred to the Mitigation Measures, as if CDOT is anticipating the primary projects

[2] Colorado GHG Pollution Reduction Roadmap Final Report 2021, p15, available at https://energyoffice.colorado.gov/climate-energy/ghg-pollution-reduction-roadmap

[3] Climate Equity Framework, 2021, p.6, available at https://cdphe.colorado.gov/air-pollution/climate-change

from the rule will not achieve the GHG reductions and will in fact need to make amends in the DI communities further damaged by some of these projects. This is opposite the intent of "prioritizing" these communities. To prioritize DI communities, the initial TIP planning demonstration needs to contain upfront commitments to pollution reduction and financial investment in projects that reduce VMT in and around these communities while providing pollution-free alternatives to driving, among other options currently deferred to the Mitigation Measures in Section 8.03.

We believe one remedy would be for some of the language added to the proposed rule's *Preamble for 2021 Rulemaking*, in particular the language under the *Purpose of GHG Mitigation Measures*, to be added to the rule itself instead of the Preamble. The most critical example is that the revised Preamble language states that, "Additionally, the following core principles will guide the selection and delivery of mitigations:

- **Valuing Benefits to Disproportionately Impacted Communities:** Historically, communities have been impacted unequally by transportation project construction. Negative impacts -- both to air quality by virtue of proximity to highways as well as limited non-driving options in neighborhoods proximate to highways -- have often concentrated in disproportionately impacted communities, often minority neighborhoods in urban and industrial areas. To that end, mitigation investments are an important opportunity to provide localized benefit to disproportionately impacted communities.

- **Geographic Nexus with Impacts:** Where regionally significant projects are projected to increase net greenhouse gas emissions, those emissions should be offset with project-specific mitigation measures that benefit communities that will be impacted by the project. This principle is especially important for ensuring that disproportionately impacted communities that have often, historically, borne a significant share of the negative impacts of highway projects, are able to achieve direct project benefits associated with meeting mitigation requirements."[4]

The inclusion of this language in the Preamble is a welcome acknowledgement, but this language needs to be operationalized, with quantified expectations of VMT-reducing projects, in the actual rule as well. Section 4.06.1.9 under *Statewide Transportation Plan* (STP), adds new language to require that STPs, "Include an analysis of impacts on Disproportionately Impacted Communities." CC4CA supports this addition for the reporting process. But we have several suggested edits to rule language that would more effectively prioritize DI communities. Those suggestions are (black text is from CDOT's proposal, red text is suggested language):

- To assist in quantifying benefits to local communities, we note that other rulemakings at the AQCC have adopted (Greenhouse Gas Emissions and Energy Management and Audit Program for Manufacturing (GEMM) Phase 1) or proposed (Regulations 7 and 22 for Oil and Gas) definitions of "harmful air pollutants" and "co-benefits" to be realized by communities when these harmful air pollutants are reduced. For consistency across GHG rules, and to ensure co-benefits can be called out, quantified, and effectively prioritized, we would urge CDOT to mirror these definitions and tie them to emissions analysis, reporting, and mitigation strategies (we have indicated a few of the places these defined terms would be substituted in the further suggestions below):

[4] CDOT Proposed Rule, p. 6.

1.06 "Co-benefits" means the additional benefits associated with the reduction of harmful air pollution to local communities, including localized air quality benefits

1.21 "Harmful air pollutant" means pollutants designated by EPA as criteria air pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, particulate pollution (PM) ($PM_{2.5}$ and PM_{10}), and sulfur dioxide), or hazardous air pollutants.

4.06.1.9 Include an analysis of ~~impacts~~ harmful air pollutants and co-benefits in ~~on~~ Disproportionately impacted Communities.

8.02.4 By April 1, 2022, CDOT in consultation with the MPOs shall establish … Such a process and guidelines shall include, but not be limited to, how CDOT and MPOs should determine the relative ~~benefits impacts~~ co-benefits of GHG Mitigation Measures, and measure and prioritize localized ~~benefitsimpacts~~ co-benefits to communities and Disproportionately Impacted Communities in particular. The mitigation credit awarded to a specific solution shall consider both aggregate and community co-benefits ~~impact~~.

8.02.6.3.3 Quantification of specific co-benefits ~~where feasible~~ including reduction of harmful air pollutants ~~co-pollutants (PM2.5, NOx, etc.)~~ as well as travel impacts (changes to VMT, pedestrian/bike use, transit ridership numbers, etc. as applicable).

- CC4CA suggests that new language be added to Section 8.02 (as a new Section 8.02.4) reflect the language in the Preamble addressing the *Geographic Nexus with Impacts* ("Where regionally significant projects are projected to increase net greenhouse gas emissions, those emissions should be offset with project-specific mitigation measures that benefit communities that will be impacted by the project.") that would guarantee that 100% of project impacts are offset. New language would read:

  8.02.4 The localized GHG mitigation co-benefits must be commensurate with the localized harmful air pollution impacts of highway capacity projects.

- Section 8.02.4 calls for localized benefits to be prioritized in the mitigation measures policy, but this should be required under the rule rather than conditional in the Mitigation Measures policy. To rectify this, we suggest adding a new Section 8.02.6.3 to 8.02.6 *Demonstrating Compliance* (and the existing Section 8.02.6.3 would change to 8.02.6.4) that reads:

  8.02.6.3 An analysis of harmful air pollutant emissions and co-benefits showing how projects that reduce emissions were prioritized in Disproportionately Impacted Communities and how project-specific emissions reduction measures benefitted communities that were impacted by projects. This analysis must incorporate an evaluation of the level of community engagement in proposed projects and expected effect on Disproportionately Impacted Communities, including but not limited to answers to the "key questions" posed by Colorado's Climate Equity Framework or a commensurate framework that may succeed it.

- Section 8.02.6.3 (the section that CC4CA suggests should be 8.02.6.4) includes a list of requirements for the Mitigation Action Plan, but to ensure a minimum level of GHG mitigation

investment in DI communities, the rule should guarantee a proportionate amount of benefits in these communities. New language should be added to this section as follows:

8.02.6.3.4 Description of benefits to Disproportionately Impacted Communities and a demonstration that the percentage of total investment for GHG mitigation measures in these communities was at least equivalent to the percentage of residents living in Disproportionately Impacted Communities within each MPO region. Colorado's Data Viewer for Disproportionately Impacted Communities should be used to retrieve this data, and the Colorado EnviroScreen tool currently being developed should take over this function when complete. For transportation projects that span multiple communities, CDOT or the MPO shall calculate the percentage of the project investment located within each community when determining compliance with the investment requirement.

All the proposed rules' DI community provisions are currently under the GHG Mitigation Measures remedy; however, in order to actually ***prioritize*** DI communities, all of CC4CA's recommendations would be more effective if applied to measures that prevented harm rather than mitigated it and that directed investment and benefits from the outset. We believe that these provisions should apply in the initial planning demonstration before a failure to meet goals is found and "Mitigation Measures are needed … [and] the MPO or CDOT shall submit a Mitigation Action Plan"- which is not guaranteed, and which according to the circular logic of 8.02.6, is "at the discretion of the MPO or CDOT." The current language does not provide the needed assurance that this GHG planning standard will direct benefits to DI communities, so we urge the Commission to advance our recommendations to the initial demonstration, together with firm commitments of investment in projects that improve access to clean transportation and do not increase GHGs or pollution. Colorado Energy Office Director Will Toor reiterated as recently as November 6th that "[the proposed] GHG pollution standard … will require state and regional transportation plans to shift funding towards public transit and walkable, bikeable communities."[5] We are concerned that we don't currently see the commitments to this shift in the proposed rule. While we are pleased to see the list of GHG Mitigation Measures (Section 8.03) that could fulfill this obligation, we believe it is misplaced as an antidote to unmet reductions and should be a principal toolkit for primary reductions, which is why we suggested the new Section 8.02.6.3 above.

Adding to our concern with the proposed approach to mitigating GHG reduction failures is our assessment that the measures proposed will not be enough to fill the gaps, either in GHG or other air pollution reductions. This is yet another reason that VMT-reducing projects that have the greatest potential to improve conditions in DI communities should come in the primary planning demonstration, where they can be weighed fairly with these benefits against projects that would increase capacity, VMT, GHGs, and air pollution. While the proposed rule attempts to amend capacity projects with Mitigation Measures, we are dubious that these measures can make up for the GHG increases or the further damage to communities that have been in put in harm's way for generations. It's time to recognize that increasing capacity, and the induced demand that accompanies it, is not reconcilable with our equity or our GHG goals. An approach that fully and fairly accounts for co-benefits from VMT reductions at the initial planning stage is the best way to meet our obligations to disproportionately impacted communities while meeting our GHG goals.

[5] Guest Opinion: Will Toor: There's a lot being done in Colorado to address climate crisis https://www.dailycamera.com/2021/11/06/guest-opinion-will-toor-theres-a-lot-being-done-in-colorado-to-address-climate-crisis/

We understand that CDOT is assembling an environmental justice and equity branch pursuant to SB21-260 (43-1-116 (5) C.R.S.), but since its role and any framework for ensuring effective prioritization of DI communities is yet to be established, we recommend that CDOT apply CDPHE's Climate Equity Principles applied to this proposed rule by applying the key questions from the Climate Equity Framework.[6] We have answered these key questions in our Attachment A. We think these questions are important enough to be part of the initial evaluation of projects for STIPs and TIPs.

We urge CDOT and the TC to work with CDPHE's Environmental Justice Unit as well as the Climate Equity Advisory Committee and Climate Equity Community Advisory Group as CDOT develops its equity branch and evolves this rule further, and we think it appropriate to commit to this partnership in the *Preamble for 2021 Rulemaking*.

GHG Mitigation Measures Should Not be Optional After Failure to Demonstrate Compliance with GHG Reduction Targets

With regards to the implementation of GHG Mitigation Measures, the proposed rule Preamble includes the following language: "In the event that a plan fails to comply, CDOT and MPOs have the option to implement GHG Mitigation Measures that provide travelers with cleaner and more equitable transportation options."[7] It is not clear why the implementation of GHG Mitigation Measures would be optional if the GHG reduction targets are not met. Our understanding is that the only other "option" is for funding restrictions to be placed on CDOT or an MPO. We suggest striking the language referring to the implementation of GHG Mitigation Measures being optional if compliance with the GHG targets is not demonstrated. Similarly, we suggest the following deletion from Section 8.02.6.1 to make it clear that a mitigation plan is not optional:

- 8.02.6.1 GHG emissions analysis and~~, if applicable,~~ a GHG Mitigation Plan demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1 or that the requirements in Rules 8.02.5.1.1 or 8.02.5.1.2., as applicable, have been met.

These revisions would not only guarantee GHG emissions reductions but would also improve the benefits to DI communities and ensure the prioritization of improvements in these communities.

In their October 7, 2021 letter to the Transportation Commission, the Denver Regional Council of Governments (DRCOG) suggested an addition to Section 8.03 *GHG Mitigation Measures* that would, "Add a provision to require sponsors of regionally significant roadway capacity projects to identify and include GHG Mitigation Measures when including the project in a TIP or the STIP."[8] DRCOG explains that:

> Many of the [sic] what the Rule calls GHG Mitigation Measures are planned investments identified in the DRCOG 2050 RTP. And in the context of a 30-year RTP, these investments are not "mitigations" and should not be reported annually. Mitigations are actions that are taken to avoid, minimize, or compensate for the impacts of a specific action (project). Therefore, the more appropriate application of many mitigation measures is in the context of a specific

[6] [6] Colorado Climate Equity Framework available at: https://cdphe.colorado.gov/air-pollution/climate-change
[7] CDOT Proposed Rule at 3.
[8] DRCOG letter to TC, 7 October 2021 at 4.

roadway project and should be documented and tracked as part of the project's implementation through the TIP or STIP.[9]

CC4CA agrees with DRCOG's recommendation, except that this language should be included in Section 8.02 of the rule so that it would be considered as part of the process for determining compliance and GHG reducing projects would then be included in the STIPs and TIPs rather than relegated to the Mitigation Action Plans. This speaks to the above comments that the mitigation measures should not be optional and that GHG emissions reductions need to be considered as part of the compliance process.

Furthermore, Colorado's affordable housing crisis necessitates immediate prioritization of clean transportation alternatives that fully serve DI communities and reduce VMT as soon as possible. Likewise, Colorado's greenhouse gas goals for the transportation sector require immediate action to reduce emissions by 25% by 2023 and by more than 40% by 2030.[10] We cannot do this amid strong growth pressure by reaching back to 20th-century approaches such as continuing to widen highways. If transit and clean transportation solutions are not prioritized immediately in the STIP and TIP planning processes, there will be a perverse incentive to rush capacity projects to approval before VMT-reduction priorities come into play through the Mitigation Action Plan. The unfortunate outcome would be an increase in GHG emissions and inequity just before the rule aimed at reducing emissions is implemented. The principle "first, do no harm" should take precedence in this rulemaking, or as the Climate Equity Framework Principles state, "Intentionally investing in [DI] communities, while actively reducing harms to them is critical to equitable climate action."[11]

A Waiver Process Could Increase GHGs and Should be Limited to Safety Projects

We stand by our August 31 comments on enforcement and specifically the proposed waiver process, under Section 8.05. Under the proposed rule, if compliance is not demonstrated after committing to GHG mitigation measures, the Commission will restrict the use of certain funds, requiring that money be focused on projects that reduce GHGs. The proposal includes the option to apply for a waiver if the rule requirements have not been met and states that "a substantial increase in GHG emissions" will not be allowed. Because the proposed 1.5 million metric tons carbon dioxide equivalent (MMT CO_2e) reductions by 2030 are not enough to meet the sector's goal of 12.8 MMT CO_2e reductions, no amount of GHG emissions increase should be allowed. Also, the proposal does not define "substantial increase" and that phrase is too vague for rule language as it could have many different interpretations. Waivers could also circumvent the requirement to protect and prioritize disproportionately impacted communities that might otherwise see air quality and transportation infrastructure improvements. Any increase in GHG emissions would be counter to the goal of this rule.

One concern we have heard that addresses the need for the waiver process is that safety projects would not be allowed if an MPO or CDOT is not meeting its targets. We believe this is absolutely not the intent of this rule and safety projects should be allowed to proceed. To alleviate this concern, rule language should be added to specify that the waiver process will only be allowed for safety projects that are GHG neutral and fulfill other regional goals. CC4CA opposes the use of the waiver process for operations projects that facilitate single occupancy vehicle travel. Projects that ease bottlenecks or choke points for vehicle travel do so by increasing capacity, and therefore will increase VMT and GHG

[9] *Id.*

[10] Air Quality Control Commission GHG Resolution 2020

[11] Climate Equity Framework, 2021, p.6, available at https://cdphe.colorado.gov/air-pollution/climate-change

emissions. Transit operations projects, including transit signal priority, queue jump lanes or other projects that facilitate the movement of transit vehicles increase transit ridership and decrease VMT/GHG, and would therefore not need to go through the waiver process as funds would never be restricted from these types of projects.

The GHG Budgets Need to be Strengthened and Should Apply Across Colorado

The proposed rule is far too modest given the extent of transportation GHG emissions that are required. As we highlighted in the last CC4CA comment letter, Colorado's existing and planned transportation measures leave a gap of 4.7 MMT of GHG reductions in 2030. This proposed rule would reduce that gap by 1.5 MMT. In past comments CC4CA asked that the 2030 reduction target be increased to 3.3 MMT; after hearing the resistance to increasing the GHG targets to that level, we request that the 2030 statewide target be increased to 2 MMT, at the very least. Because of the worsening nature of the climate crisis, early reductions have the largest impact and are absolutely necessary to reverse the current devastating course. Therefore, we strongly urge the Commission and CDOT staff to increase the GHG planning reduction levels identified in Table 1 (Section 8.01.2).

Another recommendation that would increase overall emissions reductions is to require reductions from CDOT and all the MPOs by 2025. As proposed, the sub-budgets would only apply to the Denver Regional Council of Governments (DRCOG) and the North Front Range Metropolitan Planning Organization (NFRMPO) until 2030. Because of the climate crisis, Colorado needs to be much more aggressive earlier and not delay action until 2030 for MPOs outside of the DRCOG and NFRMPO regions, therefore the three other MPOs should be subject to 2025 GHG reduction targets that align with the targets for the other MPOs and CDOT.

VMT Per Capita Reductions are Critical and the Rule Should Include a Minimum Threshold for Reductions

CDOT's Cost Benefit Analysis shows that the three largest sources of cost savings come from reduced vehicle operating costs, safety, and traffic delay. And the two largest categories – safety (reduced vehicle crashes) and traffic delay - make up over two-thirds of these savings, largely due to reductions in VMT.[12] This alone justifies making reduction of VMT a primary goal of this rule. And SB21-260 requires that VMT be reduced as part of this rule; see SB21-260 Section 30, 43-1-128 (3):

> Effective as of July 1, 2022, the department shall establish and propose to the commission for its review implementing procedures and guidelines that require the department and metropolitan planning organizations to take additional steps in the planning process for regionally significant transportation capacity projects to account for the impacts on the amount of statewide greenhouse gas pollution and statewide vehicle miles traveled that are expected to result from such projects.

SB21-260 also specifically states that the proposal must, "Consider the role of land use in the transportation process and develop strategies to encourage land use decisions that reduce vehicle miles traveled and greenhouse gas emissions."[13] VMT reductions should be included in this rule so that the transportation planning necessary to adhere to the rule results in greater multi-modal opportunities, particularly in underserved communities. Aside from the general need for VMT reductions, specifically

[12] CDOT, Cost-Benefit Analysis, p. 3, Table 2.
[13] SB21-260 Section 30, 43-1-128 (3)(d)

disproportionately impacted communities benefit directly from increased multimodal projects such as improved transit, bike, and pedestrian infrastructure as well as from improved local air quality.

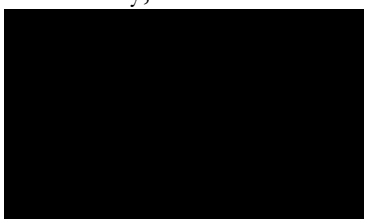
For these reasons, CC4CA is encouraged to see that CDOT has included new language in Section 8.06 Reporting to require CDOT to submit an annual VMT report to the Transportation Commission that includes, "…total VMT per capita within the MPO areas and statewide for the past calendar year." The inclusion of VMT in the rule is a significant improvement but the rule should include a minimum threshold to ensure that the decrease is a meaningful amount that will result in improvements. Colorado's Greenhouse Gas Emissions Reduction Roadmap "HB 1261 Targets Scenario" assumes a VMT reduction of 10% by 2030; this amount of reduction by 2030 should be reflected in CDOT's rule. Therefore, we suggest the following revision to the rule language:

> 8.06.2.1 If three consecutive years of reports find that CDOT and the MPOs are not on track to deliver at least a 10% reduction in VMT per capita by 2030 compared forecast levels, the Commission shall consider revisions to these rules in order to achieve reductions in VMT consistent with the intent of this rule.

That additional requirement including a metric for measuring progress will ensure that meaningful VMT reductions are achieved and will help Colorado meet the critical climate and equity goals that have been discussed in this comment letter.

We appreciate the opportunity to comment on this proposed rule and the continued communications with CDOT staff to ensure that this is a strong rule that will help Colorado achieve its reduction goals for the transportation sector and realize great opportunities for Colorado communities. Much progress has been made and we encourage the Transportation Commission to swiftly approve the rule, with the incorporation of CC4CA's recommended rule revisions, at its December 2021 hearing.

Sincerely,



ATTACHMENT A: CLIMATE EQUITY FRAMEWORK EVALUATION

In response to HB19-1261, the climate team of the Air Pollution Control Division in CDPHE assembled a Climate Equity Advisory Committee and jointly wrote the Climate Equity Framework[i]. At the time of this rulemaking, CDPHE is building out the Environmental Justice Unit with Boards specified in the HB21-1266 "Environmental Justice Act" that may add structure to how equity is to be addressed in GHG rulemakings. We are also aware that in response to SB21-260 (43-1-116 (5) C.R.S.), CDOT is assembling an environmental justice and equity branch, but its role and any framework for ensuring effective prioritization of DI communities is yet to be established. Since the statute behind the Climate Equity Framework was intended to apply to all GHG rulemaking for Colorado, we hold that the Framework should be used to evaluate the proposed GHG Planning Standard although that rulemaking is no longer being conducted through AQCC. We would like to offer our evaluation of the proposed rule and our preferred solutions through this tool:

1. ***How did the [CDOT and Transportation Commission] encourage community input and participation in the policy process? How was community input used? (Principle 1. Equitable Representation)***

   We appreciate that CDOT has held hearings and listening sessions to inform the public of the proposed rule and that these sessions have been conducted at a diversity of times and provided Spanish language access. We appreciate the changes that have been made to acknowledge the obligation to DI communities and to begin to address those needs.

   Since many, if not most, transportation projects to be considered through this rule have the potential to help or harm DI communities, further steps from initial project evaluation and selection, to mitigation measure selection must involve direct input from the communities where these projects are to be considered. We specifically urge CDOT and the Commission to ensure the rule promotes the transparency called for in HB21-1266 ((3)(a) C.R.S): "To promote the goal of state engagement of disproportionately impacted communities, an agency shall strive to create new ways to gather input … transparently sharing information about adverse environmental effects from its proposed state action." This is particularly salient in transportation planning, where, as SB21-260 recognized,[1] transportation capacity projects frequently further health and quality of life inequities for DI communities.

   In order to avoid perpetuating a historic pattern of seeking and disregarding input from marginalized communities, it is essential that the expressed needs of the communities engaged be demonstrably reflected in the projects chosen. We would recommend the use of this framework to track and record how input was translated into benefits for each DI community engaged, unless and until CDOT's environmental justice and equity branch has a framework and protocol that can do the same.

[1] SB21-260 Declaration Section 1(b)

2. ***How will this rule impact costs for disproportionately impacted communities? (Principles 2. Prioritizing Benefits and 3. Economic Impacts)***

   As housing costs push DI communities farther from jobs, this rule has the opportunity to reduce travel costs, but only to the extent that it promotes and advantages clean and affordable transportation specifically and fully serving DI communities. We don't see provisions in the proposed rule that would effectively advantage these projects against those that continue to promote and induce demand for private cars (electric or otherwise) as a means of transportation.

   With the increasing cost of healthcare in this country, living in a DI community impacted by traffic or highways becomes expensive as well as dangerous. If this rule were to favor projects that reduce VMT and reverse pollution in DI communities, residents would be at less risk of financial ruin due to medical bills or of forgoing needed healthcare due to cost.

3. ***What are the financial benefits of compliance and are they being directed toward/prioritized within disproportionately impacted communities? (Principles 2. Prioritizing Benefits and 3. Economic Impacts)***

   The rule as currently proposed, in which there is not a clear priority for benefits to DI communities in the primary planning process, is likely to result in the approval of capacity projects at the expense of projects that extend clean transportation services into DI communities. This would further erode property values adjacent to these capacity projects and perpetuate the pattern of disservice to areas already at the intersection of multiple inequities. This rule needs to establish the incentive and expectation for MPOs and CDOT to propose VMT-reducing projects as assertively as they have usually proposed capacity projects. Measures such as free or affordable transit and safe, walkable and bikeable street renovations have the potential to save residents of DI communities considerable travel costs, and they should be advantaged in the planning evaluation. We don't see such a prioritization in the planning standard as currently proposed, so we support advancing these "Mitigation measures" to the primary compliance process.

4. ***What are the potential negative and positive impacts of the rule on physical and mental health? How can negative health impacts be minimized and positive impacts maximized for disproportionately impacted communities? (Principles 2. Prioritizing Benefits and 4. Health Impacts)***

   Both HB19-1261 and SB21-260 were clear in their intent that GHG rules including this one redress the historical role of transportation projects in creating and deepening health inequity. While the preamble to this rule acknowledges this record, the rule language that follows does not effectively prioritize local health benefits to communities surrounding existing or potential transportation projects.

   Our primary concern outlined in our comment letter is that the VMT reduction strategies that could most benefit or prevent harm to DI communities are relegated in this rule language to mitigation measures to be applied if and when GHG reduction targets are not met, due to inadequate project reductions or projects that increase GHGs. The requirement to address air

pollution and direct benefits to DI communities should not be deferred to mitigation, as an afterthought.

Quantification of benefits in the proposed rule are not presented as a measure to be used to advantage VMT- and pollutant-reducing projects, but is left to the mitigation measures; this section is further weakened by the recent addition by CDOT of "where feasible" to the quantification of "annual GHG emission reductions" (8.02.6.3.2) and "specific co-benefits where feasible including reduction of co-pollutants (PM2.5, NOx, etc.) (8.02.6.3.3)." Where the health of communities is at stake, good-faith estimation of both GHG and air pollutant benefits should not be conditional.

It is not enough for the rule to direct Mitigation Action Plans to "prioritize" co-benefits in DI communities, as this term is not defined, and the rule contains insufficient binding commitment to how or whether this will be done. Therefore, we support resolving this ambiguity with specific commitments of investment and VMT reduction measures in the primary planning process.

5. ***What barriers and benefits exist for disproportionately impacted communities to adopting proposed mitigation technologies? How are barriers being addressed and benefits being maximized? (Principles 2. Prioritizing Benefits and 5. Access to Solutions)***

In order for clean transportation such as walkable/bikeable streets and transit to serve the needs of DI communities, it must be safe, affordable, efficient, and extend fully into these neighborhoods. The current proposed rule doesn't specifically advantage these projects or prioritize the investment that would be needed to ensure projects benefitting DI communities are served first, before other projects that would potentially increase VMT.

Since DI communities are among the least able to transition directly from gas vehicles to EVs, clean transportation alternatives are critical in the near term to facilitate the transition away from car dependence. If this rule is modified to effectively realize alternatives to driving in DI communities, it will give these residents time to replace gas cars with EVs as those become more affordable in the new and used marketplace.

6. ***How can the rule improve community resilience or quality of life for people living in disproportionately impacted communities? (Principle 6. Resilience)***

Car-dependency is extremely brittle, especially for residents with limited means, and it contributes to the disproportionate impact of climate change on DI communities. If there are several different ways of getting around other than driving, families will be more resilient to disruptions in fuel pricing, parts supplies, transit reliability, and weather conditions. If this rule is modified to promote true multimodality, rather than perpetuating the priority of cars, all communities will be more resilient, including those that are our most under-resourced, yet also most resourceful, communities.

The draft climate equity framework also includes "Other Important Questions to Ask" which we consider of tantamount importance to the "Key Questions:"

1. What are the plans for following up with communities after this rulemaking? (*Principle 1. Equitable Representation*)
    a. Part of the Transportation Plan reporting should include follow-up with community stakeholders during project and program implementation to ensure these are reaching and benefitting all affected communities
2. If jobs are being created, what is in place to direct those benefits (including capacity-building, training) toward disproportionately impacted communities? (*Principles 2. Prioritizing Benefits and 3. Economic Impacts*)
    a. Economic analysis should evaluate whether net jobs are created through project construction, transit expansion and fleet turnover and whether those jobs are created in or provide employment to disproportionately impacted communities.
3. How does the Social Cost of Carbon weigh into the economic and health benefits of proposals specifically on disproportionately impacted communities? (*Principles 2. Prioritizing Benefits and 3. Economic Impacts*)
    b. We're pleased to see the use, required by SB21-260, of the social cost of carbon in CDOT's Cost Benefit Analysis dated August 31. We would like to see it linked to effects on disproportionately impacted communities. To fully realize the intent of the social cost of carbon, it should also be a factor in comparing potential projects for funding.

After this rulemaking is complete and consideration begins of specific transportation projects, we urge CDOT and MPOs to use these questions to evaluate and compare projects. We further urge CDOT to engage the state's Environmental Justice Unit as they respond to what we expect will be growing calls for state agencies to address GHGs and air pollution. CDOT's environmental justice and equity branch should not recreate the Environmental Justice Unit, but add transportation-specific capacity to allow project-by-project engagement of DI communities with the guidance of the EJ Unit under a consistent set of principles such as these from the Climate Equity Framework:

Principle 1: Equitable Representation - The GHG policy process should provide easily accessible opportunities for any interested person to participate. Policies that impact communities should be shaped by community input.

Principle 2: Prioritizing Benefits - For GHG reduction strategies with the potential to provide benefits to individuals or communities, disproportionately impacted communities should be prioritized. Intentionally investing in these communities, while actively reducing harms to them is critical to equitable climate action.

Principle 3: Economic Impacts - GHG reduction strategies should reduce costs, including currently externalized costs, and increase economic benefits for disproportionately impacted communities wherever possible.

Principle 4: Health Impacts - GHG reduction strategies should minimize negative health impacts and increase health benefits for disproportionately impacted communities.

Principle 5: Access to Solutions - GHG reduction strategies should promote clean technologies in ways that make sense, as much as possible.

Principle 6: Building Resilience - GHG reduction strategies should improve resilience and quality of life for disproportionately impacted communities.

[i] Colorado Climate Equity Framework available at: https://cdphe.colorado.gov/air-pollution/climate-change

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments on Green House Gas regulations

1 me age

[redacted] Thu, Nov 11, 2021 at 3:44 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

I would like to thank the commission for their hard work on this document. Proposing, listening, and revising take time and patience I have no pecific comment on any of the propo ed regulation but want you to know that looking into the future as you have done is the only way we can make the future a sustainable green place. Many comments want immediate actions—which must also be made—but if we don't look into the future there is no future. Our state, and our country, have not done the work to keep our infrastructure up to date and our voters don't seem to want to do that either. The voter want it done by magic it eem

So keep up the good work and I am behind you all the way

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

PPACG Comment Letter on Revised Proposed GHG Rule

1 me age

[redacted] Fri, Nov 12, 2021 at 4:03 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc [redacted]

CDOT Hearing Officer –

Please find attached additional comments to the revised proposed GHG rulemaking for the Pikes Peak Area Council of Governments (PPACG).

Please confirm that this additional letter was received and will be made part of the official record along with our initial ubmittal

Thank you, plea e let u know if you have any que tion

[redacted]

Tran portation Director

Pike Peak Area Council of Government

Final PPACG GHG Letter Revise Rule 11-12-21.pdf
194K

Pikes Peak Area Council of Governments
Communities Working Together

November 12, 2021

State of Colorado Transportation Commission
CDOT Headquarters
2829 W. Howard Pl.
Denver, CO 80204

RE: Revised Transportation Greenhouse Gas Rulemaking

Dear Transportation Commissioners and CDOT Executive Director Shoshana Lew:

On behalf of the Pikes Peak Area Council of Governments, please accept this letter as a supplement to our previous letter of October 14. Our original comments continue to be relevant, and this document primarily addresses the changes included in the revised rule.

Thank you for the opportunity to provide these additional comments. As we've stated before, we are eager to be part of the solution to these challenges. We have reviewed the revised rule in detail to understand how it will truly work in meeting the goals of emissions reductions. Below we are addressing a few topics broadly, but also expressing concern on some elements of the draft rule as well as the draft mitigation policy that accompanies the rule.

Land Use, the Built Environment and VMT

As we have discussed at length during this process, regional travel demand (including vehicle miles of travel, VMT) is largely a by-product of our regional built environment. It is also obviously impacted by many other factors: safe and reliable travel choices that are available (which are also impacted by development patterns), fuel prices, economic conditions, employment options, housing affordability and availability, external growth, etc. The rule and draft mitigation strategies seem to recognize the critical connection between land use and transportation. However, what we feel is missing is the recognition that MPOs have no authority over these factors, including decisions around land use and development.

Changing the built environment across a region takes time, so measuring changes caused by land use policy and zoning changes, etc. likely won't show real effects for a number of years. We appreciate the inclusion of land use policy issues in the draft mitigation policy. However, the revised rule will now require annual reporting of VMT starting in 2022 (addressed further below), so our concerns around this issue where MPOs have no direct authority are now elevated even further.

VMT Annual Reporting (8.06)

The revised draft rule now includes a requirement that CDOT provide a VMT report to the Transportation Commission annually, beginning in September 2022. If three consecutive years of reports demonstrate no decrease in VMT per capita in one or more areas, the Commission shall consider further revisions in order to achieve reductions per the rule's intent.

This is greatly concerning in a number of areas. First, we are all still in the midst of a pandemic which continues to impact regional travel patterns. We are concerned what the initial baseline year will be, as we feel that expecting reductions below an abnormal baseline is unrealistic.

Second, beginning such reporting next year, and expecting reductions within a three-year period so soon (by 2025), is occurring before we collectively even have an opportunity to plan, fund and implement new mitigation measures expected of us by this overall rule. Our understanding of the rule had been that we are planning and modeling to demonstrate GHG reductions (not VMT specifically) in specific horizon years beginning with 2030. We feel this new VMT reporting requirement unrealistically accelerates that timeline significantly.

Third, as described above, "controlling" and reducing VMT is an incredibly difficult and multifaceted challenge, and some of those factors (like land use patterns), take years to show results. Therefore, we are very concerned about enforcement approaches the Commission might contemplate if VMT reductions aren't occurring in such short-order, and what further tightening of the rule might mean.

Induced Demand / Mitigation Measures

When the rule is taken into context with the text of the mitigation memo, it appears that the State and CDOT are willing to allow congestion to get worse in the short term with the promise of long-term impacts brought on by "induced demand" (where VMT will simply increase regionally when additional capacity is added). The rule seems to anticipate that induced demand will occur each time there is any type of improvement regardless of local and regional context, and that a large mode shift will occur when congestion increases enough.

We do acknowledge that induced demand will occur in certain circumstances; however, the impacts do not occur as pervasively and predictably as has been suggested during this process. Additional travel demand and VMT occur as a result of normal, planned growth patterns that were anticipated, as well as with population growth, and through latent demand that will occur as a result of enhanced economic activity.

Therefore, we do not believe that it is good public policy for the State to indirectly dictate mode choice to the traveling public by diminishing the effectiveness of certain choices.

We believe the rulemaking approach fails to truly calculate the increase in GHG due to an inefficient road network. It must be stressed that not all members of the public can easily access transit, even enhanced transit as envisioned by this rule, due to things such as physical limitations and family needs. This rule could make GHG worse in the short term AND if the general public refuses to make changes to their mode choice, it may also increase GHG over the long term as well.

We interpret the rule and mitigation memo, as currently presented, to mean that if a region is not in compliance with the GHG rule, that region will not be able to use our federal STP dollars to implement operational improvements to the system (such as traffic signal coordination, or ramp metering). We believe this is short-sighted and may severely impact emergency response times due to congestion, and we do not believe that improvements of that nature are demonstrably "inducing demand" of more drivers. We suggest a compromise to give those operational projects a lower mitigation score/value. We feel it is imperative that these important improvements are not prohibited from using federal transportation funds.

In addition to our broad comments above, the Pikes Peak region also offers the following specific comments to the latest draft of the rule:

8.03.1 – Transit to outside areas deemed a mitigation measure. We believe this measure rewards communities for implementing zoning not conducive to the spirit of this rule making. Communities that implement "growth boundary" type zoning regulations should not be allowed to count mitigation for situations that they cause toward their GHG goals.

8.06 – Reporting. The Commission may want to consider adding the word "estimated" in front of VMT. To our knowledge CDOT and the State will not actually collect VMT from every vehicle in the state. This will be only an estimate and that estimate will be predicated on assumptions based on the characteristics of the region in which the calculation is being made. Additionally, the text leads the reader to believe that this is total VMT in each region. Regardless of the effectiveness of any of these measures, VMT is likely to rise based on population alone.

- Are miles estimated for interstate travel included in this calculation? Especially if the interstate travel is just passing through the state?
- Travel time (VHT) is an important factor in determining GHG, why is this also not collected and considered?

In closing, we hope that the Commission will consider that the transportation system needs to address the needs of all of its users and should continue to allow for choice.

Sincerely

[redacted]

Pikes Peak Area Council of Governments

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse gas reduction rule making comment

1 me age

[redacted] Sun, Nov 14, 2021 at 5:34 PM

To: dot_rules@state.co.us

Attached plea e find my public comment on the propo ed GHG reduction rule thank you

[redacted]

GHG comment.docx
14K

I am writing as a physician at a safety net hospital in Denver who cares for many patients with COVID-19 and respiratory illnesses exacerbated by air pollution. I am also writing as a father who sadly will likely be taking my family away from Colorado for most of next summer because of the tremendous amount of damage ozone pollution is inflicting upon my childrens' lungs.

In a recent comment in the Denver Post, Director Lew stated that these GHG reduction rules will not prevent CDOT from moving ahead with planned highway expansions. In 2021 if we are serious about our goals of equity, air quality and greenhouse gas reduction, we absolutely can not continue to expand highways through our urban neighborhoods. Many of us will consider these rules a failure if they allow I-25 to be widened through the Sun Valley neighborhood of Denver, one of the poorest neighborhoods in the state. No amount of mitigation in the form of bike lanes and bus lanes will reduce the harm inflicted upon this neighborhood by the thousands of additional cars driving through it every day. These rules need a kill switch that will halt construction of highway projects that worsen air pollution and greenhouse gas emissions and disportionately harm environmental justice communities.

My second point is regarding the reliance on inadequate traffic modelling. For example, modelling performed for the expansion of I-70 at Floyd Hill predicts that this highway project will actually reduce VMT by 2% by 2040. The prediction that eliminating a major source of highway congestion will cause less people to drive goes against all accepted scientific evidence and common sense. Conveniently if a highway expansion is modelled to not increase VMT then no mitigation measures will be required. It is clear that this flawed process cannot be relied upon to meet the challenges of climate change head on.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Written Comment on the Draft Rule

1 me age

[redacted] Mon, Nov 15, 2021 at 8:13 AM

To: dot_rules@state.co.us

Dear CDOT and members of the planning commission,

My name is [redacted] and I am a pediatrician in Adams County. I work at a non-profit clinic called Every Child Pediatrics.

Despite the presence of COVID 19 in our communities, climate change and air pollution still remain one of the most critical public health issues we face. Ozone alerts are visible and constant warning signals that we must do more to limit our greenhouse gas emissions and address air pollution and climate change head on. Our health depends on it.

A a pediatrician, on my drive to work, I come over the cre t of a hill where there i a view of downtown Denver On many day the view i ob cured by mog On tho e day , I know that I will ee more kid come into my clinic with a thma and difficultie breathing

Over 100,000 children in Colorado suffer from asthma, making it the most common chronic illness of childhood. Worsening air quality places these children at risk for both chronic disability and acute life-threatening illness. And now, based on a recent study from Harvard, we know that people who live in areas with more pollution are more at risk to fall ill from COVID 19. These most vulnerable populations will also be those most impacted by climate change.

Each time an ozone alert is issued, Coloradans' health is put at risk by going outdoors. It is your friends, family, and neighbors who have underlying health conditions like COPD or asthma. who are most at risk. Ozone exposure also increases the risk of contracting respiratory infections. The Denver Metro area ranked # 10 in the nation last year for poor air quality due to ozone. The Environmental Protection Agency recently hung a badge of dishonor around our region’s neck by penalizing us for our inability to make real progress in cleaning up our air.

Right now there is a real opportunity for improvement on the horizon. But we must act now and we must act with strong initiatives. Timely and strong action can make a meaningful change in the quality of our air.

Colorado lawmaker et aggre ive goal for limiting greenhou e ga during their 2019 legi lative e ion A a healthcare provider, I am working to urge you to take the nece ary tep to limit greenhou e ga emi ion The re earch i clear Polluted air i bad for u all, and particularly bad for tho e with other chronic health condition A warming planet will impact the health of our communitie and thi burden will fall di proportionately on children and other vulnerable population Communitie of color a well a communitie dealing with the impact of poverty are more u ceptible to the wor t effect of climate

As we struggle to contain COVID 19 and to understand the long term effects the virus may have on our heart and our lungs, the way that air pollution worsens disease from COVID 19, and the ways that air pollution, climate change and COVID 19 hit our most vulnerable populations the hardest, it is crucial that we address air pollution and take climate action now. We need more infrastructure for electric vehicles, plans

for transit that decrease miles travelled, and planning that incorporates multi-modal transportation with a focus on low income communities who are disproportionately impacted by air pollution. We must mandate rules for greenhouse gas emissions in transportation as we move forward in our planning process.

To make progre we need urgent and meaningful action It i my hope, and that of health care profe ional acro the tate, that you will act My patient and their familie , a well a million of other Coloradan , need action now

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

CCA Public Comment on proposed GHG Rule

1 message

[redacted] Mon, Nov 15, 2021 at 1:33 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc: [redacted]

Dear Commissioners:

Please find attached CCA's public comment in regard to the proposed GHG rule.

Thank you for your consideration.

[redacted]

[redacted]

EXECUTIVE DIRECTOR

COLORADO CONTRACTORS ASSOCIATION

BRINGING INFRASTRUCTURE TO LIFE

[redacted]

PROUD CHAPTER OF AGC AMERICA

CCA Second Comment Letter to CDOT on GHG Rulemaking.pdf
276K

COLORADO CONTRACTORS ASSOCIATION
BRINGING INFRASTRUCTURE TO LIFE
6880 S. YOSEMITE COURT, SUITE 200
CENTENNIAL, COLORADO 80112

November 15, 2021

Colorado Department of Transportation
Transportation Commission
2829 W. Howard Pl.
Denver, CO 80204

Re: Greenhouse Gas Rulemaking

Dear Commissioners:

Thank you for the opportunity to provide written comments regarding the Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards. The Colorado Contractors Association ("**CCA**") has been closely following this rulemaking and provided comments on the initial draft in a letter dated October 12, 2021. CCA appreciates many of the revisions made in the draft rule (the "**Initial Draft Rule**") that CDOT published on October 19, 2021 (the "**Revised Draft Rule**"), as further described below.

CCA expresses the following additional comments with the Revised Draft Rule: (I) the extension of the public comment period, the publication of a revised rule for review, and the delay in the adoption of the rule by 30 days are appreciated, but CCA remains concerned with the rushed process to adopt the Revised Draft Rule; (II) the removal of the baseline Greenhouse Gas ("**GHG**") emissions from the rule is acknowledged; (III) the procedural changes to the waiver process within the revised rule represent an improved process; and (IV) the inclusion of a vehicle miles traveled ("**VMT**") report, which was not present in the Initial Draft Rule, presents significant concerns as further detailed below.

I. Timeline of Rulemaking

The draft rule was published on August 13, 2021 and the Transportation Commission (the "**TC**") may adopt this rule on December 16, 2021, which is approximately 30 days later than was originally proposed. CCA appreciates that the public comment process was extended by 30 days and that CDOT published a Revised Draft Rule in response to comments submitted during the initial comment period. Our overall timing concerns remain, especially given the significant ways in which this rule will change our state's transportation planning process, and the lengthy planning horizon covered by the draft rule. CCA appreciates the initial release of the Mitigation Policy Overview memo. However, given the importance of mitigation measures in continuing to advance regionally significant transportation capacity projects, it is difficult to assess whether the Revised Draft Rule is feasible and will allow for many important projects within CDOT's 10-Year Plan to be advanced.

II. Removal of Baseline GHG Projections from the Rule

The Initial Draft Rule included baseline estimates of GHG emissions that created the comparison with the reduction targets for each of the years of CCA recommended that the baseline estimates of GHG emissions be taken out of the rule for a number of reasons, most significant of which is that the baselines will likely need to be adjusted to continually improve their accuracy and in response to any changes such as population growth that differs from the model assumptions. CCA appreciates CDOT's responsiveness to this comment and the changes that have been made to the Revised Draft Rule.

III. Changes to Waiver Process

CCA had previously raised a concern regarding the wavier process in the initial draft. In the revised rule, the waiver process now requires the TC to take action on all waiver requests. CCA appreciates this change and believes it will result in enhanced transparency and the opportunity for stakeholder input in the consideration of project waivers. CCA continues to recommend additional clarity on the criteria for approving a waiver request.

IV. VMT Report

The revised draft rule includes concerning changes within Section 8.06, Reporting. The Initial Draft Rule had required that CDOT prepare and present to the TC a "comprehensive report on statewide GHG reduction accomplishments every five years." The frequency of this report has now been changed to every three years, and the report is now also to be presented to the Air Quality Control Commission, even though the authority to promulgate and administer this rule is clearly under the authority of CDOT. CCA recommends that this report be presented to the agency that is responsible for oversight of this rule, as authorized by state law.

However, there is an even more concerning addition to the Revised Draft Rule found in Sections 8.06.2 and 8.06.2.1. These sections require the creation of a VMT report. This role of this report is further outlined in the section below:

> **8.06.2.1** *If three consecutive years of reports demonstrate no decrease in VMT per capita in one or more areas, the Commission shall consider revisions to these rules in order to achieve reductions in VMT consistent with the intent of this rule.*

Changing travel behavior is a complex endeavor that involves many factors well outside the authority of CDOT. It is more appropriate to create policy goals for changing travel patterns within planning processes, such as updates to the regional transportation plans created by metropolitan planning organizations and within CDOT's statewide transportation plan. As drafted, the VMT report provision also fails to recognize that transportation capacity projects improve traffic flow, reduce congestion and idling, and have meaningful impacts on the reduction of GHG emissions. Any report that is used to assess progress toward the policy goal of reducing GHG emissions from the transportation sector should be comprehensive and not limited exclusively on reducing VMT per capita.

The phrase that states "the Commission shall consider revisions to these rules in order to achieve reductions in VMT" is alarming because the overarching purpose and intent of the rule is to make changes to the transportation planning process to account for the impact of regionally significant transportation projects. The primary intent of this rule is not to reduce VMT. CCA is concerned that the language in Section 8.06.2 exceeds the authority that has been granted to CDOT by the General Assembly through the passage of Senate Bill 21-260.

CCA recommends that this reporting section be modified with the following recommended changes:

a. Eliminate the standalone VMT report.

b. Incorporate VMT as an element within the comprehensive progress report provided every three years to the TC.

c. Add additional elements to the comprehensive progress report that influence GHG emissions. By way of example, some of the additional elements that should be included in a comprehensive report are transit ridership levels, traffic modeling that measures congestion mitigation, electric vehicle adoption, and the effectiveness of various mitigation measures such as pedestrian and bicycle infrastructure.

d. Modify the use of the phrase "shall consider revisions to these rules" when describing the TC's actions after reviewing the progress report. A more appropriate description of the TC's role is that they may review the comprehensive report to evaluate the various contributors to transportation related GHG emissions.

V. Conclusion

CCA appreciates the work that CDOT has devoted to this effort and the staff's willingness to hear our concerns and make changes to improve the rule. Thank you for the opportunity to comment within this rulemaking process.

Sincerely,

[redacted]

cc: Shoshana Lew, Rebecca White, Herman Stockinger, Theresa Takushi

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Proposed Greenhouse Gas Rule

1 me age

[redacted] Mon, Nov 15, 2021 at 3:32 PM

To: dot_rules@state.co.us

Hi,

Please find my attached comments on the proposal to reduce GHG.

Thank ,


[redacted]

Your safety matters to me.

GHG Letter.pdf
148K

November 15, 2021

Transportation Commission of Colorado
2829 W. Howard Place
Denver, CO 80204
dot_rules@state.co.us

Subject: Proposed Greenhouse Gas Rule

Dear Commissioners,

Thank you for the opportunity to provide comment and feedback on the revised proposed Greenhouse Gas Rule Draft. We applaud the CDOT staff and Commission for their efforts and willingness to receive comments.

As a Colorado company we support the effort to reduce gas emissions and mitigate the impacts of air pollution to improve the air quality of our great state. However, we have concerns related to the draft rule as currently constructed:

- We are concerned that this policy forces a drastic change to the transportation planning process in an extremely short period of time.
- The rule assumptions around redirecting funds to capital investments in Transit will result in a forecasted mode shift are unrealistic and not supported by data.
- The sudden appearance and addition of the reduction of Vehicle Miles Traveled as a goal of this rule is outside the stated intent of reducing GHG. Using an annual VMT report as an indicator for additional future changes to the rule at minimum is providing a very limited perspective but at worst may be misleading as VMT can increase while GHG production decreases as a result of better technology, efficiency, and conversion to zero emission vehicles. We recommend striking "VMT" from the name of this report and including additional data reference points like transit ridership and EV registration numbers to potentially inform future rule changes.
- Consider the $9Billion backlog of transportation projects when considering waiver applications. Projects that have long been ignored or postponed for funding reasons should not be unilaterally penalized for possible increases in capacity.
- And finally, we caution the Transportation Commission and CDOT staff that while it has been reported that 75% of the feedback is "supportive" it would be a mistake to assume that this is reflective of the public levels of support for this rule. The public commentary received has been disproportionately skewed toward environmental activism groups and form letter responses. And while that is a valuable and respected perspective, it is also not representative of the traveling public who is more likely to be unaware of this rulemaking process than participating in it. We urge the commission to apply common sense to the balance of public comment.

Thank you in advance for your consideration.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

public comment

1 me age

[redacted] Tue, Nov 16, 2021 at 8:29 AM

Reply-To: [redacted]

To "dot rule @ tate co u " dot rule @ tate co u

My name is [redacted], I am writing today on behalf of myself and my community. Thank you for listening to the public and for the opportunity to provide comment!

Climate disruption is an issue that is impacting all of us. Colorado is experiencing an air quality crisis and transportation is our number one source of our greenhouse gases (GHG).

One of the be t way to permanently reduce tran portation pollution i to reduce **vehicle miles traveled (VMT)** per per on, per year, by giving people option other than driving their car I have friend who moved here from Portland, Oregon who tell me ma tran it there i far better than it i here They didn't even own a car until they moved here When they fir t moved here they lived in a place near a light rail tation but oon di covered that light rail did not meet all their need

I would ask the Commission to please clarify what type of decrease we need to meet the state's climate goals. The new draft requires each planning region to produce a yearly VMT report to make sure we're on track for a reduction but we don't know how much of a reduction is expected.

My husband and I both drive hybrids and generally stay fairly close to home. We would have gotten EVs if we had a place to charge them but we park on the street since we do not have a garage. When I have to venture downtown I usually take light rail or the bus depending on what part of town I am going to.

I am a retired critical care RN and I aw ome of the health i ue cau ed by our air quality during my time at the bed ide Some of tho e impact include re piratory illne e uch a a thma, chronic ob tructive pulmonary di ea e (COPD) and lung cancer, heart di ea e including troke, neurological dy function, premature death, low birth weight, birth defect and premature birth

I am concerned about my front range community. The CDPHE sent out a warning that higher rates of air pollution may be putting people at greater risk of coronavirus infection. Our neighbors who live in areas of high pollution are mostly impoverished, people of color, many of them essential workers. I am bothered that their health might be endangered!

Thank you again!

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment-GHG Emissions

1 me age

[redacted] Tue, Nov 16, 2021 at 9:43 AM

To: dot_rules@state.co.us

Cc [redacted]

To Whom It May Concern,

Attached are comment from the I 70 Coalition on 2 CCR 601 22 RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

Will you please confirm receipt?

[redacted]

Comments Proposed Rules of GHG Emissions standards11.16.21.pdf
84K

I-70 COALITION
setting the pace for the future

November 16, 2021

Re: 2 CCR 601-22

RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

CDOT's proposed rules to reduce GHG emissions from the transportation sector

To Whom It May Concern,

The proposed rule will require CDOT to determine total GHG emissions expected from future transportation projects, including Regionally Significant Projects. The I-70 corridor has two such Regionally Significant Projects pending or underway – Floyd Hill and Vail Pass. The proposed rules cite the use of the Statewide Travel Model to establish a baseline of emissions and demonstrate compliance. Currently the Statewide Travel Model only includes weekday travel data, yet Floyd Hill and Vail Pass experience the great majority of their volumes on the weekends. The Statewide Travel Model will have limited applicability to these projects, and the I-70 mountain corridor in general, until weekend use is modeled.

The I-70 Coalition has a robust Transportation Demand Management (TDM) program aimed at reducing Vehicle Miles Traveled (VMT) on the I-70 mountain corridor. The incorporation of weekend data into the Model would improve the effectiveness of the I-70 Coalition's TDM efforts, providing valuable baseline data by which goals could be set and outcomes measured. Understanding weekend travel patterns, VMT, transit and ridership would inform our efforts to provide and promote multi modal options and decrease VMT on this highly congested corridor.

We understand CDOT is planning to extend the Model to include weekend travel data. The I-70 Coalition urges CDOT to expedite this plan and ensure the effort is funded to the level necessary to generate the same robust information that currently exists for weekday travel. Such an expansion of the current Statewide Travel Model is necessary to determine emissions levels on Regionally Significant Projects as well as support TDM efforts on the I-70 mountain corridor.

Sincerely,

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

RE: GHG Rule Draft Concerns

1 me age

[redacted] Tue, Nov 16, 2021 at 9:51 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

To whom it may concern

Plea e take a moment to read the attached letter outlining ome of our concern a you are reaching the final tage of the rulemaking process to adopt and implement Greenhouse Gas reduction and mitigation strategies.

Thank you for your time in this matter.

Sincerely,

[redacted]

[redacted]

[redacted]

Schmidt construction company

[redacted]

GHG_Letter- Schmidt.pdf
77K

November 15, 2021

Transportation Commission of Colorado
2829 W. Howard Place
Denver, CO 80204
dot_rules@state.co.us

Subject: Proposed Greenhouse Gas Rule

Dear Commissioners,

Thank you for the opportunity to provide comment and feedback on the revised proposed Greenhouse Gas Rule Draft. We applaud the CDOT staff and Commission for their efforts and willingness to receive comments.

As a Colorado company we support the effort to reduce gas emissions and mitigate the impacts of air pollution to improve the air quality of our great state. However, we have concerns related to the draft rule as currently constructed:

- We are concerned that this policy forces a drastic change to the transportation planning process in an extremely short period of time.
- The rule assumptions around redirecting funds to capital investments in Transit will result in a forecasted mode shift are unrealistic and not supported by data.
- The sudden appearance and addition of the reduction of Vehicle Miles Traveled as a goal of this rule is outside the stated intent of reducing GHG. Using an annual VMT report as an indicator for additional future changes to the rule at minimum is providing a very limited perspective but at worst may be misleading as VMT can increase while GHG production decreases as a result of better technology, efficiency, and conversion to zero emission vehicles. We recommend striking "VMT" from the name of this report and including additional data reference points like transit ridership and EV registration numbers to potentially inform future rule changes.
- Consider the $9Billion backlog of transportation projects when considering waiver applications. Projects that have long been ignored or postponed for funding reasons should not be unilaterally penalized for possible increases in capacity.
- And finally, we caution the Transportation Commission and CDOT staff that while it has been reported that 75% of the feedback is "supportive" it would be a mistake to assume that this is reflective of the public levels of support for this rule. The public commentary received has been disproportionately skewed toward environmental activism groups and form letter responses. And while that is a valuable and respected perspective, it is also not representative of the traveling public who is more likely to be unaware of this rulemaking process than participating in it. We urge the commission to apply common sense to the balance of public comment.

Thank you in advance for your consideration.

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

REVISED - Comments to GHG Rules - Colorado Motor Carriers Association

1 me age

[redacted] Tue, Nov 16, 2021 at 11:13 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Plea e accept the attached revi ed comment on the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions. This submittal (November 16, 2021) replaces our earlier submittal of November 10, 2021.

We appreciate your consideration of these revised comments on our part.

Thank you.

[redacted]

[redacted]

[redacted]

CMCA COLORADO MOTOR CARRIERS ASSOCIATION | TRUCKING Moves America Forward

EPA SmartWay Affiliate

SmartWay

CMCA Comments on Revised GHG Rule - 11-16-2021 - Resubmitted with Changes.docx
589K

COLORADO MOTOR CARRIERS ASSOCIATION

November 16, 2021

Executive Director Shoshana Lew
and Colorado Transp. Commissioners
Colorado Dept. of Transportation
2829 W Howard Pl
Denver, CO 80204

REVISED COMMENTS

Dear Director Lew and Colorado Transportation Commission:

Thank you for the opportunity to submit comments on the proposed revision to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions which identifies a process for addressing greenhouse gas (GHG) emissions and sets GHG standards for transportation plans. The Colorado Motor Carriers Association represents over 650 companies directly involved or affiliated with trucking in Colorado today. Over 115,000 people are employed in trucking related industries and our industry transports 84% of the state's manufactured freight.

Introduction

We would be remiss if we did not mention the bleak state of our supply chain within the country today. Over the last year our country has gone from one where there was an abundance of products in our stores and wide variety of different brands, to one where we are in many cases seeing shortages and limited choice in what we can buy. We now are being placed on waiting lists for items and goods. Further, where we once could obtain many items in 24 to 48 hours, there is little guarantee when we may receive certain products.

A major factor that has contributed to our supply chain problems is our aging and inadequate infrastructure where both on a federal and state level we have failed to make critical investments and improvements. This has led to various bottlenecks for freight throughout the country where trucks may be stuck in traffic or travel at a snail's pace either because of congestion or the deplorable condition of the highway or bridges. These bottlenecks exacerbate the problems now being encountered with our supply chain leading to even greater delays and higher costs for goods.

Both our State Legislature and Congress recognized the immense problems with our infrastructure, and both should be commended for passing major funding measures which hopefully will alleviate some of these bottlenecks. While the passage of those measures is

good news, the reality is that those bottlenecks will remain until those critical highway and bridge projects move forward.

It is critical as we look at these rules as well as others that we be sensitive to not inadvertently create additional hurdles or excessive delays to many of the critical highway and bridge improvements that are identified within CDOT's Ten Year Plan. Moving forward with those improvements is critical to addressing our supply chain problems not only for today but the future and will contribute to the well-being of the state.

Comments and Suggested Changes to the Rules

First, we wish to commend CDOT and its staff on the work to date on the rules. We believe several of the changes to the earlier draft were constructive. Below are our comments and suggested changes to the rules for consideration.

Tracking and Reporting

In the preamble for these rules, it notes as follows:

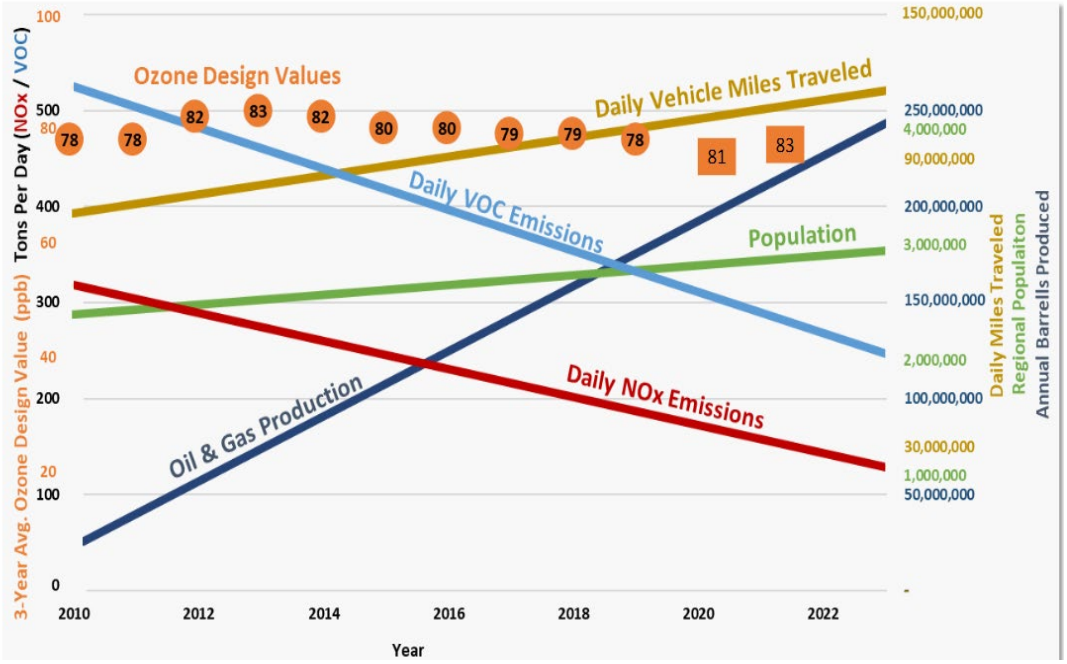
> Section 8 of these rules establishes Greenhouse Gas (GHG) pollution reduction planning levels for transportation that will improve air quality, reduce smog, and provide more sustainable options for travelers across Colorado. The purpose of these requirements is to limit the GHG pollution and provide more transportation mobility options.

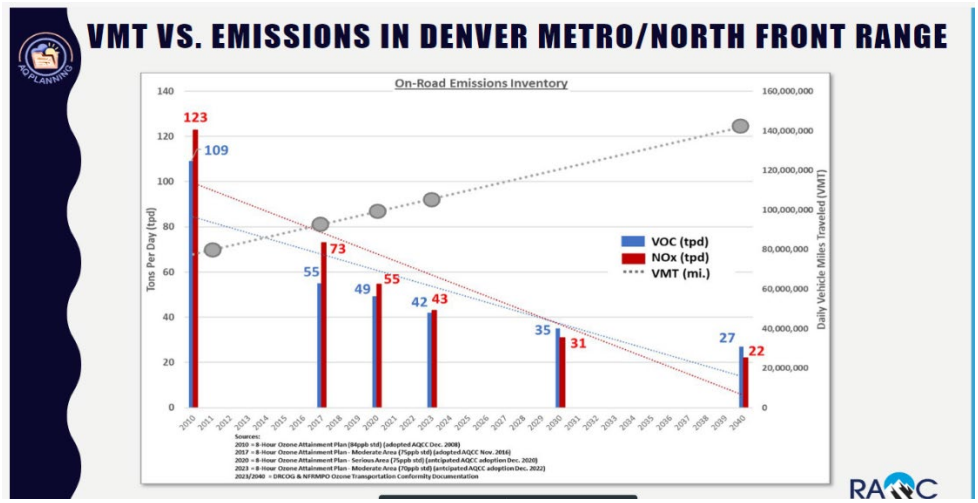
Vehicle Miles Traveled (VMT) is not mentioned in the Statement of Basis and Purpose for the Rules nor the Preamble to the Rules. The statement of basis and purpose of rules tends to reflect the parameters for rules and the fact that there is no reference to VMT implies that it was not a major consideration during the original drafting of the rules.

The revised draft rule now includes tracking and reporting of vehicle miles traveled (VMT) as can be seen in sections Section 8. Section 8.06.2 calls for the creation of an annual VMT report. Including total VMT per capita within the MPO areas and statewide for the past calendar year. Section 8.06.2.1 in the revised rule is disconcerting in that it states as follows:

> *If three consecutive years of reports demonstrate no decrease in VMT per capita in one or more areas, the Commission shall consider revisions to these rules in order to achieve reductions in VMT consistent with the intent of this rule.*

Inclusion of VMT in the revised rule assumes that there is a direct correlation between VMT and GHG, where an increase in VMT would translate into an increase in GHG and other emissions. While this may have been true in years past that no longer is the case. An increase in VMT does not necessarily translate into an increase in GHG. As may be seen in the charts below (which were prepared by the RAQC), they reflect that while VMT in the Denver Metro Region grew by over 25% over the past 10 years, daily VOC and NOx emissions dropped by almost 50%.





Much of this reduction in VOCs and NOx is attributable to the turnover of the overall vehicle inventory in the region where older, higher-emitting vehicles were replaced with newer, lower-emitting ones. In addition, cleaner fuels also contributed to those reductions. Both of those trends are continuing which should point to lower emissions on a per capita basis than in the past. As a result, the relationship between GHG and VMT is becoming less and less relevant. Based on this trend, we could have a continuing increase in VMT while at the same time seeing a significant drop in GHG and meet the desired objective under the rules.

Including a data element such as VMT which is becoming less and less an indicator of

emission levels and then linking possible reconsideration of the GHG rules if that data element fails to drop, is nonsensical based on recent trends. Further the tracking and reporting of VMT presents the appearance that the State is seeking to employ the rule for other purposes beyond GHG reduction, which are outside the boundaries of these rules and should be considered in another forum.

We request that the annual report on VMT be stricken along with the provision for a reconsideration after three years if there has not been a decrease in VMT. Our reasons and arguments supporting the removal of references to VMT are below.

Regarding reporting, the revised draft also makes changes to the reporting requirement on statewide GHG reduction accomplishments which had been every three years versus five years in the revised draft. In addition, the revised rules indicate that this report is to be presented not only to the Transportation Commission, the authorizing body for these rules, but the Air Quality Control Commission. We question both the change in timeline for the report as well as a requirement that it be presented to the AQCC. Having such language in the rules implies some sort of approval by the AQCC which was not included in SB 260. If this is not the case, why include this language? We would anticipate that CDOT may present this report to various groups including MPOs and TPRs as well as trade groups such as ours. Realizing that SB 260 was very clear in designating that the Transportation Commission was the body charged with promulgating this rule and CDOT is the agency identified to administer this rule. Adding such language related to the AQCC confuses the matter as to who is the authorizing body for these rules.

Greenhouse Gas Reduction Targets

We recognize that the purpose of this rule and the intent of the Legislature was to balance transportation improvements while not adding to the problem related to greenhouse gas emissions. We do believe that the suggested reduction levels of CO_2 as shown on Page 26 appear to be ambitious and attaining those reductions especially in earlier years may prove very difficult. We would suggest that these proposed reductions be reconsidered.

Inclusion of Additional GHG Mitigation Measures

1) Scrappage and Replacement of Older, High Emitting Vehicles of Residents Adjacent to Major Highway Projects

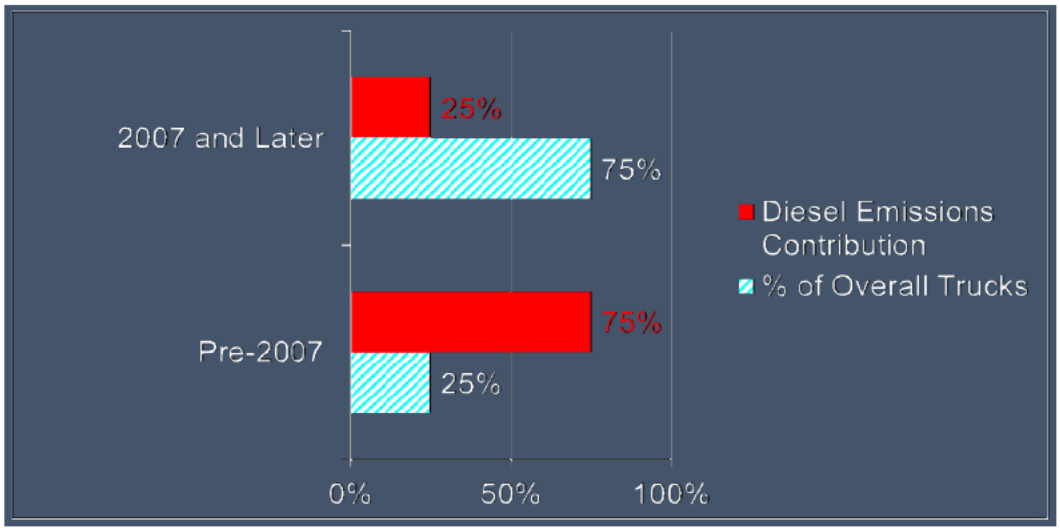
The greatest reduction in emissions and GHG over the years has been due to the "greening" of the overall inventory of vehicles in the country. Newer vehicles emit far less due to modern emission control systems as well as being much more fuel efficient. A newer vehicle emits at least 25% less GHG emissions than one of 10 years ago. In addition, the newer vehicles are safer because of the additional safety improvements made to vehicles over the years.

As we look at GHG reduction strategies associated with a specific highway improvement, it is important

that we recognize that a high percentage of the users and trips on that highway today are made by individuals living adjacent to and proximate to the roadway. The highway not only serves as a means for them to commute longer distances for work (in many cases where transit service is unavailable), shopping or recreation. It also serves as a form of a neighborhood roadway linking different parts of a neighborhood or community together as well as adjacent areas. In many cases the highway tends to be the most direct and fastest way for such local trips. While these trips may be short in distance, the overall volume of trips over the course of the year may be substantial.

Many of the residents living proximate or adjacent to major highways may be lower income individuals living within disadvantaged areas. These individuals tend to own older vehicles which are higher emitting and have a greater GHG footprint than a newer car. Recognizing this, we would suggest that the GHG rule include a mitigation measure whereby financial assistance be available to residents with vehicles that are 10 years or older to obtain a newer, lower emitting vehicle with the older vehicle being scrapped. This action would not only reduce GHG and other emissions but also enhance safety. This strategy would greatly reduce GHG and other emissions and remove permanently some of our oldest and highest emitting vehicles from our roadways. This strategy also allows those in lower income areas greater mobility and enhanced safety while leading to a substantial emission reduction.

Heavier industry and commercial developments tend to be proximate to highways because of the access it provides them. Because of their operations next to the highway, those businesses receive and ship products by truck daily. Like the removal of older cars, the scrappage and replacement of older diesel trucks with newer, cleaner trucks is a strategy that may substantially reduce GHG and other emissions in a low cost and efficient manner. Providing grant funds to help companies in these areas offset some of the cost of a newer vehicle should be considered. As can be seen in the chart below, 75% of the diesel on-road emissions are generated by 25% of the vehicles which are older units.



In addition, another strategy that should be added is diesel roadside emission testing whereby visible high emitting vehicles in the corridor may be flagged and tested. If the vehicle is shown to exceed emission levels, the owner would be required to make improvements within 30 days.

2) Last Mile Strategies

We would encourage a mitigation strategy including certain last mile action for freight. The addition of more freight-only loading zones would reduce package vehicles from excessive circling of blocks to find a parking space and curb double parking which adversely affects safety and mobility. Concepts such as smart parking where fleets could reserve a space ahead of time to make deliveries more efficient and reduce overall travel and idling. The concept of freight lockers in major buildings and stores, rather than having a delivery truck travel through the entire neighborhood would also reduce travel and idling.

Closing Remarks

CMCA wishes to express our appreciation to CDOT for engaging us and various other stakeholders in this process and allowing us the opportunity to present our concerns. We look forward to continuing to work with and collaborate with CDOT staff in the development of this rulemaking and in subsequent implementation efforts.

Sincerely,

[redacted]

President
Colorado Motor Carriers Association

COLORADO MOTOR CARRIERS ASSOCIATION

TRUCKING Moves America Forward

EPA SmartWay Affiliate

SmartWay

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Proposed Greenhouse Gas Rule Comment

1 me age

[redacted] Tue, Nov 16, 2021 at 12:43 PM

To: dot_rules@state.co.us

To Whom Thi Reache
Please see the attached letter in regards to the proposed greenhouse gas rules currently under public comment.
Thank you for your time,
--
[redacted]

Greenhouse Gas Rules Letter.pdf
313K

November 16, 2021

Transportation Commission of Colorado
2829 W. Howard Place
Denver, CO 80204
dot_rules@state.co.us

Subject: Proposed Greenhouse Gas Rule

Dear Commissioners,

Thank you for the opportunity to provide comment and feedback on the revised proposed Greenhouse Gas Rule Draft. We applaud the CDOT staff and Commission for their efforts and willingness to receive comments.

As a Colorado resident, we support the effort to reduce gas emissions and mitigate the impacts of air pollution to improve the air quality of our great state. However, we have concerns related to the draft rule as currently constructed:

- We are concerned that this policy forces a drastic change to the transportation planning process in an extremely short period of time.
- The rule assumptions around redirecting funds to capital investments in Transit will result in a forecasted mode shift are unrealistic and not supported by data.
- The sudden appearance and addition of the reduction of Vehicle Miles Traveled as a goal of this rule is outside the stated intent of reducing GHG. Using an annual VMT report as an indicator for additional future changes to the rule at minimum is providing a very limited perspective but at worst may be misleading as VMT can increase while GHG production decreases as a result of better technology, efficiency, and conversion to zero emission vehicles. The commission should strike "VMT" from the name of this report and including additional data reference points like transit ridership and EV registration numbers to potentially inform future rule changes.
- Please consider the $9Billion backlog of transportation projects when considering waiver applications. Projects that have long been ignored or postponed for funding reasons should not be unilaterally penalized for possible increases in capacity.
- And finally, we caution the Transportation Commission and CDOT staff that while it has been reported that 75% of the feedback is "supportive" it would be a mistake to assume that this is reflective of the public levels of support for this rule. The public commentary received has been disproportionately skewed toward environmental activism groups and form letter responses. And while that is a valuable and respected perspective, it is also not representative of the traveling public who is more likely to be unaware of this rulemaking process than participating in it. We would urge the commission to apply common sense to the balance of public comment.

Thank you in advance for your consideration.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

FW: Scanned image from MX-3070V

1 me age

[redacted] Tue, Nov 16, 2021 at 1:47 PM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>

[redacted]

CEMENTING RELATIONSHIPS SINCE 2003

-----Original Message-----
From: [redacted]
Sent: Tuesday, November 16, 2021 1:02 PM
To [redacted]
Subject: Scanned image from [redacted]

Reply to: [redacted]

File Format: PDF (Medium)
Resolution: 200dpi x 200dpi

Attached file is scanned image in PDF format.
Use Acrobat(R)Reader(R) or Adobe(R)Reader(R) of Adobe Systems Incorporated to view the document.
Adobe(R)Reader(R) can be downloaded from the following URL:
Adobe, the Adobe logo, Acrobat, the Adobe PDF logo, and Reader are regi tered trademark or trademark of Adobe Systems Incorporated in the United States and other countries.

[redacted]

CCLLC_20211116_130223.pdf
365K

Chato's Concrete, LLC

November 15, 2021

Transportation Commission of Colorado
2829 W. Howard Place
Denver, CO 80204
dot_rules@state.co.us

Subject: Proposed Greenhouse Gas Rule

Dear Commissioners,

Thank you for the opportunity to provide comment and feedback on the revised proposed Greenhouse Gas Rule Draft. We applaud the CDOT staff and Commission for their efforts and willingness to receive comments.

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- We are concerned that this policy forces a drastic change to the transportation planning process in an extremely short period of time.
- The rule assumptions around redirecting funds to capital investments in Transit will result in a forecasted mode shift are unrealistic and not supported by data.
- The sudden appearance and addition of the reduction of Vehicle Miles Traveled as a goal of this rule is outside the stated intent of reducing GHG. Using an annual VMT report as an indicator for additional future changes to the rule at minimum is providing a very limited perspective but at worst may be misleading as VMT can increase while GHG production decreases as a result of better technology, efficiency, and conversion to zero emission vehicles. We recommend striking "VMT" from the name of this report and including additional data reference points like transit ridership and EV registration numbers to potentially inform future rule changes.
- Consider the $9Billion backlog of transportation projects when considering waiver applications. Projects that have long been ignored or postponed for funding reasons should not be unilaterally penalized for possible increases in capacity.
- And finally, we caution the Transportation Commission and CDOT staff that while it has been reported that 75% of the feedback is "supportive" it would be a mistake to assume that this is reflective of the public levels of support for this rule. The public commentary

[redacted]

received has been disproportionately skewed toward environmental activism groups and form letter responses. And while that is a valuable and respected perspective, it is also not representative of the traveling public who is more likely to be unaware of this rulemaking process than participating in it. We urge the commission to apply common sense to the balance of public comment.

Thank you in advance for your consideration.

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Rule letter

1 me age

[redacted] Tue, Nov 16, 2021 at 2:58 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Good Afternoon,

Please accept the attached letter for your consideration.

Best,

[redacted]

[redacted]

ceo

[redacted]

[redacted]

[redacted]

[redacted]

COLORADO BARRICADE CO.

GHG Rule letter-[redacted].pdf
530K

COLORADO BARRICADE CO.

November 15, 2021

Transportation Commission of Colorado
2829 W. Howard Place
Denver, CO 80204
dot_rules@state.co.us

Subject: Proposed Greenhouse Gas Rule

Dear Commissioners,

Thank you for the opportunity to provide comment and feedback on the revised proposed Greenhouse Gas Rule Draft. We applaud the CDOT staff and Commission for their efforts and willingness to receive comments.

As a Colorado company we support the effort to reduce gas emissions and mitigate the impacts of air pollution to improve the air quality of our great state. However, we have concerns related to the draft rule as currently constructed:

- We are concerned that this policy forces a drastic change to the transportation planning process in an extremely short period of time.
- The rule assumptions around redirecting funds to capital investments in Transit will result in a forecasted mode shift are unrealistic and not supported by data.
- The sudden appearance and addition of the reduction of Vehicle Miles Traveled as a goal of this rule is outside the stated intent of reducing GHG. Using an annual VMT report as an indicator for additional future changes to the rule at minimum is providing a very limited perspective but at worst may be misleading as VMT can increase while GHG production decreases as a result of better technology, efficiency, and conversion to zero emission vehicles. We recommend striking "VMT" from the name of this report and including additional data reference points like transit ridership and EV registration numbers to potentially inform future rule changes.
- Consider the $9Billion backlog of transportation projects when considering waiver applications. Projects that have long been ignored or postponed for funding reasons should not be unilaterally penalized for possible increases in capacity.
- And finally, we caution the Transportation Commission and CDOT staff that while it has been reported that 75% of the feedback is "supportive" it would be a mistake to assume that this is reflective of the public levels of support for this rule. The public commentary received has been disproportionately skewed toward environmental activism groups and form letter responses. And while that is a valuable and respected perspective, it is also not representative of the traveling public who is more likely to be unaware of this rulemaking process than participating in it. We urge the commission to apply common sense to the balance of public comment.

Thank you in advance for your consideration.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

comments

1 me age

[redacted] Tue, Nov 16, 2021 at 3:55 PM

To: dot_rules@state.co.us

It i clearly irre pon ible, if not criminal, given the climate cri i , to continue e panding the highway y tem, which in turn only encourages more internal combustion engine traffic. Not only is it logically indefensible but it is contrary to the stated goals of the Biden administration—to get off fossil fuels. All money beyond safe maintenance of highways and bridges should go toward mass transit development, both locally and regionally. We cannot otherwise achieve the state goals of 26 percent reduction in GHF by 2025 or 50 percent by 2030

[redacted]
Environmental Director
Be the Change, Colorado

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Number one issue to stop climate crisis!

1 me age

[redacted] Tue, Nov 16, 2021 at 5:35 PM

Reply-To: [redacted]

To "dot rule @ tate co u " dot rule @ tate co u

Cc: [redacted]

CDOT officials The only way to attack this climate crisis is to get single occupancy vehicles off of our highways and other roads. Public transit needs to be improved and expanded NOW! Foreign imports are to be ended. Long di tance hipping need to be ended We all need to hop local! Why i it o difficult for our leader to take the "bull" by the horns and make these things happen. Are we not in many crises? How are you caring for the common good? Increasing pollution and destruction of the planet is not acting of and for and by the people! Why do you kowtow to those wealthy enough to own a car?

A an indu trialized nation, we all have a re pon ibility to act NOW!

[redacted]

STATE OF COLORADO

Rules CDOT, DOT <dot rules@state co us>

CDOT GHG Pollution Strategy

1 message

[redacted]
To dot rules@state co us

Dear CDOT taff,

We support your CDOT GHG Pollution Strategy but it must go much further and **not fall short of the pollution reductions the law requires by 2025 and 2030** Funds must be redirec excavator to dig our state's air pollution hole deeper. CDOT must re-evaluate all expenditures to meet the full call of HB19-1261 to cut GHG 26% from 2005 levels by 2025 and 50% by 2030 this decade that could increase pollution or prevent his from being achieved Public funds, including transportation unds need to more equitably serve all people and all modes, also enabling transportation and transit to be safer, more viable and comprehensively available. Most of all, transportation funding needs to be shifted to build out clean, affordable, accessible access for all Transportation expenditures should not make these enacted and promised pollu ion reductions unachievable, as they remain with current plans

CDOT is receiving between $3.9 and $5 **B**illion in transporta ion funds. We are relying on you to **build out missing systems for comprehensive, safe, accessible transportation for all**, ir free transit (raises ridership by 30-100% within a year), benches at all stops and shelters at many greatly extended Bustang service, networks for active travel that are protected and safe for these are cost-effective systems minimizing congestion and maintenance costs on the existing roadway system. Capacity improvement dollars must be directed to address long standing inec whitest folks on large urban peripheries, as recent decades of expenditures have done

CDOT should only be making investments that help achieve a 26% reduction in air pollution by 2025 and 50% by 2030. This was promised to all Coloradans. Not one dollar shou reductions in state law unattainable by the promised dates of 2025 (26% reduction from 2005 levels and 50% by 2030) And as transportation investments are very long term public investme definitely not sooner, which is "cooking the books". This is a life and death issue, as described eloquently in this 6 min. Start at min 7: https://vimeo.com/showcase/7077649 Password: THE-

Many doctors have stated over the last decade that there is no safe level of fossil fuel emissions. (See Appendix B) For this reason, Colorado law, climate threats, and to reach equity impacted by the highway focused investment strategy of he past 5-7 decades, it is ime to put capacity expansions on pause and focus capacity investments on buildout and access to Busta transportation and more. **FHWA has been clear that highway capacity funds can be flexed to this upon request by the state.**

There *are* ways to get to Colorado's statutory emission reduction levels and CDOT should not be funding anything that departs from that statewide obligation at this point, again Appendix D for these and positions hat we support from others' comments.

Finally, we ask you to note that our comments are submitted by many organizations and communi ies and on a voluntary basis from statewide medical, faith, and business organizations as w Weld County comments we heard at the last hearing were all funded by fossil fuel interests in various ways. Please serve the public at large and not an industry that is supposed to be being

Sincerely,
[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

In support of more stringent rules for reducing GHG emissions from transportation

1 me age

[redacted] Wed, Nov 17, 2021 at 12:03 PM

To: dot_rules@state.co.us

Dear rulemakers,

I write thi a a long time re ident of Colorado, a parent and grandparent, concerned citizen and public health professional.

This past summer, Colorado suffered from the worst air quality levels on record. High levels of ozone pollution have ignificant implication for Coloradan ' health Much of thi came from the tran portation ector

While many of our politicians blamed our poor air quality on wildfire smoke from out of state, the reality is that hydrocarbons emitted from cars and trucks and oil and gas development are the primary drivers of ozone pollution. CPR Why Colorado' Record Ozone Pollution I More About Car Than Wildfire Smoke

A primary focus of the plan for reducing air pollution and greenhouse gas emissions has been to encourage the adoption of electric vehicles. Given that it will take decades to replace a critical mass of the vehicles in our state, it is equally important that Colorado develop infra tructure and ervice to help reduce vehicle mile travelled in the hort term

The health consequences of our poor air quality support aggressive rules for reducing transportation emissions. A 2019 study compared long-term average ozone exposure with federal mortality data. It found breathing in more of the pollutant appeared to increase the risk of dying from heart and lung diseases.
Other re earch found people living in area with high ozone pollution are more likely to develop acute re piratory di tre syndrome, a severe condition where the lungs fill with fluid. Another California study looked into the effect on pregnancies. It found birth weights decreased about 1.7 ounces pounds for every 12 part per billion increase in average ozone levels.

I upport the tronge t rule that will not only e pand and replace e i ting highway infra tructure, but will give equal focu on investing in public transit, bike lanes and other healthy and far-reaching alternatives that will mitigate the impact of highway expansions particularly those impacting low-income and minority communities. https://www.codot.gov/programs/environmental/greenhousegas

Thank you,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Re: public comment period for rulemaking decisions about Colorado Department of Transportation's plan for reducing greenhouse gas emissions

1 message

[redacted] Wed, Nov 17, 2021 at 12:49 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Re: public comment period for rulemaking decisions about Colorado Department of Transportation's plan for reducing greenhouse gas emissions

I write this as a 15-year resident of Colorado, a parent, concerned citizen and public health professional.

This past summer, Colorado suffered from the worst air quality levels on record. High levels of ozone pollution have significant implications for Coloradans' health. Much of this came from the transportation sector.

While many of our politicians blamed our poor air quality on wildfire smoke from out of state, the reality is that ***hydrocarbons emitted from cars and trucks and oil and gas development*** are the primary drivers of ozone pollution. See link: CPR- Why Colorado's Record Ozone Pollution Is More About Cars Than Wildfire Smoke

A primary focus of the plan for reducing air pollution and greenhouse gas emissions has been to encourage the adoption of **electric vehicles**. Given that it will take decades to replace a critical mass of the vehicles in our state, it is equally important that Colorado **develop infrastructure** and services to help **reduce vehicle miles travelled** in the short term.

The health consequences of our poor air quality support aggressive rules for reducing transportation emissions. A 2019 study compared long-term average ozone exposure with federal mortality data. It found breathing in more of the pollutant appeared to increase the risk of dying from heart and lung diseases.

Other research found people living in areas with high ozone pollution are more likely to develop acute respiratory distress syndrome, a severe condition where the lungs fill with fluid. Another California study looked into the effect on pregnancies: It found birth weights decreased about 1.7 ounces pounds for every 12 part per billion increase in average ozone levels.

I support the strongest rules that will not only **expand and replace existing highway infrastructure**, but will give equal focus on **investing in public transit, bike lanes and other healthy and far-reaching alternatives** that will mitigate the impact of highway expansions particularly those impacting low-income and minority communities. https://www.codot.gov/programs/environmental/greenhousegas

Thank you,

[redacted]

[redacted]

[redacted]

If your messaging client supports TLS for secure connections, then this message was sent securely via TLS from InnovAge.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Rule Making Comment for Transportation (Green House Gas Reductions)
1 me age

[redacted] Wed, Nov 17, 2021 at 1:27 PM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>

November 17, 2021

Dear Sirs and Mesdames:

Thank you for the opportunity to provide comment. I support this transportation planning rule because it will bring new tools for our State to fight climate change, an issue hitting us in very acute ways in this county. Our reservoirs and rivers are at record lows as we are in a 20-year megadrought. In recent memory, we have had four major forest fires in La Plata County that threatened homes, lives and in fact entire communities. We are at a phase in the climate change discussion where transportation is a vital and important solution. So, it for that reason that I look forward to funding for mass transit; assistance for multi-modal projects; emission reduction requirements; expansion of or development of ride-share and bike-share programs; EV infrastructure; and more.

We here in La Plata County are innovative and creative. We are not waiting for the State or Federal Governments to "solve" this for us but also, we cannot do it alone. As examples, the City of Durango built a multi-modal trail that goes from the north to south end of town. Regional transit is available through a nonprofit called Southern Colorado Community Action Agency (https://sococaa.org/road-runner-transit/) but more routes are needed especially inter-regional ones. A nonprofit called 4CORE (https://fourcore.org/) does extensive work around EV charging, energy efficiency projects, and running a carbon offset program. Our regional COG (Southwest Colorado Council of Government) is currently looking to develop a transit app that would help residents in our five-county area link to transit. In 2023, La Plata County Government plans to finalize a multi-model plan building on past efforts. All of these efforts can benefit from State funding, policy and partnership(s).

Equity issues come into play. The reality is that many, many residents rely on their cars to get to work, school or appointments because of affordable housing challenges, a situation dramatically exacerbated by COVID-19. We have high in- and out-migration of commuters as a total of 28% of our workers commute out of the county and 23%

commute in (Root Policy Research, Inc., *Regional Housing Needs Assessment and Strategy*, Draft Report, August 2021). Also, many people simply cannot afford a car when also needing to pay for housing, child care, health care, food and heat. So, it is very clear workers will benefit from more regional transit, multi-modal and carpooling options. If these options are available, emissions can be lowered.

In order to address the climate crisis we face, it requires timely action. It also requires recognizing the unique nature of Colorado's 64 counties. That is why, in addition to this comment, I gave my approval to a comment that will be submitted by Colorado Counties, Inc. that addresses important issues such as modeling, transparency and timing. We need to bring as many communities across Colorado into this conversation as possible so we can build as much consensus as possible. Only through that approach will we have lasting changes happening not only in the MPOs but in all other counties as well. That said, we cannot wait for everyone to come into the fold before acting and that is why I support this rule.

Thank you.

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Mesa Country RTPO- GHG Rule Comments- Round 2

1 me age

[redacted] Wed, Nov 17, 2021 at 2:26 PM

To: dot_rules@state.co.us

Cc "Taku hi CDOT, There a" there a taku hi@ tate co u , [redacted]

Dear Transportation Commission-

Thank you again for the opportunity to comment on the Greenhouse Gas Pollution Reduction for Transportation Planning Propo ed Standard Attached you will find the econd round of comment from the Me a County Regional Transportation Planning Office submitted on behalf of the Grand Valley Metropolitan Planning Organization, Grand Valley Transportation Planning Region and Grand Valley Transit. We look forward to working with CDOT staff to finalize and implement this rule.

Sincerely,

[redacted]

GHG Rule GVMPO Comment Round 2 FINAL SIGNED pdf
340K

Mesa County Regional
Transportation Planning Office

November 15, 2021

Transportation Commission of Colorado
c/o Herman Stockinger
Commission Secretary
CDOT Headquarters
2829 W. Howard Pl.
Denver, CO 80204

Dear Commissioners:

Thank you for extending the Green House Gas (GHG) Pollution Reduction for Transportation Planning Rule public comment deadline and the additional resources you provided that are related to the Rule. This comment letter is a follow-up of the comment letter submitted on October 11, 2021. These comments are submitted on behalf of the Regional Transportation Planning Office (RTPO), which represents the Grand Valley Metropolitan Planning Organization (GVMPO), the Grand Valley Transportation Planning Region (TPR) and Grand Valley Transit (GVT). RTPO staff has continued to be engaged in the advisory group and as a stakeholder with Colorado Department of Transportation (CDOT) staff throughout the development of this rule.

The GVMPO encompasses the urbanized area of Mesa County and includes the City of Grand Junction, City of Fruita, Town of Palisade and parts of unincorporated Mesa County. The Grand Valley TPR encompasses all of the rural areas of Mesa County. The Grand Valley Regional Transportation Committee (GVRTC) is the transportation policy board that oversees the GVMPO/TPR and includes elected officials from these four entities all of whom also help to fund the transportation planning functions of the MPO, TPR and the transit system.

The RTPO in all of its different capacities generally supports the revisions to the rule and additional supporting documentation. However, we still have a number of concerns and proposed revisions to the updated rule. The comments submitted include feedback from the perspective of the GVMPO, the rural area of the TPR and the small-urban transit system.

Grand Valley Metropolitan Planning Organization (GVMPO)

Modeling Process:
GVMPO will be responsible for demonstrating compliance with the Greenhouse Gas Rule within the MPO as well as determining mitigation measures if the modeled emissions reduction levels do not satisfy the requirements. The October 19, 2021 Draft Greenhouse Gas Modeling Process speaks of the formation of a Statewide Model Coordination Group (SMCG) that "…will provide a modeling guidelines technical memo, that describes required practices in modeling that will satisfy the process described here." GVMPO is in support of this effort and believes it will be beneficial to ensuring consistency and transparency in modelling across state.

Funding and Technical Assistance:
As a small MPO in Colorado with few GHG-increasing projects, it is unlikely that the full reductions will be possible through project mix and the MPO may need to develop a Mitigation Action Plan for compliance. In reviewing the Mitigation Policy Overview, we believe we can comply with the requirements listed with additional technical assistance from CDOT and funding for modelling and plan implementation.

Funding for mitigation measures remains a concern. The Cost-Benefit Analysis for Rules Governing Statewide Transportation Planning (CBA) states that "…all dollars shifted away from certain capacity projects are assumed to fund worthy transportation investments that improve competitiveness, quality of place and life, safety, economic vitality, public health, air quality, and more…The projected cost of these policy choice packages is assumed to be absorbed into current transportation plan budgets (a net neutral approach)." While the GVMPO supports all of these types of projects, historically there has been insufficient funding for them, and with few capacity projects in our transportation plan, it is unclear where these funds will come from in an amount that will make the meaningful impact to the modelling described in the Rule and CBA. We understand that the Multimodal Transportation and Mitigation Options Fund (MMOF) is intended to fund these measures. However, the GVMPO still feels that this amount is insufficient to make the meaningful impact needed to drive change in mode-choice and reach the reduction levels shown in the Rule. Additionally, there has never been sustained funding for multimodal projects at the state or local level and because of this, there are many gaps in the multimodal system that must now be addressed. With this, we request additional, sustained funding to implement these mitigation measures at a scale that will reduce GHG emissions across the state. Indeed the funding should be sufficient not just for mitigation measures but for the eventual completion of a true multimodal system.

Since the Rule will create the need for additional travel modeling expertise within the MPO as well as statewide, the GVMPO continues to request additional funding be provided to the MPO and to CDOT for the staff resources to meet this need. This point is underscored in the September 29, 2021 joint Federal Highway Administration (FHWA) / Federal Transit Administration, FY 2022 Unified Planning Work Program Approvals letter addressed to CDOT Executive Director Lew. In the letter under the heading of Areas of Concern, item 4 states:

> "The new requirements of the state GHG rule will require MPOs to provide financial resources and staffing capabilities to improve the travel modeling state of practice."

Clearly, FHWA does not seem to be poised to increase funding for compliance with the state-level rule. Likewise, current GVMPO funding would not allow for adding the required staff resources and therefore respectfully requests that CDOT allocate the needed funding to the MPO.

Compliance Timeline:
Per the draft Rule, GVMPO is not required to model reductions until 2030. As this is a new requirement for the GVMPO, and unlike DRCOG and NFRMPO, the GVMPO is in full attainment for all NAAQSs and we do not currently have the capacity or funding to do it earlier. Therefore, we continue to request that this date remain 2030.

Transportation Planning Region

While we appreciate that CDOT has been included in the Rule as a responsible party with respect to areas outside of the MPOs, there continues to be a concern of how this rule will impact the rural areas of the state, including rural areas of the Grand Valley TPR. The CBA states, "Virtually none of these rural projects would trigger the need for GHG Mitigation Measures under this rule because, with rare exception, they do not add capacity or change land use patterns. Rather, they are generally focused on state of good repair (e.g. repaving projects), safety and resiliency improvements like adding shoulders and passing lanes, and increasingly, supporting the economic vitality of communities by investing in revitalizing main streets across the state." While this is true in many cases, this is not the case for large interstate projects such as those needed on I-25 and I-70 which travel through rural areas. With this, in order to meet GHG goals, we are concerned that funds may be pulled from one part of the state to be used for mitigation measures in another part of the state. We acknowledge that rural examples of GHG Mitigation Measures have been added to section 8.03 of the updated Rule but continue to request text in the Rule that speaks to the equity of funds for mitigations measures across the state and CDOT regions.

Grand Valley Transit

As the transit operator in the Grand Valley, we are excited to see changes in this rule that are supportive to the expansion of transit systems across Colorado. GVT operations is funded by FTA 5307 funds matched with local funds from our funding partners. Federal funding for our system is based on population and population density, not on service or ridership as stated in the CBA. The CBA clearly speaks of moving funds from capacity projects to transit in order to increase transit services across Colorado which will require additional funds from the federal, state and/or local government for capital and operating expenses. It will also require additional buses, mechanics, maintenance facilities, and drivers to support this service, all of which can be difficult to find. We continue to request additional staff support from CDOT's Division of Transit and Rail, Procurement and Contracting and the additional local staff needed to support expanded services. As mentioned above, we continue to request funding in addition to currently proposed MMOF funding to expand transit services. Commensurate with that, additional CDOT staff will be needed to assist in expansion of transit services, particularly as funds will be flowing through CDOT to local transit agencies such as GVT.

New Proposed Text Changes (in addition to those included with our October 11, 2021 letter. Proposed changes in red)

The RTPO has the following general comments/changes regarding the proposed rule.

- Section 1.00- Add definition of GHG Transportation Report.
- Section 2.01.5 *The Grand Valley TPR comprises Mesa County, including the Grand Valley Metropolitan Planning Organization's metropolitan area.* Revisions are needed here or elsewhere in Section 2.00 to clarify the GVMPO area versus the GVTPR and how they will be addressed.
- Section 8.02.1: Clarify in added text that required emissions analysis is only required for the TIP for NAAs not for those in attainment.
- Section 8.02.5.3- Change text as shown in red below: MPOs must for each Applicable Planning Document adopted or amended after October 1, 2022, meet either the corresponding reduction levels within Table 1, or the relevant MPO and CDOT each must meet the requirements as set

forth in Rule 8.02.6, as applicable. This provision shall not apply to MPO TIP Amendments or adoption of new TIPs for MPOs in attainment.

- Section 8.02.6.1.1- For increased clarity, split text into non-MPO areas/CDOT and MPOs that do not receive CMAQ/STBG funding. Add sub-section headings.
- Section 8.02.6.3- New text makes first paragraph unclear. Mitigation Policy Overview also states that the Mitigation Action Plan include cost and funding source for Mitigation Measures, which is not currently included in the Rule.
- Section 8.03- Check referenced sections. Section 8.02.3 and 8.02.5.3 do not describe GHG Mitigation Measures
- Section 8.04.1 and 8.04.2- Sections may be able to be combined for clarification. Check referenced section.
- Section 8.05.2-Suggest revising text and including subsection titles i.e. Requesting a Waiver, Requesting Reconsideration.
- Section 8.05.2 and 8.05.2.2- Revise text to clarify intent on timeline for submittal.
- Check references in document. Several are incorrect with new numbering of revised document.

Again, we thank you for revising the draft Rule and the additional documentation provided. Your consideration of these suggestions and revisions will clarify and strengthen the Rule and consider both urban and rural portions of the state as well as transit agencies.

Sincerely,

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Transportation Planning Standard

1 me age

[redacted] Wed, Nov 17, 2021 at 3:11 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

I strongly support setting a green house gas reduction rule that meets the climate targets found in Colorado

HB -1261. I am very concerned about our air quality

[redacted]

Sent from Mail for Windows

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

UPDATED: Move Colorado Comment Submission

1 me age

[redacted] Wed, Oct 13, 2021 at 4:03 PM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Friends,

Please consider this comment version, I found a typo.
Apologie

Warmly,

[redacted]

From: [redacted]
Sent: Wednesday, October 13, 2021 3:40 PM
To dot rule @ tate co u
Subject: Move Colorado Comments

Thank you for the opportunity to provide public comment regarding the Rules Governing the Statewide Transportation Planning Process and Transportation Planning Regions. Move Colorado's comments are attached.

Should you have questions please do not hesitate to contact me at [redacted]

Warmly,

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Move Colorado GHG Rulemaking Comment 10 13 21 FINAL pdf
172K

Transmitted Electronically Via: dot_rules@state.co.us.

October 13, 2021

Colorado Transportation Commission
Colorado Department of Transportation
2829 W. Howard Place
Denver, Colorado 80204

Dear Colorado Transportation Commissioners,

Thank you for the opportunity to provide comments regarding the Rules Governing the Statewide Transportation Planning Process and Transportation Planning Regions (Rules). We applaud the approach you are utilizing to allow interested parties from across Colorado to engage in the public process. Additionally, we would like to formally thank Herman Stockinger and Rebecca White of the Colorado Department of Transportation (CDOT) for the thoughtful presentation regarding the proposed Rules they provided Move Colorado's membership in September.

For more than 25 years, Move Colorado – and our 30-plus member organizations representing planning and engineering consultants, contractors, and transportation interests – have engaged in transportation policy discussions, with a focus on increasing investment in our state's multi-modal transportation system. Our members have expertise as professionals in environmental analysis, planning, infrastructure design, engineering, and construction. In addition, many of our member firms also employ scientists and environmental specialists with local, national, and international expertise and experience in air quality and greenhouse gas (GHG) analyses and emissions reduction strategies. It is with this expertise that we write to seek additional clarity related to several proposed Rule provisions, and to assist the Transportation Commission is establishing an implementable and enforceable program that improves the quality of life of Colorado residents and reduces ambiguity as these Rules relate to other existing policies and regulations.

Move Colorado supports the overall goal of taking meaningful steps to reduce GHG emissions in Colorado, and our comments are focused primarily on the administrative process and technical aspects of the rulemaking.

Our comments or requests for clarity are not intended to be in conflict with the overall goal. However, we do seek greater clarification of the proposed changes to the transportation planning process to ensure the changes help to achieve the intended outcome and proposed to ease implementation.

Our membership agrees with the proposed process and approach, including the following areas:

- the existence of a waiver process,
- the creation of the State Interagency Consultation Team,
- plans to establish a GHG Mitigation Measure process outside the rulemaking, and
- that the Transportation Commission will not withhold funds from MPOs as a punitive measure if they do not reach their goals.

The areas in which we seek additional evaluation or clarification are organized by rulemaking section below. Move Colorado would be willing to expand on these comments, should additional clarification be requested by the Transportation Commission.

General

We suggest adding clarity around how the Rules works with the National Environmental Policy Act (NEPA). Federally funded projects require adherence to NEPA to assess environmental impacts from a proposed action. In addition, CDOT has committed to generally following the NEPA process and assessing impacts and mitigation for state-funded transportation projects. The Federal Highway Administration NEPA process has very specific definitions of what constitutes an "impact" for an environmental resource and requires mitigation for those impacts. The use of the term "mitigation" throughout the Rules could be misconstrued as it is commonly used in NEPA documents; clarity around the interplay between the Rules and NEPA process and definitions should be included to provide clarity and minimize ambiguity during project development.

Section 1.00 Definitions

Many of the terms used in the preamble and overview are not defined until later in the document. To provide clarity and improve readability, the definitions should be moved to the beginning of the document.

- Add a definition for "transportation capacity projects." We suggest defining a capacity project as one that physically expands a road, usually by adding through lanes. Projects that focus on operational (improving traffic flow) or safety improvements, such as auxiliary lanes, should not be included in this definition.
- 1.12 Disproportionately Impacted Communities: In less populated areas, Census Block Groups tend to be geographically very large and population centers are not always located near a project area. Clarification should be added to assess where the population is located in relation to a proposed project.
- 1.35: National Ambient Air Quality Standards (NAAQS): "Small particles" is not the correct terminology for particulate matter. This should be changed to reflect the exact wording of the criteria pollutants.
- 1.36: Nonattainment Area: Clarification should be added that a nonattainment area is where the NAAQS are being exceeded; not solely where NAAQS exist.

- 1.42 Regionally Significant Project: The definition included in the Rules is the definition provided by the Environmental Protection Agency, which is meant to provide a general definition for all states. We suggest modifying the definition to rely on what the MPOs currently include in their models as "regionally significant".
- 1.59 Transportation Systems Planning: It is unclear what this planning process is—if it is referencing CDOT's 10-year plan and related process, it should be stated as such since the definition could also include what is identified during the NEPA process.

Section 8.01 GHG Emission Requirements

- We request clarity on whether establishing a future year GHG emission target was considered rather than setting a baseline and reduction. Setting future GHG emission targets would be more directly comparable to the modeled emissions.
- Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e—additional clarification is requested regarding whether the baseline values listed for each MPO are consistent with the MPOs' own methods and calculations. If the methods and calculations are not compatible, it could lead to two discrete calculation processes: one that is compliant with the Clean Air Act and one that is compliant with the Rules.
- Table 1: The "total" in each column should each the sum of all cells in the column. The rounding in the "total" row does not match the sum in some columns.

Section 8.02 Process for Determining Compliance

- 8.02.1: Similar to the comment on Table 1, i.e., whether data from the different agencies will be directly comparable, is there a plan in place in case the baseline CO2e values differ? If the MPO's calculated value is under the Table 1 baseline value, would that difference count toward GHG reduction?
- 8.02.3: Please provide clarity on how GHGs impacts to Disproportionally Impacted Communities will be assessed. Similar to ozone, GHGs are usually examined on a larger scale and not on a smaller scale, like a neighborhood or specific project study area.

8.03: GHG Mitigation Measures

We understand that the list of GHG mitigation measures is not exhaustive; however, many of these appear to be actions neither CDOT nor MPOs will have the authority to mandate. We request clarity on how CDOT and the MPOs will utilize these measures.

In addition, we request clarity on how GHG emission reduction estimates will be calculated. It will be nearly impossible to generate defensible GHG emission reduction estimates for the mitigation measures listed in paragraph 8.03.

8.05: Enforcement

The Rules refer to projects or mitigation measures that reduce GHG emissions; however, no guidance is provided on how to evaluate these reductions. We request clarity on how GHG reductions will be assessed for individual projects.

- 8.05.2.1.2: Waiver denial mentions a "substantial" increase in GHGs. Please provide a definition of "substantial" to remove any ambiguity.

Move Colorado thanks you for the opportunity to share our feedback regarding the Rules. While we agree that time is of the essence in addressing GHG and its impact, **we strongly urge you to amend the rulemaking process to allow for a second round of public review following any amendments made by CDOT in response to feedback gathered through this initial public outreach process. We believe the additional review will help bring greater confidence and transparency to the process and increase acceptance for the revised Rule. Additionally, if of interest, we sincerely offer the expertise of our members with backgrounds in environmental science and air quality analysis, should that be of benefit.**

If you have questions or would like additional details, please do not hesitate to contact [redacted] Move Colorado's Executive Director, at [redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Emissions Reduction Comment

1 me age

[redacted] Wed, Nov 17, 2021 at 4:14 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

[*** This email originated from outside Hinsdale County - PLEASE USE CAUTION OPENING LINKS, ATTACHMENTS OR REPLYING ***]

To whom it may concern,

I had the opportunity and honor to speak before the Transportation Committe hearing on the 7th of October I provided testimony via Zoom and would like to submit my comments to you via email as well Below are the comments that I provided that day.

To give you a little background, Hinsdale County is the most remote area in the US's lower 48. Our County is more than 96% public lands, with twenty-five 13,000- and 14,000-foot peaks, and representing one of the most roadless areas in CO. We have 774 year-round residents, most of whom live in the County Seat of Lake City. This is the least populated county in Colorado.

Here in Hinsdale County with an elevation between 8500 feet and 1400 feet, we are feeling the effects of climate change, perhaps more than anywhere in the state. The emissions from vehicles is contributing to a changing climate that results in heat and drought that was unimaginable only a few years ago, and smoke in our skies all summer long.

With our county's large public lands make-up, recreation is by far our primary economy. As you can imagine, the emissions impact from off-highway vehicles is a major concern for Hinsdale County.

Additionally, virtually everyone who visits Hinsdale County travels here by petroleum powered vehicles. Because of our low population and our remote location, we are especially challenged to address emissions problems from vehicles. We are doing our best to keep up with EV charging stations and education for our visitors, but we need the state's help to provide incentives and requirements for transportation related emissions reductions and adaptations.

We will continue to partner in every way we can, but what we really need is for Colorado to be a leader in emissions reductions from vehicles, which is the quickest way for us to effect meaningful climate solutions.

Climate Change knows no boundaries. Reducing emissions across Colorado will help reduce the worst impacts of climate change here in Hinsdale County. Providing better transit funding, better access to electric vehicles and charging stations, and providing support for multi-modal transportation are all steps that will lead to reduced emissions, which we have to embrace.

I also feel strongly that equity must be a major priority in this rulemaking, including ensuring the Disproportionately Impacted Communities are fully engaged throughout implementation. Income levels in Hinsdale County cannot compete with the front range, but our citizens deserve access to Electric Vehicles and other benefits of an electrified transportation system.

Finally, I'd like to emphasize that the GHG emissions reductions must be measurable and the rule must include strong enforcement provisions.

Respectfully,

[redacted]

[redacted]

A PEAK EXPERIENCE
HINSDALE COUNTY
COLORADO

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Commuting Solutions GHG Comment Letter

1 me age

[redacted] Wed, Nov 17, 2021 at 4:46 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Good Afternoon,

Please find attached a letter to comment on the GHG rulemaking. Thank you for your consideration.

Kindly,

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Commuting Solutions

Setting the pace for the northwest metro region.

CS GHG Comment Letter pdf
187K

Commuting Solutions

[redacted]

November 17, 2021

CDOT Transportation Commission
Colorado Department of Transportation
2829 West Howard Place
Denver, CO 80204

Dear Commissioners:

Thank you for the opportunity to provide comments on the Rules Governing Transportation Planning Process and Transportation Planning Regions, containing the new Greenhouse Gas Transportation Planning Standard, proposed on August 13, 2021. We appreciate the process CDOT staff has implemented to explain the proposal and the subsequent Cost Benefit Analysis and other information that have been provided to analyze the rule further.

Commuting Solutions is a 501(c)3 nonprofit organization whose mission is *"to connect commuters to places in the Northwest metro region for today and for the future"* and is the Transportation Management Organization (TMO) for the Northwest metro region, representing business interests.

We understand this is new territory for Colorado but it's important to keep in mind the overarching targets established by the GHG Pollution Reduction Roadmap to reduce the transportation sector's carbon dioxide emissions by 12.8 metric tons by 2030.

Through our work as a TMO for the past 20 years, we are keenly aware of the need to integrate land use with multimodal investments to reduce travel demand and vehicle miles traveled (VMT), which are necessary to reduce transportation's impact on climate change. Decreasing GHG emissions through a mix of projects that limit and mitigate air pollution and improve quality of life through more affordable commuting options is a priority for Commuting Solutions. Taking such action would be entirely consistent with our mission as a nonprofit organization focused on reducing the transportation sector's impact on climate change.

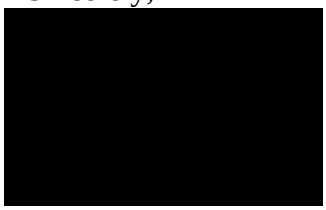
We support strategies to reduce single occupant vehicle travel and increase multimodal options to further the state's Roadmap to its GHG Pollution Reduction goal of a 10% reduction in VMT by 2030, and as called for by Senate Bill 260. We support the monitoring of VMT to help clarify how MPOs and the state will implement the rule and enable communities to prioritize investments that increase multimodal travel options and reduce the need for driving.

We request that Transportation Demand Management (TDM) and social marketing be included as eligible mitigation strategies, to maximize the use of existing infrastructure and to increase awareness of multimodal options, services, and programs. We encourage participation with the eight TMOs in the Denver metro region so that we are leveraging existing organizational resources who are already working on TDM strategies.

We also ask that equity considerations be incorporated into the rule to meaningfully prioritize benefits and avoid harm to disproportionately impacted communities. To this end, we would like to see greater specificity and assurance that a certain level of mitigation funding will be directed toward these communities.

Thank you, again, for the opportunity to provide input. We are excited about the prospects for Colorado to improve our air quality and expand the use of multimodal travel options that will result from this proposed rule.

Sincerely,



Executive Director

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Denver comments on the proposed GHG Planning Standard

1 me age

[redacted] - DPHE Air Policy Program Manager Wed, Nov 17, 2021 at 5:01 PM

To "dot rule @ tate co u " dot rule @ tate co u
Cc: "Takushi - CDOT, Theresa" <theresa.takushi@state.co.us>, Rebecca White <rebecca.white@state.co.us>, Shoshana Lew - CDOT <shoshana.lew@state.co.us>, "Herman.Stockinger@state.co.us" <Herman.Stockinger@state.co.us>, "kay.kelly@state.co.us" <kay.kelly@state.co.us>

Please find attached comments from Denver's Office of Climate Action, Sustainability, and Resiliency related to the propo ed GHG Pollution Standard The e comment reflect a collaborative effort between everal department within the City and County of Denver.

We appreciate your consideration of these comments and look forward to working with CDOT and the Transportation Commission on this rulemaking.

Take care,

[redacted]

DENVER
THE MILE HIGH CITY

[redacted] **AICP** | Air Policy Program Manager
Department of Public Health and Environment

City and County of Denver
[redacted]

[redacted]

GHG Pollution Standard_Denver Comments_FINAL_11172021.pdf
287K

[redacted]

DENVER
CLIMATE ACTION, SUSTAINABILITY & RESILIENCY

November 17, 2021

CDOT Transportation Commission
CDOT Headquarters
2829 W. Howard Place
Denver, CO 80204

RE: Proposed GHG Transportation Planning Standard Comments

Dear Commissioners,

Thank you for the opportunity to provide comment on CDOT's proposed GHG Transportation Planning Standard. These comments represent Denver's positions developed in coordination with Denver's Mayor's Office, the Office of Climate Action, Sustainability and Resiliency, the Department of Transportation and Infrastructure, the Department of Community Planning and Development, and the Department of Public Health and Environment. We appreciate the coordination with CDOT Executive Management during this planning process and will continue to work together to maximize the benefits of this rule.

Sustainable Transportation Investment in Disproportionately Impacted Communities Should be a Priority

Denver supports ambitious, economy-wide GHG reductions to achieve the science-based 2030 climate goals for transportation in Governor Polis' *Greenhouse Gas Pollution Reduction Roadmap*. We are optimistic that this rule will result in more transit and more bicycle and pedestrian infrastructure throughout Denver, the Front Range region, and the state, especially in our communities historically burdened by construction of highways and a lack of investment in sustainable transportation infrastructure. The rule could go further in requiring a set percentage or minimum level of investment by MPOs into these disproportionately impacted communities. Whether it is a direct percentage of the mitigation measure funds or a part of project scoring in the TIP or STIP, these communities should be prioritized in future transportation funding and infrastructure. Discussions with CDOT staff have indicated this kind of threshold will not likely be proposed through this rulemaking and left to the Administrative Process in early 2022. Denver will continue to advocate for prioritizing investment for affordable and equitable transportation options in these communities after this rule is adopted.

Mitigation Measures Have Co-Pollutant and Cost Benefits

The GHG planning standard provides other benefits that the Commission should weigh as it considers adopting this rule. Increasing investment in transit, bike/ped infrastructure, and travel demand management will improve local air quality from reductions in pollutants like PM2.5, VOC, and NOx. These benefits have a significant

multiplier and move us in the right direction towards reaching our climate goals as well as public health and air quality goals, which is greatly needed in our region.

The Cost-Benefit Analysis (CBA) published by CDOT also put into perspective the benefits of a GHG planning standard. Summarizing the costs from CDOT's analysis in Table 1 below shows there are substantial savings by building and incentivizing a sustainable transportation system rather than to continue on a path of prioritizing roadway capacity and expansion projects.[1]

[1] Note, as Denver reviewed these costs, we believe CDOT may have made an error in the cost estimate for maintenance of "bicycle/pedestrian/micro-mobility" in Table A.3 of the CBA. CDOT's maintenance costs are $46 million in 2022-2025, $145 million in 2026-2030, $496 million in 2031-2040, and $566 million in 2041-2050, which seem like unreasonably high costs to maintain pedestrian and bicycle facilities. These maintenance costs were corrected in the following table to represent 10% of capital construction costs, which is the percentage that the CBA cited as an estimate of ongoing costs after the infrastructure is built.

Table 1: Summary of GHG Mitigation Measure Costs

Description	***CBA Table Number***	***$ Value per Unit***	***2022-2025 ($MM)***	***2026-2030 ($MM)***	***2031-2040 ($MM)***	***2041-2050 ($MM)***
Household-based trip reduction programs	A.1	$30 per HH per year	$2.9	$6.2	$13	$13
Telework administration (govt)	A.2	$131,000 per staff person	$0.7	$0.8	$0.6	$0.5
Sidewalk Infrastructure costs	A.3	$170,000 / mile	$100	$112	$187	$32
Bicycle Infrastructure costs	A.3	$25,000 / mile of lane $250,000 / mile of special facility	$46	$50	$84	$15
Maintenance (bike/ped/micro mobility)	A.3	10% of capital	$14.6*	$16.2*	$27.1*	$4.7*
Electric micromobility equipment subsidy	A.3	$250/HH/year	$0.4	$1.5	$5.9	$8.4
Transit vehicle costs	A.5	$435,000 per bus	$38	$136	$394	$452
Transit Operating Costs	A.5	(see cost analysis)	$200	$718	$2,083	$292
New transit fare revenue	A.5	$0.75 per trip	($68)	($243)	($706)	($809)
Efficient Land use admin costs (govt)	A.6	$50,000 per municipality	$7	$8	$13	$11
		Total Costs	**$341**	**$805.7**	**$2,101.6**	**$19.6**
Roadway Capacity/Expansion Project Costs	A.7	$5 million per lane mile (freeway) $1.5 million per land mile (arterial)	$418	$985	$2,656	$2,692
		Savings	**$76.4**	**$179.3**	**$554.4**	**$2,672.4**

* Denver revised these maintenance costs to reflect 10% of the annual cumulative construction costs as cited on page 14 of the CBA. Table A.3 in the CBA erroneously uses costs of $46 million in 2022-2025, $145 million in 2026-2030, $496 million in 2031-2040, and $566 million in 2041-2050. Denver believes these costs are in error since they greatly over-estimate expected maintenance costs.

In addition to these savings, the benefits of GHG mitigation and VMT reduction predicted for safety ($20 billion), vehicle delay ($15.1 billion), and vehicle operating costs ($11 billion) are substantial. In fact, these benefits far outweigh the predicted benefits of the rule attributed to GHG ($1.2 billion) and air pollution ($270 million).

Denver Agrees the Mitigation Measures Should be Selected through DRCOG

As expressed throughout these hearings, the public generally embraces the proposed rule but some chambers of commerce and local governments express concern. Denver, as a large local government, expresses our support for the proposed rule. The overall structure is appropriate to reflect the diversity of Colorado's regions. We agree it is most appropriate for regional MPOs to determine the mitigation measures through the Administrative Process and achieve those measures at the regional level. An outstanding question is how the administrative process will assign GHG reductions for similar mitigation measures in the DRCOG region, which has a wide spectrum of development densities and land uses. This must be resolved in the DRCOG Administrative Process. However, the Commission can provide flexibility to address these concerns by setting a future rulemaking date in this rule so the reductions in the rule's Table 1 can be reconsidered if necessary. We agree with DRCOG's comment that the modeling today may show different results than actual future conditions, especially the baseline emissions for each planning horizon year in Table 1. We also support the removal of the baseline projections in the October version of the revised rule.

Land Use and Transportation Are Inextricably Related

The cost benefit analysis showed that we will not achieve these GHG reductions without significant changes to local land use policy. We must shift new growth into transit-adjacent development that can reduce dependency on single occupant vehicles and vehicle miles of travel. Just like other local governments, these changes are challenging to make in Denver. However, with our *Blueprint Denver* plan adopted in 2019, we are working to achieve 80 percent of all new housing in Denver in our high growth areas and strengthen sustainable transportation connectivity. In 2020, 74 percent of all new housing went into our high growth areas. While these are not perfectly analogous with the mixed-use areas, we will do our fair share to achieve the ambitious goal of 75 percent of all new housing in mixed-use areas with access to sustainable modes of transportation. We encourage the Commission to stand strong and establish bold policy that pushes local government to adapt its land use regulations to our climate reality. Denver will actively participate in future CDOT rulemakings or other initiatives that implement the statutory requirements of Senate Bill 21-260, including the requirement to "Consider the role of land use in the transportation planning process and develop strategies to encourage land use decisions that reduce vehicle miles traveled and greenhouse gas emissions."[2] We look forward to working with CDOT in fulfilling this requirement.

DRCOG Proposed Necessary Changes to the Rule in Their October Comments

The DRCOG Board suggested many improvements to the proposed rule language in a letter addressed to the Commission on October 7th. Denver supports these comments, and specifically calls attention to the following:

- *Requiring reduction measures in the TIP.* Specifically, we support the DRCOG suggestion to add a provision in Section 8.03 to require sponsors of regionally significant roadway capacity projects to identify and include GHG Mitigation Measures when including the project in a TIP or the STIP.

[2] *See* Colorado Revised Statutes, 43-1-128(3)(d)

- *Restricting specific funding sources if the Table 1 GHG reductions are not met.* Denver supports granting the Commission the authority in §8.05.2 to restrict funding of all CMAQ, STBG, and 10-Year Plan funds to GHG mitigation measures if the Table 1 GHG reductions are not met. Denver supports this policy applying to Regionally Significant Projects in the MPO process.
- *Modeling the TIP*. Denver agrees with DRCOG's sensible approach to model the emissions associated with the last year of TIP and using interpolation when necessary between Table 1 horizon years. Denver strongly supports modeling the TIP and not just the Regional Transportation Plan.

Thank you for your time and we look forward to working with the Commission and CDOT staff throughout the remainder of this rulemaking.

Sincerely,

[redacted]

[redacted], Chief Climate Officer
Denver Office of Climate Action, Sustainability, and Resiliency

CC: Shoshana Lew, Herman Stockinger, Rebecca White, Theresa Takushi, Kay Kelly

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

APCD's comments on the proposed Transportation Commission GPS Rule

1 me age

Mcgrath - CDPHE, Shaun <shaun.mcgrath@state.co.us> Wed, Nov 17, 2021 at 5:49 PM
To: dot_rules@state.co.us
Cc Tri ha Oeth CDPHE Tri ha Oeth@ tate co u , "Clarke CDPHE, Clay" clay clarke@ tate co u , Rebecca White CDOT <rebecca.white@state.co.us>, Theresa Takushi - CDOT <theresa.takushi@state.co.us>

Please find attached APCD's comments on the proposed Transportation Commission GPS Rule.

Thank you

--
Shaun McGrath
Environmental Health & Protection Director

COLORADO
Department of Public Health & Environment

[redacted]

Executive Assistant Amber Schwab, amber chwab@ tate co u

November 17, 2021 APCD Comments on Proposed Transportation Commission GPS Rule.pdf
113K

COLORADO
Department of Public Health & Environment

November 17, 2021

APCD Comments on Proposed Transportation Commission GPS Rule

The Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment appreciates this opportunity to provide input on proposed Section 8 of the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions, 2 CCR 601-22, (referred to as the "GHG Transportation Planning Standard", and in particular on the verification and input roles APCD is intended to play in conjunction with these proposed rules.

APCD supports the Transportation Commission's efforts to address greenhouse gas emissions (GHG) from the transportation system through the GHG Transportation Planning Standard's establishment of GHG pollution reduction planning levels for ensuring GHG reductions in transportation planning. These rules can serve as in integral part of achieving state goals of reducing the contribution of GHG emissions from the transportation sector as set out in the State's GHG Reduction Roadmap and pursuant to the Colorado General Assembly's directive for transportation planning to consider environmental stewardship and reducing GHG emissions in § 43-1-1103(5), C.R.S; as well as toward the overall goals of reducing statewide GHG pollution as set out in § 25-7-102(2)(g), C.R.S.

The GHG Transportation Planning Standard will accomplish GHG reductions by requiring CDOT and Metropolitan Planning Organizations (MPO) to adopt plans that achieve the rule's established GHG targets through a combination of projects that limit and mitigate GHG emissions. As proposed in Section 8.02 of the draft rule, CDOT and MPOs will be required to demonstrate compliance through travel demand modeling and air quality modeling, and to utilize mitigation measures for plans that exceed the specified emissions level. Examples of these mitigation measures envisioned in the GHG Transportation Planning Standard's preamble include adding bus rapid transit facilities and services, enhancing first-and-last mile connections to transit, adding bike-sharing services including electric bikes, improving pedestrian facilities like sidewalks and safe accessible crosswalks, investments that support vibrant downtown density and local zoning decisions that favor sustainable building codes and inclusive multi-use facilities downtown.

Importantly, the proposed rule recognizes the importance of utilizing APCD expertise for verification of the modeling to demonstrate compliance and for developing mitigation measures. The GHG Transportation Planning Standard establishes, in Section 8.04, APCD's role of providing confirmation and verification of the technical

data required for demonstrating compliance pursuant to Section 8.02.5. This section also provides for APCD to review and comment on changes to the process for selecting, measuring, confirming, and verifying GHG mitigation measures established in Section 8.02.3. APCD strongly supports these provisions. Utilizing APCD expertise in these roles will better guarantee accurate and fully transparent compliance verification along with assuring sound measures for mitigating GHG emissions are developed and maintained. Related, APCD believes the timeframes proposed in the rule for APCD to provide such verification and input are reasonable. APCD also believes the continued partnership between APCD and CDOT through early and ongoing sharing of data and expertise throughout the process will bolster GHG reduction goals; and can, as necessary, be detailed through the Intergovernmental Agreement called for in Section 8.02.2. APCD supports the requirement for CDOT to develop and provide publicly comprehensive reports on GHG reduction accomplishments as set out in Section 8.06. To support the development of this report, and to further the ongoing sharing of information as it becomes available, the Division specifically requests that CDOT staff be directed to provide annual updates to the Air Quality Control Commission on the status of GHG reduction accomplishments. Details for the updates can be further specified in the Intergovernmental Agreement that is call for in Section 8.02.2.

Sincerely,

Shaun McGrath

Environmental Health and Protection Director

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments for CDOT/Transportation Commission

1 me age

[redacted] Wed, Nov 17, 2021 at 7:52 PM

To: dot_rules@state.co.us

Dear Commi ioner ,

Attached please find my written comments regarding the Rulemaking on Transportation GHGs.

Thank you,

[redacted]

[redacted]

Mayor

[redacted]

"All mankind are created equal. No matter how hard they try, they can never erase those words. That is what America is about." ~Harvey Milk

Transportation Commission Rulemaking on Transportation GHGs -- Guyleen Castriotta.pdf
82K

[redacted]

OFFICE OF THE MAYOR
One DesCombes Drive • [redacted]

Dear Commissioners,

Everyday we watch the destruction of climate change continue to impact the daily lives of people all over Colorado. As the newly elected Mayor of Broomfield, I am cognizant of the fact that we cannot just stand by and perpetuate the destruction as future generations are dependent upon how we act now.

Throughout my years of public service I have made it a top priority to help protect our environment for future generations. I supported the formation of a new citizen-led Advisory Committee on Environmental Stewardship or ACES. Through these efforts, Broomfield launched the Zero Waste Resolution Campaign in 2020 with the goal of achieving 100% waste diversion by 2035. The City Council of Broomfield also adopted a greenhouse gas reduction plan based on emissions inventory to reach 100% renewable energy.

But these actions are not enough, we need to work with the state to ensure we reach the goals set by SB19-1261 and SB21-260 which establish statewide greenhouse gas emissions targets.

In order to follow-up on the work that has already been done, I am asking that we include Added tracking and reporting of Vehicle Miles Traveled (VMT). This was avoided entirely in the original proposal, and the addition is important. There is also a major loophole that needs to be closed. We need to make sure that a highway capacity project (e.g., adding lanes) cannot be done and claim it as air pollution mitigation by saying that reducing congestion through capacity additions means less pollution because vehicles stop less. This is not the type of infrastructure work Colorado needs.

Some other key concerns include:

- The overall pollution reduction target (up to 1.5MMT) is too small. That isn't adequate because it still leaves a sizable gap that CDOT must figure out how to fill. This proposal would be stronger if a target is set at a level closer to the actual gap.
- The addition of VMT tracking and reporting is great, but there should be actual VMT targets.
- The provisions intended to protect at-risk communities (which CDOT refers to as "disproportionately impacted communities") need strengthening. In order for the rule to meet the equity intent of HB21-1266, it needs to specify how benefits and investments will be prioritized for Colorado's most impacted communities.
- CDOT may need to clarify that you can't double-count emissions reductions from EVs, which is a potential loophole that needs to be addressed.

- GHG mitigation measures should be required if a plan fails to meet GHG reduction targets. These measures absolutely should not be optional.
- The proposed waiver process should be limited to safety projects.

This proposal should result in significant progress towards meeting the GHG Roadmap's transportation sector emissions reduction targets. There is still much more to be done, however, since even if this proposal is entirely successful there is still a big climate pollution gap.

The cost savings for Coloradans from adoption of this rule are conservatively estimated at a stunning $9.4 billion by 2030, and a total of $40.3 billion by 2050. The three largest sources of cost savings come from reduced vehicle operating costs, safety, and traffic delay. And the two largest sources – safety (reduced vehicle crashes) and traffic delay - make up over 2/3 of these savings, largely due to reductions in Vehicle Miles Traveled. VMT absolutely should be a primary goal of this rule and these economic benefits will be a win for all Coloradans, in particular for disproportionately impacted communities.

Every year we see our summers get longer, the fires burn faster, and the winters get more and more mild. My constituents are urgently demanding aggressive action to reduce GHG emissions and avoid the worst impacts of climate disruption. If we want a livable and vibrant planet to last we have to act now and that starts in my community and extends to all of Colorado.

Thank you to CDOT and the Transportation Commission for their leadership on this GHG planning rulemaking. This is an opportunity for Colorado to be a leader on climate-friendly transportation planning.

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments on "Rule" 2CCR 601-22

1 me age

[redacted] Wed, Nov 17, 2021 at 9:34 PM

To: dot_rules@state.co.us

Submitted herewith: My Comments on “Rules Governing State Transportation Planning” 2CCR 601-22. These comment are my own individually and do not repre ent any organization, including the Sierra Club I am a former member of the Colorado Highway Commission (predecessor of CDOT) and also former employee of it as a survey assistant.

[redacted]

CDOT GHG RULE COMMENTS 111721 pdf
4782K

November 18, 2021

Colorado Transportation Commission
2829 W. Howard Pl.
Denver, CO 80204.

Attn: Theresa Takushi, Rebecca White

Subject: Comment on "Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions" 2CCR 601-22

Dear Members of the Colorado Transportation Commission:

Thank you for the opportunity to comment in this project. I am a member of the Sierra Club, but this submission is solely my own and does represent the Sierra Club.

I offer comments based on my experiences in engineering, including transportation, to environmental planning and community impacts, with especial concern for environmental justice and communities that have suffered in this factor. My experience includes an M.S. Civil Engineering, Thayer School of Engineering at Dartmouth College, a founder and Board member of the Regional Transportation District (RTD), a member of the Colorado Highway Commission, service on transportation and urban quality committees of the Metro Denver Council of Governments (DRCOG), environmental/ecological projects on land use, energy, environmental quality and transportation at the Colorado School of Mines Research Institute, the Colorado Energy Research Institute at the Colorado School of Mines, and the Rocky Mountain Center on Environment (ROMCOE). I have been appointed to Citizen Advisory Committees on the Environmental Impact Statements (EUS) for I-70 Mountain Corridor, Northwest circumferential toll road, and several other such projects. I have worked with environment and community involvements such studies as the I-70 Central project, the I-25 widening project in Colorado Springs, the North Metropolitan Planning Organization (MPO) plans, and other issues. I am also a recipient of Wirth Chair University of Colorado environmental "Distinguished Service Award."

It is heartening to note the state governments have direct decision-making powers in this national process and that the Federal government has provisions to guide states to take racial equity and EJ into full account along with climate change.

My comments will be oriented to broader and more general matters rather that detailed attention to specific quantification; I have not spent time to analyze the numbers. However, based on comments by Sierra Club members at the hearings on this action, I support their recommendations on quantifications as being based on excellent research and legitimate concerns. My comments will focus primarily on:

- Environmental Justice (EJ), Equity, Disproportionately Impacted Communities (DIC): a major concern in the entire new Instructure bill signed by the President on November 15, 2021.

- The broad issue of GHG reduction, given the disappointing result of the Glasgow COP26 conference and the desirability of state and local initiatives to set examples that could stimulate others could follow.
- In both of these two items, I will mention some actions that CDOT should take to meet the broad intent of GHG reduction and Environmental Justice in the CDOT action based on this bill and on other CDOT actions that are related to the issues of this bill.

Pursuant to the third bullet above. I note the emphasis and proposed analyses are on numerical quantification. We civil engineers are far more comfortable in this than we are on intangible, non-quantification and qualitative analyses. I was on the DRCOG Transportation Advisory Committee which generated reports for use by the Regional Transportation Committee. One of our main exercises was to develop project scoring based on numbers we assigned to each of about 25 variables such as drainage, sight distances etc. We would debate whether Item 13 should be awarded 4 points or 5 points. I have seen similar CDOT approaches id methodologies for environmental analyses in Environmental Impact Statements. To avoid this, CDOT should involve outside analysts to examine and recommend on intangible and qualitative matters such as community cohesion, and tie this into the quantification elements and "scoring criteria." A really good GHG reduction, with actions to get ahead of, not behind, the general growth and transition away from fossil fuels, will benefit communities economically, functionally, in pride and in heath. As an example of a CDOT failure in the past in this issue, the Final EIS for the I-70 Central project limited its coverage of Community Cohesion to one comment: *it will be improved because the community will have access to a better highway!*

Turning to the interrelated factors of equity and land use, and of course VMT and GHG reductions are directly tied to land use, some past actions and planning provide relevant guidance for the present and future. I will focus on Metro Denver because of my RTD experiences and involvement in specific projects such at I-25 south, the "Beltway" projects, and RTD projects. However, I also draw on my dealings with CASTA and as a member and officer of the non-profit statewide Colorado Mobility Coalition, which was an assembly of organizations involved with transportation issues for non-drivers, especially senior citizens, mobility-impaired people and income-limited travelers.

RTD was founded in 1969 and in 1973, it took its new plan to the voters who approved it 58% to 42%. A month before the vote, the nation was suddenly almost brought to a halt when the Arab Oil Embargo took place. It should be reviewed because VMT reduction was the major issue as gas prices went berserk, gas stations had long lines for sales of just a few gallons, and stations were often out of fuels. Car-pooling for all purposes was essential. Large businesses bought vans for employees to uses to and from work, with employees as drivers and with special parking spaces. Pedestrianism increased. A more complete review of actions of those days should yield some ideas for GHG reductions in our present situation.

The RTD plan was designed to provide transit to generate denser and diversified land use. It was to service the 20% of the population who were non-drivers and to give drivers an option to car use. Nodes around stations were later called "Transit-Oriented Development" – TOD. RTD's first decades did not have fixed guideway vehicles except for Denver's 16th Street Mall

buses, which moved huge numbers of riders, many of whom arrived by bus and later by Light Rail. A large GHG reduction and cleaner air were the results. Around other Light Rail stations, TOD, some with Park-n-Ride facilities, denser development, primarily apartments with amenities, gradually developed. Planning at some stations was specifically oriented to EJ with rail stations having childcare facilities. We proposed these at "A" line stations in the ethnic areas and at the massive TOD on the Gates plant site near the Broadway station. Unfortunately, the social service features did not develop, but I recommend that these and similar intangible EJ equity factors be worked into the qualitative planning and the GHG-VMT and intangible equity benefits in quantitative aspects of studies for the future. This need not be limited to the Metro Denver area, of course.

Another qualitative consideration in DIC areas is the allocation of funds related the Electric Vehicles (EV) and charging stations. Obviously, public vehicles will become EVs first. But what about private and business vehicles? The high cost of EV will deter private and business ownership. But I believe that somehow attention should be devoted in DIC communities to try to increase EV use in certain types of local businesses in DIC areas. A pickup truck used by a small local building repair and modification business, a business that must pick up inventory and deliver sales, will generate a lot of mileage. GHG reduction and local air quality can be improved if the purchase or leasing of EVs for such businesses could be stimulated by governmental assistance. Such businesses and the community will get economic benefits.

Yet another land use qualitative factor should be ecological factors in land use, especially community and natural resiliency. Colorado is relatively fortunate in not having coastal lands, the extreme droughts of areas farther west, and the "Atmospheric Rivers" of warm air laden with water vapor that move Gulf of Mexico water inland, even fairly far north of the coastal areas, and now Pacific Ocean water onto large land areas. However, our infrequent floods such as that of 2013 could well become more frequent as climate change progresses. Wildfires will increase; some say the season will become year-long. Sensitive land that is prone to flooding or climate damage should be identified and GHG reduction projects should consider transportation effects on these places.

I support the Sierra Club in recommendations and comments on Core principles: (1) add a requirement that at least 40% of mitigation investments in each Mitigation Action Plan occur in DICs; (2) add a requirement that mitigation investments must be designed to ensure that there is no net increase in transportation pollution in DI Communities. Further, communities hit by severe air pollution in must directly benefit from any policies moving forward.

I close with an article from the Denver Post, Monday November 15, 2021, by Conrad Swanson.: Headline: "**emission-reduction goals with 2021 legislation, but still not there - -**Report indicates that much of Colorado's progress by 2030 depends on rulemaking processes." An Excerpt:

"Colorado isn't predicted to fall as drastically short of Gov. Jared Polis' goals for cutting greenhouse-gas emissions as initially thought, according to a new report analyzing bills passed in the General Assembly's 2021 session. The report released Monday by Energy Innovation and RMI — formerly Rocky Mountain Institute — follows a similar analysis in May indicating the state would fall drastically short of the governor's quest to halve emissions from 2005 levels by 2030

and 90% by 2050. Now, Kyle Clark-Sutton, an analyst for RMI, said the state could be within "spitting distance" of its 2030 goals, but much still hangs in the balance. In short, some bills passed this year should yield almost immediate results and automatically lead to a 10% cut in emissions by 2030, Clark-Sutton said.

Another RMI analyst noted that other Federal bills could have Colorado could see an additional 30% reduction in emissions. But reductions could fall far shorter if state agencies like CDOT don't tighten regulations on polluters as much as they could, the analyst said; in a best-case scenario the state could see up to a 40% cut in emissions by 2030. That is consistent with Sierra Club comments.

Respectfully submitted

"The ultimate test of a moral society is the kind of world it leaves to its children." - - *Dietrich Bonhoffer, Protestant theologian hanged by Nazis in 1945*

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Written Comment for Proposed Rules

1 me age

[redacted] Wed, Nov 17, 2021 at 10:03 PM

To: dot_rules@state.co.us

I would like to provide the following comment to the propo ed rule a a re ident of Denver, Colorado

- I believe the STAC hould al o include at lea t one repre entative of omeone with limited mobility and omeone who does not use a car as a primary mode of transportation.
- I think section 4.02.5.2 should specify that an online comment platform be used for public comment to make less cumbersome.
- I think ection 4 02 5 5 hould al o include con ulting on cultural re ource
- I did not see much in regards to housing and think this document should directly address an effort to prevent displacement of disproportionately impacted communities due to gentrification, highway expansion projects, and rising housing costs. Commute times for many workers in Colorado are over an hour due to lack of affordable hou ing which i likely one of the large t contributor to individual GHG emi ion

Thank you,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments on GHG Rulemaking

1 me age

[redacted] Wed, Nov 17, 2021 at 11:17 PM

To: dot_rules@state.co.us

Dear Director Lew and Commi ion Member ,

Thank you for the opportunity to share my comments on the GHG rulemaking. I am supportive of an effective and feasible rule to address transportation related GHG emissions, and have attached my comments below.

Best wishes,

[redacted]

LARIMER COUNTY

[redacted]

GHG Rulemaking Comments.pdf
154K

LARIMER COUNTY | BOARD OF COUNTY COMMISSIONERS

[redacted]

November 17, 2021

Colorado Transportation Commission
Colorado Department of Transportation
2829 W. Howard Place
Denver, CO 80204

Dear Commission Members:

Thank you for the opportunity to comment on the Greenhouse Gas Reduction Rulemaking. As a member of the North Front Range Metropolitan Planning Organization (NFRMPO), I have worked with MPO staff to understand the implications of the new rule on our regional transportation planning efforts. As you are aware, the NFRMPO has expressed concerns about several provisions in the rule and has recommended several improvements including, developing practicable GHG reduction levels, expanding the implementers of GHG mitigation measures, setting per capita GHG reduction levels, and requiring the assessment of GHG reduction levels. I believe that these measures would improve the rule, and I ask you to consider making modifications that are supported by counties, and MPOs across the state.

I do want to clearly state, however, that I fully support efforts to reduce transportation related greenhouse gas emissions and understand the urgency of addressing climate change. As such, I am a strong supporter of an effective, and feasible rule.

Thank you again for the opportunity to share my views. I look forward to working with CDOT and the Transportation Commission on efforts to reduce our GHG emissions and improve our air quality.

Best wishes,

[redacted]

[redacted]
Larimer County Commissioner, District 2

LARIMER COUNTY

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Public comment: Sign- on letter

1 me age

[redacted] Thu, Nov 18, 2021 at 7:25 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

Dear CDOT,

Thi letter wa initially ubmitted on October 4, 2021 with 45 igner , and at that time, we were till circulating the letter

Please accept this final letter, in English and Spanish, with 131 signers in total, which includes an additional 86 signers. This list includes elected officials and other leaders from Commerce City and other disproportionately impacted communitie

Best,
[redacted]

[redacted]

KAY-LINN

11 17 21 Letter to Tran portation Commi ioner pdf
87K

November 17, 2021

This letter was initially submitted on October 4, 2021 with 45 signers, and at that time, we were still circulating the letter.

Please accept this final letter, in English and Spanish, with 131 signers in total, which includes an additional 86 signers. This list includes elected officials and other leaders from Commerce City and other disproportionately impacted communities.

Two community members also shared their comments on video:
[redacted], *Commerce City*
[redacted], *Denver*

Letter Supporting Equitable and Ambitious Transportation Rule //
Carta de apoyo a la regla de transporte equitativo y ambicioso

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Dear Commissioner,

Thank you for your work on the Greenhouse Gas (GHG) Pollution Standards Rulemaking.

This rulemaking is a chance to clean up the dirty air that is harming our health, especially our kids, elderly friends and family, and communities located near busy highways, and I am asking you to stand up for clean air, safe streets, and healthy neighborhoods.

As the Colorado Department of Transportation (CDOT) revises the draft GHG Pollution standard over the next few months, we are asking CDOT to:

1. Center EQUITY in all decision-making processes,
2. Elevate COMMUNITY VOICES through robust public participation processes that include language translation, targeted outreach, and early publication of hearings,
3. Set MORE AMBITIOUS pollution reduction targets.

This is Colorado's opportunity to make good on our climate and environmental justice commitments, prioritize investments in public transit, and include a public engagement process that centers communities most impacted by transportation pollution.

Estimado Comisario,
Gracias por su trabajo pertinente a la reglamentación de los estándares de contaminación de los gases de efecto invernadero (GEI).

Esta reglamentación es una oportunidad de limpiar el aire sucio que está dañando nuestra salud, especialmente a nuestros niños, amigos y familiares ancianos que viven en comunidades cerca carrteras muy tráficadas, y les pido que defendan el aire limpio, calles seguras y barrios saludables.

A medida que el Departamento de Transporte de Colorado (CDOT) revisa la guia de (GEI) durante los próximos meses, le pedimos a CDOT lo siguiente:

1. Centrar la EQUIEDAD durante el proceso de tomar decisiones,

2. Elevar las VOCES DE LA COMUNIDAD a través de procesos sólidos de participación públicas que incluyen traducción de idiomas, divulgación directa, y publicación temprana de audiencias.

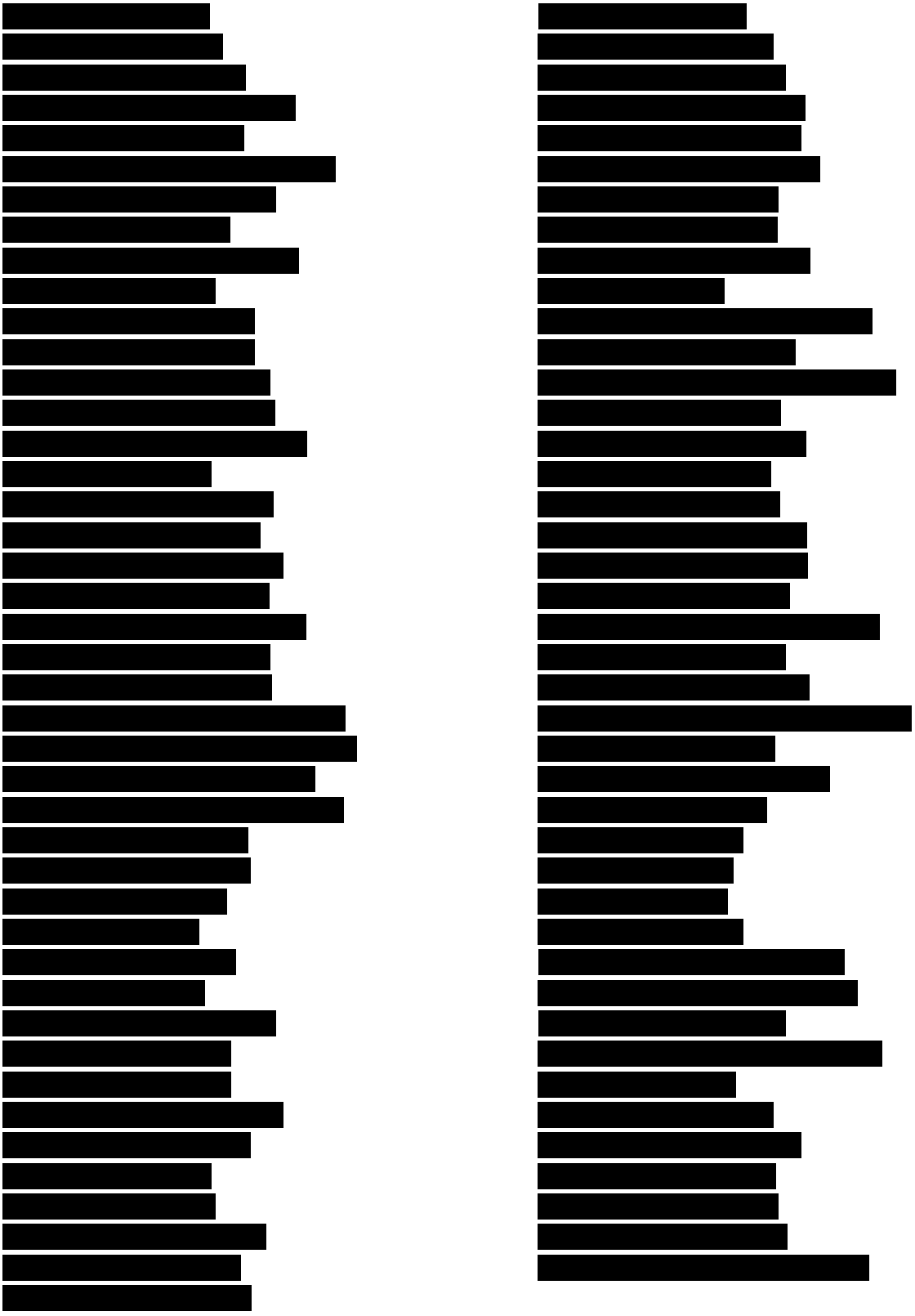
3. Establecer objetivos de la reducción de contaminación MÁS AMBISIOSOS.

Esta es la oportunidad de Colorado para cumplir con nuestros compromisos de justicia ambiental y climática, priorizar las inversiones en el transporte publico e incluir un proceso de partcipación pública que se enfoque en las comunidades más afectadas por la contaminacón del transporte.

Sincerely // Attentamente,

Name, County:

[redacted]



STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comment Letter

1 me age

[redacted] Thu, Nov 18, 2021 at 7:38 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

Commi ioner ,

Thank you for the opportunity to comment Plea e ee attached

Be t regard ,

[redacted]

DENVER SOUTH

To stay up-to-date on Denver South news and events sign up here.

CDOT GHG Comment Letter Denver South 11 18 21 pdf
778K

DENVER SOUTH

November 18, 2021

Transportation Commission
Colorado Department of Transportation
2829 W. Howard Place
Denver, CO 80204

(via email to (via email to dot_rules@state.co.us)

Dear Commissioners:

Thank you for the opportunity to provide these comments on the proposed changes to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions (2 CCR 601-22).

Denver South is both the community surrounding the I-25 corridor south of Denver and the economic development organization that convenes public and private stakeholders to co-author the future of our shared community. We work to improve economic prosperity and the creation of primary jobs in the region through business retention, attraction, and expansion efforts.

Transportation is a core part of our mission. We work with Denver South Transportation Management Association (our sister organization) and partner with other organizations in the regions to identify commuting solutions that improve people's lives. This includes new and ongoing efforts to identify and implement mitigation projects and strategies.

Denver South and our partner jurisdictions have had demonstrable success with ongoing and existing mitigation efforts. We applaud the overall goal of reducing greenhouse gas emissions, improving air quality, and providing more transportation options. In that spirit, we offer the following comments.

The proposed new standard raises three important concerns the Commission must account for as planning proceeds:

1. Mitigation efforts governed by the State should recognize the value of existing efforts and projects by local jurisdictions.
2. Funding for mitigation projects must be adequate and appropriate.
3. Targets must be developed with local jurisdictions and in line with accurate projections, current experience, and realistic assumptions.

DENVER SOUTH

First, mitigation efforts governed by the State should recognize the value of existing efforts and projects by local jurisdictions.

Denver South is working toward the shared goal of reducing greenhouse gas emissions through efforts that reduce traffic congestion, increase mobility, accessibility, and practicality for everyone. Our partner jurisdictions and members have engaged in projects that have made a significant contribution to mitigation efforts. Attached to this letter is a brief overview of a few impactful projects completed or are underway by Denver South partnerships.

They have expanded choice and demonstrated success by delivering emission-reducing and multimodal-focused projects throughout the region. For example, Denver South members are funding multi-million-dollar projects that add new bike lanes along the I-25 corridor. They also maintain the I-25 interchanges from Belleview south through Ridgegate Parkway with trees and greenery – areas that might otherwise be concrete.

We believe that any new proposed standards should recognize and account for the value local jurisdictions contribute to mitigation efforts through existing projects and planning. Simply put, existing and ongoing investments by and within a jurisdiction should be factored as mitigations into future funding calculations. The State's approach to targets and funding should incentivize a wholistic approach for projects undertaken and completed by metro area jurisdictions. These projects, investments and emissions mitigation efforts have an outsized impact on statewide targets. Including them in funding calculations rewards a wholistic approach and provides incentives and resources for additional local efforts, multiplying the ongoing effect of transportation demand management (TDM) investments by metro area local jurisdictions and their partners.

Second, funding for greenhouse gas mitigation projects must be adequate and appropriate.

The inclusion of mitigation targets will increase the costs of projects. Local jurisdictions and municipalities may not have sufficient resources to meet the targets without thoughtful plans and dedicated funding.

In addition, it is vital that the State recognize the disproportionate Impact the front range and I-25 corridor communities like Denver South have on reducing greenhouse gas mitigation. Funds invested with our partners and front range metro communities provide a high rate of return on investment per capita. It is critical that the State consider directing the allocation to front range and I-25 corridor communities and projects that will more effectively and efficiently help meet the legislatively mandated greenhouse gas targets.

Third, targets need to be developed with local jurisdictions and in line with accurate projections, current experience, and realistic assumptions.

Mobility is a central part of maintaining and improving the Colorado quality of life Denver South residents thrive on. It is also what makes our region among the most enjoyable places to live, work and play in the nation, and as such, we have a critical perspective and role to play in the process. The proposed new standard includes several key provisions and potential mitigation measures yet to be determined by CDOT. The selection, measurement and management of the targets must be clarified with the input of local jurisdictions and businesses. At this point, the lack of clarity from CDOT and the State is concerning.

[redacted]

DENVER SOUTH

Colorado is a diverse state, and Denver South represents a diverse community of members. We urge the State to consider the range of transportation needs, opportunities and ongoing efforts when drafting the new standard and rules. The individuality of local jurisdictions and businesses cannot be overstated, and that the Commission work closely with businesses and business advocacy groups is critical to the success of any new standard and to achieving air quality targets together.

In conclusion, we support the overall effort to reduce greenhouse gas emissions, improve air quality and increase transportation options across the state. Denver South members were instrumental in funding the creation of Denver's Light Rail and the Southeast Rail Line Extension and have contributed to cleaner air and reduced greenhouse gas through countless projects over the years.

It benefits us all to recognize the value of existing efforts and projects by local jurisdictions in the proposed new standard. Just as it is critical for mitigation funding to be adequate and appropriate, targets need to be developed with local jurisdictions and in line with accurate projections, current experience, and realistic assumptions. Our intention is to encourage the collaboration of all the stakeholders who play a critical role in the future of air quality for Colorado.

Sincerely,

[redacted]

President/ CEO
Denver South
[redacted]

[redacted]

DENVER SOUTH

Voluntary Greenhouse Gas Mitigation Initiatives

Denver South's Commitment to Projects Protecting Air Quality

Along with our jurisdictional partners – including the City and County of Denver, Arapahoe County, Douglas County, Greenwood Village, City of Centennial, and City of Lone Tree – we help lead the charge for mobility and sustainability projects that protect and improve air quality throughout the region.

The following is a selection of recent partnership projects with our local jurisdictional partners, CDOT, DRCOG and RTD that showcase our investments in efforts to reduce greenhouse gas emissions.

RTD Southeast Rail Extension

A partnership between the Federal Transit Administration, RTD, City of Lone Tree, Douglas County, Coventry Development, Rampart Range Metro District, and Denver South, this project extended RTD's Southeast Rail Line 2.3 miles from Lincoln Station to RidgeGate Parkway. With a total cost of $233 Million – $63 Million of which was derived from local sources – the extension added three new stations, paves the way for future large scale sustainable development, and reduces congestion along the I-25 corridor. In 2015, the partnership's Environmental Assessment won the "Outstanding Achievement Award for Excellence in Environmental Documentation Preparation award, a biennial award promoting efficient development of useful environmental documents.

Inverness Drive West Bike Path

Arapahoe County, Inverness Metro District, and Denver South and DRCOG are working to construct a bikeway through the Inverness Drive West corridor from Dry Creek Road to County Line Road. This project will complete a critical primary segment of the regional north-south bicycle corridor. Once complete, this pathway will create active transportation connections and provide vital infrastructure for pedestrians and cyclists, as well as the future needs of electronic scooters, autonomous shuttles, and other options throughout the Southeast I-25 Corridor.

Yosemite Street Corridor Adaptive Signal System

In 2020, the cities of Centennial, Lone Tree and Greenwood Village – with partnership funding from Denver South – launched the first multi-jurisdictional coordinated adaptive signal project in the region. This new smart system signal technology allows for a more connected, data-driven, traffic management plan for the Yosemite Street Corridor, promoting efficient and safe traffic flow and reducing travel and idling times to lower emissions and improve air quality. The attached press release provides a more detailed look at the impact and benefits of this new system.

Lone Tree Link on Demand

Since 2014, Denver South has partnered with the City of Lone Tree and others to fund the Lone Tree Link. The Link began is a focused solution for first and last mile access for commuters using the Lincoln Light Rail Station. Since the completion of the Southeast Rail Extension, the Link has evolved into an on-demand microtransit service, providing fully subsidized rides to residents and visitors of Lone Tree to and from any location within city limits. Cumulatively, the Link has provided nearly 500,000 rides to complement RTD's existing services and keep more cars off the road.

November 5, 2021

Contact: [redacted]

Centennial, Greenwood Village and Lone Tree implement adaptive traffic control system

In 2020, the cities of Centennial, Lone Tree and Greenwood Village launched the first multi-jurisdictional coordinated adaptive signal project in the region. This new smart system signal technology allows for a more connected, data-driven, traffic management plan for the Yosemite Street Corridor between Lincoln Avenue in Lone Tree and Belleview Avenue in Greenwood Village, that promotes efficient and safe traffic flow through the installation of sensors and adaptive signal controls at traffic signals.

A collaborative effort with Greenwood Village and Lone Tree, which implemented a similar adaptive control system in their portions of Yosemite Street to the north and south of the Centennial city limits. Dozens of intersections along the Yosemite Street corridor are equipped with new advanced detection systems and new camera technology.

The City of Centennial was recently recognized by the American Public Works Association (APWA) Colorado Chapter for implementing this technology and extending the adaptive traffic signal control beyond Centennial city limits in the award category of Operations/Maintenance.

“In addition to the future ready traffic control technology, the collaboration with Greenwood Village and Lone Tree ensured the success of this project. Without their participation the benefits of this proactive method of managing traffic would end at the city limits,” says Centennial Mayor Stephanie Piko. “The City of Centennial prides itself on being effective and efficient in providing the best possible service to our citizens.”

Through the implementation of an adaptive traffic control system in Yosemite Street, traffic is moving more efficiently with less congestion through the reduction in traffic signal cycle lengths and increases in the number of vehicles arriving at traffic signals on a green light, or in essence, reducing travel time in Yosemite Street and stop time at traffic signals. Traditional traffic signal control systems use time-based signal coordination plans developed from static or historical traffic volumes. Whereas adaptive traffic signal control uses real-time traffic count data to adjust signal timing and coordination to adapt to current traffic conditions, the benefits of which are most evident during “unplanned” traffic incidents. These benefits can be measured in the changes in traffic signal cycle lengths and the percentage of traffic arriving on green at a traffic signal.

While the APWA award is specific to the adaptive signal technology implemented by the cities of Centennial and Greenwood Village, it is important to note the partnership with the city of Lone Tree on the installation of sensors across the three jurisdictions was integral to this project.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

CCI Written Comments on GHG Rulemaking

1 me age

[redacted] Thu, Nov 18, 2021 at 8:37 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc [redacted]

To Whom It May Concern

Good morning! Colorado Counties, Inc. (CCI) is submitting written comment on the proposed Greenhouse Gas Rule (Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions). We appreciate the opportunity to weigh in on the proposed rule

We would request that you send us an e-mail acknowledging receipt of these written comments. Thank you for your time and consideration

[redacted]

CCI

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141K

COLORADO COUNTIES, INC.
Educate · Advocate · Empower

November 17, 2021

Colorado Transportation Commission
Colorado Department of Transportation
2829 W. Howard Place
Denver, CO 80204

Re: Proposed Standards for Greenhouse Gas Pollution Reduction for Transportation Planning

Dear Commission Members:

On behalf of the Transportation and Telecommunications Steering Committee of Colorado Counties, Inc. (CCI), I am writing to you today to provide comment on the current greenhouse gas reduction rulemaking underway at the Colorado Department of Transportation (CDOT). Our association represents 61 of the 64 counties in Colorado and is comprised of county commissioners from across the political spectrum.

CCI recognizes that increased levels of greenhouse gases like carbon dioxide, methane and nitrous oxide in our atmosphere are contributing to climate change and are having a detrimental impact on our state. As local elected officials, we share the goal of improving air quality, reducing pollution, increasing transportation efficiency, mitigating the effects of natural hazards and reducing greenhouse gas emissions.

The rulemaking currently being undertaken by CDOT is groundbreaking and ambitious from a transportation policy standpoint. **While we applaud the state for boldly embracing the challenge of greenhouse gas reduction, concerns have been raised by our membership about the transparency, pace, efficacy and flexibility of this policy endeavor.** We wish to highlight these concerns and see them addressed as this effort moves forward.

Transparency

Much of the proposed rule being forwarded by CDOT is predicated on greenhouse gas modeling – modeling that has **not** been shared by CDOT with the affected metropolitan planning organizations (MPOs). It is difficult – if not impossible – to evaluate the impacts of this proposed rule on communities within the planning regions without access to the data that is guiding the rulemaking. This modeling needs to be shared with the affected MPOs as soon as possible.

Pace

As mentioned before, the scope of this rulemaking is almost unprecedented and the speed at which it is moving is aggressive – especially given the large amount of uncertainty that is accompanying this effort. As modeling has not yet been made available to the MPOs, we would suggest an extension in the rulemaking deadlines that will allow adequate time for review,

[redacted]

analysis and comment by affected parties. Similarly, the deadline for revision of CDOT's 10-Year Plan and the regional transportation plans (RTPs) of DRCOG and NFRMPO to incorporate these greenhouse gas reduction goals is October of 2022. This timeline – which is delineated in both the proposed rule and in statute - may be unworkable due to the large amount of uncertainty that still exists and the extensive amount of planning work that is involved in updating an RTP. CCI would suggest an extension that will allow the state and the affected MPOs adequate time to properly update these guidance documents to reflect the goal in the rules.

Efficacy

There are a number of questions about the workability of these greenhouse gas reduction policies that need to be answered as this rulemaking moves forward. One issue involves how the mitigation measures to offset greenhouse gas emissions will work and whether communities will get "credit" for measures that were previously taken in these jurisdictions. Similarly, the state's plan for building charging stations for electric vehicles will likely result in more residents purchasing electric vehicles. How will that be accounted for in the modeling and greenhouse gas goalsetting?

Another issue raised is how the model and associated greenhouse gas levels will account for population growth. Colorado is expected to add another 500,000 residents through in-migration alone by 2030. MPOs may successfully meet the greenhouse gas reduction goals in the proposed rules through better transportation planning, only to see these successes undermined by population growth in their regions. How will the modeling account for population growth without penalizing the MPOs?

Finally, there is concern that the success of the multi-modal transportation alternatives called for in the rulemaking is largely dependent on a resident's personal choice. Given the sharp decrease in ridership during the ongoing pandemic, it may be difficult to reengage the populace on bus and rail transit options and this may make some of the mitigation efforts less effective in the desired goal of reducing greenhouse gas emissions.

Flexibility

We appreciate that the rule encourages innovation at the local government level in coming up with mitigation measures to offset transportation projects that might increase greenhouse gas levels. Our counties are incredibly diverse and their available resources and approaches to problem-solving are also quite varied. Moreover, many of the suggested mitigation measures in the rules are urban in nature and would not be workable in rural areas. We would ask that local governments continue to be given maximum flexibility in how they meet these greenhouse gas standards.

We thank you for your time and consideration of these comments and look forward to further conversation on this important undertaking as it moves forward.

[redacted]

Sincerely,

[redacted]

[redacted]
Chair, CCI Transportation & Telecommunications Steering Committee

cc: Shoshana Lew, Executive Director, CDOT
Herman Stockinger, Transportation Commission Secretary, CDOT
Andy Karsian, Legislative Liaison, CDOT

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

CCI Written Comments on GHG Rulemaking

1 me age

[redacted] Thu, Nov 18, 2021 at 8:37 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Cc [redacted]

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[redacted]

CCI

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141K

COLORADO COUNTIES, INC.
Educate · Advocate · Empower

November 17, 2021

Colorado Transportation Commission
Colorado Department of Transportation
2829 W. Howard Place
Denver, CO 80204

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Much of the proposed rule being forwarded by CDOT is predicated on greenhouse gas modeling – modeling that has **not** been shared by CDOT with the affected metropolitan planning organizations (MPOs). It is difficult – if not impossible – to evaluate the impacts of this proposed rule on communities within the planning regions without access to the data that is guiding the rulemaking. This modeling needs to be shared with the affected MPOs as soon as possible.

Pace

As mentioned before, the scope of this rulemaking is almost unprecedented and the speed at which it is moving is aggressive – especially given the large amount of uncertainty that is accompanying this effort. As modeling has not yet been made available to the MPOs, we would suggest an extension in the rulemaking deadlines that will allow adequate time for review,

[redacted]

analysis and comment by affected parties. Similarly, the deadline for revision of CDOT's 10-Year Plan and the regional transportation plans (RTPs) of DRCOG and NFRMPO to incorporate these greenhouse gas reduction goals is October of 2022. This timeline – which is delineated in both the proposed rule and in statute - may be unworkable due to the large amount of uncertainty that still exists and the extensive amount of planning work that is involved in updating an RTP. CCI would suggest an extension that will allow the state and the affected MPOs adequate time to properly update these guidance documents to reflect the goal in the rules.

Efficacy

There are a number of questions about the workability of these greenhouse gas reduction policies that need to be answered as this rulemaking moves forward. One issue involves how the mitigation measures to offset greenhouse gas emissions will work and whether communities will get "credit" for measures that were previously taken in these jurisdictions. Similarly, the state's plan for building charging stations for electric vehicles will likely result in more residents purchasing electric vehicles. How will that be accounted for in the modeling and greenhouse gas goalsetting?

Another issue raised is how the model and associated greenhouse gas levels will account for population growth. Colorado is expected to add another 500,000 residents through in-migration alone by 2030. MPOs may successfully meet the greenhouse gas reduction goals in the proposed rules through better transportation planning, only to see these successes undermined by population growth in their regions. How will the modeling account for population growth without penalizing the MPOs?

Finally, there is concern that the success of the multi-modal transportation alternatives called for in the rulemaking is largely dependent on a resident's personal choice. Given the sharp decrease in ridership during the ongoing pandemic, it may be difficult to reengage the populace on bus and rail transit options and this may make some of the mitigation efforts less effective in the desired goal of reducing greenhouse gas emissions.

Flexibility

We appreciate that the rule encourages innovation at the local government level in coming up with mitigation measures to offset transportation projects that might increase greenhouse gas levels. Our counties are incredibly diverse and their available resources and approaches to problem-solving are also quite varied. Moreover, many of the suggested mitigation measures in the rules are urban in nature and would not be workable in rural areas. We would ask that local governments continue to be given maximum flexibility in how they meet these greenhouse gas standards.

We thank you for your time and consideration of these comments and look forward to further conversation on this important undertaking as it moves forward.

[redacted]

Sincerely,

[redacted]

[redacted]
Chair, CCI Transportation & Telecommunications Steering Committee

cc: Shoshana Lew, Executive Director, CDOT
Herman Stockinger, Transportation Commission Secretary, CDOT
Andy Karsian, Legislative Liaison, CDOT

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

(no subject)

1 me age

[redacted] Thu, Nov 18, 2021 at 9:05 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

The I am writing today to ask that your draft Greenhouse Gas Pollution Standard include stronger greenhouse gas reduction target in order to meet the tran portation reduction goal in the tate' climate roadmap More ha to be done sooner to reduce emissions. This is especially important given the state agencies dropping of the proposed Employee Traffic Reduction Program requirement this summer. Reducing VMT is a critical element of reducing pollution from the transportation sector. There should be included a goal for vehicle miles traveled in line with the roadmap goal and HB 1261

I upport the following

e panding mobility option that help improve mobility and quality of life for all re ident

including equity in prioritization criteria for evaluation of all transportation planning and programs and progress indicator that track equitable implementation of the plan

requiring that the rule (and a ociated PD on mitigation) mitigate ignificant project within the ame region and community as the project, but also that project mitigation prioritize benefits to Disproportionately Impacted Communities

Thank you,

[redacted]

Sent from Mail for Windows

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Standards

1 me age

[redacted] Thu, Nov 18, 2021 at 9:12 AM

To: dot_rules@state.co.us

To the individual at CDOT

We have very limited time remaining to reduce greenhouse gas emissions so that we do not reach 1.5 degrees of global warming. We must prioritize biking, walking and public transportation in urban areas to reduce greenhouse gas emi ion Plea e adopt tandard that reduce the building of highway in urban area and upport more convenient and safe multi-modal transportation.

Thank you,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments on the Transportation GHGs Rulemaking

1 me age

[redacted] Thu, Nov 18, 2021 at 9:26 AM

To: dot rules@state.co.us

Cc [redacted]

I am submitting these written comments on behalf of Fort Collins Mayor [redacted] and City Councilmember [redacted]. Both testified verbally this morning and asked that their comments be included in the written record, as well.

Plea e let u know if you have any que tion or need any other information Thank you

[redacted]

Fort Collins Councilmember [redacted] Testimony

Good morning Commissioners, my name is [redacted] and I am a Councilmember in the great city of Fort Collins.

Both [redacted] and I are here this morning to express our support for CDOT's proposed rule on transportation GHG emissions I know some parties want CDOT to go farther and others feel the proposed rule goes too far. From my perspective, this is a solid proposal and is a good start on our collective responsibility to tackle the enormous crisis of climate change, and we would support going even further with more ambitious climate pollution targets to meet the state's goals for emissions reduction

Climate change is having very real impacts on communities across the state 2021 was a record year along the Front Range for ozone alerts, and I know many of us were impacted by wildfires in 2020 and are watching the Kruger Rock Fire in Estes Park and thinking of our neighbors as they experience the results of longer fire seasons as a result of climate change.

In 2019, Fort Collins declared a global climate emergency, and our residents are calling on us to act as soon as possible to achieve our climate action goals both locally and statewide

Also, reducing emissions helps communities like ours address multiple challenges, as these same emissions contribute to air pollution. Air pollution and climate change affects everyone, but is especially of concern for our most vulnerable community members, where those with respiratory conditions, older adults and younger children are most susceptible.

To speak to more specifics about the rulemaking, I will transition to [redacted] to share her thoughts

Fort Collins Mayor [redacted] Testimony

Good morning, Commissioners, my name is [redacted] and I am the Mayor of Fort Collins as well as a former state legislator who helped adopt HB 19-1261 which is a key driver for the rulemaking before you today.

As Councilmember Canonico stated, I too support the rules before you today. In particular, I appreciate that this proposed rule finds a balance between setting GHG pollution limits and still giving MPOs real flexibility on how best to meet those goals. If an MPO has critical projects that could result in increased climate pollution, it simply needs to be offset with other projects that help reduce these pollution levels, effectively supporting a shift to clean mobility options like transit, biking and walking

I also appreciate that the proposed rule finds a reasonable compromise on vehicle miles traveled (VMT). It involves tracking VMT data but doesn't establish any limits. This information can help us all adopt strategies that maximize GHG pollution and improve mobility benefits.

And this is the type of data that might enable us to achieve the pollution reductions we need without specific VMT limits. The better we understand what impacts VMT, the smarter we can be about finding the most reasonable strategies

There are a few areas of the proposed rule that could still use strengthening, such as how it will work to support disproportionately impacted communities and making sure the waiver process is limited to safety projects. In addition, we would support CDOT adopting a clear overall transportation sector GHG target that goes further than what this rule proposes – which recognizes transportation emissions are our largest source of emissions and that, as a result, reducing transportation emissions are a critical area of action for us all.

While we are concerned this rule does not get us as far as we need to go to meet the state's targets, on the whole, this proposal is a good start and a reasonable balance.

My thanks to the Commissioners and CDOT for working so hard to craft a reasonable rule that advances our state's and community's goals to reduce emissions and preserve the amazing quality of life we Coloradans get to enjoy

--

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

INFO: NRDC Public Comment Submission - Colorado Department of Transportation

1 me age

[redacted] Thu, Nov 18, 2021 at 9:30 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

Dear Colorado Department of Tran portation,

Please accept these 822 public comments from Colorado members and online activists of the Natural Resources Defense Council (NRDC) in support of your revised draft greenhouse gas reduction rule to reduce emissions and clean up our air.

We are counting on you to put in place a final tran portation rule that tackle the climate cri i and protect communities. Thank you!

Sincerely,
[redacted]

[redacted]

Communications Assistant,
Digital Advocacy & Fundraising

NRDC & NRDC ACTION FUND

[redacted]

2 attachments

NRDC Cover Letter - Colorado Transportation.pdf
150K

NRDC Public Comments Colorado Transportation.xlsx
65K

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

ACEC Colorado Comments to the CDOT GHG Rules

1 me age

[redacted] Thu, Nov 18, 2021 at 10:00 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

Good morning,

The American Council of Engineering Companie of Colorado (ACEC Colorado) appreciate the effort and time that CDOT has given to the proposed GHG Rules.

ACEC Colorado is pleased to provide its written comments to the Rules. We want to be a resource and partner as you move forward on further development and implementation of the rule. If we can be of any assistance, please do not hesitate to contact us.

Best regards,

[redacted], **CAE** | *Executive Director*

American Council of Engineering Companies of Colorado
ACEC Colorado Scholar hip & Education Foundation
[redacted]

ACEC_Colorado_GHG-Comments_Nov2021.pdf
310K

ACEC
American Council of Engineering Companies
of Colorado

Nov. 18, 2021

Dear Colorado Transportation Commissioners,

The American Council of Engineering Companies of Colorado (ACEC Colorado) appreciates the opportunity to provide comments regarding Colorado Department of Transportation's (CDOT's) proposed rules focused on greenhouse gas (GHG) emissions reduction. We recognize the comprehensive process that CDOT is using to garner input from stakeholders on the revised Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions (Rules) and thank you for extending the comment period. It is our hope that such a process will allow for fair and equitable rulemaking while trying to bring about meaningful change in air quality conditions around the state. Ultimately, ACEC Colorado supports a goal of reducing GHG emissions in our State.

ACEC Colorado represents approximately 260 member firms employing nearly 12,500 individuals in the independent and private practice of consulting engineering. These firms range in size from small to very large and serve as consultants to government, industry, contractors, developers and private sector clients. Our membership has diverse expertise in the areas of infrastructure design, planning, environmental resources and construction. We have relied on this expertise to formulate additional comments and questions on the revised Rules. Our goal is to bring more transparency and clarity to what is being regulated and to create opportunities for the regulated community to remain successful and compliant. ACEC Colorado has reviewed the revised Rules, Mitigation Policy, and GHG Modeling Technical Support Document. Our comments include questions for your consideration along with detailed concerns on a number of areas. Following are our comments on each document.

Revised Rule

1. **Statement of Basis & Purpose, Statutory Authority and Preamble**
   The following statement is made, *"Section 8 of these Rules establishes an ongoing administrative process for identifying, measuring, confirming and verifying those best practices and their impacts, so that CDOT and Metropolitan Planning Organizations (MPOs) can easily apply them to their plans in order to achieve the pollution-reduction levels required by these Rules."*
   Comment: Although an administrative process is clearly laid out in the Rules, it is not clear how the impacts of best practices being implemented in a plan can be measured and confirmed. We recommend limiting this statement to identifying and verifying through an administrative process.

2. **Preamble for 2021 Rulemaking – Overview**
   The following statement is made, *"CDOT and MPOs will be required to demonstrate through travel demand modeling and the Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES) approved air quality modeling that statewide and regional aggregate emissions resulting from its state or regional plans do not exceed a specified emissions level in total."*

Comment: Since Table 1 of the Rules establishes emission reduction levels, we recommend consistency with this modeling statement.

3. **Preamble for 2021 Rulemaking – Overview**
   Comment: Although the list of mitigations is not intended to be all-inclusive, we recommend adding electric vehicle market penetration, since this metric does play a role in the GHG-reduction level analysis for modeling conducted either prior or after Oct. 1, 2022. Further comment concerning this metric is detailed in Comment #3 for the GHG Modeling Technical Support Document (see below).

4. **Purpose of GHG Mitigation Measures – Reasonable Scale**
   Comment: Vetting the scoring rubric with stakeholders is a valuable and important step in rating effectiveness of mitigation measures; however, our concern lies with applying the same rubric to each stage of the transportation decision-making process. This is further detailed in Comment #2 for the Mitigation Policy (see below). As knowledge is gained with application of the rubric to specific projects, we recommend that the State Interagency Consultation Team perform at least an annual review of the scoring rubric, which would include a review of resources relied upon for scoring and how the scoring is actually conducted. Such a review would bring more transparency to how Regional Transportation Plans (RTPs) and associated mitigation plans will be approved.

5. **Section 1.0 Definitions – Carbon Dioxide Equivalent (CO_2e)**
   Comment: Recommend specifying which GHG constituents will be included in the calculation of CO_2e.

6. **Section 2.02.3**
   Comment: If the Commission approves a change to the boundary of a Transportation Planning Region, will the emission-reduction level in effect at the time of the change remain the same or will MPOs/Non-MPO Regional Planning Commissions (RPCs) have the opportunity to revise their plan to reflect the change?

7. **Sections 4.04.2.2 and 4.04.2.4**
   Comment: CDOT is given a minimum of 30 days to review draft and final RTPs. Can consideration be given to how long CDOT can review either version of RTPs before it is approved so that MPOs and Non-MPO Regional Plan Documents can implement plans as soon as possible and allow them sufficient time to comply with emission reduction levels?

8. **Section 4.05.3**
   Comment: We recommend defining "transportation related emissions" in Section 1.0.

9. **Table 1: GHG Transportation Planning Reduction Levels in** M**illion Metric Tons of CO_2e**
   Comment: When reviewing emission reductions levels specified from 2025 through 2050, a sharp increase in reduction occurs from 2025 to 2030 followed by lower reductions for 2040 and 2050. This appears counter to development of overall multi-modal transportation options. Over time there could be more options/best practices available along with greater engineering feasibility to reduce GHG emissions and allow regions to meet higher reduction levels in the 20- to 30-year timeframe. With this in mind, we ask to lower GHG-reduction targets in the earlier years (2025 and

2030) and increase these targets for the later years (2040 and 2050).

10. Section 8.02.2

Comment: Since CDOT, Colorado Department of Public Health & Environment (CDPHE) and MPOs will have responsibilities in an intergovernmental agreement, it is recommended that a template and more guidance be developed to addresses the contents of the agreement. Furthermore, is it clear who takes the lead on developing the agreement?

11. Section 8.02.4

Comment: This section of the rule establishes a high-level process for considering GHG Mitigation Measures. It includes a public process, determining impacts from measures, and qualifying how mitigation credits will be considered (i.e., aggregate and community impacts). Bringing clarity to how each of these components will be defined should be detailed in the Rules, as this will have a significant impact on compliance.

12. Section 8.02.5.1 Timing for Determining Compliance

Comment: The Rules require CDOT to update its 10-Year Plan and Denver Regional Council of Governments and North Front Range Metropolitan Planning Organization to update their RTPs by Oct. 1, 2022. Given these rules represent new requirements, we recommend establishing a one-year timeframe from rule adoption to demonstrate compliance. If this change is made, Sections 8.02.5.2 and 8.02.5.3 will need to be modified by removing the phrase, "…after Oct. 1, 2022" and replacing it with "…following one-year after rule adoption."

13. Section 8.03 GHG Mitigation Measures

Comment #1: This portion of the Rules references 8.02.3 in the context of establishing approved GHG Mitigation Measures. Specifically, 8.02.3 discusses meetings held by the State Interagency Consultation Team. Should the reference be changed to "Section 8.02.4"?

Comment #2: The mitigation measures listed in this section include measures that are based on encouraging certain changes in commercial development, parking policies and education programs along with changes in various industries (e.g., trucking, construction). These are areas that CDOT and MPOs do not control in terms of implementation. Although these measures would have a positive impact on GHG emissions, they should not be perceived as options that can be chosen from a list of illustrative examples, unless third-party commitments have been made for their incorporation into a project.

<u>Mitigation Policy</u>

Thank you for the preliminary work in response to comments received during the rulemaking process. We are pleased that CDOT is seeking input to better adapt this guidance to Colorado's context before the Mitigation Policy is finalized in April 2022 and in association with the CDOT GHG Transportation Planning Standard rulemaking. Additionally, we are pleased to know about the GHG Mitigation Advisory Group that will be convened in coming months and sincerely hope that private industry partners will be included in the group. The following are responses to the specific questions CDOT asked.

1. **Should mitigation measures be evaluated based on their estimated GHG reduction, specifically, through a more generalized scoring/point system or some other approach?**

At this time, we do not recommend that mitigation measures be evaluated based upon their estimated GHG reduction, specifically, in part, because this accounting methodology remains in very preliminary stages and is significantly influenced by local context. Development of a more generalized scorecard system is recommended, especially if desiring inclusion of mitigation options that could be used at different points in time within transportation decision-making processes and by different decision-making authorities. To date, potential mitigation measures have been presented that could occur at different times in the transportation planning, funding, project selection and construction process. Additionally, potential mitigation measures have been presented that fall within different jurisdictions outside of the Commission's decision-making power (e.g., land use zoning and decision-making processes that would be the responsibility of a local city/county's board, council or commission).

2. **Should a particular method or tool for GHG estimation be specified or should CDOT and MPOs be able to propose and document their own approach?**
   There are tradeoffs with a specific approach to regulation and a flexible menu approach to regulation. In using a specific method or tool for GHG estimation, CDOT and MPOs could potentially provide more predictability in decision-making outcomes. In using a more flexible method or tool for GHG estimation, CDOT and MPOs could potentially provide less predictability yet more room for creativity in decision-making outcomes. More discussion is needed on where the leverage points are and where a more specific or flexible approach might make more or less impact to achieve desired GHG emissions reduction goals. At this time, it remains unclear how and when the proposed changes to transportation planning rules will translate to changes at the project level.

   Perhaps consider a different scoring rubric associated with each stage of the transportation decision-making process from planning, funding allocation, projects selection, project specific design, and construction scoring. The GHG Emissions reductions rubric and scoring options would be very different at each stage of the process. Regardless of the stage of the process, adding any GHG emissions reduction scoring would add costs in staff time, resources, and project specific costs. Future Requests for Proposals may need to reflect expectations for GHG emissions reduction within National Environmental Policy Act (NEPA), project design and permitting, and/or construction management processes.

3. **What other tools and resources would you recommend for consideration?**
   Once a Mitigation Policy, menu and/or scorecard is developed and adopted for use as a tool for meeting GHG emissions reduction in the Colorado transportation sector, there may be a need to develop intergovernmental agreements to utilize the tool across jurisdictions. For example, any land use planning and zoning influenced mitigation options may require support from city and county planning and zoning decision-making bodies, and associated updates to development codes.

   For GHG emissions associated with roadway projects during construction, several resources are available or are in development to account for the carbon released in the manufacturing, production and transportation of construction materials. For example, the International Organization for Standardization has developed the Environmental Product Declaration (EPD) that summarizes the estimated environmental impacts of a given product, such as a specific concrete design or asphalt mix. Projects could potentially identify ways to reduce GHG emissions during construction of a

transportation project. This could aid in the future for project-level analysis rather than planning level MPO analysis.

GHG Modeling Technical Support Document

1. **Clarification regarding intersect between regional level modeling and project-specific modeling**
   We are appreciative Rules will create a Statewide Model Coordination Group (SMCG) and provide minimum guidelines for conducting air and travel modeling for transportation plans. Since at this time it is expected that the SMCG will consist of CDOT, CDPHE and all MPOs, there are a few considerations we would like to bring up since there is discussion in the mitigation and technical documents regarding individual projects that do not result in the MPO meeting the GHG reduction limits identified in Table 1 of the Rules. We recommend some guidelines be included for project-level evaluations, whether that be under this or as an additional task of SMCG.

Our concern stems from a couple of scenarios outlined below.

1. Where one project that has a modeled increase in GHG emissions is offset by another project that has a modeled decrease in GHG emissions within the geographic boundary. For Senate Bill (SB)21 260, specifically, modeling is expected on a project-level basis and the GHG evaluation and potential availability for funding become a bit muddled when a project is viewed in isolation. A question to be asked of CDOT is whether the project that results in a GHG emissions increase be defunded or if it could avoid defunding when reviewed in combination with the project that did offset emissions.
2. Certain projects that improve traffic operations are not considered mitigation for GHGs under these Rules (e.g., roundabouts, intersection performance improvements, change of a functional class of roadway, etc.). Our recommendation is to vet the project examples within the Federal Highway Administration Congestion Mitigation and Air Quality Improvement program guidance to make sure that mitigation projects that would result in GHG reductions are not excluded.
3. The scoring rubric provides a variety of options for calculating mitigation measure emission reductions. Once at the project level, the methodology for quantifying GHG reductions may be more prescribed based on federal involvement, final design choices, etc. Our recommendation is that scoring rubrics be different at the regional-planning and project levels. Our concern is that construction decisions for a project or group of projects may not be known or even understood in the regional-planning phase.

2. **Project offsetting**
   We are pleased to learn those projects generally outside the scope of emissions modeling can be included to take credit for additional efforts CDOT and MPOs make to reduce vehicle miles traveled (VMT) and GHGs. To be comprehensive, we recommend there be some guidelines as to what could qualify as an offset project. Things we ask CDOT to consider are the timing and location of projects. Namely, will an offset project need to be implemented within a specified time of the project it is offsetting? Also, does an offset project need to be a certain distance from the project it is offsetting? This last question may especially have implications on evaluations for disproportionately impacted communities under the Rules and SB21 260.

3. **EV Market Penetration Considerations**
   We request a minor wording change and elaboration on page 4 of the technical memo under the

GHG-reduction level analysis. Rather than stating, "One run using the above baseline travel model run but including the best-estimate EV market penetration," we suggest, "One run using the above

baseline travel model run but including forecasted EVs on the road based on defensible assumptions, current trends and on-the-books legislation that may provide insight to forecasts."

4. **Reduction Levels in Table 1**
   Similar to the option for the Commission to consider revisions to the Rules, should individual MPOs not meet VMT reductions per capita, we also request CDOT permit revisions, specifically, the future reduction goals in Table 1 should an MPO exceed its reductions in an early year. There is a point of diminishing returns when looking at reductions as a ceiling that we recognize CDOT realized when crafting Table 1 in that the reductions decrease over time. We do understand the importance of meeting Colorado's short-term reduction goals. As an example, should an MPO exceed the planned reduction for 2030, it should be provided credit for that reduction for future reduction targets. Revising Table 1 reductions should also be allowed for successes by MPOs rather than only failures.

Closing Thoughts

ACEC Colorado provides these comments recognizing that while rulemaking may be needed to achieve air-quality goals, new regulatory requirements inherently translate into more work for MPOs, CDOT and the consulting engineering community that supports the planning, design, permitting and construction of transportation projects. It is our belief that these analyses will require additional time and funds. Our comments are intended to shed light on our concerns so they can be addressed early and avoid wasted funds and time once projects are in the NEPA, design and construction phases.

Thank you for the opportunity to provide comments on the revised Rules. ACEC Colorado wants to be part of the solution to create meaningful, positive and transparent change. Should you have questions or would like additional details regarding these comments, please do not hesitate to contact us.

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Weld County Comments of November 18, 2021, for GHG Rulemaking

1 message

[redacted] > Thu, Nov 18, 2021 at 10:02 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc: [redacted]

Please see the attached. These comments are in addition to those we submitted on September 24, 2021, and on October 14, 2021.

Thank you for the opportunity to participate in this rulemaking and to provide these comments!

[redacted]

WeldCo_Third_Written_Comments_Final_wExhibits.pdf
3011K

BEFORE THE DEPARTMENT OF TRANSPORTATION AND TRANSPORTATION COMMISSION
STATE OF COLORADO

IN THE MATTER OF PROPOSED REVISIONS TO 2 CCR 601-22

WRITTEN COMMENTS FROM THE BOARD OF COUNTY COMMISSIONERS OF WELD COUNTY, COLORADO

EXECUTIVE SUMMARY

The Board of County Commissioners of Weld County ("Weld County") submits these comments in connection with the above-captioned rulemaking. These written comments are in addition to the comments Weld County already submitted on September 24, 2021 and October 14, 2021. Weld County appreciates the opportunity to participate in this rulemaking proceeding regarding the Colorado Department of Transportation's ("CDOT") revisions to 2 CCR 601-22, Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions ("Proposed Rule"). The Proposed Rule establishes greenhouse gas ("GHG") emission reduction targets for transportation. It requires CDOT and the Metropolitan Planning Organizations ("MPOs") to demonstrate through travel demand modeling and approved air quality modeling that statewide and regional aggregate emissions resulting from state or regional plans do not exceed target emission reduction levels. If compliance cannot be demonstrated, even after committing to GHG Mitigation Measures, the Proposed Rule requires the Transportation Commission ("TC") to restrict the use of certain funds to projects that are recognized as approved mitigation measures to reduce GHG emissions from the transportation sector.

The transportation sector is one of the largest contributors to GHG and ozone precursor emissions. Therefore, Weld County generally supports common sense efforts to increase multimodal options and provide more sustainable travel options to achieve reductions in air pollution from the sector. However, Weld County cannot support the Proposed Rule as drafted, because CDOT's CBA is fundamentally flawed and the Proposed Rule is based on a misunderstanding of the induced travel concept.

Weld County appreciates CDOT's responsiveness to stakeholder feedback and the revisions made to the Proposed Rule in response to Weld County's comments. Weld County also appreciates CDOT providing additional information in the two draft companion documents released on October 19, 2021 – the Greenhouse Gas Modeling Process Draft ("GHG Modeling Process Draft") and the GHG Transportation Planning Standard: Mitigation Policy Overview draft ("Mitigation Policy Overview"). However, many of Weld County's concerns still have not been addressed, and Weld County has additional concerns with the revisions made to the Proposed Rule and the corresponding documents released on October 19, 2021.

Moreover, significant uncertainty exists regarding the modeling assumptions and methods, and numerous important questions remain unanswered. On October 14, 2021, CDOT and CDPHE provided modeling data via a shared Google folder from CDPHE. However, subsequent discussion with CDOT and CDPHE staff [1] revealed that the provided model data was incomplete. On November 9, 2021, just one day before the final rulemaking hearing, Weld County received additional files it had requested. The limited time remaining for review before the close of the written comment period on November 18, 2021, coupled with the absence of a detailed technical support document describing the modeling methodology, severely limits Weld County's ability to analyze data and provide meaningful comments.

Weld County supports efforts to reduce GHG emissions from the transportation sector, but it cannot support the Proposed Rule as drafted. We respectfully ask TC to reject the Proposed Rule and direct CDOT to revise the rule to adequately address stakeholder concerns.

EXHIBITS

Weld County has attached several exhibits to these comments as shown in the table below.

Number	Title
WeldCo_EX-001	Redline Rule Language
WeldCo_EX-002	Slides Prepared by Ramboll for November 10, 2021 Rulemaking Hearing
WeldCo_EX-003	Slides Prepared by Natural Resource Economics, Inc. for November 10, 2021 Rulemaking Hearing

TABLE OF CONTENTS

[1] Weld County participated on a call with CDOT and CDPHE staff on November 3, 2021. Weld County's engineering consultant, Ramboll, exchanged emails with CDOT and CDPHE staff and participated on a call with CDOT staff on November 10, 2021.

LEGAL, FACTUAL, AND POLICY CONCERNS

I. The Proposed Rule Should Not Be Adopted as Proposed

Weld County cannot support the Proposed Rule as drafted. The cost-benefit analysis ("CBA") is fundamentally flawed. Among other issues, the Proposed Rule mischaracterizes the benefits and underestimates the costs. Moreover, the Proposed Rule is based on an inaccurate understanding of the induced travel concept. For the reasons set forth below, the TC should not adopt the Proposed Rule as drafted.

A. CDOT'S CBA Is Fundamentally Flawed

The Colorado Administrative Procedure Act requires agencies to conduct a cost-benefit analysis that includes, among other things, (1) the anticipated economic benefits of the rule, (2) the anticipated costs of the rule, and (3) any adverse effects on the economy, consumers, private markets, small businesses, job creation, and economic competitiveness. C.R.S. § 24-4-103(2.5)(a)(I)–(V). If an agency fails to make a good faith effort to comply with these requirements, a court may render the rule invalid. *See* C.R.S. § 24-4-103(2.5)(d); *Pawnee Well Users v. Wolfe*, 2011 Colo. Water LEXIS 1062, *38. Here, it is not clear that CDOT has made a good faith effort to comply with these requirements.

Among other flaws in CDOT's analysis,[2] the CBA misuses a metric that correlates increase traffic to greater road capacity, as discussed in greater detail in Section I.B. CDOT then estimates VMT savings from cutting road capacity using this metric. Reduced road capacity, however, may not necessarily lead to lower traffic, because travel behavior is not easily reversed. For example, commuting travel is dictated by infrastructure and natural sources of demand. Once configurations of homes, highways, and offices are in place, they cannot be easily changed. This suggests that CDOT overestimates the benefits from reduced road capacity.

The CBA also includes policies that encourage greater density—policies which have been proven to be expensive in reducing greenhouse gas emissions.[3] For example, O'Toole reports that Plan Bay Area recently approved $14 billion in subsidies for high-density housing and another $5 billion of subsidies for rail transit to achieve an estimated 2 percent reduction in GHG emissions, which implies a cost of nearly $1,200 per ton of abated emissions. In contrast, incentives to buy more fuel-efficient cars cost roughly $22 per ton of abated emissions. Rebuilding America's cities so that people drive less is extraordinarily expensive because most Americans want to live in single-family homes rather than multi-family housing. Moreover, the effect of greater density on

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[2] In its October 14, 2021 comments, Weld County provided extensive comments on the flaws in CDOT's CBA.

[3] R. O'Toole, "Zero-base Transportation Policy: Recommendations for 2021 Transportation Reauthorization," Cato Institute, Policy Analysis No. 913 (2021), https://www.cato.org/policy-analysis/zero-based-transportation-policy-recommendations-2021-transportation.

per capita driving is likely to be quite minor, for instance, Godfrey, *et. al* (2019) found that a 40 percent increase in density would reduce driving per house by 5 percent.[4]

In addition, under Section C.R.S. § 24-4-103(2.5)(a), the CBA is supposed to analyze the adverse effects on the economy and consumers. But CDOT fails to recognize that the Proposed Rule may adversely affect the same disproportionately impacted communities it intends to help. One of the best transportation policies to help people out of poverty is providing access to an automobile. According to Ong and Blumenberg (1998), "car ownership is a significant factor in improving the employment status of welfare recipients."[5] Likewise, O'Regan and Quigley (1998) argue that helping disproportionately impacted communities means "promoting the mass transit system that works so well for the nonpoor—the private auto."[6] Similarly, Sullivan finds that people without a high school diploma are 80 percent more likely to have a job and earn $1,000 more per month if they have a car.[7] Raphael and Stoll (2001) found that addressing racial inequalities in auto ownership would close nearly half the employment gap.[8] These studies demonstrate that automobile access is more effective than free transit in helping disproportionately impacted communities. By restricting road capacity and driving, the Proposed Rule could adversely affect these communities.

Overall, CDOT's proposal to divert transportation funds from projects to improve highway capacity to policies encouraging people to get out of their cars is based on unrealistic assumptions, which will achieve minimal emissions reductions while at the same time increasing traffic congestion and diminishing public safety.

B. The Proposed Rule Is Based on an Inaccurate Understanding of the Induced Travel Concept

The Proposed Rule relies, in part, on the concept of "induced travel" to justify restricting the use of certain funds to projects that are recognized as approved mitigation measures to reduce GHG emissions from the transportation sector. Specifically, the Proposed Rule prohibits capacity expansion projects (including operational projects) under the premise that expanded capacity will induce demand.[9] Weld County does not dispute the veracity of the induced travel concept.

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[4] Jodi Godfrey, Steven E. Polzin, and Tyler Roessler, "Public Transit in America: Observations from the 2017 National House- hold Travel Survey," Tampa: Nat'l Ctr. for Transit Research, at 16 (2019), https://doi.org/10.5038/CUTR-NCTR- RR-2018-08.

[5] Paul Ong and Evelyn Blumenberg, "Job Access, Commute and Travel Burden among Welfare Recipients," Urban Studies 31:1, at 77–93 (Jan. 1998).

[6] Katherine M. O'Regan and John M. Quigley, "Cars for the Poor," Access 12, at 20–25 (1998).

[7] Kerri Sullivan, "Transportation and Work: Exploring Car Usage and Employment Outcomes in the LSAL Data," Cambridge, MA: Harvard Graduate School of Education, at 1 (2003).

[8] Steven Raphael and Michael Stoll, "Can Boosting Minority Car-Ownership Rates Narrow Inter-Racial Employment Gaps?," Brookings-Wharton Papers on Urban Affairs, at 100 (2001), https://urbanpolicy.berkeley.edu/pdf/RS2001PB.pdf.

[9] Induced travel generally refers to the idea that increasing roadway capacity encourages more people to drive. In the "I-70 Floyd Hill to Veterans Memorial Tunnels Environmental Assessment"

However, Weld County challenges its application in the context of Colorado and, in particular, the areas where the Proposed Rule relies on this concept to impede the growth and movement of people in and around Weld County.

Several references were submitted on this point during the public comment phase of this rulemaking.[10, 11, 12, 13, 14] Having reviewed these studies, Weld County believes that CDOT misapplied the concept of induced travel. The majority of research reviewed and used by CDOT to support the rationale of induced travel in the Proposed Rule is based on roadways in California and, particularly, those that exist in an urban context. None of the research reflects the needs or characteristics of the mostly rural communities of Weld County. The Proposed Rule, while possibly relevant to the urban conditions in Denver, cannot be categorically applied to rural communities like Weld County. In fact, CDOT acknowledges in the I-70 Floyd Hill Environmental Assessment that usage patterns and local traffic conditions affect induced demand and cause traffic to respond differently to capacity expansion in rural areas as compared with more urban areas.[15] Specifically, CDOT states "the effect of induced demand changes with the actual use patterns along a corridor and the unique conditions of Floyd Hill causes traffic to function—and respond—differently than what we might see in a more urban or suburban areas."

In addition, the Proposed Rule fails to consider other natural sources of demand that may justify capacity improvements on Weld County's roadways. Indeed, the Proposed Rule grossly ignores the fact that there are other sources of demand on Weld County's roadways than simply

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CDOT describes "induced demand" as the additional travel demand in a particular corridor that occurs over time if roadway capacity is increased and congestion is decreased. Colo. Dep't of Transp., "I-70 Floyd Hill to Veterans Memorial Tunnels Environmental Assessment," (2021), https://www.codot.gov/projects/i70floydhill/assets/floyd-hill_summary_08022021.pdf.

[10] Nat'l Ctr. for Sustainable Transportation, "Induced Travel Calculator," https://ncst.ucdavis.edu/research-product/induced-travel-calculator; Nat'l Ctr. for Sustainable Transportation, "Background on Induced Travel," https://travelcalculator.ncst.ucdavis.edu/about.html.

[11] M. G. Boarnet and S. L. Handy, "Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions." Cal. Air Res. Bd.: Policy Brief (2014), https://wp-cpr.s3.amazonaws.com/uploads/2021/08/Impact_of_Highway_Capacity_and_Induced_Travel_on_Passenger_Vehicle_Use_and_Greenhouse_Gas_Emissions_Policy_Brief.pdf.

[12] M. G. Boarnet and S. L. Handy, "A Framework for Projecting the Potential Statewide Vehicle Miles Traveled (VMT) Reduction from State-Level Strategies in California." Univ. of Cal. Davis, (2017), https://escholarship.org/content/qt2z48105j/qt2z48105j.pdf?t=psmhhh&v=lg

[13] Rocky Mountain Inst., "If You Build It, the Cars (and the Pollution) Will Come," (2021), https://rmi.org/if-you-build-it-the-cars-and-the-pollution-will-come/.

[14] Jamey Lee Volker and Susan Amy Handy, "Environmental Reviews Fail to Accurately Analyze Induced Vehicle Travel from Highway Expansion Projects," (2021), https://escholarship.org/uc/item/14b0x0nm.

[15] Colo. Dep't of Transp., "I-70 Floyd Hill to Veterans Memorial Tunnels Environmental Assessment," (2021), https://www.codot.gov/projects/i70floydhill/assets/floyd-hill_summary_08022021.pdf.

those induced by new capacity. Indeed, in cities around the world where careful attention is placed to avoid unnecessary induced travel by automobiles, capacity improvements are not categorically avoided. Instead, they are assessed using cost-benefit analyses where the risk of some induced travel is weighed against the greater good that certain capacity improvements might have on the region. The Proposed Rule seems to ignore all other priorities and abandon the importance of natural growth and development of rural communities for the sole purpose of thwarting GHGs.

Research about induced travel referenced during the public comment phase of this rulemaking acknowledges that the alternative solutions to a policy of no additional capacity are largely applicable to urban contexts. In this research, the proposed alternative solutions include creating more inclusive, compact, mixed-use communities that support walking, biking, and micro-mobility, while also expanding public transit. All of these solutions are mostly, if not exclusively, applicable to urban and sub-urban contexts. They are not relevant to the rural communities in Weld County. In other words, the Proposed Rule eliminates one solution to traffic demand caused by future growth (capacity improvements) but fails to suggest alternatives that are relevant to Weld County or other rural communities in Colorado.

For the reasons discussed above, the TC should not adopt the Proposed Rule as drafted.

II. If the TC Adopts the Proposed Rule, It Should Revise Critical Errors in the Proposed Rule

If the TC decides to adopt some version of the Proposed Rule, it should address Weld County's remaining concerns and correct critical errors in the rule and supporting documents. These concerns are described in greater detail in the following sections.

A. The Role of Various Groups and Processes in the Development of, and Agreement upon, Modeling Assumptions Is Unclear

First, as described in Weld County's October 14, 2021 comments, the Proposed Rule requires an Intergovernmental Agreement in Section 8.02.2, but the role of this agreement in ensuring consistent modeling assumptions and methodology for GHG emissions analyses is unclear. For example, it is not clear if CDOT, CDPHE, and the MPOs must agree upon a uniform set of modeling assumptions and methodology as implied by the section title (e.g., "Agreements on Modeling Assumptions and Execution of Modeling Requirements"), or if the agreement simply "outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel Model." Proposed Rule, Section 8.02.2. Weld County requested that additional language be added to the proposed rule in Section 8.02.2 to specify the items that must be addressed and information that must be included in the Intergovernmental Agreement, but this concern has not been addressed.

Additionally, it is not clear to what extent the State Interagency Consultation Team introduced in Section 8.02.3 participates in the formation of the Intergovernmental Agreement, given its stated role addressing any questions on modeling assumptions. Further, while the GHG Modeling Process Draft companion document is stated as describing the modeling process and technical methods of how models shall be run, neither the Intergovernmental Agreement nor the State Interagency Consultation Team are mentioned in the document. The lack of information on

the role of these various groups, agreements, and processes serve with respect to the modeling that must the conducted to meet the Proposed Rule's requirements leads to significant uncertainty and confusion.

Therefore, Weld County recommends that CDOT clarify the interaction among and relationship between the following, particularly as related to modeling that must be conducted to meet the Proposed Rule's requirements:

- The Intergovernmental Agreement specified in Section 8.02.2 of the Proposed Rule
- The State Interagency Consultation Team specified in Section 8.02.3 of the Proposed Rule
- The Statewide Model Coordination Group (SMCG) described in the GHG Modeling Process Draft, whose role includes "meetings as necessary to discuss modeling issues" in addition to "the development of key guidance documents"[16]
- The "cooperative, interagency process" described in the GHG Modeling Process Draft[17]
- The development of the "GHG Modeling Guidelines Technical Memo" and the "Technical Documentation Outline" described in the GHG Modeling Process Draft

Weld County also recommends additional detail be added in the supporting documents (i.e., GHG Modeling Process Draft or documents referenced therein to be developed by the SMCG) and the proposed rule be revised to clarify what information must be included in the Intergovernmental Agreement.

B. Some Timeframes Specified in the Proposed Rule Are Problematic

Weld County appreciates the revisions made to the Proposed Rule to require the TC to review and evaluate the compliance of GHG Transportation Reports within a specified timeframe (Section 8.05) and avoid the automatic denial of waivers due to inaction (Section 8.05.2.3). However, many of Weld County's concerns that were raised in its October 14, 2021 comments were not addressed. Several sections of the Proposed Rule continue to specify timeframes that are problematic and may lead to compliance challenges. For instance, revisions to the Proposed Rule did not address the potential for the TC to evaluate a GHG Transportation Report without the benefit of the APCD's technical review. Under Section 8.04.1 of the Proposed Rule, "[i]f APCD has not provided written verification within thirty (30) days, the document shall be considered acceptable." However, the APCD may not be able to complete its review and verification of the technical data contained in the draft GHG Transportation Report within 30 days. If the APCD does not have sufficient time to complete its review, it is not clear that the TC is equipped to perform

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[16] "The SMCG will be convened by no later than December 15, 2021, and meet thereafter at least quarterly, with additional meetings as necessary to discuss modeling issues at the request of group members. Immediately after being convened, the SMCG will advise CDOT in the development of key guidance documents." Colo. Dep't of Transp., "Greenhouse Gas Modeling Process, DRAFT as of 10/19/2," https://www.codot.gov/business/rules/documents/draft-ghgmodeling_techsupportdocument-10-19-21.pdf.

[17] "Model development and GHG model runs by all regulated entities will be conducted, confirmed and approved through a cooperative, interagency process." *Id*.

this technical review and verification of the GHG emissions analysis. Without this review, the TC cannot confirm the accuracy of the GHG emission estimates.

Similarly, under Section 8.02.6, GHG Transportation Reports must be submitted to the TC at least thirty days prior to adoption or amendment of any Applicable Planning Document. In some instances, the GHG Transportation Report may be submitted to the TC 15 days after submission to the APCD, and the TC could reach a compliance determination before the APCD completes its review. Thus, the overlapping timeframe could result in the TC accepting a GHG Transportation Report that the APCD deemed unacceptable at the end of its 30-day review period.[18] Moreover, the Proposed Rule does not clarify what happens if the APCD deems a GHG Transportation Report unacceptable. While additional language was added to Section 8.04.1 of the proposed rule regarding written verification from APCD, the Proposed Rule is silent on the process for updates or revisions should APCD not consider the report acceptable. It is critical that the Proposed Rule be modified to prevent GHG Transportation Reports from being considered acceptable simply due to inaction and to clarify the process, procedures, and timeframes for revisions to the reports should they not be considered acceptable by APCD.

To address these concerns, Weld County recommends CDOT revise the Proposed Rule to require GHG Transportation Reports to undergo technical review and verification prior to the TC's compliance determination and describe the process for CDOT and the MPOs should the APCD deem a GHG Transportation Report unacceptable. Additional specificity on APCD's "review and verification of the technical data contained in the draft GHG Transportation Report" should be provided in the documents supporting the Proposed Rule.

C. Revisions to the Proposed Rule Should Be Considered Based on Progress Toward Achieving GHG Emissions Reductions, Not Reductions in VMT

New language added to the Proposed Rule in Section 8.06.2 requires CDOT to provide to the TC an annual VMT report containing total VMT per capita within the MPO areas and statewide for the past calendar year. Per Section 8.06.2.1, the TC shall consider revisions to the Proposed Rule if three consecutive years of reports demonstrate no decrease in VMT per capita in one or more areas. The stated purpose of these revisions is to "achieve reductions in VMT consistent with the intent of this rule." However, the Proposed Rule establishes GHG Reduction Levels, not VMT reduction targets, and GHG emission reductions do not necessarily require reductions in VMT. While VMT reductions *may* lead to reductions in GHG emissions[19] and the addition of transit

[18] In addition, the Proposed Rule does not provide adequate guidance to the TC for performing its duties specified in the Proposed Rule. For instance, under Section 8.05, the TC must review "the sufficiency of any GHG Mitigation Measures needed for compliance." However, the Proposed Rule does not specify how to determine the "sufficiency" of mitigation measures, and it is not clear if the TC has the expertise and resources to perform such a review.

[19] The potential impact of VMT reduction measures must be considered to fully assess the net change in GHG emissions. For example, the potential emissions benefits of transit resources would largely depend on the type of vehicle or transit, the level of ridership, and the location of these

resources and implementation of some GHG mitigation measures can displace VMT, GHG emission reductions can be achieved through means other than VMT reductions. For example, increased use of renewable fuels and widespread adoption of electric vehicles do not reduce VMT but have the potential to reduce GHG emissions (although one must consider overall emissions, including both tailpipe and upstream or well-to-wheel[20] emissions). Even some of CDOT's example GHG mitigation measures included in the Proposed Rule target GHG emission reductions without a VMT reduction component (e.g., Sections 8.03.7, 8.03.8, and 8.03.11). Improvements in vehicle fuel economy and projects that improve traffic flow and reduce vehicle emissions per mile are two more illustrative examples of ways in which transportation GHG emissions can be reduced without a reduction in VMT.

Compliance with the Proposed Rule requires CDOT and the MPOs demonstrate "the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance." Proposed Rule, Section 8.05. Because the Proposed Rule is fundamentally based on and sets forth requirements for GHG emission reductions, not reductions in VMT, revisions to the Proposed Rule should be considered based progress toward meeting GHG emission reduction targets. Therefore, Weld County recommends Section 8.06 of the Proposed Rule be revised as shown in **Exhibit 001.** Namely, the TC should consider revisions to the proposed rule if the report prepared per the requirements of Section 8.06.1 demonstrates that the reduction levels in Table 1 of the proposed rule have not been met.

III. If the TC Adopts the Proposed Rule, It Should Revise Critical Errors in the "Greenhouse Gas Modeling Process" Companion Document

Weld County appreciates the additional information CDOT provided with respect to how modeling is conducted to demonstrate compliance with the Proposed Rule in the GHG Modeling Process Draft companion document. However, the document provided is incomplete, contains errors, and lacks the necessary specificity and details needed to fully characterize the modeling methodology. Several aspects of the document are also ambiguous and would benefit from clarifications. These concerns are discussed in detail in the following sections.

A. The Document Is Incomplete and Contains Errors

First, the document is missing information on the GHG Mitigation Measures Advisory Group ("Mitigation Group"), which CDOT failed to complete before the document was released. For example, on page 3, the document reads: "CDOT will establish a GHG Mitigation Measures Advisory Group (Mitigation Group), composed of (LIST HERE)." Second, the references to

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riders (i.e., the VMT), among other factors. Similarly, reductions in VMT due to "road diets" that lead to increased congestion may have a deleterious effect on GHG emissions due to increased congestion, lower travel speeds, and increased GHG emissions per VMT.

[20] The Well-to-Tank analysis includes all steps from recovery or production of the feedstock, to the blending and transport of the finished fuel to the retail service station for distribution to the vehicle tank. The Tank-to-Wheels analysis includes the use of the fuel in an automobile. The Well-to-Tank and Tank-to-Wheels are combined to create a complete Well-To-Wheels analysis of a transportation fuel.

specific sections in the Proposed Rule are inaccurate. The section references and quotations throughout the document are based on the August 13 version of the rule, and therefore do not reflect the current Proposed Rule language. These errors occur throughout the GHG Modeling Process Draft and lead to confusion. Therefore, Weld County recommend revising the document to provide the missing information and correctly refer to the most recent version of the Proposed Rule.

B. Recommendations for the Statewide Model Coordination Group and Development of Key Guidance Documents

In the GHG Modeling Process Draft, CDOT proposes to establish a Statewide Model Coordination Group (SMCG), "composed of CDOT, CDPHE, [and] all MPOs[,]" to "advise CDOT in the development of key GHG modeling guidance documents" and meet "at least quarterly, with additional meetings as necessary to discuss modeling issues at the request of group members." These two guidance documents – the "GHG Modeling Guidelines Technical Memo" and "Technical Documentation Outline" – would provide information about the required practices in modeling and describe the contents of the documentation necessary to satisfy the requirements in the Proposed Rule. Similar to the GHG Mitigation Advisory Group and the public process for GHG Mitigation Measures, Weld County recommends that the SMCG be composed of CDOT, CDPHE, and all MPOs *at a minimum*, that SMCG group meetings be open to the public, and that all guidance documents be developed through a public stakeholder process. This ensures that representatives from local governments, the Colorado Energy Office, the U.S. EPA, and academic or National Laboratories will be afforded the opportunity to participate in the group. and the development of the GHG modeling guidance documents benefit from broad stakeholder engagement. Additionally, while CDOT states that the SMCG will be convened by no later than December 15, 2021 and that the group will advise CDOT on the development of key guidance documents "immediately after being convened[,]" CDOT does not specify the timeline for development of the guidance documents. Because these documents are critical to understand how modeling will be conducted to comply with the proposed rule and the corresponding technical documents required, Weld County recommends these documents be developed no later than April 30, 2022.

C. CDOT Should Be Held to the Same Standard for the Development of the Proposed Rule That It Requires of Regulated Entities

The GHG Modeling Process Draft outlines numerous requirements CDOT and MPOs must comply with when conducting modeling to comply with the Proposed Rule. These requirements broadly apply to "required practices in modeling" and the "necessary contents of the documentation required" to comply with the requirements in the Proposed Rule. Unfortunately, CDOT has failed to meet many of these requirements during the development of the Proposed Rule, which highlights the insufficient documentation provided to stakeholders with respect to the modeling conducted to determine the GHG emission estimates in the proposed rule. For example, in the GHG Modeling Process Draft, CDOT states the following for the Technical Documentation Outline document to be developed by the SMCG:

> This document will describe each model used for GHG estimation, addressing all elements in the GHG Modeling Guidelines Technical Memo, describing how the model satisfies the

requirements in that memo. Entities maintaining and operating the models used for GHG emissions modeling will then develop documentation of their models according to the [technical documentation] outline.

CDOT also lists numerous elements that will be included in the GHG Modeling Guidelines Technical Memo, many of which are critical information on modeling practices, methodologies, assumptions, sensitivities, and validation that Weld County has requested from CDOT for the modeling conducted for the Proposed Rule.

As described in Weld County's October 14, 2021 comments, CDOT has failed to provide the underlying documentation supporting the Proposed Rule, particularly as related to the modeling conducted to determine the GHG emission estimates. Weld County has received some MOVES modeling data, but CDOT has not provided a technical support document describing in detail the modeling methods with associated documentation, data sources, and references supporting the analysis. The CBA provides only a high-level summary, contains numerous technical inaccuracies,[21] and does not include the information necessary to fully understand and review the assumptions and methodology used in the modeling. Simply put, CDOT has not provided documentation on the modeling conducted for the Proposed Rule consistent with its own expectations. Therefore, CDOT should provide a detailed technical support document describing the modeling conducted for the Proposed Rule. This document should include, at a minimum, the information CDOT and the MPOs will be required to submit for modeling conducted to meet the requirements of the Proposed Rule and the information requested by Weld County in this document and its October 14, 2021 comments. Until such information is provided for stakeholder review and comment, rulemaking on the Proposed Rule should not proceed.

D. Weld County's Technical Concerns and Recommendations

Weld County also has the following specific concerns and recommendations on the GHG Modeling Process Draft:

- On Page 2, CDOT states that the GHG Modeling Guidelines Technical Memo will include "Appropriate sensitivity to induced demand".
    - First, "appropriate sensitivity" is vague and should be quantified, with supporting references. As noted previously, the impact of induced demand varies between urban and rural contexts.
    - Second, declaring the modeling must have appropriate sensitivity to induced demand is myopic toward VMT reduction as the sole factor in mitigating GHG emissions and biases the results to be sensitive to induced demand without substantiation that induced demand occurs or the extent to which it is occurring. Furthermore, in addition to induced demand considerations, CDOT should ensure there is "appropriate sensitivity" to congestion relief, improved traffic flow, and other factors that tend to reduce GHG emissions.

[21] Weld County's concerns with CDOT's CBA are described in detail in its October 14, 2021 comments.

- On Page 2, the GHG Modeling Guidelines Technical Memo is stated to include "[a]greed-upon depiction in the MOVES model of travel model and mitigation measure outcomes and measures and other necessary assumption (such as EV market penetration)." This statement is confusing and should be clarified.
- On Page 4, the GHG reduction level analysis refers to a "best-estimate EV market penetration" to be included in the modeling.
    - First, the term "best-estimate" is vague and should be clarified, with supporting documentation. It is not clear if the "best-estimate" refers to estimates from existing studies, projections made as a part of the analysis conducted for the proposed rule, or a combination thereof.
    - Second, it is not clear if these estimates will remain fixed over time or change should new information become available throughout the time horizon of the proposed rule (i.e., through 2050). If CDOT intends for these estimates to remain fixed over time, specific values to be used in the modeling should be provided with supporting documentation. If these values are intended to change over time, CDOT should clarify the process through which the values are updated and the implications for the modeling conducted for the Proposed Rule.
        - For example, if EV market penetration estimates were increased in future years, tailpipe GHG emission factors per VMT would be lower. In turn, CDOT and MPOs would have to achieve greater VMT reductions to meet the reduction targets in the Proposed Rule, which may present compliance challenges.
- On Pages 3 and 5, CDOT states: "Model development and GHG model runs by all regulated entities will be conducted, confirmed and approved through a cooperative, interagency process."
    - As described in Section II.A. above, Weld County recommends CDOT clarify the interaction among and relationship between the groups, teams, interagency processes, and intergovernmental agreements described in the proposed rule and companion documents.
- The GHG Modeling Process Draft does not address the process for APCD's review and verification of the technical data contained in GHG Transportation Reports as required in Section 8.04.1 of the Proposed Rule. As described in Section II.B above, Weld County requests that CDOT provide additional specificity on this review, including the process for CDOT and the MPOs should the APCD deem a GHG Transportation Report unacceptable.

IV. Weld County's Concerns with CDOT's Draft "GHG Transportation Planning Standard: Mitigation Policy Overview"

Weld County appreciates the additional information provided by CDOT in the Mitigation Policy Overview companion document with respect to CDOT's initial thinking on the process by which CDOT and MPOs may utilize GHG Mitigation Measures and prepare Mitigation Action Plans. Weld County also appreciates the solicitation of input and alternative suggestions from stakeholders as such engagement is critical to inform the development of the mitigation measure guidelines. CDOT requests input on the following three questions:

1. Should mitigation measures be evaluated based on their estimated GHG reduction specifically, through a more generalized scoring/point system, or some other approach?
2. Should a particular method or tool for GHG estimation be specified, or should CDOT and MPOs be able to propose and document their own approach?
3. What other tools and resources would you recommend for consideration?

Weld County provides input on these specific questions in the first two sections below. Additionally, Weld County has several concerns with other aspects of the Mitigation Policy Overview as discussed in more detail in the following sections.

A. The Estimated GHG Emission Reductions of Mitigation Measures Must Be Quantified

The Mitigation Policy Overview states that CDOT "intends to develop a scoring rubric over the coming months, with input from stakeholders, to provide a way to rate the relative effectiveness of measures and align the scale of mitigation needed with the deficit in MMT needed to achieve the Rule's GHG Reduction Levels." However, a scoring rubric or point system is not consistent with the state's GHG reduction goals[22] nor the targets set forth in the proposed rule. Because the proposed rule establishes GHG reduction levels in MMT of CO2e and progress towards the state's GHG reduction goals is determined based on quantifiable reductions in GHG emissions, it is critical that the GHG emission reductions from mitigation measures are quantified.

A scoring or point system is inconsistent with the Proposed Rule in several respects. For example, the proposed rule includes the following sections that indicate the GHG emission reductions associated with mitigation measures must be quantified to assess the sufficiency of the mitigation measures and compare with the reduction levels in Table 1:

- Section 8.02.4: "CDOT and MPOs may incorporate one or more GHG Mitigation Measures into their plans in order to assist in meeting the Regional GHG Planning Reduction Levels in Table 1"
- Section 8.02.6.1: "GHG emissions analysis and, if applicable, a GHG Mitigation Plan demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1"
- Section 8.02.6.1.1: "…approved GHG Mitigation Measures that reduce GHG emissions as necessary to achieve the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1."
- Section 8.02.6.1.2: "approved GHG Mitigation Measures as necessary to achieve the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1."
- Section 8.02.6.3: "If Mitigation Measures are needed to count toward the reduction levels in Table 1, the MPO or CDOT shall submit a Mitigation Action Plan that includes at the discretion of the MPO or CDOT, submission of a Mitigation Action Plan that identifies

[22] Colo. Greenhouse Gas Pollution Reduction Roadmap (Jan. 14, 2021), https://www.codot.gov/programs/research/pdfs/other-reports/colorado-greenhouse-gas-pollution-reduction-roadmap/co-ghg-pollution-reduction-roadmap-final-report.pdf.

GHG Mitigation Measures, if any, needed that will count toward the reduction levels within Table 1."

- Section 8.02.7.3: "For measures that are in progress or completed, quantification of the benefit or impact of such measures;"
- Section 8.05: "The Commission, within thirty (30) days of receipt of a GHG Transportation Report or at the next regularly scheduled Commission Meeting, whichever is later, shall determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance."

Just as the proposed rule requires quantification of GHG emissions from projects in the GHG emissions analysis conducted for the GHG Transportation Report, it should require quantification of the GHG emission reductions associated with mitigation measures. This quantification is necessary to determine the sufficiency of any GHG mitigation measures needed to count toward the reduction levels in Table 1 and, more broadly, for the TC to be able to determine if an Applicable Planning Document is in compliance with the GHG reduction levels in MMT of CO2e. Because the mitigation measure process will not be fully defined until *after* the Proposed Rule has been adopted, it is critical the Proposed Rule explicitly require quantification of GHG emissions reductions from mitigation measures.

A scoring or point system is also inconsistent with CDOT's core principles[23] and Mitigation Action Plan development guidelines described in the Mitigation Policy Overview. For example, one of CDOT's core principles is Verification: "The mitigations should be able to be tracked and verified to ensure real reductions in greenhouse gas emissions." Weld County agrees that GHG mitigation measures should be able to be tracked and verified and strongly believes that quantification of GHG emission reductions from mitigation measures is necessary for tracking and verification and to ensure real, measurable reductions in GHG emissions. Quantification of GHG emissions for mitigation measures is also critical to ensure "a reasonable relationship between the scale of mitigation required and that implemented" as stated in CDOT "Reasonable scale" principle. A scoring rubric will not allow CDOT and MPOs to "align the scale of mitigation needed with the deficit in MMT needed to achieve the Rule's GHG Reduction Levels" as stated in this principle. Similarly, CDOT's Mitigation Action Plan Guidelines state that "Mitigation Action Plans must include measures that when combined demonstrate compliance for all years in Table 1 of the Greenhouse Gas Transportation Planning Standard for which travel demand modeling indicates a gap in achieving the required GHG reduction levels." Quantification of GHG emissions is necessary to make such a demonstration.

Finally, quantification of GHG emissions is critical to ensure GHG mitigation measures will actually provide net GHG emission reductions. In the same way that CDOT states one must consider both delay reduction benefits and induced demand to determine net GHG emission

[23] The core principles are included in the Proposed Rule and the Mitigation Policy Overview companion document.

impacts for capacity expansion projects[24], a variety of factors influence the potential GHG emission impacts for mitigation measures. For example, the addition of transit resources does not guarantee GHG emission reductions if emissions associated with new transit resources are higher than the avoided emissions from displaced VMT.[25] Similar considerations exist for other mitigation measures. Without a full analysis and quantification of GHG emissions, these factors may be overlooked, and the net GHG emission benefit of the measure will not be able to be verified.

For the aforementioned reasons, Weld County recommends CDOT require quantification of GHG emission reductions from mitigation measures included in a Mitigation Action Plan. The Mitigation Policy Overview companion document should be revised consistent with this requirement and any discussion of a GHG effectiveness score or point system should be removed. Similarly, the Policy Directive and a Procedural Directive to be established by CDOT should be developed based on required quantification of GHG emissions. Finally, the Proposed Rule language should be modified as shown in **Exhibit 001**, such as by striking "where feasible" from Section 8.02.6.3.2, to clearly express quantification is required.

B. Methodology for GHG Emission Estimates from Mitigation Measures

In the Mitigation Policy Overview, CDOT presents various resources to estimate GHG emissions for each of the identified mitigation measure categories. In the Mitigation Policy Overview, CDOT states that they "will be developing specific guidance for each measure prior to the finalization of this policy" and that "[t]he guidance for quantifying GHG emissions reductions (TBD) from measures is meant to clarify expectations around the level of detail and types of data sources to be used, and to ensure consistency in approaches." Weld County appreciates CDOT's efforts to develop guidance to quantify GHG emission reductions from mitigation measures as quantification is critical for the numerous reasons previously discussed. Additionally, Weld

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[24] "Capacity expansion projects consider the effects of "induced demand", or increased traffic that is observed to result over time after roads are expanded. This increased traffic may lead to net increases in greenhouse gas emissions as a result of the project, and may offset to some degree the delay reduction benefits." Cost-benefit Analysis for Rules Governing Statewide Transportation Planning (Aug. 31, 2021).

[25] Section 8.0.3.1 proposes the addition of transit resources as an example mitigation measure: "The addition of transit resources in a manner that can displace VMT including in rural areas where the public may travel to a community for work but live outside that area due to affordability of housing." However, even if a public transit system could be established in rural areas like Weld County, it is not clear that this transit system would reduce air emissions. The potential emissions benefits would largely depend on the type of vehicle or transit, the level of ridership, and the location of these riders (i.e., the VMT), among other factors. Moreover, many individuals in rural areas would still need to drive significant distances to their nearest public transit stop, thereby reducing or negating the potential emission benefits from public transit. Similarly, implementing ridesharing in these areas has the potential to provide little to no emissions benefits due to the high VMT associated with picking up riders in sparsely populated areas. These factors must be considered to demonstrate such a measure will provide meaningful emission reductions, particularly in sparsely populated areas.

County emphasizes the importance of developing a specific methodology for each mitigation measure. While numerous options are presented in Table 2 and the Appendix, a single, uniform methodology for each measure must be developed to ensure emission reductions are quantified using a consistent approach. Such methodology should include standardized assumptions and sufficient detail to ensure reproducibility of results among emissions estimates from CDOT and MPOs.

CDOT also presents the option for alternative quantification methods, such that CDOT and MPOs may use their own quantification methods for GHG mitigation measures, provided certain criteria are met (i.e., appropriate data sources and documentation on the method). Additionally, the GHG Mitigation Policy Overview states that "[a]ny alternative approach must be reviewed by the GHG Mitigation Advisory Group and approved by CDOT." While Weld County is not opposed to allowing alternative quantification methods, these alternative approaches should be approved by an independent entity. As currently proposed, CDOT would be responsible for approving its own alternative quantification methods. Therefore, Weld County recommends alternative approaches require written verification from APCD in order to be considered acceptable, consistent with APCD's role in providing review and verification of technical data in GHG Transportation Reports per Section 8.04 of the Proposed Rule. This requirement could be incorporated into the Mitigation Action Plan review and approval procedure described on Page 8 of the GHG Mitigation Policy Overview.

In response to CDOT's request for other tools and resources to quantify GHG emission from mitigation measures, Weld County recommends CDOT consider the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* ("CAPCOA Handbook"). [26] The Handbook includes information and tools for evaluating greenhouse gas reduction measures, climate vulnerabilities and promoting equity to support sustainable, resilient, and equitable land use planning and project design. It includes quantification methods, tools, and recommendations, developed based on the latest science and literature available at the time of publication.

C. The Spatial Extent of Project Limits and GHG Mitigation Measure Impacts Is Not Well-Defined

In the GHG Mitigation Policy Overview, CDOT highlights its focus on providing benefits to DI communities in part by establishing a requirement that any project which yields a net GHG emission increase offset its emissions by mitigation measures "within the geographic projects limits as defined in project planning documents." Throughout the same document, CDOT makes several references to "close proximity" and the geographic extent of project or mitigation measure impacts which seems to differ from this requirement. Because no concrete definition is provided in the Proposed Rule or elsewhere, it is unclear how one would determine whether or not a project or mitigation measure affects or provides benefits to a particular community or geographic area. For example:

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[26] Cal. Air Pollution Control Officers Ass'n, "Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity," (2021).

- "In the event that a specific, significant project included within a plan yields net greenhouse gas emissions, those emissions shall be offset with project-specific mitigation that falls within the geographic project limits as defined in project planning documents. This constraint is especially important for ensuring that disproportionately impacted communities are able to achieve direct project benefits associated with meeting mitigation requirements."
    - CDOT states that the mitigation must occur within the geographic project limits in order to ensure DI community achieve direct project benefits. This implies a strict, defined geographic boundary within which project-specific mitigation must occur in order to be considered as providing benefits to DI communities.
- "Geographic Nexus with Impacts: Where regionally significant projects are projected to increase net greenhouse gas emissions, those emissions should be offset with project-specific mitigation measures that benefit communities that will be impacted by the project. This principle is especially important for ensuring that disproportionately impacted communities that have often, historically, borne a significant share of the negative impacts of highway projects, are able to achieve direct project benefits associated with meeting mitigation requirements."
    - CDOT states that project specific mitigation measures need to *benefit* communities that will be impacted by the project but does not define how to determine whether a community is impacted by the project or if it would "achieve direct project benefits associated with meeting mitigation requirements."
- "Any Disproportionately Impacted (DI) communities (as defined in § 24-38.5-302(3), C.R.S) affected by the measure (i.e. within [½ mile] of the measure or targeted by a specific strategy)."
    - CDOT implies "affected by the measure" means the community is within ½ of the measure or targeted by a specific strategy.
- "For measures that benefit a DI community, meaning a project crosses through a DI community, is within close proximity (i.e. ½ mile), or targets benefits to specific members of a community, CDOT and MPOs may utilize a multiplier of [TBD] applied to the GHG estimate or score for that measure."
    - CDOT implies a measure is considered to benefit a DI community if the project:
        - Crosses through the community;
        - Is within "close proximity", implied to be ½ mile; or
        - Targets benefits to specific members of a community.

Given the focus on localized GHG mitigation and requirements for GHG mitigation measures that includes a "[d]escription of benefits to Disproportionately Impacted Communities, particularly those in close proximity to any capacity expansion projects being mitigated[,]" it is critical that CDOT defines "close proximity" and the criterion used to evaluate whether or not a mitigation measure provides benefits to a DI community. Weld County therefore recommends that a new definition be added to the Proposed Rule to explicitly define "close proximity" and any other terms needed to assess the spatial extent of project impacts and determine whether or not a project provides benefits to DI communities. Additional guidance should be added to the GHG Mitigation Policy Overview to clarify the procedure and expectations for assessing project and mitigation measure impacts.

D. Restrictions on Allowable Mitigation Measures May Present Compliance Challenges

1. Geographic Nexus

Weld County appreciates the importance of providing benefits to disproportionately impacted communities, many of which exist in the county.[27] However, Weld County is concerned that the requirement that GHG mitigation measures used to offset project emissions must be located within the geographic projects limits is overly restrictive and may lead to significant compliance challenges. First, the availability and suitability of GHG mitigation measures in a particular project area depends on numerous factors (e.g., land use, population density, existing infrastructure, transit resources, etc.) and it may not be feasible to implement sufficient mitigation measures within the geographic project limits to offset project emissions. Therefore, while Weld County agrees that CDOT and MPOs should consider "a holistic approach to project design that includes multiple choices for travelers[,]" many mitigation measures and travel choices are not suitable in the rural areas of Colorado, as described in Weld County's October 14, 2021 comments. Additionally, mitigation measures not suitable for implementation in the project area may be more effective and provide greater benefits if implemented elsewhere.

Second, the premise that mitigation measures must have a geographic nexus with impacts conflates GHG emissions, which are a global issue, with congestion and emissions of criteria air pollutants and air toxics. While criteria air pollutants and air toxics emissions are important to consider at the local scale, reductions in GHG emissions in proximity to projects provides no localized benefit to impacted communities. Furthermore, because the purpose of the Proposed Rule is to reduce GHG emissions and establish regional GHG transportation planning reduction levels, the implementation of mitigation measures should be driven by optimizing their potential to achieve real GHG emissions reductions and not their geographic proximity to a particular project. Therefore, Weld County recommends CDOT remove this requirement, such as by qualifying with "where feasible," and *encourage* local mitigation measures that benefit communities that will be impacted by the project.

2. Major Categories Excluded from Eligibility for Mitigation

In the GHG Mitigation Policy Overview, CDOT unduly excludes certain measures from being counted as mitigation for the purposes of the Proposed Rule. Specifically, CDOT states that "traffic improvements that focus on improving traffic flow through either capacity expansion or technology measures that primarily benefit the flow of vehicular traffic without improving alternatives to driving single occupancy vehicles are not allowable for the purposes of approved mitigation." Examples of these types of improvements may include lane capacity expansion, improvements to highway entrances and exits (e.g. ramp metering), intersection reconstructions

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[27] Data Viewer for Disproportionately Impacted Communities in Colorado, https://cohealthviz.dphe.state.co.us/t/EnvironmentalEpidemiologyPublic/views/EJActDICommunities-Public/HB21-1266DICommunities?%3AisGuestRedirectFromVizportal=y&%3Aembed=y.

for the purposes of improving the flow of traffic (e.g. roundabouts/diverging diamond intersections), signal timing improvements, and similar traffic technologies. CDOT seems to exclude these measures on the basis of their *potential* to cause greater total emissions. However, the preemptive exclusion of these measures further constrains the availability of mitigation measures that may be necessary for CDOT and MPOs to demonstrate compliance with the Proposed Rule.

As stated in the CAPCOA Handbook, measures such as roundabouts can smooth traffic flow, reduce idling, eliminate bottlenecks, and manage speed, which can reduce emissions. Roundabouts may also be designed so that cyclists have the option to join traffic or bypass the roundabout with an adjacent path, supporting CDOT's goals to improve bike and pedestrian access. As with all mitigation measures, the achievable emission reductions depend on several factors, and a quantitative analysis is necessary to determine GHG emissions impacts. However, the need for such an analysis should not preclude these measures from consideration in a Mitigation Action Plan. Therefore, Weld County recommends CDOT not exclude these or any other mitigation measures from consideration, provided the necessary analysis be conducted to quantify the estimated GHG emission reductions.

E. The Policy Directive, Procedural Directive, and Other Key Documents Should Be Developed Through an Open Public Process

In the GHG Mitigation Policy Overview, CDOT states they anticipate establishing both a Policy Directive and a Procedural Directive for GHG Mitigations. Per CDOT, the Policy Directive would set forth the intent and principles of GHG mitigations as well as the process for establishing, verifying and tracking measures while the Procedural Directive would include the approved list of mitigations, guidance for quantifying GHG reductions, and/or scoring ranges. CDOT also states that the ability to nominate new GHG Mitigation Measures will be open to all MPOs, local governments, community and advocacy groups, and members of the public. Weld County appreciates CDOT providing stakeholders the ability to nominate new GHG Mitigation Measures for consideration. Weld County recommends that all nominations received by CDOT be posted publicly and that the process for assessing nominations be open to broad stakeholder participation. Similarly, Weld County recommends the Policy Directive and Procedural Directive be developed through a public process and that these documents be released for public review and comment prior to adoption. These recommendations are consistent with Section 8.04.4 of the proposed rule. Finally, Weld County recommends the GHG Mitigation Advisory Group meetings be open to the public such that representatives from local governments and the public and private sector are afforded the opportunity to participate.

F. Crediting for Implementation of Mitigation Measures

While CDOT has provided additional information on mitigation measures in the GHG Mitigation Policy Overview, CDOT has not addressed the concerns raised in Weld County's October 14, 2021 comments. Specifically, substantial ambiguity exists as to whether projects undertaken by the statutorily created enterprises constitute GHG Mitigation Measures under the Proposed Rule. SB21-260 created four enterprises "to serve the primary business purpose of reducing and mitigating the adverse environmental and health impacts of air pollution and

greenhouse gas emissions."[28] The non-attainment area mitigation enterprise focuses its efforts on projects that "directly reduce air pollution," including "retrofitting of construction equipment, construction of roadside vegetation barriers, and planting trees along medians."[29] CDOT has not addressed the relationship between actions taken by the regulated entities to reduce GHG emissions and actions taken by the enterprises.

While it seems unlikely the Enterprises would complete a "regionally significant project" as defined in the Proposed Rule, the Enterprises may undertake projects that qualify as GHG Mitigation Measures under the Proposed Rule. It is not clear in the Proposed Rule or companion documents if projects that reduce GHG emissions undertaken by the Enterprises or other groups within the different regional areas could be used as mitigation measures by CDOT and the MPOs to meet the reduction targets. Accurate accounting of GHG reduction projects is critical to avoid double counting of GHG emission reductions and to understand CDOT and the MPOs' funding and compliance options. The Proposed Rule should foster collaboration among agencies to reduce GHG emissions. Accordingly, Weld County recommends that CDOT recognize Enterprise activities and project undertaken by other entities (e.g., local government) as allowable GHG Mitigation Measures within each regional area.

G. Weld County's Other Concerns and Recommendations

Weld County also has the following specific concerns and requests for clarifications on the Mitigation Policy Overview:

- On Page 9, CDOT describes the required documentation for alternative quantification methodologies: "[CDOT or MPOs] must document the step-by-step process, input data, sources, and calculations for each measure. They must use appropriate data sources for their area, and indicate how they determined their alternative method (e.g. if adapted from another academic, federal, or other rigorous source)."
    - We recommend CDOT provide documentation on the modeling conducted for the Proposed Rule consistent the requirements specified here and in the GHG Modeling Process Draft as described in Section III.C.
- It is not clear if criteria air pollutant co-benefits must be estimated due to differing language in the Proposed Rule and Mitigation Policy Overview. For example, page 9 of the Mitigation Policy Overview implies estimation of criteria air pollutant co-benefits is optional, while page 7 of the same document and Section 8.02.6.3.3 suggest it is required "where feasible".
    - On Page 7, the Mitigation Policy Overview states "Each measure shall include the following details:" including "Co-benefits: Quantification, where possible, of specific co-benefits including reduction of co-pollutants ($PM_{2.5}$, NO_X, etc.)[.]"
    - On Page 9, the Mitigation Policy Overview states "If applicants wish to include estimated criteria pollutant co-benefits, they may utilize MOVES NO_X and $PM_{2.5}$

[28] SB21-260 created the community access enterprise, the clean fleet enterprise, the clean transit enterprise, the nonattainment area air pollution mitigation enterprise. *See* Colo. SB 21-260.
[29] *Id*.

per mile emission rates to estimate reduced air pollution based on calculated VMT reduction."

- Sections 8.02.6.3 and 8.02.6.3.3 of the proposed rule state, respectively, "The Mitigation Action Plan shall include:" "Quantification of specific co-benefits where feasible including reduction of co-pollutants ($PM_{2.5}$, NO_X, etc.) as well as travel impacts (changes to VMT, pedestrian/bike use, transit ridership numbers, etc. as applicable)."
- Weld County recommends CDOT clarify if estimating criteria air pollutant co-benefits is required or optional.

- As a part of the Mitigation Action Plan review and approval procedure described on page 8, CDOT states that the plans must be submitted to APCD for review and "If APCD has not provided written verification within thirty (30) days, the document shall be considered acceptable." Similar to its concern with Section 8.04.1 of the Proposed Rule, Weld County recommends this language be revised to prevent the plan from being considered acceptable simply due to inaction and to clarify the process, procedures, and timeframes for revisions to the plans should they not be considered acceptable by APCD.
- On Page 8 under reporting on compliance CDOT states: "For measures that are in progress or completed, quantification of the benefit or impact of such measures[.]"
  - While Weld County believes quantification of GHG emissions impacts from mitigation measures is a necessary component of GHG Transportation reports, it's not clear from this statement what benefits or impacts need to be quantified. GHG Mitigation Measures may provide impacts to a variety of quantitative metrics such as VMT, GHG emissions, or criteria air pollutant emissions. Therefore, Weld County recommends CDOT clarify what benefits or impacts need to be quantified.

V. If the TC Adopts the Proposed Rule, It Should Address the Following Concerns with the MOVES Modeling

Weld County appreciates CDOT and CDPHE providing MOVES modeling data via a shared Google folder on October 14, 2021, and additional files via email on November 9, 2021. However, the limited time remaining for review before the close of the written comment period on November 18, 2021, coupled with the absence of a detailed technical support document describing the modeling methodology severely limits Weld County's ability to analyze data and provide meaningful comments. Additionally, these data were shared with Weld County in response to its CORA request, yet it is not transparent whether other stakeholders and technical experts have had the opportunity to review the data used to develop the proposed rule. During the rulemaking hearing on September 17, 2021, Weld County requested the modeling data be posted to the rulemaking website for all stakeholders to have access to the data and CDOT did not publicly provide the data for everyone. CDOT provided a CBA and a regulatory analysis but these documents did not include the information necessary to fully understand and review the assumptions and methodology used in the modeling. Significant uncertainty exists regarding the modeling assumptions and methods and several important questions remain unanswered.

It is important for a regulation that relies heavily on quantifiable data to carefully document modeling methods and assumptions and organize all pertinent files that ultimately lead to the reduction requirements in the Proposed Rule (i.e., Table 1). The file package received by CDOT and CDPHE is not organized and no file structure was provided. The information provided

included extraneous files (i.e., additional test model runs that were not used for the proposed rule), and the naming conventions are not intuitive which further complicates review. For example, the only MOVES output database provided includes 99 runs, out of which 20 are "inventory mode" and the rest are for "rate mode". It is difficult to know which runs were used in the analysis to arrive at Table 1 in the Proposed Rule, and it is not clear what the different runs represent, or if there are duplicative or replaced versions of the same run. Additionally, the time stamps of the output database (ghg_m3_out) provided suggest that most of the runs were done in May 2021. The file MedoraQuestions.docx (dated in August 2021) acknowledges that there is potentially an issue in the estimates from MOVES and that it would have to be rerun or confirmed. Therefore, this suggests the files provided do not appear to be "final" and there may be outstanding issues to be resolved. Additionally, Weld County was unable to identify the files containing data on speed distributions to understand how the reduction in capacity expansion projects considered in the Travel scenario (as described in the CBA) was accounted for in the modeling, if at all. Because vehicle speeds directly affect GHG emissions per VMT, it is critical the modeling accurately capture the impact of reduce capacity expansion and other changes considered in the Travel scenario used the develop the Proposed Rule on vehicle speed.

CDOT has not kept a clean record of the data files and methodology used to develop the Proposed Rule. Weld County understands that the analysis conducted for the proposed rule involves highly technical and complex modeling that often leads to iterative analysis. For that reason, it is critically important to keep a clean record of key final files and documentation of assumptions to arrive at the reduction requirements in the Proposed Rule. Based on information and documentation received to date, this has not been accomplished. Any agency should be able to review CDOT's modeling files, review the data, and replicate the results used to develop the reduction levels in the rule. However, the failure to post modeling data publicly and the lack of a technical support document prevents Weld County and other agencies from being able to do so.

Notwithstanding these issues, Weld County's engineering consultant, Ramboll, performed a technical review of the MOVES modeling data received from CDOT and CDPHE. Concerns and potential technical issues identified are discussed in the following sections. The key files used in this review and referenced in the following sections include:

File ID[1]	File Name	File Type
A	ghgSW2030m3_5yrmix (1).xlsx	Microsoft Excel Spreadsheets[2]
B	ghgSW2030_TravelWithEV.xlsx	
C	ghgSW2030_2040_2050_Travel_Base_EV_NoEV (2).xlsx	
D	ghg_m3_out	MOVES Databases
E	ghg_statewide_m3_15_in	
F	ghg_statewide_m3_25_in	
G	ghg_statewide_m3_30_in	
H	ghg_sw_20401_in	
I	ghg_sw_2045_in	
J	ghg2005in	
K	ghg2005inim	
L	GHG.accdb	

M	MOVES3ef.accdb	Microsoft Access Databases

[1] File ID indicates to the letter used to refer to the file in this document.
[2] Excel file C contained numerous sheets. The specific sheets used in this analysis included those described by the following names: ghgSW2030_40_baseNoEV (7), ghgSW2030_40_baseEV (6), ghgSW2030_40_travelEV (5), ghgSW2030_50_baseNoEV (3), ghgSW2030_50_baseEV (4), ghgSW2030_50_TravelWithEV

A. VMT and Emissions in 2040 May Be Incorrect Due to Errors in Bus and Combination Truck VMT

VMT data from excel sheets A, B, and C shows abnormal VMT values for buses (HPMSid 40) and heavy-duty combination trucks (HPMSid 60) in 2040 for the BaseEV scenario. Figure 1 below shows daily VMT for buses and combination trucks in calendar years 2030, 2040, and 2050 for the BaseEV scenario and the TravelEV scenario.[30] As shown in Figure 1, in the BaseEV scenario bus VMT is substantially higher in 2040 than in other calendar years and combination truck VMT is substantially lower in 2040 than in other calendar years. Specifically, bus VMT is over 1.25 million in 2040 in the BaseEV scenario as compared with less than 0.3 million in years 2030 and 2050 in the same scenario. This abnormally high bus VMT in 2040 for the BaseEV scenario is inconsistent with all other calendar years in both scenarios and does not follow the general trend of gradual increases in VMT over time due to growth and other factors. Additionally, this abnormally high VMT in the BaseEV scenario leads to erroneously high VMT reductions for buses in 2040 when the difference between the BaseEV scenario and TravelEV scenario is calculated to determine the reduction levels in the Proposed Rule. Specifically, Table 1 shows that bus VMT will be reduced by over 1,000,000 miles in 2040 due to implementation of the illustrative policy choices considered in the development of the proposed rule[31], whereas bus VMT is only reduced by about 8,000 miles in 2030 and 16,000 miles in 2050. In turn, these VMT estimates result in artificially high GHG emission reductions from buses in 2040.

[30] The BaseEV and TravelEV scenario are the two scenarios used to develop the reduction levels in Table 1 of the Proposed Rule. The BaseEV scenario represents current planning assumptions with inclusion of estimates of EV market penetration in future years. The TravelEV scenario represents "Proposed Rule Implementation: Travel Choices + Transit + Land Use" as described in the CBA, including the same estimates of EV market penetration. The reduction in GHG emission due to implementation of the illustrative policy choices considered in the development of the proposed rule is determined by subtracting the TravelEV scenario from the BaseEV scenario.

[31] As described in the CBA, the Proposed Rule does not require a specific set of measures to be implemented by the State and its MPOs to achieve the rule's targets. However, in order to conduct the analysis, "CDOT developed illustrative policy choice packages that assume implementation of three broad categories of VMT reduction measures: (1) expansion of transit service; (2) policies to encourage compact land use that reduces the need to drive by making it possible for travelers to access more of their preferred destinations easily within denser areas, in a manner that also facilitates strong and economically vibrant downtowns; and (3) various programs that expand travel choices through a variety of different approaches[.]" Thus, the TravelEV scenario represents the implementation of these illustrative policy choices, i.e., "Proposed Rule Implementation: Travel Choices + Transit + Land Use" as described in the CBA.

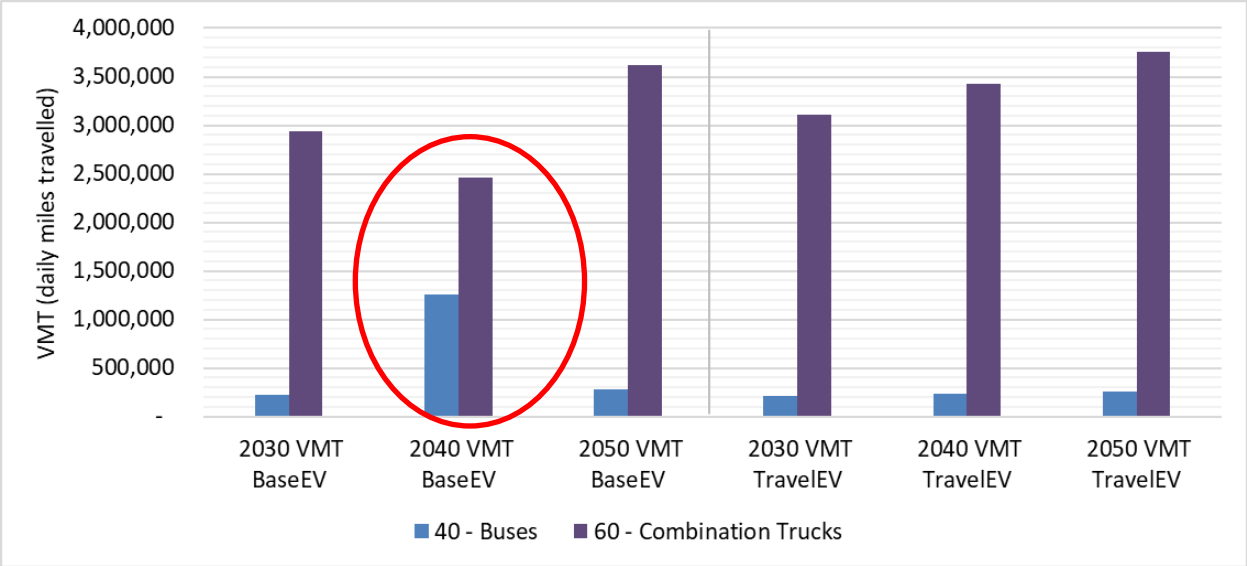


Figure 1: VMT for Buses and Combination Trucks in years 2030, 2040, and 2050 for the BaseEV and TravelEV scenarios.

Table 1: Changes in VMT between the BaseEV and TravelEV scenarios for years 2030, 2040, and 2050 by HPMSid.

		BaseEV minus TravelEV[1,2]		
HPMSid	**VEHICLE TYPE**	**2030 VMT reduction**	**2040 VMT reduction**	**2050 VMT reduction**
11	Motorcycles	58,278	70,775	81,996
21	Passenger cars	10,765,666	12,952,966	15,145,540
30	Passenger Trucks /Light Commercial Trucks	9,856,035	11,865,593	13,878,583
40	Buses	8,283	1,020,008	15,932
50	Single Unit Trucks	22,295	(161,533)	44,639
60	Combination Trucks	(172,230)	(965,077)	(139,551)
	Grand Total	**20,538,327**	**24,782,733**	**29,027,138**

[1] Negative numbers (shown in red parenthesis) represent increases in VMT between the base and travel scenarios while positive numbers represent reductions in VMT between the base and travel scenarios.
[2] Values are obtained from excel sheets A, B, and C.

A similar concern exists for combination truck VMT in 2040. Specifically, combination truck daily VMT is abnormally low in 2040 in the BaseEV scenario – about 500,000 miles lower than in 2030 and 1,000,000 miles lower than in 2050 – inconsistent with all other calendar years in both scenarios the general trend of gradual increases in VMT over time due to growth and other factors. Table 1 shows that this results in a nearly 1,000,000 mile increase in daily VMT for combination trucks due to implementation of the illustrative policy choices considered in the development of the proposed rule, which in turn causes a significant increase in GHG emissions from combination trucks.

There is no explanation provided in the CBA or other rulemaking documents for the abnormal VMT for these vehicle classes in this scenario and calendar year, and the VMT is not consistent with data for other calendar years. While these two errors cause opposite effects on GHG emissions, they may reflect significant issues in the modeling conducted for the proposed rule and should be investigated and resolved prior to considering the Proposed Rule for adoption. This further illustrates the need for proper documentation of the modeling methods and assumptions. Should additional modeling need to be conducted to address these issues, a revised Proposed Rule, including all supporting documentation and modeling, should be released for stakeholder review and comment prior to being considered for adoption.

1. Weld County's Other Concerns with VMT Changes Shown in the Modeling

Table 1 above also raises two other concerns that should be resolved prior to considering the Proposed Rule for adoption:

- Table 1 shows that Travel scenario bus VMT decreases in all calendar years with respect to the Base scenario due to implementation of the illustrative policy choices considered in the development of the proposed rule. However, the CBA describes substantial increases in transit, including both fixed-route and demand-responsive buses, and states that VMT effects of transit expansion are modeled in EERPAT.
    - Specifically, the CBA assumes that "transit revenue-miles will increase by 6.0 percent per year between 2022 and 2030 (69 percent total growth between 2019 and 2030), and by 2.0 percent a year between 2030 and 2050 (151 percent total growth between 2019 and 2050) compared to base year (2019) service levels."
    - Thus, it's not clear how bus VMT can decrease concurrent with significant expansion of fixed-route and demand-responsive bus services and increases in transit revenue-miles.
- Table 1 also shows a large increase in single unit truck (HPMSid 50) VMT in 2040 due to implementation of the illustrative policy choices considered in the development of the proposed rule, while single unit truck VMT tends to decrease due to implementation in other years. In turn, this VMT increase causes an increase in GHG emissions due to the Proposed Rule in 2040. There is no explanation provided for the increase in single unit truck VMT in 2040.

B. The Penetration of Electric Vehicles in the Modeling Does Not Reflect What is Described in the CBA and Other Rulemaking Documents

The CBA, regulatory analysis, FAQ, and other rulemaking documents describe the electric vehicle market penetration estimates assumed in future years. For example, the regulatory analysis states "[t]his includes 940,000 LDV EVs in 2030 (20% of LD fleet), 3.38 million EVs (60% of LD fleet) in 2040, and 97% of Light Duty Vehicles being EVs in 2050." Additional information is provided in Table A.13 of the CBA, although as noted in Weld County's October 14, 2021

comments, Table A.13 shows incorrect EV Stock and EV% of Stock values for 2050. The analysis described in this section utilized the value for 2050 from the regulatory analysis, consistent other rulemaking documents and presentation from CDOT.

Review of the Alternate Vehicle Fuel and Technology (AVFT) tables in the MOVES input databases provided by CDOT and CDPHE suggests that EV penetration values used in the modeling are inconsistent with the stated assumptions in the CBA and other rulemaking documents. In AVFT tables, MOVES users can enter actual local fractions of electric vehicles by model year[32]. The fraction of vehicles with electric fuel type (ID=9) in each model year would be equivalent to the percent of sales of vehicles in a given location, which should be based on actual registration data for past years and is forecasted for future model years. The CBA describes, at a high level, the assumptions for EV penetration in light duty vehicles (LDVs) in Table A.13. This includes the percentage of EV Sales for all LDVs, that is, the combination of passenger cars, passenger trucks and light commercial trucks (HPMSids 21 31, and 32). When comparing the AVFT files used for statewide runs (as suggested by the input database name), the EV penetration in 2030 and 2040 do not match or appear close to what the CBA had described as the assumed penetration. For example, in 2030 the AVFT files show 97% EV sales for passenger cars and 13% EV sales for passenger trucks, while the CBA indicates an EV sales percentage of 50% for all light duty vehicles. No EV penetration is assumed for light commercial trucks. There is no explanation or data provide to explain how the assumed EV Sales % in the CBA is applied to the different light duty vehicle classes used in the modeling or why the values in the CBA would differ from the values used in the analysis.

Table 2: EV penetration data from AVFT files and comparison to values in the CBA.

			% EV in AVFT File by Model Year				
Source	**HPMSid**	**Description**	**2025**	**2030**	**2040**	**2045**	**2050**
Input database used in MOVES: ghg_statewide_m3_30_in	21	Passenger cars	14 %	97%	100%	100%	100%
	31	Passenger Trucks	1%	13%	73%	96%	100%
	32	Light Commercial Trucks	0%	0%	0%	0%	0%
CBA (Table A.13) EV Sales %	all LDVs		17 %	50%	100%	N/A	100%
CBA (Table A.13) EV% of Stock[1]	all LDVs		4%	16%	57%	N/A	97%
[1] The 97% EV light duty stock in 2050 is obtained from the regulatory analysis and other rulemaking documents, not the CBA, due to the error in the CBA described previously.							

[32] Env't Prot. Agency, "MOVES3 Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity," (Nov. 2020), https://www.epa.gov/sites/default/files/2020-11/documents/420b20052.pdf.

This discrepancy between the CBA and the modeling files also exists for the EV stock percentages. Table 3 shows average emission factors in grams per mile for the BaseEV and BaseNon-EV scenarios for different vehicles types in 2030, 2040, and 2050. The far-right column shows the percentage reduction in average emission rate between the Non-EV and EV scenarios for each vehicle type in each calendar year due to increased EV penetration. When looking at an average emission factor in g/mile (calculated in the excel sheets as the ratio of GHG emissions over the VMT), changes in emission factors for passenger cars and passenger trucks are not consistent with the assumptions for EV penetration of all light duty vehicles. For example, Table 3 shows that there is a 93% reduction in passenger car emission rates and a 52% reduction in passenger truck emission rates in 2050. However, neither of these, nor the combination of the two, is consistent with the assumption that 97% of all light duty vehicles are electric in 2050. Similar concerns exist for other years. If EV stock percentages are underestimated in the modeling, GHG emissions from passenger cars may be overestimated. In turn, the reduction levels in the proposed rule would be overestimated, which may present compliance challenges.

Additionally, there is an unusual trend in the non-EV emission factors for passenger cars between 2040 and 2050. Specifically, passenger car emission factors increase by nearly 40% between 2040 and 2040 in the BaseNon-EV scenario (676 to 946 g/mile, see Table 3). GHG emissions per VMT generally decrease over time due to federally mandated improvements in vehicle fuel economy and other factors, regardless of any assumed increases EV penetration scenario (which are not present in the non-EV scenario). Thus, it is not clear why passenger car emission factors are much higher in 2050 than in 2040 in the BaseNon-EV scenario. These abnormally high emission factors in the BaseNon-EV scenario suggest that GHG emissions from passenger cars may be overestimated in the BaseEV scenario, which in turn would overestimate the reduction levels in the proposed rule. It is critical that these discrepancies are addressed to ensure the accuracy and reasonableness of the GHG emissions estimates in the Proposed Rule.

Table 3: Average emissions rates and changes in average emission rates due to assumed electric vehicle penetration.

HPMSid	VEHICLE TYPE	Year	Average Emission Rate (g/mile)		% Reduction from EV Penetration
			BaseEV	Base Non-EV	
11	Motorcycles	2030	1,344	1,344	0%
11	Motorcycles	2040	1,356	1,356	0%
11	Motorcycles	2050	1,356	1,356	0%
21	Passenger cars	2030	894	1,074	17%
21	Passenger cars	2040	322	676	52%
21	Passenger cars	2050	71	946	93%
30	Passenger Trucks /Light Commercial Trucks	2030	1,404	1,449	3%
30	Passenger Trucks /Light Commercial Trucks	2040	1,062	1,335	20%
30	Passenger Trucks /Light Commercial Trucks	2050	626	1,303	52%
40	Buses	2030	5,433	5,433	0%
40	Buses	2040	5,222	5,222	0%
40	Buses	2050	4,942	4,942	0%
50	Single Unit Trucks	2030	4,809	4,809	0%
50	Single Unit Trucks	2040	5,560	5,560	0%
50	Single Unit Trucks	2050	4,520	4,520	0%
60	Combination Trucks	2030	8,819	8,819	0%
60	Combination Trucks	2040	8,207	8,207	0%
60	Combination Trucks	2050	6,089	6,089	0%

Finally, not all of the input databases applied in the MOVES runs included in the MOVES output database used for the analysis (ghg_m3_out) were provided. Table 4 below shows input databases that were not included in the package provided. It is unclear, due to the lack of documentation, if these are relevant to the analysis. Nonetheless, these files, along with any other missing data, should be provided to all stakeholders for review and comment.

Table 4: Identification of input databases that were not provided.

Domain Database Name	Files Provided?
17sipdrcog2030rtsm3in	Not provided
20sipdrcog2025in	Not provided
ghg_statewide_m3_15_in	Provided
ghg_statewide_m3_25_in	Provided
ghg_statewide_m3_30_in	Provided
ghg_sw_20401_in	Provided
ghg_sw_2045_in	Provided
ghg2005in	Provided
ghg2005inim	Provided
sw2050_in	Not provided

C. GHG Emission Reductions by Regional Area in the Modeling Are Inconsistent with the Proposed Rule

The modeling data reports VMT and GHG emissions by region for three primary areas: DRCOG, NFR, "rest of State". Within the rest of state area, data is provided separately for Pikes Peak. Therefore, data is resolved by four regional areas: DRCOG, NFR, Pikes Peak, and rest of state. Weld County understands, based on presentations from CDOT, that the reduction levels for each regional area shown in Table 1 of the Proposed Rule were derived by allocating the total reduction level each year (after off-model adjustments[33]) to each regional area based on each regional area's VMT. However, this approach results in reduction levels for different regional areas that are inconsistent with the reductions for each regional area estimated by the modeling.

[33] Off model adjustments include changes to the total reduction level estimated by the modeling. For example, while the modeling predicted GHG emission reductions of 1.69 MMT in 2030, the reduction level was set at 1.5 MMT.

Table 5: Emissions in the BaseEV and TravelEV scenarios by regional area for 2030, 2040, and 2050.

Region	BaseEV (MMT/year)	TravelEV (MMT/year)	Emission Reductions (MMT)[1]	% Contribution to Total
2030				
DRCOG	10.69	9.62	1.08	64%
NFR	2.63	2.43	0.19	12%
Pikes Peak	2.45	1.95	0.50	30%
Rest of State	4.20	4.29	-0.09	-5%
2030 Total	**19.97**	**18.29**	**1.69**	**100%**
2040				
DRCOG	7.17	6.36	0.81	63%
NFR	2.14	1.95	0.19	15%
Pikes Peak	1.44	1.30	0.14	11%
Rest of State	3.30	3.15	0.15	12%
2040 Total	**14.04**	**12.76**	**1.28**	**100%**
2050				
DRCOG	4.37	3.94	0.42	63%
NFR	1.41	1.31	0.10	15%
Pikes Peak	0.89	0.81	0.07	11%
Rest of State	2.21	2.14	0.08	11%
2050 Total	**8.88**	**8.20**	**0.68**	**100%**

[1] Negative values represent increases in emissions between the BaseEV and TravelEV scenarios.

For example, Table 5 above shows GHG emission estimates in the BaseEV and TravelEV scenarios by regional area for 2030, 2040, and 2050, including the change in emissions between the scenarios and the percentage contribution each regional area comprises of the total estimated reduction. The percentage contribution values in 2030 shown in Table 5 are particularly concerning as they differ significantly from other years and the relative contribution of different regional areas to the total reduction level shown for 2030 in Table 1 of the Proposed Rule. Specifically, modeling data indicates that 30% of the total GHG emission reductions in 2030 from implementation of the illustrative policy choices considered in the development of the proposed rule would come from the Pikes Peak region. Additionally, the modeling indicates that GHG emissions in the rest of the state would actually *increase* due to implementation of the illustrative policy choices considered in the development of the proposed rule in 2030. It's not clear why CDOT chose to allocate total reductions to different regional areas based on VMT rather than relying on modeling data as this methodology is not described or explained in the rulemaking documents. Furthermore, this methodology may lead to compliance challenges, particularly for the non-MPO areas, as the modeling indicates implementation of the illustrative policy choices

considered in the development of the proposed rule would actually increases emissions for the "rest of state" region. Because modeling analogous to that conducted to develop the proposed rule will be used by CDOT and MPOs to demonstrate compliance with the rule, these concerning discrepancies between the modeling data and the proposed rule, particularly for 2030, must be addressed. Simply put, it's not clear if the emission reduction levels in Table 1 of the Proposed Rule are achievable. Therefore, CDOT should provide the documentation necessary fully understand the modeling conducted for the Proposed Rule and directly address the concerns raised in these sections.

CONCLUSION

Weld County supports efforts to reduce GHG emissions from the transportation sector, but it cannot support the Proposed Rule as drafted. For the reasons set forth above, Weld County respectfully requests the TC to reject the Proposed Rule and direct CDOT to revise the rule to adequately address stakeholder concerns. Weld County appreciates the opportunity to participate in this rulemaking and thanks CDOT and the TC in advance for their attention to these written comments.

Respectfully submitted this 18th day of November, 2021.

BOARD OF COUNTY COMMISSIONERS
OF WELD COUNTY, COLORADO

[redacted]

WeldCo_EX-001

DEPARTMENT OF TRANSPORTATION

Transportation Commission

RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

2 CCR 601-22

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

~~August 13, 2021, Version~~ October 19, 2021 Version

Please note the following formatting key:

Font Effect	Meaning
Underline	New Language
~~Strikethrough~~	Deletions
[Blue Font Text]	Annotation
Highlighted Text	Revisions to August 13, 2021 Version
~~Green Strikethrough~~	Suggested Deletions from Weld County
Green Underline	Suggested New Language from Weld County

1.00 Definitions.

1.01 Accessible - ensure that reasonable efforts are made that all meetings are reachable by persons from households without vehicles and that the meetings will be accessible to persons with disabilities in accordance with the Americans with Disabilities Act (ADA), and also accessible to persons with Limited English Proficiency. Accessible opportunities to comment on planning related matters include those provided on the internet and through such methods as telephone town halls.

1.02 Applicable Planning Document - refers to MPO Fiscally Constrained RTPs,TIPs for MPOs in NAAs, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

1.03 MOVES ~~Approved Air Quality~~ Model -Environmental Protection Agency's the most recent version of the MOtor Vehicle Emission Simulator (or MOVES) issued model that quantifies GHG emissions from on-road transportation, or its successor, that is required for transportation conformity analyses per federal regulation.

1.04 Attainment Area - any geographic region of the United States that meets the national primary or

secondary National Ambient Air Quality Standards (NAAQS) for the pollutants as defined in the Clean Air Act (CAA) (Amendments of 1990).

1.05 Baseline - ~~estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using the MPO Models or the Statewide Travel Model. Estimates must include GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules.~~ For each MPO area and for the non-MPO areas of the state, for each of the model years 2025, 2030, 2040, and 2050: the GHG emissions, in million metric tons (MMT), produced by the most recently adopted model for that area, together with the current EPA-approved version of MOVES or its successors in the format currently run by APCD, resulting from modeling the MPO RTP or CDOT 10-year plan adopted as of the effective date of this rule.

1.06 Carbon Dioxide Equivalent (CO_2e) - a ~~metric measure used to~~ standard unit for comparinge the emissions from various GHG based upon the 100-year global warming potential (GWP). CO_2e is calculated by multiplying the mass amount of emissions (metric tons per year), for each GHG constituent by that gas's GWP, and summing the resultant values to determine CO_2e (metric tons per year). This calculation allows comparison of different greenhouse gases and their relative impact on the environment over different standard time periods.

1.07 Commission - the Transportation Commission of Colorado created by § 43-1-106, C.R.S.

1.08 Congestion Mitigation and Air Quality (CMAQ) - a federally ~~funding~~mandated program established in 23 U.S.C § 149 to improve air quality in Nonattainment and Maintenance Areas for ozone, carbon monoxide, and particulate matter. References related to this program include any successor programs as established by the federal government.

1.09 Corridor - a transportation system that includes all modes and facilities within a described geographic area.

1.10 Corridor Vision - a comprehensive examination of a specific transportation Corridor, which includes a determination of needs and an expression of desired state of the transportation system that includes Transportation Modes and facilities over a planning period.

1.11 Department or CDOT - the Colorado Department of Transportation created by § 43-1-103, C.R.S.

1.12 Disproportionately Impacted Communities - defined in § 24-38.5-302(3), C.R.S. as a community that is in a census block group, as determined in accordance with the most recent United States Decennial Census where the proportion of households that are low income is greater than forty percent (40%), the proportion of households that identify as minority is greater than forty percent (40%), or the proportion of households that are housing cost-burdened is greater than forty percent (40%).

1.13 Division - the Division of Transportation Development within CDOT.

1.14 Division Director - the Director of the Division of Transportation Development.

1.15 Fiscally Constrained - the financial limitation on transportation plans and programs based on the projection of revenues as developed cooperatively with the MPOs and the rural TPRs and adopted by the Commission that are reasonably expected to be available over the long-range transportation planning period and the TIP and STIP programming periods.

1.16 Four-Year Prioritized Plan - a four-year subset of the 10-Year Plan consisting of projects prioritized for near-term delivery and partial or full funding.

1.17 Greenhouse Gas (GHG) pollutants means anthropogenic (man-made) emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride.~~ for purposes of these Rules, GHG is defined as the primary transportation greenhouse gases: carbon dioxide, methane, and nitrous oxide.~~

1.18 Greenhouse Gas (GHG) Reduction Level - the amount of the GHG expressed as CO2e reduced ~~from the projected Baseline~~ that CDOT and MPOs must attain through transportation planning.

1.19 Greenhouse Gas (GHG) Mitigation Measures - non-Regionally Significant Project strategies implemented by CDOT and MPOs that reduce transportation GHG pollution and help meet the GHG Reduction Levels.

1.20 Intergovernmental Agreement - an arrangement made between two or more political subdivisions that form associations for the purpose of promoting the interest and welfare of said subdivisions.

1.21 Intermodal Facility - a site where goods or people are conveyed from one mode of transportation to another, such as goods from rail to truck or people from passenger vehicle to bus.

1.22 Land Use - the type, size, arrangement, and use of parcels of land.

1.23 Limited English Proficiency - individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English.

1.24 Long-Range Planning - a reference to a planning period with a minimum 20-year planning horizon.

1.25 Maintenance Area - any geographic region of the United States previously designated by the U.S. Environmental Protection Agency (EPA) as a Nonattainment Area pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under § 175A of the CAA, as amended in 1990.

1.26 Memorandum of Agreement (MOA) - a written agreement between two or more parties on an intended plan of action.

1.27 Metropolitan Planning Agreement (MPA) - a written agreement between the MPO, the State, and the providers of public transportation serving the Metropolitan Planning Area that describes how they will work cooperatively to meet their mutual responsibilities in carrying out the metropolitan planning process.

1.28 Metropolitan Planning Area - a geographic area determined by agreement between the MPO for the area and the Governor, in which the metropolitan transportation planning process is carried out pursuant to 23 U.S.C. § 134.

1.29 Metropolitan Planning Organization (MPO) - an organization designated by agreement among the units of general purpose local governments and the Governor, charged to develop the RTPs and programs in a Metropolitan Planning Area pursuant to 23 U.S.C. § 134.

1.30 Mitigation Action Plan - an element of the GHG Transportation Report that specifies which GHG Mitigation Measures shall be implemented that help achieve the GHG Reduction Levels.

1.31 Mobility - the ability to move people, goods, services, and information among various origins and destinations.

1.32 MPO Models - one (1) or more of the computer-based models maintained and operated by the MPOs which depict the MPO areas' transportation systems (e.g., roads, transit, etc.) and development patterns (i.e., number and location of households and jobs) for a defined year (i.e., past, present, or forecast) and produce estimates of roadway VMT, delays, operating speeds, transit ridership, and other characteristics of transportation system use.

1.33 Multimodal - an integrated approach to transportation that takes into account all modes of travel, such as bicycles and walking, personal mobility devices, buses, transit, rail, aircraft, and motor vehicles.

1.34 Multimodal Transportation and Mitigation Options Fund (MMOF) - a program created in the State

Treasury pursuant to § 43-4-1003, C.R.S. which funds bicycle, pedestrian, transit and other Multimodal projects as defined in § 43-4-1002(5), C.R.S. and GHG Mitigation projects as defined in § 43-4-1002(4.5), C.R.S.

1.35 National Ambient Air Quality Standards (NAAQS) - are those established by the U.S. Environmental Protection Agency for air pollutants considered harmful to public health and environment. These criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter ~~small particles~~, and sulfur dioxide.

1.36 Nonattainment Area - any geographic region of the United States which has been designated as nonattainment by the EPA under section 107 of the CAA for any pollutants for which a NAAQS exists.

1.37 Non-Metropolitan Area - a rural geographic area outside a designated Metropolitan Planning Area.

1.38 Plan Integration - a comprehensive evaluation of the statewide transportation system that includes all modes, an identification of needs and priorities, and key information from other related CDOT plans.

1.39 Planning Partners - local and tribal governments, the rural TPRs and MPOs.

1.40 Project Priority Programming Process - the process by which CDOT adheres to 23 U.S.C. § 135 and 23 C.F.R. Part 450 when developing and amending the STIP.

1.41 Regional Planning Commission (RPC) - a planning body formed under the provisions of § 30-28-105, C.R.S., and designated under these Rules for the purpose of transportation planning within a rural TPR.

1.42 Regionally Significant Project - a transportation project that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. Modifications of this definition shall be allowed if approved by the State Interagency Consultation Team. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team.

1.43 Regional Transportation Plan (RTP) - a long-range plan designed to address the future transportation needs for a TPR including, but not limited to, Fiscally Constrained or anticipated funding, priorities, and implementation plans, pursuant to, but not limited to, § 43-1-1103, C.R.S. and 23 C.F.R. Part 450. All rural and urban TPRs in the state produce RTPs.

1.44 State Interagency Consultation Team - consists of the Division Director or the Division Director's designee, the Colorado Department of Public Health and Environment (CDPHE) Director of Air Pollution Control Division or the Director's designee, and the Director of each MPO or their designee.

1.45 State Transportation System - refers to all state-owned, operated, and maintained transportation facilities in Colorado, including, but not limited to, interstate highways, other highways, and aviation, bicycle and pedestrian, transit, and rail facilities.

1.46 Statewide Transportation Advisory Committee (STAC) - the committee created by § 43-1-1104, C.R.S., comprising one representative from each TPR and one representative from each tribal government to review and comment on RTPs, amendments, and updates, and to advise both the

Department and the Commission on the needs of the transportation system in Colorado.

1.47 Statewide Transportation Improvement Program (STIP) - a Fiscally Constrained, multi-year, statewide, Multimodal program of transportation projects which is consistent with the Statewide Transportation Plan and planning processes, with Metropolitan Planning Area plans, Transportation Improvement Programs and processes, and which is developed pursuant to 23 U.S.C. § 135.

1.48 Statewide Travel Model - the computer-based model maintained and operated by CDOT which depicts the state's transportation system (roads, transit, etc.) and development scale and pattern (number and location of households, number and location of firms/jobs) for a selected year (past, present, or forecast) and produces estimates of roadway VMT and speed, transit, ridership, and other characteristics of transportation system use.

1.49 Statewide Transportation Plan - the long-range, comprehensive, Multimodal statewide transportation plan covering a period of no less than 20 years from time of adoption, developed through the statewide transportation planning process described in these Rules and 23 U.S.C. § 135, and adopted by the Commission pursuant to § 43-1-1103, C.R.S.

1.50 Surface Transportation Block Grant (STBG) - a flexible federal funding source established under 23 U.S.C. § 133 for state and local transportation needs. Funds are expended in the areas of the State based on population. References related to this program include any successor programs established by the federal government.

1.51 System Continuity - includes, but is not limited to, appropriate intermodal connections, integration with state modal plans, and coordination with neighboring RTPs, and, to the extent practicable, other neighboring states' transportation plans.

1.52 Traditionally Underserved - refers to groups such as seniors, persons with disabilities, low-income households, minorities, and student populations, which may face difficulties accessing transportation systems, employment, services, and other amenities.

1.53 Transit and Rail Advisory Committee (TRAC) - an advisory committee created specifically to advise the Executive Director, the Commission, and the Division of Transit and Rail on transit and rail-related activities.

1.54 Transportation Commonality - the basis on which TPRs are established including, but not limited to: Transportation Commission Districts, the Department's Engineering Regions, Travelsheds, Watersheds, geographic unity, existing Intergovernmental Agreements, and socioeconomic unity.

1.55 Transportation Improvement Program (TIP) - a staged, Fiscally Constrained, multi-year, Multimodal program of transportation projects developed and adopted by MPOs, and approved by the Governor, which is consistent with an MPO's RTP and which is developed pursuant to 23 U.S.C. § 134.

1.56 Transportation Mode - a particular form of travel including, but not limited to, bus, motor vehicle, rail, transit, aircraft, bicycle, pedestrian travel, or personal mobility devices.

1.57 Transportation Planning and Programming Process - all collaborative planning-related activities including the development of regional and Statewide Transportation Plans, the Department's Project Priority Programming Process, and development of the TIPs and STIP.

1.58 Transportation Planning Region (TPR) - a geographically designated area of the state, defined by section 2.00 of these Rules in consideration of the criteria for Transportation Commonality, and for which a regional transportation plan is developed pursuant to the provisions of § 43-1-1102 and 1103, C.R.S. and 23 U.S.C. § 134. The term TPR is inclusive of these types: non-MPO TPRs, MPO TPRs, and TPRs with both MPO and non-MPO areas.

1.59 Transportation Systems Planning - provides the basis for identifying current and future deficiencies on the state highway system and outlines strategies to address those deficiencies and make improvements to meet Department goals.

1.60 Travelshed - the region or area generally served by a major transportation facility, system, or Corridor.

1.61 Tribal Transportation Improvement Program (TTIP) - a multi-year Fiscally Constrained list of proposed transportation projects developed by a tribe from the tribal priority list or tribal long-range transportation plan, and which is developed pursuant to 25 C.F.R. Part 170. The TTIP is incorporated into the STIP without modification.

1.62 Urbanized Area - an area with a population of 50,000 or more designated by the Bureau of the Census.

1.63 Vehicle Miles Traveled (VMT) - the traffic volume of a roadway segment or system of roadway segments multiplied by the length of the roadway segment or system.

1.64 Watershed - a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

1.65 10-Year Plan - a vision for Colorado's transportation system that includes a specific list of projects categorized across priority areas as identified in the Statewide Transportation Plan.

8.00 GHG Emission Requirements

8.01 Establishment of Regional GHG Transportation Planning Reduction Levels

8.01.1 The GHG emission reduction levels within Table 1 apply to MPOs and the Non-MPO area within the state of Colorado as of the effective date of these Rules. ~~Baseline values are specific to each MPO and CDOT area and represent estimates of GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules. Table 2 reflects the difference in Baseline levels from year to year assuming a rapid growth in electric vehicles across the State (940,000 light duty electric vehicles in 2030, 3.38 million in 2040 and a total of 97% of all light duty vehicles in 2050). Values in both tables take into account include estimates of population and employment growth as provided by the state demographer.~~

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e

Regional Areas	~~2025 Baseline Projections (MMT)~~	2025 Reduction Level (MMT)	~~2030 Baseline Projections (MMT)~~	2030 Reduction Level (MMT)	~~2040 Baseline Projections (MMT)~~	2040 Reduction Level (MMT)	~~2050 Baseline Projections (MMT)~~	2050 Reduction Level (MMT)
DRCOG	~~14.9~~	0.27	~~11.8~~	0.82	~~10.9~~	0.63	~~12.8~~	0.37
NFRMPO	~~2.3~~	0.04	~~1.8~~	0.12	~~1.9~~	0.11	~~2.2~~	0.07
PPACG	~~2.7~~	N/A	~~2.2~~	0.15	~~2.0~~	0.12	~~2.3~~	0.07
GVMPO	~~0.38~~	N/A	~~0.30~~	0.02	~~0.30~~	0.02	~~0.36~~	0.01
PACOG	~~0.50~~	N/A	~~0.40~~	0.03	~~0.30~~	0.02	~~0.4~~	0.01

CDOT/Non-MPO	~~6.7~~	0.12	~~5.3~~	0.3~~6~~	~~5.2~~	0.30	~~6.1~~	0.1~~7~~
TOTAL	~~27.4~~	0.~~435~~	~~21.8~~	1.5	~~20.6~~	1.2	~~24.2~~	0.7

8.01.3 ~~Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles~~

~~Table 2: Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles~~

	~~2025 Projections (MMT)~~	~~2030 Projections (MMT)~~	~~2040 Projections (MMT)~~	~~2050 Projections (MMT)~~
~~TOTAL~~	~~27.0~~	~~20.0~~	~~14.0~~	~~8.9~~

~~8.02~~ Process for Determining Compliance

8.02.1 Emissions Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the MOVES~~Approved Air Quality~~ Model, to estimate total CO2e emissions. Such analysis shall include, at a minimum the existing transportation network and ~~implementation of~~ Regionally Significant Projects contained in the Applicable Planning Document. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each compliance year in Table 1 as long as the compliance year is not in the past and compare these emissions to the Baseline ~~specified in Table 1~~. When adopting a TIP, the required emissions analysis will apply to one year corresponding with the last year of the TIP, using interpolation between Table 1 years if the last year of the TIP does not correspond to a designated year in Table 1. This provision shall not apply to MPO TIP amendments.

8.02.2 Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior tothe adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter ~~:~~ into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide TravelModel, and MOVES~~Approved Air Quality~~ Model.

8.02.3 The State Interagency Consultation Team shall meet as needed to address any questions on the classification of projects as Regionally Significant, modeling assumptions, and projects that reduce GHG emissions.

8.02.4~~3~~ By April 1, 2022, CDOT in consultation with the MPOs shall establish an ongoing administrative process and guidelines, through a public process, for selecting, measuring, confirming, and verifying GHG Mitigation Measures ~~, so that~~ CDOT and MPOs may ~~can~~ incorporate one or more GHG Mitigation Measures into ~~each of~~ their plans in order ~~to reach~~ to assist in meeting the Regional GHG Planning Reduction Levels in Table 1. Such a process and guidelines shall include, but not be limited to, how CDOT and MPOs should determine~~ing~~ the relative benefits impacts of GHG Mitigation Measures, and measure~~ing~~ and prioritize~~ing~~ localized benefitsimpacts to communities and Disproportionately Impacted Communities in particular. The mitigation credit awarded to a specific solution shall consider both aggregate and community impact.

8.02.5~~4~~ Timing for Determining Compliance

8.02.5~~4~~.1 By October 1, 2022, CDOT shall update their 10-Year Plan and DRCOG and NFRMPO shall update their RTPs pursuant to § 43-4-

Commented [A1]: Weld County recommends that additional language be added to the proposed rule in Section 8.02.2 to specify the items that must be addressed and information that must be included in the Intergovernmental Agreement.

Additionally, Weld County recommends CDOT clarify the interaction among and relationship between the groups, teams, interagency processes, and intergovernmental agreements described in the proposed rule and companion documents.

1103, C.R.S. and meet the reduction levels in Table 1 or the requirements pursuant to § 43-4-1103, C.R.S and restrictions on funds.

8.02.54.2 ~~After October 1, 2022~~

~~8.02.54.2.1~~CDOT must for each Applicable Planning Document adopted or amended after October 1, 2022, meet either the reduction levels within Table 1 for Non-MPO areas or the requirements as set forth in Rule 8.02.6.1.1~~8.05~~.

8.02.54.3~~2.2~~ MPOs must for each Applicable Planning Document adopted or amended after October 1, 2022, meet either the corresponding reduction levels within Table 1 ~~for each Applicable Planning Document adopted or amended after October 1, 2022~~,, or the relevant MPO and CDOT each must meet the requirements as set forth in Rule ~~8.05~~ 8.02.6.1.1 or Rule 8.02.6.1.2, as applicable This provision shall not apply to MPO TIP Amendments.

8.02.65 Demonstrating Compliance. At least thirty (30) days prior to adoption or amendment of any Applicable Planning Document except amendments to MPO TIPs, CDOT for Non-MPO areas and the MPOs for their areas shall provide to the Commission a GHG Transportation Report containing the following information:

8.02.65.1 GHG emissions analysis and, if applicable, a GHG Mitigation Plan demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1 or that the requirements in Rules 8.02.5.1.1 or 8.02.5.1.2., as applicable, have been met.

8.02.6.1.1 In non-MPO areas or for MPOs that are not in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the Department utilizes 10-Year Plan funds anticipated to be expended in MPO areas and on 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in non-MPO areas ~~those areas~~ on projects or approvedGHG Mitigation Measures that reduce GHG emissions as necessary to achieve the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1.

8.02.~~6~~5.1.2 In MPO areas that are in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the MPO ~~utilizes~~ shall award those funds anticipated to be expended on projects or approved GHG Mitigation Measures that reduce GHG emissions, and CDOT ~~utilizes~~ shall award 10-Year Plan funds ~~anticipated to be expended on Regionally Significant Projects in that MPO area,~~ on projects or approved ~~that reduce~~ GHG emissions ~~or approved~~ Mitigation Measures, as necessary to achieve the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1.

8.02.6.1.3 The restrictions in 8.02.6.1.1 and 8.02.6.1.2 do not apply to projects which have been advertised for construction with funding identified prior to the adoption of the Applicable Planning Document.

8.02.65.2 Identification and documentation of the MPO Model or the Statewide Travel Model and the MOVES ~~Approved Air Quality~~ Model used to determine GHG emissions in MMT of CO2e.

8.02.65.3 If Mitigation Measures are needed to count toward the reduction levels in Table 1, the MPO or CDOT shall submit a Mitigation Action Plan that includes at the discretion of the MPO or CDOT, submission of a~~A~~ Mitigation Action Plan that identifies GHG Mitigation Measures, if any, needed ~~to mee~~ that will count toward the reduction levels within Table 1. The Mitigation Action Plan shall include:

8.02.65.3.1 The anticipated start and completion date of each measure.

8.02.65.3.2 An estimate~~, where feasible,~~ of the annual GHG emissions reductions in MMT of CO2e achieved per year by any GHG Mitigation Measures.

8.02.65.3.3 Quantification of specific co-benefits where feasible including reduction of co-pollutants (PM2.5, NOx, etc.) as well as travel impacts (changes to VMT, pedestrian/bike use, transit ridership numbers, etc. as applicable).

8.02.65.3.4 Description of benefits to Disproportionately Impacted Communities.

Commented [A2]: Weld County recommends CDOT require quantification of GHG emission reductions from mitigation measures included in a Mitigation Action Plan. Therefore, "where feasible" should be removed as shown here.

Additionally, the Mitigation Policy Overview companion document should be revised consistent with this requirement and any discussion of a GHG effectiveness score or point system should be removed.

8.02.76 Reporting on Compliance- Following the submission of a GHG Transportation Report containing a Mitigation Action Plan,~~Annually by April 1~~, CDOT and MPOs must provide a status report to the Commission annually by April 1 on an approved form with the following items for each GHG Mitigation Measure identified in their most recent GHG Transportation Report:

8.02.76.1 The implementation timeline;

8.02.76.2 The current status;

8.02.76.3 For measures that are in progress or completed, quantification of the benefit or impact of such measures; and

8.02.76.4 For measures that are delayed, cancelled, or substituted, an explanation of why that decision was made.

8.03 GHG Mitigation Measures. When assessing compliance with the GHG Reduction Levels, CDOT and MPOs shall have the opportunity to utilize approved GHG Mitigation Measures as set forth in Rules 8.02.3 and 8.02.5.3 to offset emissions and demonstrate progress toward compliance. Illustrative examples of GHG Mitigation Measures include, but are not limited to:

8.0.3.1 The addition of transit resources in a manner that can displace VMT including in rural areas where the public may travel to a community for work but live outside that area due to affordability of housing.

8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.

8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use and in a way that links and rewards transportation project investments with the city making these changes.

8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.

8.03.5 Improving the safety and efficiency of crosswalks for pedestrians, bicyclists, and other non-motorized vehicles, including to advance compliance with the ADA.

8.03.6 Adopting or encouraging the adoption of locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.

8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.

8.03.8 Establishing policies for clean construction that result in scalable improvements as a result of factors like lower emission materials, recycling of materials, and lower truck emissions during construction.

8.03.9 ~~Adoption of~~Implementing or encouraging the adoption of transportation demand management practices that reduce VMT.

8.03.10 Encourage local adoption or expansion of school bus programs or school carpool programs to reduce private vehicle trips

8.03.11 Electrify loading docks to allow transportation refrigeration units and auxiliary power units to be plugged into the electric grid at the loading dock instead of running on diesel.

8.04 Air Pollution Control Division (APCD) Confirmation and Verification

8.04.1 At least forty-five (45) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to APCD for review and verification of the technical data contained in the draft GHG Transportation Report required per Rule 8.02.65. If APCD has not provided written verification or committed to a review schedule within thirty (30) days, CDOT will commission review by an outside contractor ~~the document shall be considered acceptable.~~ The APCD shall submit any written verification to the agency adopting the Applicable Planning Document and to the Commission.

8.04.2 At least forty-five (45) ~~thirty (30)~~ days prior to adoption or amendment of policies per Rule 8.02.43, CDOT shall provide APCD the opportunity to review and comment. If APCD has not provided written comment within thirty (30) ~~forty-five (45)~~ days, the document shall be considered acceptable.

8.05 Compliance~~Enforcement.~~ The Commission, within thirty (30) days of receipt of a GHG Transportation Report or at the next regularly scheduled Commission Meeting, whichever is later, shall ~~review all GHG Transportation Reports to~~ determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance. The Commission may not review a GHG Transportation Report until the report has undergone APCD confirmation and verification per Section 8.04.1 and has been deemed acceptable.

8.05.1 If the Commission determines the requirements of Rule 8.02.65 have been met, the Commission shall, by resolution, accept the GHG Transportation Report.

8.05.2 If the Commission determines, by resolution, the requirements of Rule 8.02.65 have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02.65.1.1 or 8.02.65.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG. Prior to the implementation enforcement of such restriction, an MPO, CDOT (upon concurrence with the applicable MPO) or a TPR in a non-MPO area, may, within sixty (60) ~~thirty (30)~~ days of Commission action, pursue ~~issue~~ one or both of the following actions: ~~opportunities to~~ seek a waiver or ~~to~~ ask for reconsideration accompanied by an opportunity to submit additional information:

~~8.05.2.1 Request a waiver from the Commission imposing restrictions on specific~~

Commented [A3]: It is not clear what steps would need to be taken if the APCD does not consider a GHG Transportation Report acceptable.

Weld County recommends CDOT revise the Proposed Rule to require GHG Transportation Reports to undergo technical review and verification prior to the TC's compliance determination and describe the process for CDOT and the MPOs should the APCD deem a GHG Transportation Report unacceptable. Additional specificity on APCD's "review and verification of the technical data contained in the draft GHG Transportation Report" should be provided in the documents supporting the Proposed Rule.

Commented [A4]: Weld County recommends adding this language to ensure GHG Transportation Reports have undergone review and verification of the technical data by the APCD prior to review and evaluation by the TC.

projects not expected to reduce GHG emissions.

8.05.2.1.1 By April 1, 2022, CDOT staff in consultation with the MPOs shall develop a waiver form for use by CDOT, MPOs or TPRs when requesting a waiver.

8.05.2.1.2 A waiver may be requested at any time, including concurrently with the submission of a GHG Transportation Report. ~~.~~ The Commission may waive the restrictions on specific projects when applicants use CDOT's waiver form that specifies on the following: ~~basis~~:

8.05.2.1.3~~1~~ The GHG Transportation Report reflected significant effort and priority placed, in total, on projects and GHG Mitigation Measures that reduce GHG emissions; and

8.05.2.1.4~~2~~ In no case shall a waiver be granted if such waiver results in a substantial increase in GHG emissions when compared to the required reduction levels in this Rule.

8.05.2.2 Request reconsideration of a non-compliance determination by the Commission and provide a written explanation of how the requirements of Rule 8.02.6~~5~~ have been met. A request for reconsideration must besubmitted within thirty (30) days of Commission action.

8.05.2.3 The Commission shall act, by resolution, on a waiver or reconsideration request within thirty (30) days of receipt of the waiver or reconsideration request or at the next regularly scheduled Commission Meeting, whichever is later. ~~If no action is taken within this time period, the waiver or reconsideration request shall be deemed to be denied.~~

8.05.3 Notwithstanding any other provision of this Rule, CDOT, DRCOG and NFRMPO must meet the requirements of § 43-4-1103, C.R.S.

8.06 Reporting

8.06.1 Beginning July 1, 2025, and every ~~3~~5 years thereafter, the Executive Director on behalf of CDOT shall prepare for the Transportation Commission and Air Quality Control Commission a ~~and make public a~~ comprehensive publicly released report on the statewide GHG reduction accomplishments.

8.06.1.1 If the report prepared per Section 8.06.1 demonstrates that the reduction levels for a past compliance year in Table 1 have not been met in one or more areas, the Commission shall consider revisions to these rules in order to achieve reductions in GHG emissions consistent with the intent of this rule

8.06.2 Beginning September 1, 2022, and annually thereafter, CDOT shall provide to the Transportation Commission a VMT report. The report shall provide total VMT per capita within the MPO areas and statewide for the past calendar year.

~~8.06.2.1 If three consecutive years of reports demonstrate no decrease in VMT per capita in one or more areas, the Commission shall consider revisions to these rules in order to achieve reductions in VMT consistent with the intent of this rule.~~

9.00 Materials Incorporated by Reference

Commented [A5]: Weld County understands that some flexibility in the waiver review process may be desirable, but nonetheless recommends that CDOT clarify the criteria used to evaluate waivers. For example, guidance on how "significant effort" will be evaluated should be provided, and a "substantial increase in GHG emissions when compared to the required reduction levels" should be quantified. CDOT should provide a standardized waiver form.

Commented [A6]: Because the Proposed Rule is fundamentally based on and sets forth requirements for GHG emission reductions, not reductions in VMT, revisions to the Proposed Rule should be considered based progress toward meeting GHG emission reduction targets. Therefore, Weld County recommends this section be removed from the Proposed Rule.

Instead, the TC should consider revisions to the proposed rule if the report prepared per the requirements of Section 8.06.1 demonstrates that the reduction levels in Table 1 of the proposed rule have not been met. This language is added in Section 8.06.1.1 above.

9.01 The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements in Rule 9.01.1 and federal funding programs in Rules 9.01.2 and 9.01.3, which are incorporated into the Rules by this reference, and do not include any later amendments.

9.01.1 Fixing America's Surface Transportation Act or the "FAST Act"), 23 U.S.C. §§ 134, 135 and 150, Pub. L. No. 114-94, signed into law on December 4, 2015, and its accompanying regulations, where applicable, contained in 23 C.F.R.Part 450, including Subparts A, B and C in effect as of November 29, 2017, and 25 C.F.R. § 170 in effect as coof November 7, 2016.

9.01.2 Congestion Mitigation and Air Quality Improvement (CMAQ) Program, 23 U.S.C. § 149, in effect as of March 23, 2018.

9.01.3 Surface Transportation Block Grant (STBG) Program, 23 U.S.C. § 133, in effect as of December 4, 2015.

9.02 Also incorporated by reference are the following federal laws and regulations and do not include any later amendments:

9.02.1 Americans with Disabilities Act (ADA), 42 U.S.C. § 12101, *et. seq.*, in effect as of January 1, 2009.

9.02.2 Clean Air Act (CCA), 42 U.S.C. §§ 7407-7410, and 7505a, in effect as of November 15, 1990.

9.02.2 Transportation Conformity Regulations, 40 C.F.R. § 93.101, in effect as November 24,1993.

9.03 Also incorporated by reference are the following documents, standards, and models and do not include any later amendments:

9.03.1 Greenhouse Gas Pollution Reduction Roadmap by the Colorado Energy Office and released on January 14, 2021.

9.03.2 MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity released by the U.S. Environmental Protection Agency, in effect as of January 7, 2021.

9.04 All referenced laws and regulations are available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.

9.05 Copies of the referenced federal laws and regulations, planning documents, and models.

9.05.1 Copies of the referenced United States Code (U.S.C.) may be obtained from the following address:

Office of the Law Revision Counsel
U.S. House of Representatives
H2-308 Ford House Office Building
Washington, DC 20515
(202) 226-2411
https://uscode.house.gov/browse.xhtml

9.05.2 Copies of the referenced Code of Federal Regulations (C.F.R.) may be obtained from the following address:

U.S. Government Publishing Office
732 North Capitol State, N.W.
Washington, DC 20401
(866) 512-1800

https://www.govinfo.gov/

9.0.5.3 Copies of the Greenhouse Gas Pollution Reduction Roadmap (Roadmap) may be obtained from the following address:

Colorado Energy Office
1600 Broadway, Suite 1960
Denver, CO 80202
(303) 866-2100
energyoffice.colorado.gov

9.0.5.4 To download MOVES3 released by the U.S. Environmental Protection Agency may be obtained from the following address:

U.S. Environmental Protection Agency
The Office of Transportation and Air Quality
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
(734) 214–4574 or (202) 566-0495

mobile@epa.gov
https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

10.00 Declaratory Orders

10.01 The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.

Editor's Notes

History

Entire rule eff. 12/15/2012.

Section SB&P eff. 05/30/2013.

Entire rule eff. 09/14/2018.

Annotations

Rules 1.22, 1.25, 1.42, 2.03.1 – 2.03.1.4, 4.01, 4.02.1 – 4.02.3, 4.02.5.9, 4.04.2.2, 4.04.2.4, 4.06.1.7, 6.01.2, 7.01, 7.03 – 7.04 (adopted 10/18/2012) were not extended by Senate Bill 13-079 and therefore expired 05/15/2013.

WeldCo_EX-002

WELD COUNTY

CDOT GHG TRANSPORTATION PLANNING STANDARD (2 CCR 601-22)

Concerns and Recommendations

November 10th, 2021

Presented by: [redacted]

RAMBOLL Bright ideas. Sustainable change.

Recommendations Submitted on/before Oct 14, 2021	Addressed in Updated Rule?*
1 Provide technical support document for Proposed Rule	
2 Provide MOVES and other modeling data	 Files provided but without corresponding documentation
3 Provide guidance on compliance modeling methods	 Draft outline provided but incomplete and contains errors
4 Provide guidance on mitigation measures	 Draft document provided but several concerns exist
5 Remove automatic denial of waivers due to inaction	
6 Ensure technical review by APCD, clarify process	 "Automatic approval" after 30 days remains; no guidance on disapproval
7 Add illustrative examples of rural mitigation measures	 Examples added, but some major categories excluded from eligibility
8 Specify timeframe for TC compliance determination	
9 Clarify crediting for mitigation measures (i.e., enterprises)	

*Includes MOVES and other modeling data received on or before October 14, 2021 and the two companion documents released with the updated proposed rule on October 19, 2021.

RAMBOLL

New Concerns with Updated Rule and Companion Documents*	Recommendation(s)
Proposed Rule Section 8.06.2: TC considers revisions to the rule based on VMT per capita	Revisions should be considered based on GHG emissions, not VMT
The Role of Various Groups and Processes in the Development of, and Agreement upon, Modeling Assumptions is Unclear	Clarify the interaction among and relationship between the various the groups, teams, interagency processes, and intergovernmental agreements
GHG Modeling Process is incomplete and contains errors	Fill in missing information; update references to Proposed Rule; clarify vague language
GHG Modeling Process introduces SMCG and two forthcoming key guidance documents	Broaden participation in SMCG; ensure key guidance documents are developed through stakeholder process

*Companion documents refers to the two draft documents released on October 19, 2021:

1. GHG Transportation Planning Standard: Mitigation Policy Overview ("Mitigation Policy Overview")
2. Greenhouse Gas Modeling Process ("GHG Modeling Process")

New Concerns with Updated Rule and Companion Documents*	Recommendation(s)
Mitigation Policy Overview is overly restrictive on mitigation measures	Clarify/define "close proximity" and "geographic nexus" requirements; do not preemptively exclude major categories
Mitigation Policy Overview introduces GHG Mitigation Advisory Group and forthcoming Policy Directive and Procedural Directive	Broaden participation in GHG Mitigation Advisory Group; ensure Directive documents are developed through stakeholder process
Mitigation Policy Overview does not clarify crediting for mitigation measures	Clarify crediting for Enterprise activities and mitigation projects from other entities
Mitigation Policy Overview proposes a generalized scoring/point system	Require quantification of GHG emission reductions from mitigation measures

*Companion documents refers to the two draft documents released on October 19, 2021:

1. GHG Transportation Planning Standard: Mitigation Policy Overview ("Mitigation Policy Overview")
2. Greenhouse Gas Modeling Process ("GHG Modeling Process")

Thank you

WeldCo_EX-003

Comments on Costs & Benefits of Proposed CDOT GHG Rule

[redacted]

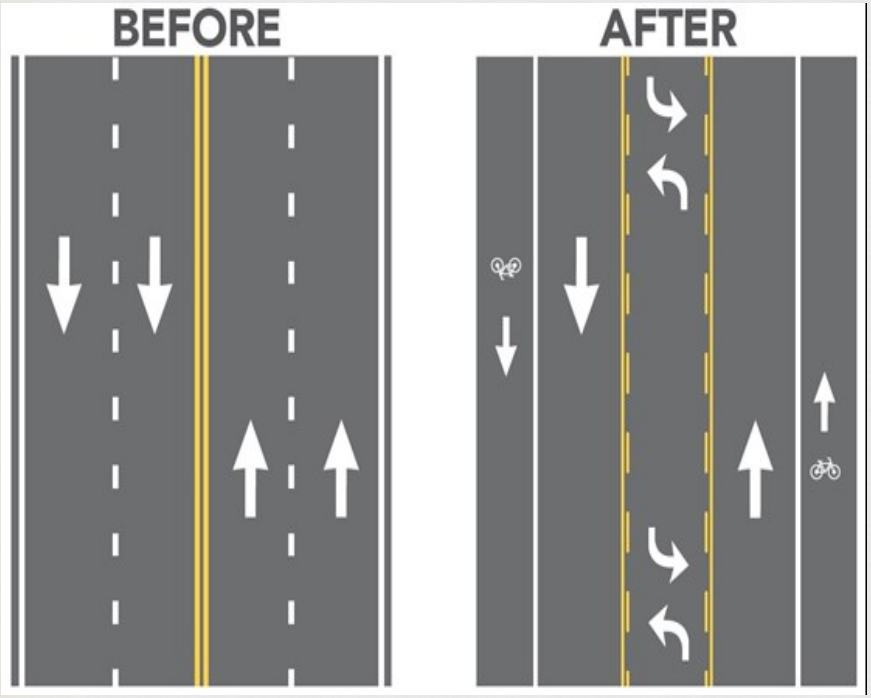
Natural Resource Economics Inc.

Testifying for Weld County

1. Unrealistic Shifts in Transport Modes

- How does CDOT achieve reductions in VMT?
- Increased adoption of:
  - Tele-Travel (3x)
  - Bicycles & walking (+37-77%)
  - Transit (+151%)
  - Greater density (+30-50%)
- Very ambitious adoption

2. Reducing Road Capacity May Not Reduce Congestion



- Reduced-road capacity may not necessarily lead to lower traffic because travel behavior is not easily reversed
- Once configurations of homes, highways, and offices are in place, they cannot be easily changed.
- This suggests that CDOT over-estimates the reductions in VMT from reduced road capacity.

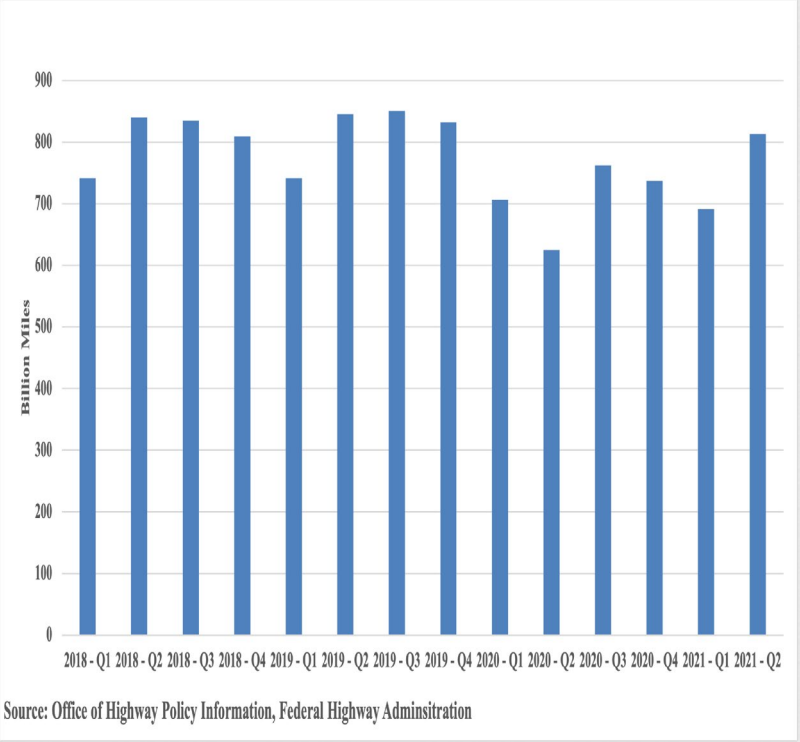
3. Reducing Road Capacity Risks Public Safety

- Motor vehicles and highways are
  - more flexible and resilient than other forms of transportation,
  - especially in the face of economic or natural disasters.
- During the Camp Fire incident in California in 2018, 85 people died,
  - some of them in their cars stuck in traffic
  - on a road that was reduced from four to two lanes by a "road-diet" program.
- Reducing road capacity reduces public safety
- The CDOT CBA did not consider these impacts and, therefore, may have under-estimated the costs of diverting highway funds

NYT: Forced Out by Deadly Fires, Then Trapped in Traffic

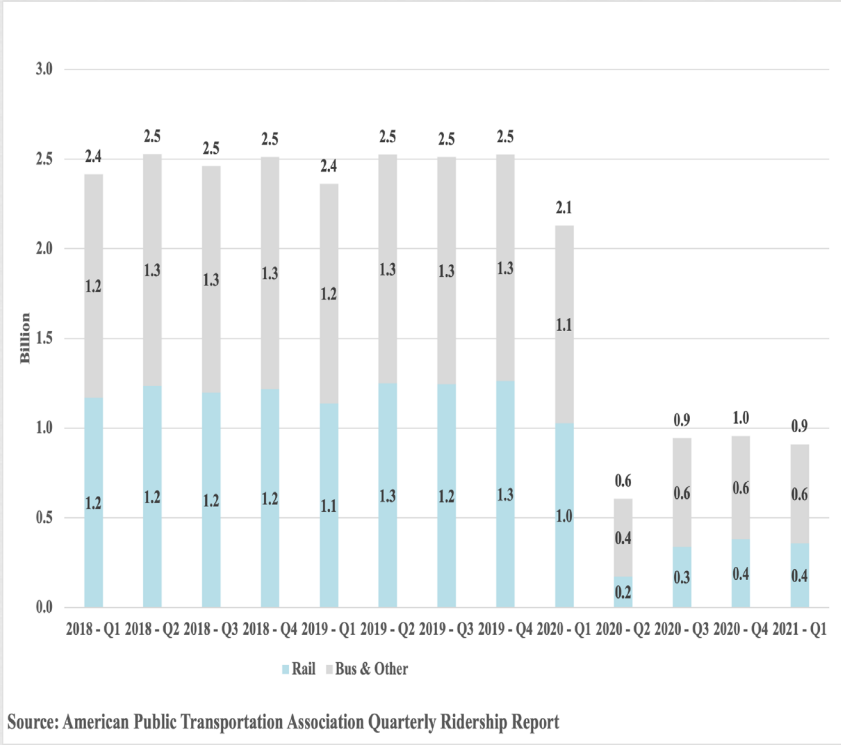
4. Pandemic May Have Undermined Transit Ridership

Vehicle Miles Traveled



Source: Office of Highway Policy Information, Federal Highway Adminsitration

Transit Ridership



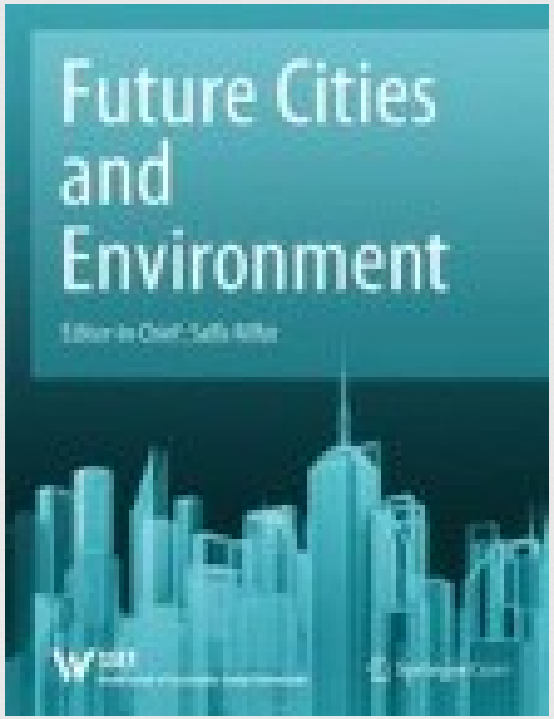
Source: American Public Transportation Association Quarterly Ridership Report

TJC Comments: CDOT GHG Rule

5. Nudging People to Ride Bikes May Not Work

- Complete streets or road diets that increase congestion are a popular
- Demographics, however, rather than street design may have the greatest influence on the popularity of cycling and walking.
- While bicycling may be popular in Boulder, for example, it may be impractical for Sterling or remote rural areas.
- Failure to adopt bikes would reduce estimated benefits and any associated GHG emission savings

6. Pandemic Has Accelerated Decentralization



- Pandemic has accelerated decentralization
  - for both jobs and residences, which will reduce transit ridership because
  - mass transit doesn't work well in decentralized areas.
- If this trends continues then policies to increase density may not be as effective
- This implies that CDOT's benefits from policies to encourage higher density may be over-estimated

7. Cars Help the Poor

JOURNAL ARTICLE

Can Boosting Minority Car-Ownership Rates Narrow Inter-Racial Employment Gaps? [with Comments]

Steven Raphael, Michael A. Stoll, Kenneth A. Small and Clifford Winston

Brookings-Wharton Papers on Urban Affairs
(2001), pp. 99-145 (47 pages)
Published By: Brookings Institution Press

https://www.jstor.org/stable/25058784

- O'Regan and Quigley helping the poor means "promoting the mass transit system that works so well for the nonpoor — the private auto."
- Raphael and Stoll (2001) found that addressing the racial disparities in auto ownership would significantly reduce the racial disparities in employment

Thank You!

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments on greenhouse gas emissions reduction rules

1 me age

[redacted] Thu, Nov 18, 2021 at 10:29 AM

To: dot_rules@state.co.us

To the Transportation Department:
I am deeply concerned about the emi ion from tran portation, which re ult from burning fo il fuel We mu t have not only strong rules to limit emissions, but rules that will encourage and empower multimodal transportation. Expanding highways is not the an wer a it will only lead to more car and truck travel and emi ion Plea e make rule that will prioritize multimodal transportation more strongly.

Thank you,
[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Colorado Energy Office comments on revised rules

1 me age

Blynn - CEO, Kelly <kelly.blynn@state.co.us> Thu, Nov 18, 2021 at 10:35 AM
To: DOT_ Rules - CDOT <dot_rules@state.co.us>
Cc "Taku hi CDOT, There a" there a taku hi@ tate co u , [redacted]

Thank you for the opportunity to comment again on the revised rules - all the best,

Kelly

Kelly Blynn
Transportation Climate Change Specialist
COLORADO
Energy Office
[redacted]

CDOT GHG Rule - CEO Comments - REVISION.pdf
185K

COLORADO
Energy Office

November 18, 2021

Comments on the Revised Proposed Greenhouse Gas Reduction Planning Standard

Thank you for the opportunity to submit this second round of comments on the revised Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions, containing the Greenhouse Gas Transportation Planning Standard, originally proposed on August 13, 2021 and revised on October 19, 2021 (the "Rules"). On October 12, 2021, the Colorado Energy Office ("CEO") submitted comments supporting the draft rule, which are included below for reference.

On October 19, 2021, the Transportation Commission (the "Commission") published a revised notice of rulemaking which amended the draft rules, moved the rulemaking to December 16th, and published additional guidance memos on mitigation measures and modeling. CEO supports the amended draft rules and submits these additional comments highlighting its continued support for the rule, and offering comments on the new and changed elements of the revised rule.

CEO previously supported the Rules for reasons which we summarize briefly here:

- **CDOT has both the authority and the obligation to adopt the Rules:** As CEO discussed at length in its October 12 comments, the Commission has both the authority and the obligation to adopt the Rules. As CEO has explained, CDOT and the Commission have the primary responsibility for ensuring compliance with GHG reductions in transportation planning.

- **The reduction levels should be adopted as proposed to maximize benefits:** Modeling conducted to set the reduction levels proposed in the Rules indicates these levels are achievable for the state and MPOs given ambitious yet feasible shifts in transportation spending and land use. The Cost-Benefit Analysis (or "CBA"), which quantifies the expected substantial benefits for Coloradans from implementation of the Rules, highlights that the reduction levels proposed are estimated to bring $3.9 to $6.6 billion more in cumulative benefits between 2022 and 2050 relative to Alternatives 1 and 2 respectively. The range and magnitude of co-benefits from adopting the preferred scenario is so large as to support the adoption of the rule at the highest level of emissions reductions analyzed.

- **The Cost-Benefit Analysis, which meets statutory requirements and utilizes reasonable methods and assumptions, demonstrates the substantial benefits of the Rules:** CEO concludes that the CBA is based upon reasonable assumptions; that it meets all statutory requirements; and that it presents a lower bound on the net benefits associated with the preferred scenario. In addition to the benefits included in the CBA, CEO also provided additional order of magnitude estimates for benefits not quantified, including reduced vehicle ownership costs (an estimated $5.8B annually by 2050), increased access to jobs and other services (an estimated $168M annually by 2050 just for increased access to jobs for persons with disabilities), and reduced costs for land, construction, and operations and maintenance costs for parking (an estimated $6.4-$8.1B annually by 2050).

- **We support the Rules establishing a process for GHG Mitigation Measures:** We support the Rule's approach to establish an ongoing process for selecting, measuring, confirming, and verifying GHG Mitigation Measures, and its focus on prioritizing Disproportionately Impacted ("DI") communities, and appreciate the work CDOT has already put in to begin defining this process with its newly issued draft Mitigation Policy Overview. We continue to believe that this approach will allow for

continuous improvement over time as we learn from academic and practitioner research, as well as our own experience in applying mitigation measures and understanding their relative effectiveness.

For more details on each of these reasons, please see our original comments, enclosed below.

CEO offered the following suggestions, which were addressed in the updated Rules and associated memos:

- **Induced travel:** Given that many travel demand models have historically not accounted for induced travel or underestimated its effects, it's important that models utilized to demonstrate compliance with the Rules can adequately assess the effects of induced travel. CEO previously suggested including language in the Rules to ensure model adequacy in assessing corridor-level induced demand. We are pleased to see "appropriate sensitivity to induced demand" now included as a key element in the Greenhouse Gas Modeling Support Memo, and look forward to seeing additional detail in the future modeling guidelines technical memo.

- **Clarifying the baseline and EV adoption assumptions:** We recognize these elements have been moved to the Greenhouse Gas Modeling Support Memo, and appreciate the updates that clarify how the baseline will be established, how reduction levels will be compared, and how the same EV adoption assumptions will be utilized in the baseline and plan model runs to ensure consistency. We encourage the EV adoption assumptions to reflect the trajectory CEO and other state agencies are planning for, such as in the HB1261 Scenario of the GHG Pollution Reduction Roadmap.

CEO would like to support the following revisions to the rule and supporting materials:

- **Traffic operations measures should not be eligible mitigation measures:** We applaud the exclusion of traffic operations measures such as ramp metering from the list of eligible mitigation measures, as a review of technical studies on the topic suggests the GHG and air pollution benefits of these measures is likely to be overstated.[1] Most technical studies of traffic operations measures' emissions benefits have been conducted using microsimulation models, as opposed to controlled field experiments, and very few studies account for the effects of induced demand that are likely to result from smoother traffic flows. Additionally, this provision ensures greater prioritization of multimodal investments that are more likely to result in co-benefits.

- **Project-specific mitigation requirements:** We also applaud the inclusion in the Mitigation Policy Directive draft of a requirement that regionally significant projects that increase GHG emissions shall be offset with project-specific mitigation measures that fall within the geographic project limits. We believe this is critical for mitigating potential harm to disproportionately impacted communities from future expansion projects, and ensures these potential impacts will be considered and addressed from the beginning of project planning.

- **Additional equity provisions:** We also support CDOT's revisions that address equity, both in the Rules and in the Mitigation Policy Directive draft, including the requirement to translate meeting

[1] Impacts of Traffic Operations Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions Policy Brief. Available at: https://ww2.arb.ca.gov/sites/default/files/2020-06/Impacts_of_Traffic_Operations_Strategies_on_Passenger_Vehicle_Use_and_Greenhouse_Gas_Emissions_Policy_Brief.pdf

notices into primary languages spoken in the community, the requirement of an analysis of the potential impacts to DI communities in the statewide transportation plan, and the development of an equity multiplier for projects in DI communities.

We also recognize there is much more work to be done to center equity throughout our transportation system, and support the idea of developing a Transportation Equity Framework to guide investments, engagement, and policy, and adding more elements to the Rules and to the Mitigation Policy Directive that require reporting on transportation spending and impacts in DI communities. We believe these strategies will ultimately be more impactful than setting a specific funding allocation within DI communities, for a few reasons. First, transportation investments that are most beneficial to DI communities are not necessarily always within those communities, but may instead offer important connections and access. Second, transportation investments may not bring entirely positive community benefits, such as in the case of a roadway capacity project with mitigation measures that may represent a high level of spending in a community, but not the most equitable set of transportation investments. For these reasons, we believe the other provisions CDOT has included, plus pursuing the development of a Transportation Equity Framework, will result in better, more equitable outcomes for DI communities.

CEO would like to offer the following final suggestions:

- **Applicable planning document (Section 1.02):** We continue to support the inclusion of all TIPs in the definition of Applicable planning document, not just TIPs in NAAs, in order to ensure the strength of the rule. We recognize additional technical assistance and capacity may be necessary to support modeling for MPOs outside of the NAAs, and that their inclusion may need to be phased in over time.

  With respect to TIPs, we also would like to express support for utilizing multiple modeling horizon years to determine compliance, not just the final year of the TIP, given that it can often take several years beyond project construction and implementation for ridership, induced VMT, and other travel behavior changes to take effect.

- **Project-level analysis (Section 8.02.1):** We also continue to support reporting project-level modeling results for all Regionally Significant Projects that have undergone that level of analysis, which is likely the case for many projects included in TIPs, to better understand the relative impact of different projects. We also believe the inclusion of this provision supports the project-specific mitigation requirement discussed above.

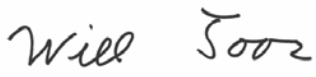
- **Requiring comparisons between modeled results and measured results (Section 8.06):** We applaud the added per capita VMT reporting requirements in the revised Rules, which will help provide an additional benchmark to ensure emissions reductions targeted in the Rules, along with other important co-benefits, are being achieved. Reducing per capita VMT does not signify lower quality of life or reduction in opportunity for disproportionately impacted communities; on the contrary, the increased travel options and land use changes that the Rules will support will enable improved access--including a greater variety of transportation modes and shorter distances to travel--to jobs, services, and other key destinations. The Cost-Benefit Analysis emphasizes this point - by investing more funds in multimodal transportation options that enable lower per capita VMT, the state and its residents can expect to see significant benefits from reduced vehicle operating and ownership costs,

reduced traffic crashes, improved health outcomes from lower air pollution and increased physical activity, and reduced time spent in traffic.

We also suggest including additional language either in the Rules or the Greenhouse Gas Modeling Support Memo to require regular comparison of modeled with actual measured results, particularly for VMT of Regionally Significant Projects, to enable continuous improvement of the travel models.

We again would like to express our appreciation for CDOT and the Transportation Commission's groundbreaking leadership on this issue, and look forward to the positive benefits this Rule will bring to Colorado. Thank you for the opportunity to comment.

Sincerely,



Will Toor
Executive Director, Colorado Energy Office

COLORADO
Energy Office

October 13, 2021

SUBJECT: Comments on the Proposed Greenhouse Gas Reduction Planning Standard

Dear Transportation Commission:

Thank you for the opportunity to provide public comments on the proposed changes to the Rules Governing Statewide Transportation Planning Process Transportation Planning Regions, containing the Greenhouse Gas Transportation Planning Standard, proposed on August 13, 2021 (the "Rules"). The Colorado Energy Office ("CEO") supports the Rules and would like to offer the following comments.

CDOT has both the authority and the obligation to adopt the Rules.

Recent legislation and actions by the Polis administration concerning economy-wide greenhouse gas ("GHG") reduction goals provides background and context to the Rules. On January 14, 2021, Colorado released the Colorado Greenhouse Gas Reduction Roadmap ("Roadmap") which assessed 2005 emissions, laid out an achievable pathway to meet the state's science-based climate targets, and presented a list of near-term actions that would help achieve the state's 2030 targets. The Roadmap recognized "the transportation sector []is now] the leading source of GHG emissions and a significant contributor to local air pollution."[2] One of the Roadmap's "Key Findings" declared "[m]aking changes to transportation planning and infrastructure to reduce growth in driving is an important tool in reducing emissions."[3].

House Bill 19-1261 recognized that "climate change adversely affects Colorado's economy, air quality and public health, ecosystems, natural resources, and quality of life[,]" acknowledged that "Colorado is already experiencing harmful climate impacts[,]" and that "many of these impacts disproportionately affect" certain communities. *See* § 25-7-102(2), C.R.S. The general assembly also recognized that "[b]y reducing [GHG] pollution, Colorado will also reduce other harmful air pollutants, which will, in turn, improve public health, reduce health care costs, improve air quality, and help sustain the environment." § 25-7-102(2)(d), C.R.S. Accordingly, House Bill ("HB") 19-1261 set state goals of economy-wide reductions in GHG emissions of 25% below 2005 levels by 2025, 50% below 2005 levels by 2030 and 90% by 2050. § 25-7-102(2)(g), C.R.S.

Senate Bill ("SB") 21-260 provides further background and explicit authority for the Commission to adopt the Rules. In that bill, the general assembly recognized that "transportation capacity projects … [that] increas[e] the capacity of highways in major transportation corridors can cause adverse environmental impacts, including but not limited to incremental acceleration of climate change, and adverse health impacts[.]" § 43-1-128(1)(a), C.R.S. To minimize these impacts, the general assembly directed the Colorado Department of Transportation ("CDOT") and metropolitan planning organizations ("MPOs") to "engage in an enhanced level of planning, modeling and other analysis." § 43-1-128(1)(c), C.R.S. The general assembly also directed CDOT and the Transportation Commission ("Commission") to take steps to account for the impacts of transportation capacity projects on GHG pollution and Vehicle Miles Traveled and to help achieve statewide GHG pollution targets established in section 25-7-102(2)(g), C.R.S. § 43-1-128(3), C.R.S. The general assembly has also recognized that CDOT is "the proper body, in cooperation with regional planning commissions and local government officials, for developing and maintaining the state transportation planning process and the state transportation plan." § 43-1-1101, C.R.S. The Commission is responsible for formulating policy with respect to transportation systems in the State and promulgating and adopting all CDOT financial budgets for construction based on the Statewide Transportation Improvement Programs. *See* § 43-1-106(8), C.R.S. The Commission is statutorily charged

[2] *Colorado Greenhouse Gas Pollution Reduction Roadmap* (Jan. 14, 2021), at XII.
[3] *Id.* at 32.

"to assure that the preservation and enhancement of Colorado's environment, safety, mobility and economics be considered in the planning, selection, construction and operation of all transportation projects in Colorado." § 43-1-106(8)(b), C.R.S. In addition, the Commission is generally authorized "to make all necessary and reasonable orders, rules and regulations in order to carry out the provisions of this part . . ." § 43-1-106(8)(k), C.R.S. As such, CDOT and the Commission are primarily responsible for ensuring compliance with GHG reductions in transportation planning.

Finally, CEO notes that should the Commission not adopt the Rules, then the Air Quality Control Commission ("AQCC") would likely need to adopt rules affecting transportation planning. The Roadmap originally envisioned AQCC adoption of such rules.[4] The agencies made the determination that development by CDOT and adoption by the Commission was preferable given the greater depth of connection to transportation stakeholders and the greater level of expertise in transportation planning. However, statute ultimately makes the AQCC responsible for the economy-wide GHG targets set by HB 19-1261, and SB 21-260 states that CDOT shall implement relevant rules and regulations adopted by the AQCC to reduce GHG emissions. § 43-1-128(3)(a), C.R.S. Given the need identified in the GHG Roadmap for reductions due to transportation planning, the AQCC would likely need to take action if the Commission did not.

In addition to State authorities, the U.S. Department of Transportation ("US DOT") is reprioritizing GHG reduction. As one initial step, US DOT's 2021 regulatory agenda includes a directive for the Federal Highway Administration to "Re-establish a [GHG] Emissions Performance Measure for state and metropolitan planning" that was revoked during the previous administration.[5] Previously, this performance measure would have required agencies to set GHG performance targets and track their progress and would have prohibited setting targets allowing an increase in carbon pollution. The work that CDOT and the Transportation Commission are undertaking in developing this rule could provide an important model for the nation as federal policies regarding GHG reduction mature.

The reduction levels should be adopted as proposed to maximize benefits.

The Rules should be adopted with the reduction levels proposed, as opposed to any lesser reduction levels contemplated in alternative proposals, in order to meaningfully contribute to the GHG reduction goals of the Roadmap for the transportation sector, as well as to maximize the co-benefits from implementation of the Rules outlined in the Cost-Benefit Analysis. To meet the goals of the Roadmap, the state needs to reduce GHG emissions from transportation by 12.7 million metric tons ("MMT") by 2030. Colorado's Low Emission Vehicle and Zero Emission Vehicle programs, as well as programs and investments designed to reach about 1 million Electric Vehicles on the road by 2030, are estimated to achieve a combined 8 MMT GHG reduction by 2030, leaving a 4.7 MMT gap. The Roadmap includes these Rules as one of the key near-term strategies to fill this gap, and given the uncertainty surrounding implementation and timing of other possible strategies, reduction levels in the Rules should be maximized to the extent possible. Nevertheless, it will also be critical to quickly pursue complementary strategies in the transportation sector to tackle issues like truck emissions.

Modeling conducted to set the reduction levels proposed in the Rules indicates that these levels are achievable for the state and MPOs given ambitious yet feasible shifts in transportation spending and land use. The Cost-Benefit Analysis (or "CBA"), which quantifies the substantial benefits for Colorado residents and businesses from the implementation of the Rules, highlights that the reduction levels proposed are estimated to bring $3.9 to $6.6 billion more in cumulative benefits between 2022 and 2050 relative to Alternatives 1 and 2 respectively.

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[4] *Id.* at 66.

[5] *US Department of Transportation Releases Spring Regulatory Agenda | US Department of Transportation*, US Department of Transportation (June 11, 2021).

The Cost-Benefit Analysis, which meets statutory requirements and utilizes reasonable methods and assumptions, demonstrates the substantial benefits of the Rules.

CDOT's CBA meets the statutory requirements that the CBA include:

(I) The reason for the rule or amendment;

(II) The anticipated economic benefits of the rule or amendment, which shall include economic growth, the creation of new jobs, and increased economic competitiveness;

(III) The anticipated costs of the rule or amendment, which shall include the direct costs to the government to administer the rule or amendment and the direct and indirect costs to business and other entities required to comply with the rule or amendment;

(IV) Any adverse effects on the economy, consumers, private markets, small businesses, job creation, and economic competitiveness; and

(V) At least two alternatives to the proposed rule or amendment that can be identified by the submitting agency or a member of the public, including the costs and benefits of pursuing each of the alternatives identified.

§§ 24-4-103(2.5)(a)(I)-(V), C.R.S. CDOT engages in a lengthy analysis of each of these topics and the CBA exceeds the requirement that the agency make "a good faith effort to comply." § 24-4-103(2.5)(d), C.R.S.

We support the methodology and conclusions of the Cost-Benefit Analysis, and appreciate the important air pollution, safety, health and economic co-benefits from investments in pedestrian, bicycle, and transit infrastructure that were included. The Cost-Benefit Analysis was developed by Cambridge Systematics, a longstanding, leading transportation consulting firm that has performed heavily cited research for federal, state, and local agencies, and relies upon assumptions from rigorous and credible studies that are commonly used in similar analyses.

While CDOT and the MPOs can achieve compliance with the Rules in a variety of ways, the Cost-Benefit Analysis illustrates a likely pathway that involves shifting some investments away from roadway capacity expansion projects into multimodal projects, and mitigating some remaining capacity projects. Under this scenario, the Cost-Benefit Analysis estimates substantial net economic benefits from savings in vehicle operating costs, monetized benefits from reduced impacts of greenhouse gas and air pollution emissions, monetized benefits from reduced traffic fatalities and injuries, and improvements in physical health. The net present value of total societal benefits anticipated from implementation of the Rules is estimated to total roughly $40B between 2022 and 2050.

For several assumptions, research indicates a range of possible outcomes that are dependent on the context and design of specific projects, and are difficult to capture in a high-level, long-range analysis such as this. One important such assumption is induced demand elasticity, or the increase in trip-making that can be expected to result over time per lane-mile of road capacity added. The Cost-Benefit analysis conservatively utilizes the lower end of the range reported in a literature review of induced demand analysis for corridor-level studies, due to the statewide nature of the CBA. As a result, the estimated benefits of the Rules should be considered a lower bound in cases where implementation includes a shifting of investments away from capacity projects into transit, bicycling, and pedestrian projects. While reasonable arguments can be made for a range of larger levels of elasticity, these would only have the effect of showing even larger net benefits for the preferred scenario compared to the other two scenarios and a no action scenario and would not change the conclusion that the preferred scenario maximizes net benefits among the options considered.

Similarly, there are a range of assumptions that could be made for the cost of gas. The CBA uses the reference case scenario in the US Department of Energy 2021 annual Energy Outlook, which is a reasonable choice. However, it is worth noting that this scenario shows costs for gasoline in the range of $2.22-$2.58 throughout the decade of the 2020s; the current price for regular gasoline in Colorado has been hovering around $3.55. As is the case with a higher elasticity of induced demand, a higher gasoline price would have the effect of increasing the net benefits of the preferred scenario compared to the two alternatives or a no action scenario.

In addition to the substantial benefits quantified, the Cost-Benefit Analysis also mentions several unquantified categories of benefits that nevertheless would provide real benefits to Coloradans. The following provides order of magnitude estimates of the additional benefits that could be expected from the Rules as proposed, as well as additional benefits from reduced demand for parking spaces.:

- **Reduced vehicle ownership costs:** Based on the projected reduction in VMT from the baseline in Table A.11 and the assumption of 10,450 annual VMT per vehicle in the Cost-Benefit Analysis, the reduced number of vehicles owned by Coloradans can be estimated. Based on an average annual vehicle ownership cost of $6,200, Coloradans would save an additional $4.1B annually by 2030, $5.0B annually by 2040, and $5.8B annually by 2050 in vehicle ownership costs under the Proposed Rule Implementation scenario.[6]
- **Increased access to jobs and other services:** Increased multimodal transportation options would provide improved access to jobs, higher education, medical appointments, and other services for people with disabilities, those who can't afford a vehicle, those who lack a driver's license, and others with transportation barriers. As one example, 165,000 Coloradans with disabilities are unemployed or not in the labor force, and nationally about 11% of persons with disabilities cite transportation barriers as a reason they aren't in the labor force.[7] If the substantial investments in transit, bicycling, and walking infrastructure assumed in the Cost-Benefit Analysis enabled 20% of persons with disabilities who are not working and face transportation barriers to access employment (approximately 4,000 people per year in 2030), estimated additional wages per year would total $139M in 2030, $156M in 2040, and $168M in 2050.[8]
- **Parking:** A significant additional unquantified benefit from the Rules would be savings from the reduced need for parking, including land, construction, and operations and maintenance costs. In a typical urban area, it's estimated there are at least 3 off-street parking spaces for each vehicle (one residential and two non-residential), with researchers finding much higher ratios in some cities. Based on the estimated reduction in car ownership described above and estimates of annualized cost per parking space for construction, operations, and maintenance, the implementation of the Rules as proposed would save Coloradans an additional $4.5-$5.7B annually by 2030, $5.4-$6.9B annually by 2040, and $6.4-$8.1B annually by 2050.[9]

Thus, CEO concludes that the Cost-Benefit Analysis is based upon reasonable assumptions; that it meets all statutory requirements; and that it presents a lower bound on the net benefits associated with the preferred scenario. CDOT's analysis finds that the preferred scenario has the largest net benefits of the options analyzed even at this lower bound; incorporating additional economic benefits would not change

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[6] *Average Cost of Owning and Operating an Automobile*, 2019 American Community Survey, Bureau of Transportation Statistics.
[7] https://www.bls.gov/news.release/dissup.nr0.htm, Bureau of Labor Statistics (2020).
[8] The average wage is assumed to be $35,582 for public transit commuters, according to 2019 American Community Survey data for Colorado. The number of persons with disabilities is assumed to grow at the same rate as the state population, as projected by the Colorado State Demography Office.
[9] Litman, T., & Doherty, E. (2011). Transportation Cost and Benefit Analysis II—Parking Costs. Transportation Cost and Benefit Analysis Techniques, Estimates and Implications. Cost ranges vary based on the estimated average cost per space for surface parking vs. structured or underground parking in suburban, urban, and CBD contexts.

this conclusion but would amplify the size of the net benefits associated with the preferred scenario. The range and magnitude of co-benefits from adopting the preferred scenario is so large as to support the adoption of the rule at the highest level of emissions reductions analyzed.

We support the Rule's approach to create a process for establishing GHG Mitigation Measures.

We support the Rule's approach to establish an ongoing process for selecting, measuring, confirming, and verifying GHG Mitigation Measures, and its focus on prioritizing Disproportionately Impacted communities. This approach will enable CDOT and the MPOs to continuously improve mitigation strategies over time, leveraging measured improvements and best practices to inform Mitigation Action Plans. In addition to the proposed types of mitigation measures in the Rule, some additional possible measures to explore include:

- **Parking policies:** Local government action within an MPO area to reform parking policy could count as a mitigation measure, due to the impact parking supply and pricing has on travel behavior, car ownership, and housing costs.[10] Actions could include local governments removing parking minimums or implementing parking maximums for new development, instituting local regulations that require parking to be "unbundled" (i.e. requiring separate payment for parking from housing costs), or regulations requiring employers to offer parking cash out to employees who do not drive to work.
- **Removal of exclusionary zoning:** Local government actions within an MPO area that remove exclusionary zoning restrictions, such as allowing accessory dwelling units, duplexes, triplexes, and/or fourplexes by right in all residential zones, could count as a mitigation measure due to these actions supporting incrementally more compact, walkable land use patterns within existing communities that help reduce VMT and increase walking, biking, and transit trips.[11]
- **Targeting growth to infill areas and existing urban areas:** MPO action to target growth to existing urban areas and limit growth in greenfield or unincorporated areas could count as a mitigation measure, again due to these actions supporting compact land use patterns that enable lower VMT per capita.[12] These actions could include adopting funding allocation rules that target investments to infill areas, adopting a regional urban growth boundary, counties within an MPO area prohibiting urban levels of development in unincorporated areas, cities and counties signing intergovernmental agreements that establish countywide urban growth boundaries, and housing commitments by cities in urban growth areas.
- **Conversion of existing lanes to transit lanes:** The conversion of existing arterial roadway lanes to dedicated bus rapid transit lanes could count as a mitigation measure, due to the improvements this would make to transit service quality and reliability that support increased ridership.[13]
- **Creation of low emission zones:** Cities could adopt low emission zones, using curb management or pricing strategies to reduce emissions from both light and heavy-duty vehicles. These could be incorporated into MPO plans.

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[10] Spears, S., Boarnet, M. G., & Handy, S. (2014). Impacts of Parking Pricing and Parking Management on Passenger Vehicle Use and Greenhouse Gas Emissions. Manville, M. (2017). Bundled parking and vehicle ownership: Evidence from the American Housing Survey. Journal of Transport and Land Use, 10(1), 27–55. Litman, T. (2021). Parking requirement impacts on housing affordability.

[11] Wegmann, J. (2020). Death to single-family zoning… and new life to the missing middle. *Journal of the American Planning Association*, *86*(1), 113-119.

[12] Ewing, R., Bartholomew, K., Winkelman, S., Walters, J., Chen, D., McCann, B., & Goldberg, D. (1997). Growing cooler: The evidence on urban development and climate change.

[13] NCHRP Project 20-65, Task 22, Cost/Benefit Analysis of Converting a Lane for Bus Rapid Transit-Phase II Evaluation and Methodology.

CEO would also like to offer the following suggestions for minor changes to specific sections to further clarify the Rule:

Applicable planning document (Section 1.02): We suggest including all TIPs because of the intention of the Rule to reduce GHGs, which are a global pollutant.

- **Suggested language (in red):** Applicable Planning Document - refers to MPO Fiscally Constrained RTPs, TIPs for MPOs ~~in NAAs~~, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

We do understand that there may be initial challenges for MPOs outside of NAAs, which may have less experience and technical capacity for the necessary modeling, and that it may require technical assistance from the state or phasing in the requirements. Given the magnitude of emissions that are associated with large, urbanized areas on the front range, we would support a phased approach that first brought in the MPOs along the front range, particularly the Pikes Peak Area Council of Governments.

Incorporating TIPs is important because these are the stages in the process where funds are actually allocated to projects. Longer range planning documents are an important roadmap, but priorities change over time, and some projects in long range plans may not actually be implemented. It would be possible for a long-range plan to comply with the pollution reduction standard, but for a series of TIPs to implement projects that do not ultimately achieve the required level of pollution reduction.

Induced travel (Section 8.02.2): Given that many travel demand models have historically not accounted for induced travel or underestimated its effects, it's important this issue is sufficiently accounted for in any modeling to demonstrate compliance.[14] Otherwise, the strength of the Rule may be undermined, as in fact, projects that will increase pollution in real world operations could be shown, on paper, to decrease emissions. To assess each MPO's model, we suggest developing a checklist or other documentation that specifies model capabilities needed for assessing induced travel in travel demand models[15]**,** or allowing MPOs to rely on off-model calculations based upon synthesis research that has established the range of corridor-level induced demand elasticity.[16] In addition, it is important to consider induced demand from smaller operational projects, such as intersection improvements and signal timing projects, which tend to reduce congestion and idling in the near term, but also may increase total traffic volumes and associated pollution, safety impacts, and costs. CDOT should develop a uniform, simplified off-model approach to incorporating induced demand into assessments of the emissions impacts of operational projects that are not regionally significant projects.

- **Suggested language (in red):** Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior to the adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel Model, and Approved Air Quality Model. Travel demand models shall be evaluated for adequacy in assessing corridor-level induced travel from regionally significant highway capacity projects, utilizing a checklist developed by the Commission. If adequacy cannot be demonstrated, and for evaluation of induced demand from operational improvements that are not regionally significant projects, off-model calculations relying on robust estimates of induced travel elasticity in similar contexts may be utilized.

Project-level analysis (Section 8.02.1): Lessons learned from similar policies elsewhere suggest including project-level emissions and induced travel is important for public transparency and project

[14] Milam, R. T., Birnbaum, M., Ganson, C., Handy, S., & Walters, J. (2017). Closing the induced vehicle travel gap between research and practice. *Transportation research record*, *2653*(1), 10-16.

[15] Ibid. This paper includes a checklist that can be used to assess travel demand model sensitivity to induced demand.

[16] Volker, J.M.B., and S. L. Handy (2021). The Induced Travel Calculator and Its Applications. University of California Institute of Transportation Studies, UC-ITS-2021-04.

prioritization. While it's understandable that it would be difficult to do project-level analysis for all projects, particularly in long range plans, many projects closer to funding and construction will have undergone individual project-level analysis and these outputs could be reported. This is certainly true for regionally significant projects that are funded in the TIP process, so that even if it is not possible to do this project level analysis for the evaluation of GHG impacts of long range plans, it should be possible when evaluating the emissions associated with TIP approvals.

- **Suggested language (in red):** Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to estimate total CO2e emissions. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in Table 1. For Regionally Significant Projects that have undergone project-level modeling and analysis, the project-level GHG emissions and estimated induced travel shall also be included. This provision shall not apply to MPO TIP amendments.

Clarifying the baseline and EV adoption assumptions (Sections 1.03, 8.02.1): As written, it isn't clear if the Rule indicates whether CDOT and MPOs are intended to assume the "rapid growth" EV adoption trajectory that informs the baseline figures in Table 2 and reduction levels in Table 1, a slower growth EV adoption assumption that underlies the baseline figures in Table 1, or something else when modeling GHG emissions. We think the Transportation Commission should specify this to help clarify which baseline the reduction levels are from. Because the reduction levels were developed based on modeling scenarios that assumed a rapid growth EV adoption trajectory and because this is what CEO and other state agencies are planning for, we suggest that the MPOs and CDOT assume that trajectory when conducting their modeling, and that the reduction levels then be from the baseline figures in Table 2.

- **Suggested language (in red): 1.03:** Approved Air Quality Model - the most recent Environmental Protection Agency issued model that quantifies GHG emissions from transportation. The Transportation Commission shall specify a standard assumption for projected light duty EV adoption through 2050, **consistent with the goals established in the Colorado GHG Roadmap and Colorado EV Plan**, that CDOT and all MPOs shall use in estimating total CO2e emissions. This assumption may vary by region, and may be updated over time.

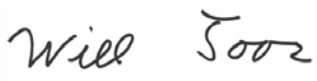
  8.02.1: Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to estimate total CO2e emissions. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in Table ~~1~~2. This provision shall not apply to MPO TIP amendments.

Requiring comparisons between modeled results and measured results (Section 8.06): While CDOT has developed sophisticated and modern travel models, there is an inherent level of uncertainty in all forward-looking models. It would be valuable to build into the rule a periodic process for comparing VMT and GHG pollution that were projected by the models with actuals at both the statewide and MPO scale, to allow models or input assumptions to be changed as necessary to match real world experience over time.

- **Suggested language (in red):** Reporting. Beginning July 1, 2025, and every 5 years thereafter, the Executive Director on behalf of CDOT shall prepare and make public a comprehensive report on the statewide GHG reduction accomplishments. This shall include a comparison of modeled VMT for regionally significant capacity projects with real world VMT, and these results shall be utilized to update the modeling requirements as needed.

We appreciate CDOT and the Transportation Commission's groundbreaking leadership on this issue, and look forward to the positive benefits this Rule will bring to Colorado. Thank you for the opportunity to comment.

Sincerely,



Will Toor
Executive Director, Colorado Energy Office

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Written Testimony on the Proposed Transportation GHG Rules

1 me age

[redacted] Thu, Nov 18, 2021 at 10:38 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Here is my written testimony:

My name is [redacted]. I am a Clear Creek County Commissioner and President of Colorado Communities for Climate Action te tifying on their behalf CC4CA i a coalition of town , citie , and countie acro the tate working to strengthen statewide climate policy. Our members range from under 1,000 in population to more than half a million, two-thirds are rural communities, and half are West Slope.

On behalf of our forty local government members, I want to make three main points this morning.

First, we support the proposed rule. There aren't any simple ways to dramatically reduce climate pollution from the transportation sector, but CDOT has crafted an approach here that is thoughtful and clever. Most fundamentally, it holds MPO accountable to meeting GHG emi ion target but give them fle ibility in determining how be t to do that, and how to integrate GHG reductions with other mobility goals given their own particular needs and circumstances.

Second, it doesn't go far enough, and we encourage the Commission to push the bar further. The overall target should be larger given the scale of transportation GHG emissions that we need to tackle. We are also concerned that the 'disproportionately impacted communities' elements are insufficiently vague and insufficiently developed. And we think the plan hould con ider VMT limit a a key tool in tead of imply tracking VMT number

Third, every CC4CA member juri diction i part of thi coalition becau e they and their con tituent are increa ingly dealing with the very real impacts of climate change. There is broad public support for assertive climate action because climate change is already having enormous impacts on our communities, wasting taxpayer resources, harming our businesses, weakening our economy, and posing serious threats to our health and quality of life. People across the state under tand that every fire that leave Coloradan truggling to breathe through the moke, every mud lide that threaten local water supplies, every bridge wiped out by a flood is caused or amplified by Climate Change, and.

On behalf of the forty towns, cities, and counties that make up CC4CA, and the 1.4 million Coloradans we represent around the state, we urge you to strengthen the proposed rule further if you can, and adopt it regardless.

We offer our sincere thanks to the Commission and to CDOT for your incredibly hard work in the process, including extensive stakeholder engagement and numerous public comment sessions. Local governments like ours across the tate are counting on you to adopt the tronge t rule you can

Thank ,

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

DRCOG Board GHG Rule Comment Letter

1 me age

[redacted] Thu, Nov 18, 2021 at 10:38 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

Good morning,

Please find attached a letter conveying comments from the DRCOG Board of Directors on the revised proposed Rule for Greenhouse Gas Pollution Reduction for Transportation Planning. The comments were unanimously adopted by the Board at their November 17, 2021 meeting

Plea e contact [redacted] if you have any que tion or need additional information

[redacted]

drcog | DENVER REGIONAL COUNCIL OF GOVERNMENTS

[redacted]

[redacted]

DRCOG Board GHG Rule Comment Letter.pdf
494K

[redacted]

November 17, 2021

Colorado Transportation Commission
2829 W Howard Pl
Denver, CO 80204

VIA EMAIL SUBMITTAL to dot_rules@state.co.us

Dear Chair Hall and Commissioners,

I am writing on behalf of the Denver Regional Council of Governments' Board of Directors to provide comments on the October 19, 2021 version of the proposed revisions to 2 CCR 601-22 to establish greenhouse gas (GHG) reduction transportation planning requirements.

First, we appreciate CDOT's consideration of our previous comments submitted October 7, 2021. There are positive changes in the revised proposal that address several of our earlier comments and we believe they have improved the proposed rule. While we continue to urge the Commission and CDOT to further consider the remainder of our previous comments, we want to highlight a few of the comments that the Board of Directors believe should be addressed.

Section 8.02 Process for Determining Compliance

- Add §8.02.2.1 MPOs and CDOT shall prepare and publish a calibration and validation report for their respective travel model. The report shall document model components and key parameters and should address how models account for induced travel demand associated with changes to the transportation system.

  As part of the required modeling assumptions agreement in §8.02.2, the MPOs and CDOT should document and make publicly available the travel model components and parameters.

Section 8.03 GHG Mitigation Measures

- Add a provision to require sponsors of regionally significant roadway capacity projects to identify and include GHG Mitigation Measures when including the project in a TIP or the STIP.

  We appreciate the effort made to incorporate this suggestion but adding language to the Preamble section of Rule does not address the intent of the comment and is not enforceable. Further, tying the consideration of mitigation measures to when a project is developed and submitted into a transportation plan, applies the provision to a project being added to a long range regional transportation plan. Most projects are not "developed" when they are included in an RTP. We continue to believe that the appropriate time to consider these investments is when a project is added to a TIP or the STIP.

Section 8.05 Compliance

- Revise §8.05.2.1 to state "Request a waiver from the Commission imposing restrictions on specific Regionally Significant projects not expected to reduce GHG emissions."

  The Rule as written requires a waiver for any "specific project not expected to reduce GHG emissions" (e.g., safety, operations, reconstruction, multimodal corridor planning, TDM, etc.). MPOs should not be required to seek a waiver from the Transportation Commission to invest federal CMAQ or STBG funds in otherwise eligible projects or programs that are not regionally significant, would not have an adverse impact on GHG emissions, and are important for the MPO to achieve other important transportation objectives such as safety or federal air quality conformity.

[redacted]

- The Rule should either clarify the meaning of "substantial increase" in §8.05.2.1.2 or CDOT and the Transportation Commission should provide guidance that clarifies how "substantial increase" will be evaluated when considering waiver requests.

  The term "substantial increase" is vague. The Rule or guidance should provide clearer direction to ensure fair and equitable evaluation of waiver requests.

In addition to these and our other previous comments, we offer the following comments on issues raised by the revised proposed rule.

Preamble for 2021 Rulemaking – Purpose of GHG Mitigation Measures

- Revise the fourth bullet point on p. 6 by striking the last sentence. "**Holistic Air Quality Planning:** CDOT and MPOs should be able to demonstrate how they have supported the GHG Mitigation Measures included in a Mitigation Action Plan, through funding, technical assistance, or other forms of support. ~~Traffic improvements that focus on improving traffic flow through either capacity expansion or technology measure that primarily benefit the flow of vehicular traffic without improving alternatives to driving single occupancy vehicles are not allowable for the purposes of approved mitigation.~~"

  These provisions seem inconsistent with the administrative and public process described in §8.02.4 "for selecting, confirming, and verifying GHG Mitigation Measures". That process should be allowed to proceed before eliminating a whole category of potential GHG reduction investments.

  DRCOG is within an Ozone nonattainment area under the federal Clean Air Act. The Congestion Mitigation and Air Quality Improvement (CMAQ) Program provides funds to States for transportation projects designed to reduce traffic congestion and improve air quality, particularly in areas of the country that do not attain national air quality standards. The program has been a key mechanism for supporting investments that encourage alternatives to driving alone, improve traffic flow, and help urban areas meet air quality goals. Transportation energy use contributes to increased greenhouse gas concentrations in the atmosphere.

  According to the U.S. DOT Center for Climate Change, "The main goal of the CMAQ program is to fund transportation projects that reduce regulated emissions associated with carbon monoxide, ozone and particulate matter pollution in nonattainment and maintenance areas, often through congestion mitigation techniques. In addition to reducing regulated emissions, congestion relief can reduce travel delays, engine idle time and unproductive fuel consumption. So even though reducing greenhouse gas emissions is not a goal of the CMAQ program, such reductions may be achieved as an ancillary benefit."

  These types of strategic, non-regionally significant operational improvements are extremely important to our efforts to improve the region's air quality, achieve federal ozone pollution standards, and reduce greenhouse gas emissions.

Section 8.05 Compliance

- Revise §8.05.2.2 to state "Request reconsideration of a non-compliance determination by the Commission and provide a written explanation of how the requirements of Rule 8.02.6 have been met. A request for reconsideration must be summitted within ~~thirty (30)~~ sixty (60) days of Commission action."

  §8.05.2 is revised to allow a waiver request or ask for reconsideration within sixty (60) days of Commission action. §8.05.2.2 should be revised to be consistent with this provision.

Section 8.06 Reporting

- Strike §8.06.2 and §8.06.2.1 requiring annual reporting of VMT per capita beginning September 1, 2022 and requiring the Commission to "consider revisions to these rules in order to achieve reductions in VMT consistent with the intent of this rule" if three consecutive years of reports show no decrease in VMT per capita in one or more areas.

  DRCOG has a goal to reduce VMT per capita and has a long history of working toward that goal with its planning and investment decisions. However, the intent of this Rule should remain focused on reducing GHG emissions. While there can be a correlation between VMT and GHG emissions,

GHG emissions are most directly linked to fuel consumption. Therefore, improved vehicle operations that reduce congestion will reduce GHG emissions even if VMT per capita does not go down.

The provision also starts the annual reporting with calendar year 2021, an artificially low year for VMT due to the ongoing global pandemic and its travel and economic impacts. This significantly increases the potential for not seeing a decrease in VMT per capita for three consecutive years. In contrast, year-over-year VMT is affected by many factors including gas prices and economic conditions. Transportation planning operates in long-term trends, not year-over-year changes. VMT changes every single day, estimates are based on samples, and the data in not accurate enough on an annual basis to trigger new policymaking.

Finally, if an MPO is achieving compliance with the Rule's GHG emission reductions, even if VMT per capita is not decreasing in that area, there should not be the threat of further rulemaking to achieve reductions in VMT.

Again, we extend our thanks to CDOT staff and the Commission for their consideration of our feedback on the proposed Rule. Meeting the ambitious targets set by the rule will require a strong partnership with the State. We look forward to continuing our work together identify and implement relevant policies and funding initiatives in support of our mutual goals.

Respectfully,

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments

1 me age

[redacted] Thu, Nov 18, 2021 at 10:44 AM

To: dot_rules@state.co.us

Thank you for the opportunity to add to my public te timony Our tate ha een the impact of climate change fir t hand as has Larimer County. In 2020 our county battled the Cameron Peak Wildfire and the East Troublesome Fire, which caused the evacuation of the town of Estes Park. Cameron Peak is now Colorado's largest historical wildfire. I want to add some more comments. The rule is a crucial step forward in addressing the state's largest source of GreenHouse Gas emi ion and the Tran portation Commi ion ha hown bold leader hip in drafting thi rule The power of thi rule i that it recognizes that the infrastructure decisions we make matter to how people choose to travel. I believe this rule will bring about more choices for our residents; making it easier to bike, walk, carpool and take transit. Senate Bill 260 provided important new funding for these measures through dedicated funding via the Multimodal Mitigations and Options Fund, the Nonattainment Enterpri e, and Clean Tran it Enterpri e Thi rule provide a powerful complement to tho e funds. This could be a transformational opportunity for our great State of Colorado. This is a unique moment for Colorado. New, stable transportation funding and a rule that ensures these dollars improve our transportation system, our climate, and our quality of life.

Respectfully,
Larimer County Commissioner [redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

PSR Colorado supports rulemaking most protective of public health

1 me age

PSR Colorado <[redacted] Thu, Nov 18, 2021 at 10:53 AM
To: dot rules@state.co.us
Cc [redacted]

Dear CDOT,

PSR Colorado i an organization of health profe ional and allie that eek to protect human life from the grave t environmental dangers to human health and survival. Of those dangers, the impact of climate change and associated pollution is of great concern to us.

Toward this end, we strongly support transportation rulemaking that will be the most protective of public health.

This past summer, Colorado suffered from the worst air quality levels on record. High levels of ozone pollution have ignificant implication for Coloradan ' health Much of thi came from the tran portation ector

While some of our decision-makers blamed our poor air quality on wildfire smoke from out of state, the reality is that hydrocarbons emitted from cars and trucks and oil and gas development are the primary drivers of ozone pollution. CPR- Why Colorado's Record Ozone Pollution Is More About Cars Than Wildfire Smoke

While we support and applaud encouraging the adoption of electric vehicles, we feel that the time needed to make that transition will not bring us to our desired goals. The time is now to develop the infrastructure and services to help reduce vehicle mile travelled

We support rules that will result in investing in options such as public transit and bike lanes to mitigate the impact of highway expansions.

We oppose new highway expansions that will increase air pollution, GHG emissions, and respiratory and cardiovascular disease, particularly in the communities that are already disproportionately impacted by pollution. As examples, we point to highway expansions already being planned such as I-25 through the Sun Valley neighborhood and I-270 through Commerce City

Thanks for your consideration,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment for Proposed Greenhouse Gas (GHG) Rule 2 CCR 601-22

1 me age

[redacted] Thu, Nov 18, 2021 at 11:08 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

Hello,

Thank you for the opportunity to provide comment on the Propo ed Greenhou e Ga (GHG) Rule, 2 CCR 601 22 Plea e find the attached letter from the Adams County Board of County Commissioners. If you have questions or need clarification please let us know.

Have a great day!

[redacted]

[redacted]

[redacted] 9K

Adam County Propo ed Greenhou e Ga (GHG) Rule 2 CCR 601 22 pdf
52K

Commissioners' Office
[redacted]

ADAMS COUNTY
COLORADO

[redacted]

November 15, 2021

Colorado Department of Transportation, Transportation Commission
CDOT Headquarters
2829 W. Howard Pl.
Denver, CO 80204

VIA EMAIL SUBMITTAL to dot_rules@state.co.us

Re: Transportation Commission Proposed Greenhouse Gas (GHG) Rule 2 CCR 601-22

The Adams County Board of Commissioners fully supports Colorado's commitment to reducing greenhouse gases by tying quantifiable reductions in emissions to the transportation planning process. We recognize the complexities of measuring and reducing pollutants in the Denver metropolitan area given Front Range weather and climate. Integrating GHG reduction goals into transportation planning is a necessary step in the improvement of air quality throughout Colorado.

The Adams County Board of Commissioners appreciates the time and effort the Colorado Department of Transportation (CDOT) and Colorado Department of Public Health and Environment (CDPHE) staff have committed to developing and further revising a GHG rule to reduce GHG emissions for transportation planning.

Based upon review of the revised rule, we have identified the following areas of concern that should be addressed or clarified to make the rule both robust and useful to the state:

Clarify Transportation Modeling Standards
The current rulemaking documentation does not include guidelines to define the relationship between the Environmental Protection Agency (EPA) Air Quality Model and Denver Regional Council of Governments (DRCOG) Travel Demand Model. Clarification is needed to explain how improvements for projects and programs within the DRCOG model will directly translate to GHG reductions within the EPA model.

Establish Project Categories
Projects identified as non-regionally significant (safety, traffic signal, complete street, bicycle/pedestrian) that do not meet GHG Reduction Levels should not require a waiver to proceed and should not be subjected to GHG Mitigation Measure annual reporting.

Allow for Regional Growth

Allow sponsors of regionally significant roadway capacity projects to bundle mitigation measures reducing GHGs including operational improvements. This will prevent penalizing 7 growing areas or areas with changing zoning and land uses.

The Adams County Board of Commissioners fully supports the reduction of GHGs to slow the impacts of climate change and move toward sustainable sources of energy. While this rulemaking process is a strong step in the right direction, the county feels the areas of concern included within this letter should be addressed prior to the rule becoming final. We look forward to continuing the rulemaking discussion to ensure the collaborative regional planning process prevails while reducing GHGs in the Denver metropolitan area.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Fwd: comments re: GHG rulemaking

1 me age

Takushi - CDOT, Theresa <theresa.takushi@state.co.us> Thu, Nov 18, 2021 at 11:10 AM
To: DOT_ Rules - CDOT <dot_rules@state.co.us>

---------- Forwarded message ---------
From: [redacted]
Date Thu, Nov 18, 2021 at 9 14 AM
Subject: comments re: GHG rulemaking
To: theresa.takushi@state.co.us <theresa.takushi@state.co.us>
Cc: [redacted]

Hello Theresa,

On behalf of the Sustainable Futures Commission, and its volunteer members in Lyons, please accept this letter, regarding the GHG draft rules.

Thank you,

LYONS COLORADO [redacted]

--
Aloha,

Theresa

Theresa Takushi (she/her/hers)
Greenhouse Gas Climate Action Specialist

[redacted]

P 303 757 9977
2829 W. Howard Pl., Denver, CO 80204
theresa.takushi@state.co.us | www.codot.gov

letterhead-GHG-DRCOG-SFC.pdf
157K

November 17, 2021

Dear Ms. Theresa Takushi,

The Town of Lyons would like that thank CDOT and the State of Colorado for acknowledging our current climate crisis and offers our support for the proposed Greenhouse Gas Transportation Planning Standard. With a push from the Sustainable Futures Commission in Lyons, our Board of Trustees recently passed a resolution acknowledging the current climate crisis. To best meet Colorado's greenhouse gas (GHG) reduction targets, urgent action is needed, and the Town of Lyons is pleased to see CDOT's leadership in this regard. Given the magnitude of the climate crisis, we urge CDOT to continue to pursue the greatest possible GHG reductions being considered for this rule and keep the standard at 1.5 million metric tons of CO2 reduction.

As Colorado's private automobile fleet may still be years away from being 100% electric, and our electricity generation is also years away from being 100% renewable energy, achieving the GHG reductions mandated by this rule needs to include a reduction in driving and vehicle miles traveled (VMT). Given the many other positive externalities that reducing VMT will lead to (improved safety along our roadways, decreased local air pollution, and decreased time spent in congestion), we support an effort towards reduced driving in addition to electrification.

As a municipality in Boulder County, we would like to offer suggested revisions to further improve the draft rule, which we have detailed. We also support adding a provision to require sponsors of regionally significant roadway capacity projects to identify and include GHG Mitigation Measures when including the project in a TIP or the STIP. We support the request that the rule should either clarify the meaning of "substantial increase" in emissions when considering a waiver request (§8.05.2.1.2) or CDOT and the Transportation Commission should provide guidance that clarifies how "substantial increase" will be evaluated when considering these requests. Ideally, Lyons is supportive of Boulder County's request that waivers be reserved for only GHG-neutral projects, mainly safety projects, but if not, clarifying "substantial increase" would be a good fall-back option.

Any project that makes it easier to drive must be recognized as a capacity project which, through induced demand, will lead to increased VMT and increased GHG emissions. We agree with Boulder County that accurate modelling of these projects is essential for this rulemaking to be effective.

Thank you for the opportunity to provide comments on the draft rule, for your public process and for advancing this necessary change that can decrease Colorado's contribution to global warming.

Sincerely,

[redacted]

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

CCAT GHG Rulemaking Public Comment Letter

1 me age

[redacted] Thu, Nov 18, 2021 at 11:12 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

Thank you for the opportunity to provide comment on the Tran portation Commi ion' (TC') propo ed greenhou e ga (GHG) rule for transportation plans.

Attached please find the public comment letter submitted on the behalf of Counties and Commissioners Acting Together (CCAT).

For further discussion please feel free to contact CCAT's Executive Manager [redacted] or our lobbyist, [redacted]) also copied to this email.

Thank you!

[redacted]

CCAT GHG Rulemaking Public Comment Letter_11.18.21.pdf
173K

To: Governor Jared Polis, Director Shoshana Lew, Hearing Officer Andrew Hogle, and Transportation Commissioners

Re: Public Comment Period Extension Request for the Proposed GHG Rule

Date: November 18, 2021

Thank you for the opportunity to provide comment on the Transportation Commission's (TC's) proposed greenhouse gas (GHG) rule for transportation plans.

Counties and Commissioners Acting Together (CCAT) was formed in 2016 to provide a unified, independent, and mission driven voice for local governments. Collectively, CCAT represents counties and individual commissioners with a membership that spans the state and includes urban, frontier, and rural counties.

Since CCAT's inception, our members have worked to secure a statewide approach to increasing transportation funding and modernizing our transportation network. We were proud to support SB21-260, Sustainability of the Transportation System.

A key part of modernizing Colorado's transportation network requires addressing transportation related emissions and air quality impacts consistent with the GHG goals for the transportation sector that were specified in the state's Greenhouse Gas Reduction Roadmap. The roadmap aims to reduce transportation sector emissions equivalent to 12.8 million metric tons (MMT) of carbon dioxide by 2030.

In order to successfully implement the new GHG standards, Colorado needs a statewide approach that balances the challenges and needs of both rural and urban communities. The new standards should be integrated into local transportation and land-use strategies to encourage diverse and holistic planning, ensuring that projects will reduce transportation related emissions.

While CCAT fundamentally agrees with the goals of reducing transportation related emissions through GHG rulemaking, our members are concerned about the practical application of new modeling rules on Metropolitan Planning Organizations (MPO) and funding for rural Colorado of long term planning period.

MPO Modeling

CCAT members believe that Colorado Department of Transportation (CDOT) should be prepared to adjust requirements for modeling in order to ensure effective and accurate compliance from MPOs.

Given the complexity of modeling, it will be vital to balance the need for realistic compliance with outputs that are as accurate as possible under the proposed rules. GHG baselines were set using the statewide model. Using one state model to set a baseline and a different model to assess compliance is a concern because they could show different outputs with the same set of inputs.

Alternatively, CCAT could support allowing MPOs the ability to use GHG Baselines from the Colorado Department of Public Health and the Environment (CDPHE) for each compliance year based on MPO models instead of the statewide model for any MPO that prefers the GHG Baselines in the rule to be set based on their in-house model. This approach can work as long as the component of the proposed rule that outlines a process to ensure consistency between models and the accuracy of the GHG projections is strengthened and annual reporting to CDOT continues to be required.

Using the MPO model to demonstrate compliance instead of the statewide model could be more resource efficient, allowing for model updates and iterations that may not be feasible if the information needs to pass through to CDOT and incorporated into the statewide model each time a GHG analysis is needed.

Rural Project Funding & Long Term Planning

Rural areas of Colorado contribute a disproportionate portion of emissions on a per-capita basis. The reasons for this are clear; rural residents have less access to mass transit and on average, rural commutes are longer than those in metro regions.

As has been outlined in the State of Colorado's GHG mitigation roadmap, land-use policies that encourage dense development near services, and rules that allow mixed development patterns so that services, jobs, and housing can co-exist are our best tools to reduce the reliance on cars over time. CCAT encourages CDOT to develop long-range plans that coordinate with county planning efforts to encourage rural land use growth near population centers.

Just as the proposed rule focuses funding toward MPO plans and regionally significant projects that will have the highest impact on reducing GHG's, rural communities and relatively small projects that align efforts to reduce emissions should also be prioritized for funding.

The State should consider disaggregating the remainder of the State that is outside of an MPO. CCAT is concerned that rural projects could be at a disadvantage for funding because they may not be perceived as having "regionally significant" projects. It is critical that some of those heaviest uses like weekend tourism and traffic are accounted for in which ever model is used.

Given that it will take both rural and urban communities working toward these common goals of GHG reductions to achieve the intended reduction, CDOT should strive to create a balanced funding and prioritization system.

Generally, rural communities' tools to reduce emissions are less direct and constitute a more distributed effort than what is possible in dense urban environments. However, the combined impact of rural Colorado on transportation related emissions is significant.

CCAT believes that the proposed rules can be improved by allowing for and promoting collaborative planning with communities. A review of policies that may conflict with community goals to increase density and encourage multi-modal transportation is needed.

Thank you again for the opportunity to share these comments. On the behalf of the CCAT Transportation Committee and CCAT as a whole we appreciate the continued collaboration in this very important issue.

For further discussion please feel free to contact CCAT's Executive Manager [redacted] or our lobbyist, [redacted]

Best Regards,

[redacted]
City & County of Broomfield
CCAT Transportation Chair

[redacted]
CCAT Co-Chair
San Miguel County

[redacted]
CCAT Co-Chair
Clear Creek County

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments on GHG Rule

1 me age

[redacted] Thu, Nov 18, 2021 at 11:14 AM

To: dot_rules@state.co.us

Cc [redacted]

CDOT,

Please find written comments from Conservation Colorado, Natural Resources Defense Council, Sierra Club, and Southwest Energy Efficiency Project (collectively, the "Environmental Coalition") attached.

Thank-you,

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

2 attachments

Environmental Coalition written comment 11 18 21 pdf
198K

E hibit 1 Enviro Coalition revi ed ghg rule 10 19 21 pdf
566K

[redacted]

DEPARTMENT OF TRANSPORTATION

Transportation Commission

RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

2 CCR 601-22

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

~~August 13, 2021, Version~~ October 19, 2021 Version

Please note the following formatting key:

Font Effect	Meaning
Underline	New Language
~~Strikethrough~~	Deletions
[Blue Font Text]	Annotation
Highlighted Text	Revisions to August 13, 2021 Version
Underlined Blue Text	Environmental Coalition's 11/18/21 revisions

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STATEMENT OF BASIS AND PURPOSE, ~~AND~~ STATUTORY AUTHORITY AND PREAMBLE

The purpose of the Rules Governing the Statewide Transportation Planning Process and Transportation Planning Regions (Rules) is to prescribe the statewide transportation planning process through which a long-range ~~multimodal~~Multimodal, comprehensive ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~ Plan will be developed, integrated, updated, and amended by the Colorado Department of Transportation (Department or CDOT), in cooperation with local governments, Metropolitan Planning Organizations (MPOs), Regional Planning Commissions, Indian tribal governments, relevant state and federal agencies, the private sector, transit and freight operators, ~~special interest groups,~~ and the general public. This cooperative process is designed to coordinate regional transportation planning, guided by the statewide transportation policy set by the Department and the ~~transportation~~ Transportation ~~commission~~ Commission of Colorado ("Commission"), as a basis for developing the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan. The result of the statewide transportation planning process shall be a long-range, financially feasible, environmentally sound, ~~multimodal~~ Multimodal transportation system plan for Colorado that will reduce traffic, air pollution, and smog.

Further, the purpose of the Rules is to define the state's Transportation Planning Regions for which long-range Regional Transportation Plans are developed, and to prescribe the process for conducting and initiating transportation planning in the non-MPO Transportation Planning Regions and coordinating with the ~~Metropolitan Planning Organizations~~MPOs for planning in the metropolitan areas. Memoranda of Agreement (MOA) that serve as the Metropolitan Planning Agreements (MPAs) ~~per~~ pursuant to 23 C.F.R. § 450 between the Department, each MPO, and applicable transit provider(s) further prescribe the

transportation planning process in the MPO ~~transportation~~ Transportation ~~planning~~ Planning ~~regions~~Regions. In addition, the purpose of the Rules is to describe the organization and function of the Statewide Transportation Advisory Committee (STAC) as established by § 43-1-1104, Colorado Revised Statutes (C.R.S.).

The Rules are promulgated to meet the intent of both the U.S. Congress and the Colorado General Assembly for conducting a continuing, cooperative, and comprehensive statewide performance-based ~~multimodal~~ Multimodal transportation planning process for producing a Statewide Transportation Plan and Regional Transportation Plans that address the transportation needs of the ~~state~~State. This planning process, through comprehensive input, results in systematic project prioritization and resource allocation.

The Rules, governing the statewide planning process, emphasize Colorado's continually greater integration of Multimodal, cost-effective, and environmentally sound means of transportation which leads to cleaner air and reduced traffic. The Rules reflect the Commission's and the Department's focus on Multimodal transportation projects including highways, transit, rail, bicycles and pedestrians. Section 8 of these Rules establishes an ongoing administrative process for identifying, measuring, confirming, and verifying those best practices and their impacts, so that CDOT and MPOs can easily apply them to their plans in order to achieve the pollution reduction levels required by these Rules.

The Rules are promulgated by the Commission pursuant to the specific statutory authority in § 43-1-1103 (5), C.R.S., and § 43-1-106 (8)(k), C.R.S.

Preamble for 2018 Rulemaking

In 2018, rulemaking was initiated to update the rules to conform to recently passed federal legislation, update expired rules, clarify the membership and duties of the ~~Statewide Transportation Advisory Committee~~STAC pursuant to HB 16-1169 and HB 16-1018, and to make other minor corrections. ~~The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements contained in 23 United States Code (U.S.C.) §§ 134, 135 and 150, Pub. L. No. 114-94 (Fixing America's Surface Transportation Act or the "FAST Act") signed into law on December 4, 2015, and its implementing regulations, where applicable, contained in 23 Code of Federal Regulations (C.F.R.) Part 450, including Subparts A, B and C and 25 C.F.R. § 170.421 in effect as of August 1, 2017, which are hereby incorporated into the Rules by this reference, and do not include any later amendments. All referenced laws and regulations shall be available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.~~

~~Copies of the referenced United States Code may be obtained from the following address:~~

~~Office of the Law Revision Counsel~~
~~U.S. House of Representatives~~
~~H2-308 Ford House Office Building~~
~~Washington, DC 20515~~
~~(202) 226-2411~~

~~Copies of the referenced Code of Federal Regulations may be obtained from the following address:~~

~~U.S. Government Publishing Office~~
~~732 North Capitol Street, N.W.~~
~~Washington, DC 20401~~
~~(202) 512-1800~~

~~The Statewide Planning Rules, governing the statewide planning process, emphasize Colorado's continually greater integration of multimodal, cost-effective and environmentally sound means of~~

~~transportation. The Rules reflect the Department's focus on multimodal transportation projects including highways, aviation, transit, rail, bicycles and pedestrians.~~

~~The Rules are promulgated by the Commission pursuant to the specific statutory authority in § 43-1-1103 (5), C.R.S., and § 43-1-106 (8)(k), C.R.S. The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.~~

Preamble for 2021 Rulemaking

Overview

Section 8 of these Rules establishes Greenhouse Gas (GHG) pollution reduction planning levels for transportation that will improve air quality, reduce smog, and provide more sustainable options for travelers across Colorado. The purpose of these requirements is to limit the GHG pollution and provide more transportation mobility options. ~~which would result from the transportation system if the plan was implemented, consistent with the state greenhouse gas pollution reduction roadmap~~. This is accomplished by requiring CDOT and MPOs to establish plans that meet GHG reduction levels ~~targets~~ through a mix of projects that limit and mitigate air pollution and improve quality of life and Multimodal options. CDOT and MPOs will be required to demonstrate through travel demand modeling and the Environmental Protection Agency MOtor Vehicle Emission Simulator (MOVES)approved air quality modeling that statewide and regional aggregate emissions resulting from its state or regional plans do not exceed a specified emissions level in total. In the event that a plan fails to comply, CDOT and MPOs have the option ~~to commit~~ to implement~~ing~~ GHG Mitigation Measures that provide travelers with cleaner and more equitable transportation options. ~~such as safer pedestrian crossings and sidewalks, better transit and transit access, or infrastructure that supports access to housing, jobs, and retail.~~

Examples of these types of mitigations, which also benefit quality of place and the economic resilience of communities, will include but not be limited to: adding bus rapid transit facilities and services, enhancing first-and-last mile connections to transit, adding bike-sharing services including electric bikes, improving pedestrian facilities like sidewalks and safe accessible crosswalks, investments that support vibrant downtown density and local zoning decisions that favor sustainable building codes and inclusive multi-use facilities downtown, and more. The process of identifying and approving mitigations will be established by a policy process that allows for ongoing innovations from MPOs, local governments and other partners to be considered on an iterative basis. Further, it is expected that CDOT, and MPOs and others shall consider these investments at the time a project is developed and submitted into a transportation plan. For example, applicants of interchange access requests that go to the CDOT Chief Engineer or Transportation Commission for approval should expect to articulate how they intend to mitigate the impacts of the request, such as the creation of induced demand, in the area of the interchange being proposed.

If compliance still cannot be demonstrated, even after committing to GHG Mitigation Measures, the Commission shall restrict the use of certain funds, requiring that dollars be focused on projects and approved GHG Mitigation Measures that reduce GHG.~~that help reduce transportation emissions and are recognized as approved mitigations.~~ These requirements address the Colorado General Assembly's directive to reduce statewide GHG pollution in § 25-7-102(2)(g), C.R.S., as well as the directive for transportation planning to consider environmental stewardship and reducing GHG emissions, § 43-1-1103(5), C.R.S.

Context of Section 8 of these Rules Within Statewide Objectives

The passage of House Bill (HB)19-1261 set Colorado on a course to dramatically reduce GHG emissions across all sectors of the economy. In HB 19-1261, now codified in part at §§ 25-7-102(2) and 105(1)(e), C.R.S., the General Assembly declared that "climate change adversely affects Colorado's economy, air quality and public health, ecosystems, natural resources, and quality of life[,]" acknowledged that "Colorado is already experiencing harmful climate impacts[,]" and that "many of these impacts

disproportionately affect" certain Disproportionately Impacted Communities. *see* § 25-7-102(2), C.R.S. The General Assembly also recognized that "[b]y reducing [GHG] pollution, Colorado will also reduce other harmful air pollutants, which will, in turn, improve public health, reduce health care costs, improve air quality, and help sustain the environment." *see* § 25-7-102(2)(d), C.R.S.

Since 2019, the State has been rigorously developing a plan to achieve the ambitious GHG pollution reduction goals in § 25-7-102(2)(g), C.R.S. In January 2021, the State published its Greenhouse Gas Pollution Reduction Roadmap (Roadmap). The Roadmap identified the transportation sector as the single largest source of statewide GHG pollution as of 2020, with passenger vehicles the largest contributor within the transportation sector. Additionally, the Roadmap determined that emissions from transportation are a "significant contributor to local air pollution that disproportionately impacts lower-income communities and communities of color." *see* Roadmap, p. XII.

A key finding in the Roadmap recognized that "[m]aking changes to transportation planning and infrastructure to reduce growth in driving is an important tool" to meet the statewide GHG pollution reduction goals. *see* Roadmap, p. 32. Section 8 of these Rules also advances the State's goals to reduce emissions of other harmful air pollutants, including ozone.

Why the Commission is Taking This Action

Senate Bill 21-260, signed into law by the Governor on June 17, 2021, and effective upon signature, includes a new § 43-1-128, C.R.S., which directs CDOT and MPOs to engage in an enhanced level of planning, modeling and other analysis to minimize the adverse environmental and health impacts of planned transportation capacity projects. Section 43-1-128, C.R.S. also directs CDOT and the Commission to take steps to account for the impacts of transportation capacity projects on GHG pollution and Vehicle Miles Traveled and to help achieve statewide GHG pollution targets established in § 25-7-102(2)(g), C.R.S.

Under Colorado law governing transportation planning, CDOT is charged with and identified as the proper body for "developing and maintaining the state transportation planning process and the state transportation plan" in cooperation with Regional Planning Commissions and local government officials. *see* § 43-1-1101, C.R.S.

The Commission is responsible for formulating policy with respect to transportation systems in the State and promulgating and adopting all CDOT financial budgets for construction based on the Statewide Transportation Improvement Programs. *see* § 43-1-106(8), C.R.S. The Commission is statutorily charged "to assure that the preservation and enhancement of Colorado's environment, safety, mobility and economics be considered in the planning, selection, construction and operation of all transportation projects in Colorado." *see* § 43-1-106(8)(b), C.R.S. In addition, the Commission is generally authorized "to make all necessary and reasonable orders, rules and regulations in order to carry out the provisions of this part . . ." *see* § 43-1-106(8)(k), C.R.S.

As such, CDOT and the Commission are primarily responsible for ensuring compliance with GHG reductions in transportation planning.

What Relevant Regulations Currently Apply to Transportation Planning

Transportation planning is subject to both state and federal requirements. Under federal law governing transportation planning and federal-aid highways, it is declared to be in the national interest to promote transportation systems that accomplish a number of mobility objectives "while minimizing transportation-related fuel consumption and air pollution through metropolitan and statewide transportation planning processes…" *see* 23 U.S.C. § 134; *see also* 23 U.S.C. § 135(a)(1). In the metropolitan planning process, consideration must be given to projects and strategies that will "protect and enhance the environment, promote energy conservation, improve the quality of life…" *see* 23 U.S.C. § 134(h)(1)(E); *see also* 23 C.F.R. Part 450, Subpart B (federal regulations governing statewide transportation planning and

programming). The same planning objective applies to statewide transportation planning. *see* 23 U.S.C. § 135(d)(1)(E); *see also* 23 C.F.R. Part 450, Subpart C (governing metropolitan transportation planning and programming). Further, the Statewide Transportation Plan shall be developed, as appropriate, in consultation with State...local agencies responsible for...environmental protection…" *see* 23 U.S.C. § 135(f)(2)(D)(i).

Under conforming Colorado law, the Statewide Transportation Plan is developed by integrating and consolidating Regional Transportation Plans developed by MPOs and regional transportation planning organizations into a "comprehensive statewide transportation plan" pursuant to rules and regulations promulgated by the Commission. *see* § 43-1-1103(5), C.R.S. The Statewide Transportation Plan must address a number of factors including, but not limited to, "environmental stewardship" and "reduction of greenhouse gas emissions." *see* § 43-1-1103(5)(h) and (j), C.R.S.

Regional Transportation Plans must account for the "expected environmental, social, and economic impacts of the recommendations in the plan, including a full range of reasonable transportation alternatives...in order to provide for the transportation and environmental needs of the area in a safe and efficient manner." *see* § 43-1-1103(1)(d), C.R.S. Further, in developing Regional Transportation Plans, MPOs "[s]hall assist other agencies in developing transportation control measures for utilization in accordance with state...regulations...and shall identify and evaluate measures that show promise of supporting clean air objectives." *see* § 43-1-1103(1)(e), C.R.S.

Putting Section 8 of these Rules into Perspective

Section 8 establishes GHG regulatory requirements that are among the first of their kind in the U.S. However, from an air pollutant standpoint, connecting transportation planning to emissions is not a new policy area. In fact, transportation conformity provisions within the Clean Air Act approach ozone much the same way. Transportation conformity ensures that federally funded or approved highway and transit activities within a Nonattainment Area are consistent with or "conform to" a state's plan to reduce emissions. Colorado's front range has been in ozone nonattainment for many years, which has required the North Front Range and the Denver Regional Council of Governments' MPOs to demonstrate conformity with each plan adoption and amendment.

However, because the transportation sector encompasses the millions of individual choices people make every day that have an impact on climate, a variety of strategies are necessary to achieve the State's climate goals. Section 8 of these Rules is one of many steps needed to achieve the totality of reduction goals for the transportation sector.

Purpose of GHG Mitigation Measures

The transportation modeling conducted for this rulemaking may demonstrate that certain projects increase GHG pollution for a variety of reasons. These reasons may include factors such as induced demand as a result of additional lane mileage attracting additional vehicular traffic, or additional traffic facilitated by access to new commercial or residential development in the absence of public transit options or bicycle/pedestrian access that provides consumers with other non-driving options. Transportation infrastructure itself can also increase or decrease GHG and other air pollutants by virtue of factors like certain construction materials, removal or addition of tree cover that captures carbon pollution, or integration with vertical construction templates of various efficiencies that result in higher or lower levels of per capita energy use. The pollution ~~impacts/~~benefits of various infrastructure projects will vary significantly depending on their specifics and must be modeled in a manner that is context-sensitive to a range of issues such as location, footprint of existing infrastructure, design, and how it fits together with transportation alternatives.

Furthermore, other aspects of transportation infrastructure can facilitate reductions in emissions and thus serve as mitigations rather than contributors to pollution. For example, the addition of transit resources in a manner that can displace Vehicle Miles Traveled (VMT) can reduce emissions. Moreover, improving

downtown pedestrian and bike access, particularly in areas that allow individuals to shift multiple daily trips for everything from work to dining to retail, can improve both emissions and quality of life. All told, a reduction in VMT has numerous societal co-benefits including reduced vehicle fatalities, wildlife mortality, and traffic congestion and improvements to public health, worker productivity and Colorado's economy.

There is an increasing array of proven best practices for reducing pollution and smog and improving economies and neighborhoods that can help streamline decision-making for state and local agencies developing plans and programs of projects. Additionally, the following core principles will guide the selection and delivery of mitigations:

- **Valuing Benefits to Disproportionately Impacted Communities:** Historically, communities have been impacted unequally by transportation project construction. Negative impacts -- both to air quality by virtue of proximity to highways as well as limited non-driving options in neighborhoods proximate to highways -- have often concentrated in disproportionately impacted communities, often minority neighborhoods in urban and industrial areas. To that end, mitigation investments are an important opportunity to provide localized benefit to disproportionately impacted communities.

- **Geographic Nexus with Impacts:** Where regionally significant projects are projected to increase net greenhouse gas emissions, those emissions should be offset with project-specific mitigation measures that benefit communities that will be impacted by the project. This principle is especially important for ensuring that disproportionately impacted communities that have often, historically, borne a significant share of the negative impacts of highway projects, are able to achieve direct project benefits associated with meeting mitigation requirements.

- **Holistic Air Quality Planning:** CDOT and MPOs should be able to demonstrate how they have supported the GHG Mitigation Measures included in a Mitigation Action Plan, through funding, technical assistance, or other forms of support. Traffic improvements that focus on improving traffic flow through either capacity expansion or technology measures that primarily benefit the flow of vehicular traffic without improving alternatives to driving single occupancy vehicles are not allowable for the purposes of approved mitigation.

- **Verification:** The mitigations should be able to be tracked and verified to ensure real reductions in greenhouse gas emissions.

- **Reasonable scale:** CDOT and MPOs are expected to strive for a reasonable relationship between the scale of mitigation required and that implemented, but are not expected to achieve a precise match. In some cases it also may not be possible, given current tools and models, to determine an exact ton reduction in GHGs. The Department intends to develop a scoring rubric over the coming months, with input from stakeholders, to provide a way to rate the relative effectiveness of measures and align the scale of mitigation needed with the deficit in MMT needed to achieve the Rule's GHG Reduction Levels.

[Note: The Commission proposes to repeal Section 1 of these Rules in its entirety and re-enact Section 1 of these Rules below to re-format the numbering of the administrative rules into alphabetical order.]

[Note: The Commission proposes to add nineteen (19) new definitions. New proposed defined terms include: Applicable Planning Document, MOVES ~~Approved Air Quality~~ Model, Baseline, Carbon Dioxide Equivalent, Congestion Mitigation and Air Quality, Disproportionately Impacted Communities, Four-Year Prioritized Plan, Greenhouse Gas, Greenhouse Mitigation Measures, Greenhouse Gas Reduction Levels, Mitigation Action Plan, MPO Model, Multimodal Transportation and Mitigation Options Fund, Regionally Significant Project, State Interagency Consultation Team, Statewide Travel Model, Surface Transportation Block Grant, Vehicle Miles Traveled, and 10-Year Plan. Only minor non-substantive changes, such as correcting grammar errors or capitalizing defined terms, were made to the existing forty-six (46) defined terms.]

1.00 Definitions.

1.01 Accessible - ensure that reasonable efforts are made that all meetings are reachable by persons from households without vehicles and that the meetings will be accessible to persons with disabilities in accordance with the Americans with Disabilities Act (ADA), and also accessible to persons with Limited English Proficiency. Accessible opportunities to comment on planning related matters include those provided on the internet and through such methods as telephone town halls.

1.02 Applicable Planning Document - refers to MPO Fiscally Constrained RTPs,TIPs for MPOs in NAAs, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

1.03 MOVES ~~Approved Air Quality~~ Model -Environmental Protection Agency's the most recent version of the MOtor Vehicle Emission Simulator (or MOVES) issued model that quantifies GHG emissions from on-road transportation, or its successor, that is required for transportation conformity analyses per federal regulation.

1.04 Attainment Area - any geographic region of the United States that meets the national primary or secondary National Ambient Air Quality Standards (NAAQS) for the pollutants as defined in the Clean Air Act (CAA) (Amendments of 1990).

1.05 Baseline - ~~estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using the MPO Models or the Statewide Travel Model. Estimates must include GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules.~~ For each MPO area and for the non-MPO areas of the state, for each of the model years 2025, 2030, 2040, and 2050: the GHG emissions, in million metric tons (MMT), produced by the most recently adopted model for that area, together with the current EPA-approved version of MOVES or its successors in the format currently run by APCD, resulting from modeling the MPO RTP or CDOT 10-year plan adopted as of the effective date of this rule.

1.06 Co-benefits - means the additional benefits associated with the reduction of harmful air pollution to local communities, including localized air quality benefits

1.07 Carbon Dioxide Equivalent (CO_2e) - a ~~metric measure used to~~ standard unit for comparinge ~~the~~ emissions from various GHG based upon the 100-year global warming potential (GWP). CO_2e is calculated by multiplying the mass amount of emissions (metric tons per year), for each GHG constituent by that gas's GWP, and summing the resultant values to determine CO_2e (metric tons per year). This calculation allows comparison of different greenhouse gases and their relative impact on the environment over different standard time periods.

1.08 Commission - the Transportation Commission of Colorado created by § 43-1-106, C.R.S.

1.09 Congestion Mitigation and Air Quality (CMAQ) - a federally ~~ly~~ funding~~mandated~~ program established in 23 U.S.C § 149 to improve air quality in Nonattainment and Maintenance Areas for ozone, carbon monoxide, and particulate matter. References related to this program include any successor programs as established by the federal government.

1.10 Corridor - a transportation system that includes all modes and facilities within a described geographic area.

1.10 Corridor Vision - a comprehensive examination of a specific transportation Corridor, which includes a determination of needs and an expression of desired state of the transportation system that includes Transportation Modes and facilities over a planning period.

1.11 Department or CDOT - the Colorado Department of Transportation created by § 43-1-103, C.R.S.

1.12 Disproportionately Impacted Communities - defined in § 24-38.5-302(3), C.R.S. as a community that is in a census block group, as determined in accordance with the most recent United States Decennial Census where the proportion of households that are low income is greater than forty percent (40%), the proportion of households that identify as minority is greater than forty percent (40%), or the proportion of households that are housing cost-burdened is greater than forty percent (40%).

1.13 Division - the Division of Transportation Development within CDOT.

1.14 Division Director - the Director of the Division of Transportation Development.

1.15 Fiscally Constrained - the financial limitation on transportation plans and programs based on the projection of revenues as developed cooperatively with the MPOs and the rural TPRs and adopted by the Commission that are reasonably expected to be available over the long-range transportation planning period and the TIP and STIP programming periods.

1.16 Four-Year Prioritized Plan - a four-year subset of the 10-Year Plan consisting of projects prioritized for near-term delivery and partial or full funding.

1.17 Greenhouse Gas (GHG) pollutants means anthropogenic (man-made) emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride.~~ for purposes of these Rules, GHG is defined as the primary transportation greenhouse gases: carbon dioxide, methane, and nitrous oxide.~~

1.18 Greenhouse Gas (GHG) Reduction Level - the amount of the GHG expressed as CO2e reduced ~~from the projected Baseline~~ that CDOT and MPOs must attain through transportation planning.

1.19 Greenhouse Gas (GHG) Mitigation Measures - non-Regionally Significant Project strategies implemented by CDOT and MPOs that reduce transportation GHG pollution and help meet the GHG Reduction Levels.

1.20 Harmful air pollutant - means pollutants designated by EPA as criteria air pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, particulate pollution (PM) (PM2.5 and PM10), and sulfur dioxide), or hazardous air pollutants.

1.21 Intergovernmental Agreement - an arrangement made between two or more political subdivisions that form associations for the purpose of promoting the interest and welfare of said subdivisions.

1.22 Intermodal Facility - a site where goods or people are conveyed from one mode of transportation to another, such as goods from rail to truck or people from passenger vehicle to bus.

1.23 Land Use - the type, size, arrangement, and use of parcels of land.

1.24 Limited English Proficiency - individuals who do not speak English as their primary language and

who have a limited ability to read, speak, write, or understand English.

1.25 Long-Range Planning - a reference to a planning period with a minimum 20-year planning horizon.

1.26 Maintenance Area - any geographic region of the United States previously designated by the U.S. Environmental Protection Agency (EPA) as a Nonattainment Area pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under § 175A of the CAA, as amended in 1990.

1.27 Memorandum of Agreement (MOA) - a written agreement between two or more parties on an intended plan of action.

1.28 Metropolitan Planning Agreement (MPA) - a written agreement between the MPO, the State, and the providers of public transportation serving the Metropolitan Planning Area that describes how they will work cooperatively to meet their mutual responsibilities in carrying out the metropolitan planning process.

1.29 Metropolitan Planning Area - a geographic area determined by agreement between the MPO for the area and the Governor, in which the metropolitan transportation planning process is carried out pursuant to 23 U.S.C. § 134.

1.30 Metropolitan Planning Organization (MPO) - an organization designated by agreement among the units of general purpose local governments and the Governor, charged to develop the RTPs and programs in a Metropolitan Planning Area pursuant to 23 U.S.C. § 134.

1.31 Mitigation Action Plan - an element of the GHG Transportation Report that specifies which GHG Mitigation Measures shall be implemented that help achieve the GHG Reduction Levels.

1.32 Mobility - the ability to move people, goods, services, and information among various origins and destinations.

1.33 MPO Models - one (1) or more of the computer-based models maintained and operated by the MPOs which depict the MPO areas' transportation systems (e.g., roads, transit, etc.) and development patterns (i.e., number and location of households and jobs) for a defined year (i.e., past, present, or forecast) and produce estimates of roadway VMT, delays, operating speeds, transit ridership, and other characteristics of transportation system use.

1.34 Multimodal - an integrated approach to transportation that takes into account all modes of travel, such as bicycles and walking, personal mobility devices, buses, transit, rail, aircraft, and motor vehicles.

1.35 Multimodal Transportation and Mitigation Options Fund (MMOF) - a program created in the State Treasury pursuant to § 43-4-1003, C.R.S. which funds bicycle, pedestrian, transit and other Multimodal projects as defined in § 43-4-1002(5), C.R.S. and GHG Mitigation projects as defined in § 43-4-1002(4.5), C.R.S.

1.36 National Ambient Air Quality Standards (NAAQS) - are those established by the U.S. Environmental Protection Agency for air pollutants considered harmful to public health and environment. These criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter ~~small particles~~, and sulfur dioxide.

1.37 Nonattainment Area - any geographic region of the United States which has been designated as nonattainment by the EPA under section 107 of the CAA for any pollutants for which a NAAQS exists.

1.38 Non-Metropolitan Area - a rural geographic area outside a designated Metropolitan Planning Area.

1.39 Plan Integration - a comprehensive evaluation of the statewide transportation system that includes all modes, an identification of needs and priorities, and key information from other related CDOT plans.

1.40 Planning Partners - local and tribal governments, the rural TPRs and MPOs.

1.41 Project Priority Programming Process - the process by which CDOT adheres to 23 U.S.C. § 135 and 23 C.F.R. Part 450 when developing and amending the STIP.

1.42 Regional Planning Commission (RPC) - a planning body formed under the provisions of § 30-28-105, C.R.S., and designated under these Rules for the purpose of transportation planning within a rural TPR.

1.43 Regionally Significant Project - a transportation project that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. Modifications of this definition shall be allowed if approved by the State Interagency Consultation Team. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team.

1.44 Regional Transportation Plan (RTP) - a long-range plan designed to address the future transportation needs for a TPR including, but not limited to, Fiscally Constrained or anticipated funding, priorities, and implementation plans, pursuant to, but not limited to, § 43-1-1103, C.R.S. and 23 C.F.R. Part 450. All rural and urban TPRs in the state produce RTPs.

1.45 State Interagency Consultation Team - consists of the Division Director or the Division Director's designee, the Colorado Department of Public Health and Environment (CDPHE) Director of Air Pollution Control Division or the Director's designee, and the Director of each MPO or their designee.

1.46 State Transportation System - refers to all state-owned, operated, and maintained transportation facilities in Colorado, including, but not limited to, interstate highways, other highways, and aviation, bicycle and pedestrian, transit, and rail facilities.

1.47 Statewide Transportation Advisory Committee (STAC) - the committee created by § 43-1-1104, C.R.S., comprising one representative from each TPR and one representative from each tribal government to review and comment on RTPs, amendments, and updates, and to advise both the Department and the Commission on the needs of the transportation system in Colorado.

1.48 Statewide Transportation Improvement Program (STIP) - a Fiscally Constrained, multi-year, statewide, Multimodal program of transportation projects which is consistent with the Statewide Transportation Plan and planning processes, with Metropolitan Planning Area plans, Transportation Improvement Programs and processes, and which is developed pursuant to 23 U.S.C. § 135.

1.49 Statewide Travel Model - the computer-based model maintained and operated by CDOT which depicts the state's transportation system (roads, transit, etc.) and development scale and pattern (number and location of households, number and location of firms/jobs) for a selected year (past, present, or forecast) and produces estimates of roadway VMT and speed, transit, ridership, and other characteristics of transportation system use.

1.50 Statewide Transportation Plan - the long-range, comprehensive, Multimodal statewide transportation plan covering a period of no less than 20 years from time of adoption, developed through the statewide transportation planning process described in these Rules and 23 U.S.C. § 135, and adopted by the Commission pursuant to § 43-1-1103, C.R.S.

1.51 Surface Transportation Block Grant (STBG) - a flexible federal funding source established under 23 U.S.C. § 133 for state and local transportation needs. Funds are expended in the areas of the State based on population. References related to this program include any successor programs established by the federal government.

1.52 System Continuity - includes, but is not limited to, appropriate intermodal connections, integration with state modal plans, and coordination with neighboring RTPs, and, to the extent practicable, other neighboring states' transportation plans.

1.53 Traditionally Underserved - refers to groups such as seniors, persons with disabilities, low-income households, minorities, and student populations, which may face difficulties accessing transportation systems, employment, services, and other amenities.

1.54 Transit and Rail Advisory Committee (TRAC) - an advisory committee created specifically to advise the Executive Director, the Commission, and the Division of Transit and Rail on transit and rail-related activities.

1.55 Transportation Commonality - the basis on which TPRs are established including, but not limited to: Transportation Commission Districts, the Department's Engineering Regions, Travelsheds, Watersheds, geographic unity, existing Intergovernmental Agreements, and socioeconomic unity.

1.56 Transportation Improvement Program (TIP) - a staged, Fiscally Constrained, multi-year, Multimodal program of transportation projects developed and adopted by MPOs, and approved by the Governor, which is consistent with an MPO's RTP and which is developed pursuant to 23 U.S.C. § 134.

1.57 Transportation Mode - a particular form of travel including, but not limited to, bus, motor vehicle, rail, transit, aircraft, bicycle, pedestrian travel, or personal mobility devices.

1.58 Transportation Planning and Programming Process - all collaborative planning-related activities including the development of regional and Statewide Transportation Plans, the Department's Project Priority Programming Process, and development of the TIPs and STIP.

1.59 Transportation Planning Region (TPR) - a geographically designated area of the state, defined by section 2.00 of these Rules in consideration of the criteria for Transportation Commonality, and for which a regional transportation plan is developed pursuant to the provisions of § 43-1-1102 and 1103, C.R.S. and 23 U.S.C. § 134. The term TPR is inclusive of these types: non-MPO TPRs, MPO TPRs, and TPRs with both MPO and non-MPO areas.

1.60 Transportation Systems Planning - provides the basis for identifying current and future deficiencies on the state highway system and outlines strategies to address those deficiencies and make improvements to meet Department goals.

1.61 Travelshed - the region or area generally served by a major transportation facility, system, or Corridor.

1.62 Tribal Transportation Improvement Program (TTIP) - a multi-year Fiscally Constrained list of proposed transportation projects developed by a tribe from the tribal priority list or tribal long-range transportation plan, and which is developed pursuant to 25 C.F.R. Part 170. The TTIP is incorporated into the STIP without modification.

1.63 Urbanized Area - an area with a population of 50,000 or more designated by the Bureau of the Census.

1.64 Vehicle Miles Traveled (VMT) - the traffic volume of a roadway segment or system of roadway segments multiplied by the length of the roadway segment or system.

1.65 Watershed - a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

1.66 10-Year Plan - a vision for Colorado's transportation system that includes a specific list of projects categorized across priority areas as identified in the Statewide Transportation Plan.

2.00 Transportation Planning Regions (TPR).

2.01 Transportation Planning Region Boundaries. ~~Transportation Planning Region~~TPRs are geographically designated areas of the state with similar transportation needs that are determined by considering transportation commonalities. Boundaries are hereby established as follows:

2.01.1 The Pikes Peak Area ~~Transportation Planning Region~~TPR comprises the Pikes Peak Area Council of Governments' metropolitan area within El Paso and Teller counties.

2.01.2 The Greater Denver ~~Transportation Planning Region~~TPR, which includes the Denver Regional Council of Governments' planning area, comprises the counties of Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Gilpin, Jefferson, and parts of Weld.

2.01.3 The North Front Range ~~Transportation Planning Region~~TPR comprises the North Front Range Transportation and Air Quality Planning Council's metropolitan area within Larimer and Weld counties.

2.01.4 The Pueblo Area ~~Transportation Planning Region~~TPR comprises Pueblo County, including the Pueblo Area Council of Governments' metropolitan area.

2.01.5 The Grand Valley ~~Transportation Planning Region~~TPR comprises Mesa County, including the Grand Valley Metropolitan Planning Organization's metropolitan area.

2.01.6 The Eastern ~~Transportation Planning Region~~TPR comprises Cheyenne, Elbert, Kit Carson, Lincoln, Logan, Phillips, Sedgwick, Washington, and Yuma counties.

2.01.7 The Southeast ~~Transportation Planning Region~~TPR comprises Baca, Bent, Crowley, Kiowa, Otero, and Prowers counties.

2.01.8 The San Luis Valley ~~Transportation Planning Region~~TPR comprises Alamosa, Chaffee, Conejos, Costilla, Mineral, Rio Grande, and Saguache counties.

2.01.9 The Gunnison Valley ~~Transportation Planning Region~~TPR comprises Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel counties.

2.01.10 The Southwest ~~Transportation Planning Region~~TPR comprises Archuleta, Dolores, La Plata, Montezuma, and San Juan counties, including the Ute Mountain Ute and Southern Ute Indian Reservations.

2.01.11 The Intermountain ~~Transportation Planning Region~~TPR comprises Eagle, Garfield, Lake, Pitkin, and Summit counties.

2.01.12 The Northwest ~~Transportation Planning Region~~TPR comprises Grand, Jackson, Moffat, Rio Blanco, and Routt counties.

2.01.13 The Upper Front Range ~~Transportation Planning Region~~TPR comprises Morgan County, and the parts of Larimer and Weld counties, that are outside both the North Front Range and the Greater Denver (metropolitan) TPRs.

2.01.14 The Central Front Range ~~Transportation Planning Region~~TPR comprises Custer, El Paso, Fremont, Park, and Teller counties, excluding the Pikes Peak Area Council of Governments' metropolitan area.

2.01.15 The South Central ~~Transportation Planning Region~~TPR comprises Huerfano, and Las Animas Counties.

2.02 Boundary Revision Process.

2.02.1 TPR boundaries, excluding any MPO-related boundaries, will be reviewed by the Commission at the beginning of each regional and statewide transportation planning process. The Department will notify counties, municipalities, MPOs, Indian tribal governments, and RPCs for the TPRs of the boundary review revision requests. MPO boundary review shall be conducted pursuant to 23 U.S.C. § 134 and 23 C.F.R. Part 450 Subpart B and any changes shall be provided to the Department to update the Rules. All boundary revision requests shall be sent to the Division Director, and shall include:

2.02.1.1 A geographical description of the proposed boundary change.

2.02.1.2 A statement of justification for the change considering transportation commonalities.

2.02.1.3 A copy of the resolution stating the concurrence of the affected ~~Regional Planning Commission~~RPC.

2.02.1.4 The name, title, mailing address, telephone number, fax number and electronic mail address (if available) of the contact person for the requesting party or parties.

2.02.2 The Department will assess and STAC shall review and comment (as set forth in these Rules) on all ~~non~~Non-~~metropolitan~~ Metropolitan ~~area~~ Area TPR boundary revision requests based on transportation commonalities and make a recommendation to the Commission concerning such requests. The Department will notify the Commission of MPO boundary changes. The Commission may initiate a rule-making proceeding under the ~~State~~ Colorado Administrative Procedure Act, § 24-4-103, C.R.S. to consider a boundary revision request. Requests received for a MPO or non-metropolitan TPR boundary revision outside of the regularly scheduled boundary review cycle must include the requirements identified above.

2.02.3 In the event that the Commission approves a change to the boundary of a TPR that has a ~~Regional Planning Commission~~RPC, the RPC in each affected TPR shall notify the Department of any changes to the ~~intergovernmental~~ Intergovernmental ~~agreement~~ Agreement governing the RPC as specified in these Rules.

2.03 Transportation Planning Coordination with MPOs.

2.03.1 The Department and the MPOs shall coordinate activities related to the development of ~~Regional Transportation Plan~~RTPs, the Statewide Transportation Plan, TIPs, and the STIP in conformance with 23 U.S.C. § 134 and 135 and § 43-1-1101 and § 43-1-1103, C.R.S. The Department shall work with the MPOs to resolve issues arising during the planning process.

2.04 Transportation Planning Coordination with Non-MPO RPCs.

2.04.1 The Department and RPCs shall work together in developing ~~Regional Transportation Plan~~RTPs and in planning future transportation activities. The Department shall consult with all RPCs on development of the Statewide Transportation Plan; incorporation of RTPs into the Statewide Transportation Plan; and the inclusion of projects into the STIP that are consistent with the RTPs. In addition, the Department shall work with the RPCs to resolve issues arising during the planning process.

2.05 Transportation Planning Coordination among RPCs.

2.05.1 If transportation improvements cross TPR boundaries or significantly impact another TPR, the RPC shall consult with all the affected RPCs involved when developing the ~~regional transportation plan~~RTP. In general, RPC planning officials shall work with all ~~planning~~ Planning ~~partners~~ Partners affected by transportation activities when planning future transportation activities.

2.06 Transportation Planning Coordination with the Southern Ute and the Ute Mountain Ute Tribal Governments.

2.06.1 Regional transportation planning within the Southwest TPR shall be coordinated with the transportation planning activities of the Southern Ute and the Ute Mountain Ute tribal governments. The long-range transportation plans for the tribal areas shall be integrated in the Statewide Transportation Plan and the ~~Regional Transportation Plan~~RTP for this TPR. The TTIP is incorporated into the STIP without modification.

3.00 Statewide Transportation Advisory Committee (STAC).

3.01 Duties of the ~~Statewide Transportation Advisory Committee (~~STAC~~)~~. Pursuant to § 43-1-1104 C.R.S. the duties of the STAC shall be to meet as necessary and provide advice to both the Department and the Commission on the needs of the transportation system in Colorado including, but not limited to: budgets, ~~transportation improvement programs~~TIPs of the ~~metropolitan planning organizations~~MPOs, the ~~Statewide Transportation Improvement Program~~STIP, transportation plans, and state transportation policies.

The STAC shall review and provide to both the Department and the Commission comments on:

3.01.1 All ~~Regional Transportation Plan~~RTPs, amendments, and updates as described in these Rules.

3.01.2 Transportation related communication and/or conflicts which arise between RPCs or between the Department and a RPC.

3.01.3 The integration and consolidation of RTPs into the Statewide Transportation Plan.

3.01.4 Colorado's ~~mobility~~ Mobility requirements to move people, goods, services, and information by furnishing regional perspectives on transportation problems requiring interregional and/or statewide solutions.

3.01.5 Improvements to modal choice, linkages between and among modes, and transportation system balance and ~~system~~ System ~~continuity~~Continuity.

3.01.6 Proposed TPR boundary revisions.

3.02 Notification of Membership

3.02.1 Each RPC and tribal government shall select its representative to the STAC pursuant to § 43-1-1104(1), C.R.S. The Ute Mountain Ute Tribal Council and the Southern Ute Indian Tribal Council each appoint one representative to the STAC. Each TPR and tribal government is also entitled to name an alternative representative who would serve as a proxy in the event their designated representative is unable to attend a STAC meeting and would be included by the Department in distributions of all STAC correspondence and notifications. The Division Director shall be notified in writing of the name, title, mailing address, telephone number, fax number and electronic mail address (if available) of the STAC representative and alternative representative from each TPR and tribal government within thirty (30) days of selection.

3.03 Administration of ~~Statewide Transportation Advisory Committee~~STAC

3.03.1 STAC recommendations on Regional and Statewide Transportation Plans, amendments, and updates shall be documented in the STAC meeting minutes, and will be considered by the Department and Commission throughout the statewide transportation planning process.

3.03.2 The STAC shall establish procedures to govern its affairs in the performance of its advisory capacity, including, but not limited to, the appointment of a chairperson and the length of the chairperson's term, meeting times, and locations.

3.03.3 The Division Director will provide support to the STAC, including, but not limited to:

3.03.3.1 Notification of STAC members and alternates of meeting dates.

3.03.3.2 Preparation and distribution of STAC meeting agendas, supporting materials, and minutes.

3.03.3.3 Allocation of Department staff support for STAC-related activities.

4.00 Development of Regional and Statewide Transportation Plans.

4.01 ~~Regional Planning Commission~~RPCs, MPOs, and the Department shall comply with all applicable provisions of 23 U.S.C. § 134 and § 135, 23 C.F.R. Part 450, and § 43-1-1103, C.R.S. and all applicable provisions of Commission policies and guidance documents in development of regional and statewide transportation plans, respectively.

4.02 Public Participation

4.02.1 The Department, in coordination with the RPCs of the rural TPRs, shall provide early and continuous opportunity for public participation in the transportation planning process. The process

shall be proactive and provide timely information, adequate public notice, reasonable public access, and opportunities for public review and comment at key decision points in the process. The objectives of public participation in the transportation planning process include: providing a mechanism for directly-impacted communities to provide leadership, share public perspectives, needs, and ideas to be considered in the planning process; developing the Department's and public's understanding of the problems and opportunities facing the transportation system; demonstrating explicit consideration and response to public input through a variety of tools and techniques; and developing consensus on plans. The Department shall develop a documented public participation process pursuant to 23 C.F.R. Part 450.

4.02.2 Statewide Plans and Programs. Pursuant to 23 C.F.R. Part 450 Subpart B, the Department is responsible, in cooperation with the RPCs and MPOs, for carrying out public participation for developing, amending, and updating the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan, the ~~Statewide Transportation Improvement Program (~~STIP~~)~~, and other statewide transportation planning activities.

4.02.3 MPO Plans and Programs. Pursuant to 23 C.F.R. Part 450 Subpart C, the MPOs are responsible for carrying out public participation for the development of ~~regional transportation plan~~RTPs, ~~transportation improvement programs~~TIPs and other related regional transportation planning activities for their respective ~~metropolitan~~ Metropolitan ~~planning~~ Planning ~~areas~~Areas. Public participation activities carried out in a metropolitan area in response to metropolitan planning requirements shall by agreement of the Department and the MPO, satisfy the requirements of this subsection.

4.02.4 Non-MPO TPR Plans and Programs. ~~Regional Planning Commission~~RPCs for non-MPO TPRs are responsible for public participation related to regional planning activities in that TPR, in cooperation with the Department. Specific areas of cooperation shall be determined by agreement between the ~~Regional Planning Commission~~RPC and the Department.

4.02.5 Public Participation Activities. Public participation activities at both the rural TPR and statewide level shall include, at a minimum:

4.02.5.1 Establishing and maintaining for the geographic area of responsibility a list of all known parties interested in transportation planning including, but not limited to: elected officials; municipal and county planning staffs; affected public agencies; local, state, and federal agencies eligible for federal and state transportation funds; local representatives of public transportation agency employees and users; freight shippers and providers of freight transportation services; public and private transportation providers; representatives of users of transit, bicycling and pedestrian, aviation, and train facilities; private industry; environmental and other interest groups; Indian tribal governments and the U.S. Secretary of the Interior when tribal lands are involved; and representatives of persons or groups that may be underserved by existing transportation systems, such as minority, low-income, seniors, persons with disabilities, and those with ~~limited~~ Limited English ~~proficiency~~Proficiency; and members of the general public expressing such interest in the transportation planning process.

4.02.5.2 Providing reasonable notice and opportunity to comment through mailing lists and other various communication methods on upcoming transportation planning-related activities and meetings. Reasonable notice for Disproportionately Impacted Communities requires the notice be translated in the primary languages spoken in the community.

4.02.5.3 Utilizing reasonably available internet or traditional media opportunities, including minority and diverse media, to provide timely notices of planning-related activities and meetings to members of the public, including ~~LEP~~ Limited English Proficiency individuals, and others who may require reasonable accommodations. Methods that will be used to the

maximum extent practicable for public participation could include, but not be limited to, use of the internet; social media, news media, such as newspapers, radio, or television, mailings and notices, including electronic mail and online newsletters.

4.02.5.4 Seeking out those persons, ~~or~~groups, and communities Disproportionately Impacted or ~~traditionally~~ Traditionally ~~underserved~~ Underserved by existing transportation systems including, but not limited to, seniors, persons with disabilities, minority groups, low-income, and those with ~~limited~~ Limited English ~~proficiency~~Proficiency, for the purposes of exchanging information, increasing their involvement, and considering their transportation needs in the transportation planning process. Pursuant to § 43-1-601, C.R.S., the Department shall prepare a statewide survey identifying the transportation needs of seniors and of persons with disabilities.

4.02.5.5 Consulting, as appropriate, with ~~Regional Planning Commission~~RPCs, and federal, state, local, and tribal agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation concerning the development of long-range transportation plans.

4.02.5.6 Providing reasonable public access to, and appropriate opportunities for public review and comment on criteria, standards, and other planning-related information. Reasonable public access includes, but is not limited to, ~~LEP~~ Limited English Proficiency services and access to ADA-compliant facilities, as well as to the internet.

4.02.5.7 Where feasible, scheduling the development of regional and statewide plans so that the release of the draft plans may be coordinated to provide for the opportunity for joint public outreach.

4.02.5.8 Documentation of Responses to Significant Issues. ~~Regional Planning Commissions~~RPCs and the Department shall respond in writing to all significant issues raised during the review and comment period on transportation plans, and make these responses available to the public.

4.02.5.9 Review of the Public Involvement Process. All interested parties and the Department shall periodically review the effectiveness of the Department's public involvement process to ensure that the process provides full and open access to all members of the public. When necessary, the process will be revised and allow time for public review and comment per 23 C.F.R. Part 450.

4.03 Transportation Systems Planning. ~~Regional Planning Commission~~RPCs, and the Department, shall use an integrated ~~multimodal~~ Multimodal ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning approach in developing and updating the long-range ~~Regional Transportation Plans~~RTPs and the long-range Statewide Transportation Plan for a minimum 20-year forecasting period. ~~Regional Planning Commission~~RPCs shall have flexibility in the methods selected for ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning based on the complexity of transportation problems and available resources within the TPR. The Department will provide guidance and assistance to the ~~Regional Planning Commission~~RPCs regarding the selection of appropriate methods. Transportation Systems Planning shall consider the following:

4.03.1 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs and the Department shall consider the Results of any related studies that have been completed. ~~Regional Planning Commission~~RPCs and the Department may also identify any ~~corridor~~Corridor(s) or sub-area(s) where an environmental study or assessment may need to be performed in the future.

4.03.2 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs shall consider ~~corridor vision~~ Needs and desired state of the transportation system including existing and future land use and infrastructure, major activity centers such as industrial, commercial and recreation areas, economic development, environmental protection, and modal choices.

4.03.3 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs shall include Operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and ~~mobility~~ Mobility of people goods, and services.

4.03.4 Transportation ~~systems~~ Systems ~~planning~~ Planning by the Department should include Capital, operations, maintenance and management strategies, investments, procedures, and other measures to ensure the preservation and most efficient and effective use of the ~~state~~ State ~~transportation~~ Transportation ~~system~~System.

4.03.5 Transportation ~~systems~~ Systems P~~p~~lanning by the Department shall consider and Integration of all modes into the Statewide Transportation Plan and include coordination with Department modal plans and modal committees, such as the ~~Transit and Rail Advisory Committee (~~TRAC~~)~~.

4.03.6 Impacts on Disproportionately Impacted Communities and opportunities to promote equity and economic justice.

4.03.7 Transportation Systems Planning by the Department shall provide for the establishment and use of a performance-based approach to transportation decision-making to support the national goals described in 23 U.S.C. § 150 (FAST Act, P.L. 114-94). Performance targets that the Department establishes to address the performance measures described in 23 U.S.C. § 150, where applicable, are to be used to track progress towards attainment of critical outcomes for the state. The state shall consider the performance measures and targets when developing policies, programs, and investment priorities reflected in the Statewide Transportation Plan and STIP.

4.04 Regional Transportation Plans (RTP). Long-range ~~regional transportation plans~~RTPs shall be developed, in accordance with federal (23 U.S.C. § 134 and § 135) and state (§ 43-1-1103 and § 43-1-1104, C.R.S.) law and implementing regulations. Department selection of performance targets that address the performance measures shall be coordinated with the relevant MPOs to ensure consistency, to the maximum extent practicable.

4.04.1 Content of ~~Regional Transportation Plan~~RTPs. Each RTP shall include, at a minimum, the following elements:

4.04.1.1 Transportation system facility and service requirements within the MPO TPR over a minimum 20-year planning period necessary to meet expected demand, and the anticipated capital, maintenance and operating cost for these facilities and services.

4.04.1.2 State and federal transportation system planning factors to be considered by ~~Regional Planning Commission~~RPCs and the Department during their respective ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning shall include, at a minimum, the factors described in § 43-1-1103 (5), C.R.S., and in 23 U.S.C. § 134 and § 135.

4.04.1.3 Identification and discussion of potential environmental mitigation measures, ~~corridor~~ Corridor studies, or ~~corridor~~ Corridor ~~visions~~Visions, including a discussion of impacts to minority and low-income communities.

4.04.1.4 A discussion of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan.

4.04.1.5 For rural RTPs, the integrated performance-based ~~multimodal~~ Multimodal transportation plan based on revenues reasonably expected to be available over the minimum 20-year planning period. For metropolitan RTPs, a ~~fiscally~~ Fiscally ~~constrained~~ Constrained financial plan.

4.04.1.6 Identification of reasonably expected financial resources developed cooperatively among the Department, MPOs, and rural TPRs for ~~long~~Long-~~range~~ Range ~~planning~~ Planning purposes, and results expected to be achieved based on regional priorities.

4.04.1.7 Documentation of the public notification and public participation process pursuant to these Rules.

4.04.1.8 A resolution of adoption by the responsible ~~Metropolitan Planning Organization~~MPO or the ~~Regional Planning Commission~~RPC.

4.04.2 Products and reviews

4.04.2.1 Draft Plan. ~~Transportation Planning Region~~TPRs shall provide a draft of the RTP to the Department through the Division ~~of Transportation Development~~.

4.04.2.2 Draft Plan Review. Upon receipt of the draft RTPs, the Department will initiate its review and schedule the STAC review (pursuant to these Rules). The Department will provide its comments and STAC comments to the ~~Transportation Planning Region~~TPR within a minimum of 30 days of receiving the draft RTP. ~~Regional transportation plan~~RTPs in metropolitan areas completed pursuant to the schedule identified in 23 C.F.R. § 450.322 shall be subject to the provisions of this section prior to being submitted to the Department for consideration as an amendment to the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan.

4.04.2.3 Final Plan. ~~Transportation Planning Region~~TPRs shall provide the final RTP to the Department through the Division ~~of Transportation Development~~.

4.04.2.4 Final Plan Review. Upon receipt of the final RTP, the Department will initiate its review and schedule the STAC review (pursuant to these Rules) of the final RTPs to determine if the plans incorporate the elements required by the Rules. If the Department determines that a final RTP is not complete, including if the final RTP does not incorporate the elements required by these Rules, then the Department will not integrate that RTP into the statewide plan until the ~~Transportation Planning Region~~TPR has sufficiently revised that RTP, as determined by the Department with advice from the STAC. The Department will provide its comments and STAC comments to the ~~Transportation Planning Region~~TPR within a minimum of 30 days of receiving the final RTP. ~~Transportation Planning Region~~TPRs shall submit any RTP revisions based on comments from the Department and STAC review within 30 days of the

Department's provision of such comments. ~~Regional transportation plans~~RTPs in metropolitan areas completed pursuant to the schedule identified in 23 C.F.R. § 450.322 shall be subject to the provisions of this section prior to being submitted to the Department for consideration as an amendment to the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan.

4.05 Maintenance and Nonattainment Areas. Each RTP, or RTP amendment, shall include a section that:

4.05.1 Identifies any area within the TPR that is designated as a ~~maintenance~~ Maintenance or ~~nonattainment~~ Nonattainment ~~area~~Area.

4.05.2 Addresses, in either a qualitative or quantitative manner, whether transportation related emissions associated with the pollutant of concern in the TPR are expected to increase over the ~~long~~Long-~~range~~ Range ~~planning~~ Planning period and, if so, what effect that increase might have in causing a ~~maintenance~~ Maintenance ~~area~~ Area for a~~n~~ NAAQS pollutant to become a ~~nonattainment~~ Nonattainment ~~area~~Area, or a ~~non-attainment~~Nonattatinment ~~area~~ Area to exceed its emission budget in the approved State Implementation Plan.

4.05.3 If transportation related emissions associated with the pollutant are expected to increase over the ~~long~~Long-~~range~~ Range ~~planning~~ Planning period, identifies which programs or measures are included in the RTP to decrease the likelihood of that area becoming a ~~nonattainment~~ Nonattainment ~~area~~ Area for the pollutant of concern.

4.06 Statewide Transportation Plan. The ~~Regional Transportation Plans~~RTPs submitted by the ~~Regional Planning Commissions~~RPCs shall, along with direction provided through Commission policies and guidance, form the basis for developing and amending the Statewide Transportation Plan. The Statewide Transportation Plan shall cover a minimum 20-year planning period at the time of adoption and shall guide the development and implementation of a performance-based ~~multimodal~~ Multimodal transportation system for the State.

4.06.1 The Statewide Transportation Plan shall:

4.06.1.1 Integrate and consolidate the RTPs and the Department's systems planning, pursuant to these Rules, into a long-range 20-year ~~multimodal~~ Multimodal transportation plan that presents a clear, concisepath for future transportation in Colorado.

4.06.1.2 Include the long-term transportation concerns of the Southern Ute Indian Tribe and the Ute Mountain Ute Tribe in the development ofthe Statewide Transportation Plan.

4.06.1.3 Coordinate with other state and federal agencies responsible forland use management, natural resources, environmental protection, conservation, and historic preservation.

4.06.1.4 Include a discussion of potential environmental mitigation activities and potential areas to carry out these activities that may have the greatest potential to restore and maintain the environmental functionsaffected by the plan developed in consultation with federal, state, and tribal wildlife, land management and regulatory agencies.

4.06.1.5 Include a comparison of transportation plans to state and tribal conservation plans or maps and to inventories of natural or historical resources.

4.06.1.6 Provide for overall ~~multimodal~~ Multimodal transportation system management on a statewide basis.

4.06.1.7 The Statewide Transportation Plan shall be coordinated with metropolitan transportation plans pursuant to 23 C.F.R. Part 450, § 43-1-1103 and § 43-1-1105, C.R.S. Department selection of performance targets shall be coordinated with the MPOs to ensure consistency, to the maximum extent practicable.

4.06.1.8 Include an analysis of how the Statewide Transportation Plan isaligned with Colorado's climate goals and helps reduce, prevent, and mitigate GHG, and other air pollutants~~, pollution~~ throughout the State.

4.06.1.9 Include an analysis of ~~impacts~~ harmful air pollutants and co-benefits in ~~on~~ Disproportionately Impacted Communities.

4.06.1.9 Includes the 10-Year Plan as an appendix.

4.06.2 Content of the Statewide Transportation Plan. At a minimum, the Statewide Transportation Plan shall include priorities as identified in the RTPs, as identified in these Rules and pursuant to federal planning laws and regulations. The Statewide Transportation Plan shall be submitted to the ~~Colorado Transportation~~ Commission for its consideration and approval.

4.06.3 Review and Adoption of the Statewide Transportation Plan.

4.06.3.1 The Department will submit a draft Statewide Transportation Plan to the Commission, the STAC, and all interested parties for review and comment. The review and comment period will be conducted for a minimum of 30 days. The Statewide Transportation Plan and appendices~~The publication~~ will be available in physical form upon request~~at public facilities, such as at the Department headquarters and region offices, state depository libraries, county offices, TPR offices, Colorado Division offices of the Federal Highway Administration and Federal Transit Administration~~, and made available on the internet.

4.06.3.2 The Department will submit the final Statewide Transportation Plan to the ~~Colorado Transportation~~ Commission for adoption.

5.00 Updates to Regional and Statewide Transportation Plans.

5.01 Plan Update Process. The updates of ~~Regional Transportation Plan~~RTPs and the Statewide Transportation Plan shall be completed on a periodic basis through the same process governing development of these plans pursuant to these Rules. The update cycle shall comply with federal and state law and be determined in consultation with the ~~Transportation~~ Commission, the Department, the STAC and the MPOs so that the respective update cycles will coincide.

5.02 Notice by Department of Plan Update Cycle. The Department will notify ~~Regional Planning Commission~~RPCs and the MPOs of the initiation of each plan update cycle, and the schedule for completion.

6.00 Amendments to the Regional and Statewide Transportation Plans.

6.01 Amendment Process

6.01.1 The process to consider amendments to ~~Regional Transportation Plan~~RTPs shall be carried out by rural RPCs and the MPOs. The amendment review process for ~~Regional Transportation Plan~~RTPs shall include an evaluation, review, and approval by the respective RPC or MPO.

6.01.2 The process to consider amendments to the Statewide Transportation Plan shall be carried out by the Department, either in considering a proposed amendment to the Statewide Transportation Plan from a requesting RPC or MPO or on its own initiative.

6.01.3 The process to consider amendments to the 10-Year Plan shall be carried out by CDOT in coordination with the rural RPCs and the MPOs.

7.00 Transportation Improvement Programs (TIPs) and Statewide Transportation Improvement Program (STIP).

7.01 TIP development shall occur in accordance with 23 C.F.R. Part 450, Subpart C. The Department will develop the STIP in accordance with 23 C.F.R. Part 450, Subpart B.

7.02 The Department will work with its ~~planning~~ Planning ~~partners~~ Partners to coordinate a schedule for development and adoption of TIPs and the STIP.

7.03 A TIP for an MPO that is in a ~~non-attainment~~Nonattainment or Maintenance Area must first receive a conformity determination by FHWA and FTA before inclusion in the STIP pursuant to 23 C.F.R. Part 450.

7.04 MPO TIPs and Colorado's STIP must be ~~fiscally~~ Fiscally ~~constrained~~Constrained. Under 23 C.F.R. Part 450, each project or project phase included in an MPO TIP shall be consistent with an approved metropolitan RTP, and each project or project phase included in the STIP shall be consistent with the long-range ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan. MPO TIPs shall be included in the STIP either by reference or without change upon approval by the MPOs and the Governor.

8.00 GHG Emission Requirements

8.01 Establishment of Regional GHG Transportation Planning Reduction Levels

8.01.1 The GHG emission reduction levels within Table 1 apply to MPOs and the Non-MPO area within the state of Colorado as of the effective date of these Rules. ~~Baseline values are specific to each MPO and CDOT area and represent estimates of GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules. Table 2 reflects the difference in Baseline levels from year to year assuming a rapid growth in electric vehicles across the State (940,000 light duty electric vehicles in 2030, 3.38 million in 2040 and a total of 97% of all light duty vehicles in 2050). Values in both tables take into account include estimates of population and employment growth as provided by the state demographer.~~

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO_2e

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	2050 Reduction Level (MMT)
DRCOG	14.9	0.27	11.8	0.82	10.9	0.63	12.8	0.37
NFRMPO	2.3	0.04	1.8	0.12	1.9	0.11	2.2	0.07
PPACG	2.7	N/A	2.2	0.15	2.0	0.12	2.3	0.07
GVMPO	0.38	N/A	0.30	0.02	0.30	0.02	0.36	0.01
PACOG	0.50	N/A	0.40	0.03	0.30	0.02	0.4	0.01
CDOT/Non-MPO	6.7	0.12	5.3	0.36	5.2	0.30	6.1	0.17
TOTAL	27.4	0.435	21.8	1.5	20.6	1.2	24.2	0.7

8.01.3 Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles

Table 2: Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles

	2025 Projections (MMT)	2030 Projections (MMT)	2040 Projections (MMT)	2050 Projections (MMT)
TOTAL	27.0	20.0	14.0	8.9

8.02 Process for Determining Compliance

8.02.1 Emissions Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the MOVESApproved Air Quality Model, to estimate total CO2e emissions. Such analysis shall include, at a minimum the existing transportation network, and implementation of Regionally Significant Projects, and the GHG Mitigation Measures contained inthe Applicable Planning Document. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each compliance year in Table 1 as long as the compliance year is not in the past and compare these emissions to the Baseline specified in Table 1. When adopting a TIP, the required emissions analysis will apply to one year corresponding with the last year of the TIP, using interpolation between Table 1years if the last year of the TIP does not correspond to a designated year in Table 1. Thisprovision shall not apply to MPO TIP amendments.

8.02.2 Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior to the adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO

responsibilities for development and execution of MPO Models or the Statewide Travel Model, and MOVES~~Approved Air Quality~~ Model.

8.02.3 The State Interagency Consultation Team shall meet as needed to address any questions on the classification of projects as Regionally Significant, modeling assumptions, and projects that reduce GHG emissions.

8.02.3.1 At minimum, once every five years the State Interagency Consultation Team will reassess and improve the models, Induced Travel Elasticity assumptions, the scoring rubric for mitigations, and the methodology to track and verify GHG reductions from mitigations, based on how well they aligned with real world conditions, results of completed projects and past Induced Travel and GHG emissions data. Third-party experts will be invited to evaluate the reassessment and improvements, and share those findings publicly.

8.02.4 The localized GHG mitigation co-benefits must be commensurate with the localized harmful air pollution impacts of highway capacity projects in Disproportionately Impacted Communities.

8.02.5 Only the GHG emissions reductions from the approved list of GHG Mitigation Measures shall be counted toward compliance with the GHG reduction targets.

8.02.6 ~~3.~~ By April 1, 2022, CDOT in consultation with the MPOs shall establish an ongoing administrative process and guidelines, through a public process, for selecting, measuring, confirming, and verifying GHG Mitigation Measures. The selected GHG Mitigation Measures will be incorporated~~, so that may can~~into ~~each of~~ their plans in order ~~to reach~~ to assist in meeting the Regional GHG Planning Reduction Levels in Table 1. Such a process and guidelines shall include, but not be limited to, how CDOT and MPOs should determine~~ing~~ the relative benefits impactsof GHG Mitigation Measures, and measure~~ing~~ and prioritize~~ing~~ localized benefits impacts to communities and Disproportionately Impacted Communities in particular. The mitigation credit awarded to a specific solution shall consider both aggregate and community impact.

8.02.7 Timing for Determining Compliance

8.02.7.1 By October 1, 2022, CDOT shall update their 10-Year Plan and DRCOG and NFRMPO shall update their RTPs pursuant to § 43-4-1103, C.R.S. and meet the reduction levels in Table 1 or the requirements pursuant to § 43-4-1103, C.R.S and restrictions on funds.

8.02.7.2 ~~After October 1, 2022~~

~~8.02.7.2.1~~ ~~CDO~~T must for each Applicable Planning Document adopted or amended after October 1, 2022, meet either the reduction levels within Table 1 for Non-MPO areas or the requirements as set forth in Rule 8.02.6.1.1~~8.05~~.

8.02.7.3~~2.2~~ MPOs must for each Applicable Planning Document adopted or amended after October 1, 2022, meet either the corresponding reduction levels within Table 1 ~~for each Applicable Planning Document adopted or amended after October 1, 2022~~,, or the relevant MPO and CDOT each must meet the requirements as set forth in Rule ~~8.05~~ 8.02.6.1.1 or Rule 8.02.6.1.2, as applicable This provision shall not apply to MPO TIP Amendments.

8.02.8 Demonstrating Compliance. At least thirty (30) days prior to adoption or amendment of any Applicable Planning Document except amendments to MPO TIPs, CDOT for Non-MPO areas and the MPOs for their areas shall provide to the Commission a GHG Transportation Report containing the following information:

8.02.8.1 GHG emissions analysis and~~, if applicable,~~ a GHG Mitigation Action Plan demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1 or that the requirements in Rules 8.02.5.1.1 or 8.02.5.1.2., as applicable, have been met.

8.02.8.1.1 In non-MPO areas or for MPOs that are not in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the Department utilizes 10-Year Plan funds anticipated to be expended in MPO areas and on 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in non-MPO areas ~~those areas~~ on projects or approvedGHG Mitigation Measures that reduce GHG emissions as necessary to achieve the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1.

8.02.8~~5~~.1.2 In MPO areas that are in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the MPO utilizes shall award those funds anticipated to be expended on projects or approved GHG Mitigation Measures that reduce GHG emissions, and CDOT ~~utilizes~~ shall award 10-Year Plan funds ~~anticipated to be expended on Regionally Significant Projects in that MPO area,~~ on projects or approved ~~that reduce~~ GHG ~~emissions or approved~~ Mitigation Measures~~,~~ as necessary to achieve the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1.

8.02.8.1.3 The restrictions in 8.02.6.1.1 and 8.02.6.1.2 do not apply to projects which have been advertised for construction with funding identified prior to the adoption of the Applicable Planning Document.

8.02.8.2 Identification and documentation of the MPO Model or the Statewide Travel Model and the MOVES ~~Approved Air Quality~~ Model used to determineGHG emissions in MMT of CO2e.

8.02.8.3 An analysis of harmful air pollutant emissions and co-benefits showing how projects that reduce emissions were prioritized in Disproportionately Impacted Communities and how project-specific emissions reduction measures benefitted communities that were impacted by projects. This analysis must incorporate an evaluation of the level of community engagement in proposed projects and expected effect on Disproportionately Impacted Communities, including but not limited to answers to the "key questions" posed by Colorado's Climate Equity Framework or a comparable framework that may succeed it.

8.02.8.4 ~~If Mitigation Measures are needed to count toward the reduction levels inTable 1,~~ the MPO or CDOT shall submit a Mitigation Action Plan that ~~includes at the discretion of the MPO or CDOT, submission of a~~A ~~Mitigation Action Plan~~ that identifies GHG Mitigation Measures~~, if any, needed to mee~~ that will count toward the reduction levels within Table 1. The Mitigation Action Plan shall include:

8.02.8.4.1 The anticipated start and completion date of each measure.

8.02.8.4.2 An estimate, where feasible, of the annual GHG emissions reductions in MMT of CO2e achieved per year by any GHG Mitigation Measures.

8.02.8.4.3 Quantification of specific co-benefits ~~where feasible~~ including reduction of harmful air pollutants ~~co-pollutants (PM2.5, NOx, etc.)~~ as well as travel impacts (changes to VMT, pedestrian/bike use, transit ridership numbers, etc. as applicable).

8.02.8.4.4 Description of benefits to Disproportionately Impacted Communities and a demonstration that the percentage of total investment for GHG mitigation measures in these communities was at least equivalent to the percentage of residents living in Disproportionately Impacted Communities within each MPO region. Colorado's Data Viewer for Disproportionately Impacted Communities should be used to retrieve this data, and the Colorado EnviroScreen tool currently being developed should take over this function when complete. For transportation projects that span multiple communities, CDOT or the MPO shall calculate the percentage of the project investment located within each community when determining compliance with the investment requirement.

8.02.9 Reporting on Compliance- Following the submission of a GHG Transportation Report containing a Mitigation Action Plan,Annually by April 1, CDOT and MPOs must provide a status report to the Commission annually by April 1 on an approved form with the following items for each GHG Mitigation Measure identified in their most recent GHG Transportation Report:

8.02.9.1 The implementation timeline;

8.02.9.2 The current status;

8.02.9.3 For measures that are in progress or completed, quantification of the benefit or impact of such measures; and

8.02.9.4 For measures that are delayed, cancelled, or substituted, an explanation of why that decision was made.

8.03 GHG Mitigation Measures. When assessing compliance with the GHG Reduction Levels, CDOT and MPOs shall have the opportunity to utilize approved GHG Mitigation Measures as set forth in Rules 8.02.3 and 8.02.5.3 to offset emissions and demonstrate progress toward compliance. Illustrative examples of GHG Mitigation Measures include, but are not limited to:

8.0.3.1 The addition of transit resources in a manner that can displace VMT including in rural areas where the public may travel to a community for work but live outside that area due to affordability of housing.

8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.

8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use and in a way that links and rewards transportation project investments with the city making these changes.

8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.

8.03.5 Improving the safety and efficiency of crosswalks for pedestrians, bicyclists, and

other non-motorized vehicles, including to advance compliance with the ADA.

8.03.6 Adopting or encouraging the adoption of locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.

8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.

8.03.8 Establishing policies for clean construction that result in scalable improvements as a result of factors like lower emission materials, recycling of materials, and lower truck emissions during construction.

8.03.9 ~~Adoption of~~Implementing or encouraging the adoption of transportation demand management practices that reduce VMT.

8.03.10 Encourage local adoption or expansion of school bus programs or school carpool programs to reduce private vehicle trips

8.03.11 Electrify loading docks to allow transportation refrigeration units and auxiliary power units to be plugged into the electric grid at the loading dock instead of running on diesel.

8.04 Air Pollution Control Division (APCD) Confirmation and Verification

8.04.1 At least forty-five (45) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to APCD for review and verification of the technical data contained in the draft GHG Transportation Report required per Rule 8.02.6~~5~~. If APCD has not provided written verification within thirty (30) days, the document shall be considered acceptable.The APCD shall submit any written verification to the agency adopting the Applicable Planning Document and to the Commission.

8.04.2 At least forty-five (45) thirty (30) days prior to adoption or amendment of policies per Rule 8.02.4~~3~~, CDOT shall provide APCD the opportunity to review and comment. If APCD has not provided written comment within thirty (30) ~~forty-five (45)~~ days, the document shall be considered acceptable.

8.05 Compliance~~Enforcement.~~ The Commission, within thirty (30) days of receipt of a GHG Transportation Report or at the next regularly scheduled Commission Meeting, whichever is later, shall ~~review all GHG Transportation Reports to~~ determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance.

8.05.1 If the Commission determines the requirements of Rule 8.02.6~~5~~ have been met, the Commission shall, by resolution, accept the GHG Transportation Report.

8.05.2 If the Commission determines, by resolution, the requirements of Rule 8.02.6~~5~~ have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02.6~~5~~.1.1 or 8.02.6~~5~~.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG. Prior to the implementation enforcement of such restriction, an MPO, CDOT (upon concurrence with the applicable MPO) or a TPR in a non-MPO area, may, within sixty (60) ~~thirty (30)~~ days of Commission action, pursue issue one or both of the following actions: ~~opportunities to~~ seek a waiver or ~~to~~ ask for reconsideration accompanied by an opportunity to submit additional information:

8.05.2.1 Request a waiver from the Commission imposing restrictions on specific projects not expected to reduce GHG emissions.

8.05.2.1.1 By April 1, 2022, CDOT staff in consultation with the MPOs shall develop a waiver form for use by CDOT, MPOs or TPRs when requesting a waiver.

8.05.2.1.2 A waiver may be requested at any time, including concurrently with the submission of a GHG Transportation Report. ~~.~~ The Commission may waive the restrictions on specific projects when applicants use CDOT's waiver form that specifies on the following: ~~basis~~:

8.05.2.1.~~3~~1 ~~.~~ The GHG Transportation Report reflected significant effort and priority placed, in total, on projects and GHG Mitigation Measures that reduce GHG emissions; and

8.05.2.1.4~~2~~ ~~.~~ In no case shall a waiver be granted if such waiver results in a substantial increase in GHG emissions when compared to the required reduction levels in this Rule.

8.05.2.2 Request reconsideration of a non-compliance determination by the Commission and provide a written explanation of how the requirements of Rule 8.02.~~6~~5 ~~.~~ have been met. A request for reconsideration must be submitted within thirty (30) days of Commission action.

8.05.2.3 The Commission shall act, by resolution, on a waiver or reconsideration request within thirty (30) days of receipt of the waiver or reconsideration request or at the next regularly scheduled Commission Meeting, whichever is later. ~~If no action is taken within this time period, the waiver or reconsideration request shall be deemed to be denied.~~

8.05.3 Notwithstanding any other provision of this Rule, CDOT, DRCOG and NFRMPO must meet the requirements of § 43-4-1103, C.R.S.

8.06 **~~Reporting~~**

8.06.1 Beginning July 1, 2025, and every ~~3~~5 ~~-~~ years thereafter, the Executive Director on behalf of CDOT shall prepare for the Transportation Commission and Air Quality Control Commission a ~~and make public a~~ comprehensive publicly released report on the statewide GHG reduction accomplishments.

8.06.2 Beginning September 1, 2022, and annually thereafter, CDOT shall provide to the Transportation Commission a VMT report. The report shall provide total VMT per capita within the MPO areas and statewide for the past calendar year.

8.06.2.1 If three consecutive years of reports find that the observed and expected VMT per capita reductions are insufficient to achieve the GHG reduction targets established in Table 1, ~~demonstrate no decrease in VMT per capain one or more areas,~~ the Commission shall consider revisions to these rules in order to achieve reductions in VMT consistent with the intent of this

8.06.3 Beginning September 1, 2022, and annually thereafter, CDOT shall provide to the Transportation Commission a Transportation Equity Report for Disproportionately Impacted Communities. The report will include:

8.06.3.1 Total mitigation investments in DI Communities for CDOT, each MPO, and statewide.

8.06.3.2 A list of the individual mitigation projects.

8.06.3.3 Quantification of the pollution impacts and co-benefits delivered to DI Communities. The Mitigation Policy Directive shall establish a list of qualitative and quantitative metrics to measure the impacts and benefits in DI Communities

9.00 Materials Incorporated by Reference

9.01 The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements in Rule 9.01.1 and federal funding programs in Rules 9.01.2 and 9.01.3, which are incorporated into the Rules by this reference, and do not include any later amendments.

9.01.1 Fixing America's Surface Transportation Act or the "FAST Act"), 23 U.S.C. §§ 134, 135 and 150, Pub. L. No. 114-94, signed into law on December 4, 2015, and its accompanying regulations, where applicable, contained in 23 C.F.R.Part 450, including Subparts A, B and C in effect as of November 29, 2017, and 25 C.F.R. § 170 in effect as coof November 7, 2016.

9.01.2 Congestion Mitigation and Air Quality Improvement (CMAQ) Program, 23 U.S.C. § 149, in effect as of March 23, 2018.

9.01.3 Surface Transportation Block Grant (STBG) Program, 23 U.S.C. § 133, in effect as of December 4, 2015.

9.02 Also incorporated by reference are the following federal laws and regulations and do not include any later amendments:

9.02.1 Americans with Disabilities Act (ADA), 42 U.S.C. § 12101, *et. seq*., in effect as of January 1, 2009.

9.02.2 Clean Air Act (CCA), 42 U.S.C. §§ 7407-7410, and 7505a, in effect as of November 15, 1990.

9.02.2 Transportation Conformity Regulations, 40 C.F.R. § 93.101, in effect as November 24,1993.

9.03 Also incorporated by reference are the following documents, standards, and models and do not include any later amendments:

9.03.1 Greenhouse Gas Pollution Reduction Roadmap by the Colorado Energy Office and released on January 14, 2021.

9.03.2 MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity released by the U.S. Environmental Protection Agency, in effect as of January 7, 2021.

9.04 All referenced laws and regulations are available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.

9.05 Copies of the referenced federal laws and regulations, planning documents, and models.

9.05.1 Copies of the referenced United States Code (U.S.C.) may be obtained from the following address:

Office of the Law Revision Counsel
U.S. House of Representatives
H2-308 Ford House Office Building

Washington, DC 20515
(202) 226-2411
https://uscode.house.gov/browse.xhtml

9.05.2 Copies of the referenced Code of Federal Regulations (C.F.R.) may be obtained from the following address:

U.S. Government Publishing Office
732 North Capitol State, N.W.
Washington, DC 20401
(866) 512-1800
https://www.govinfo.gov/

9.0.5.3 Copies of the Greenhouse Gas Pollution Reduction Roadmap (Roadmap) may be obtained from the following address:

Colorado Energy Office
1600 Broadway, Suite 1960
Denver, CO 80202
(303) 866-2100
energyoffice.colorado.gov

9.0.5.4 To download MOVES3 released by the U.S. Environmental Protection Agency may be obtained from the following address:

U.S. Environmental Protection Agency
The Office of Transportation and Air Quality
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
(734) 214–4574 or (202) 566-0495
mobile@epa.gov
https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

10.00 Declaratory Orders

10.01 The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.

Editor's Notes

History

Entire rule eff. 12/15/2012.

Section SB&P eff. 05/30/2013.

Entire rule eff. 09/14/2018.

Annotations

Rules 1.22, 1.25, 1.42, 2.03.1 – 2.03.1.4, 4.01, 4.02.1 – 4.02.3, 4.02.5.9, 4.04.2.2, 4.04.2.4, 4.06.1.7, 6.01.2, 7.01, 7.03 – 7.04 (adopted 10/18/2012) were not extended by Senate Bill 13-079 and therefore expired 05/15/2013.

BEFORE THE COLORADO TRANSPORTATION COMMISSION
COLORADO DEPARTMENT OF TRANSPORTATION

COMMENTS ON OCTOBER 19, 2021 DRAFT RULES

BY CONSERVATION COLORADO, NATURAL RESOURCES DEFENSE COUNCIL, SIERRA CLUB, AND SOUTHWEST ENERGY EFFICIENCY PROJECT (COLLECTIVELY, THE "ENVIRONMENTAL COALITION"

IN THE MATTER OF PROPOSED REVISIONS TO 2 CCR 601-22, RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

November 18, 2021

We want to thank the CDOT staff for their hard work on this rulemaking. The new draft is a marked improvement on the first draft and has addressed some of the issues raised by stakeholders over the past few months. We especially appreciate the outreach conducted by the staff and their willingness to set hearings throughout Colorado to receive feedback from the public on this important policy.

We believe the message the public has delivered to staff has been loud and consistent: There are still fundamental problems with the current draft. If these issues are not addressed, the regulations will fail to meet the greenhouse gas (GHG) reduction targets and will allow our current transportation policies and practices to continue to fail disproportionately impacted communities - leaving those communities with even worse air quality, and fewer and poorer transportation options.

We endorse the concerns raised by CC4CA in its November 11th letter. We have included a redlined version of their proposed changes to the rules as well as some additions that we have made that are discussed in this letter. (Exhibit 1.)

There are two issues we want to draw your attention to. The first is the failure to require mitigation measures in the rule. We believe the three-step process of (1) working on an Applicable Planning Document, (2) modeling the GHG emissions, then (3) adding the mitigation measures to come into compliance with the rule is overly complicated and may not lead to the real change in transportation planning that is contemplated by legislation and required by the climate crisis.

The second concern has been stated countless times in nearly every public hearing and in hundreds of comment letters received by CDOT: The draft does not adequately account for and prevent additional harm to disproportionately impacted communities.

DISCUSSION

SIMPLIFY THE RULE IMPLEMENTATION BY REQUIRING CDOT AND THE MPOS TO SUBMIT A MITIGATION ACTION PLAN AS A PART OF EACH APPLICABLE PLANNING DOCUMENT.

Concern:
The proposed rule separates compliance into three steps: (1) Preparing each Applicable Planning Document (8.02.1), (2) Preparing a GHG Transportation Report that contains modeling to determine if those plans fall short of meeting the GHG reduction targets (8.02.6), and (3) Preparing a Mitigation Action Plan (8.02.6.3) to close any remaining gap with a pre-approved list of GHG Mitigation Measures established in the forthcoming Mitigation Policy Directive. This compliance structure overcomplicates the process, creates a double standard for GHG mitigation measures, and fails to implement the equity principles described in the rule's preamble.

According to the proposed rule language, the use of GHG Mitigation Measures and the Mitigation Action Plan are *optional.* Section 8.02.5 suggests that CDOT and MPOs *may* incorporate one or more GHG Mitigation Measures into their plans to reach the GHG reduction targets. Section 8.02.7.4 starts, "*If* Mitigation Measures are needed to count toward the reduction levels in Table 1, the MPO or CDOT shall submit a Mitigation Action Plan that includes at the discretion of the MPO or CDOT, submission of a Mitigation Action Plan that identifies GHG Mitigation Measures, *if any,* that will count toward the reduction levels within Table 1."

The proposed rule requires a 1.5 MMT reduction in transportation GHG emissions reductions by 2030, an ambitious goal that is impossible to meet without significant investment in GHG mitigation measures. The rule should require the use of a common set of GHG Mitigation Measures to comply with the proposed GHG reduction targets.

The three-step compliance process creates a double standard for GHG mitigation measures with a lower bar for the Applicable Planning Document versus the Mitigation Action Plan.

The draft Mitigation Policy Directive "outlines the main categories of mitigation that will initially be allowable under the rule – transit improvements, pedestrian and bicycle access, land use, medium/heavy duty ZEV charging and fueling, parking management, transportation demand management, and clean construction."

Notably, the Policy Directive specifically omits traffic system improvements:

"Traffic improvements that focus on improving traffic flow through either capacity expansion or technology measures that primarily benefit the flow of vehicular traffic without improving alternatives to driving single occupancy vehicles are not allowable for the purposes of approved mitigation. These types of improvements include lane capacity expansion, improvements to highway entrances and exits (e.g. ramp metering), intersection reconstructions for the purposes of improving the flow of traffic (e.g. roundabouts/diverging diamond intersections), signal timing improvements, and similar traffic technologies."

The GHG impacts of these projects are unverifiable and according to studies, the improved traffic flow from these projects is likely to induce ***more*** vehicle travel and the pollution that comes with it. In the draft Mitigation Policy Directive, CDOT takes a firm position on traffic system improvements and excludes them from consideration as GHG Mitigation Measures. However, these strategies remain eligible as GHG reduction strategies in the Applicable Planning Document evaluation, when CDOT and MPOs will use their travel demand model to calculate the systemwide GHG impacts of their plans. As a result, it is entirely possible for CDOT and MPOs to use a combination of ramp metering, roundabouts, and traffic signals improvements to demonstrate compliance with the rule.

The draft Mitigation Policy Directive includes important GHG mitigation strategies that are not traditionally included in the transportation planning process, like land use and parking management. As demonstrated by the DRCOG Scenario Planning and the CDOT Cost-Benefit Analysis compliance scenario, strategies like infill development are critical to reducing GHG emissions and vehicle miles traveled (VMT). This rule is a big opportunity to integrate transportation and land use planning. Such strategies must be a central part of the transportation planning process and not optional strategies to be considered only as a last resort.

In addition, the Mitigation Policy Directive describes a scoring system for projects with an "equity multiplier" to reward projects that deliver benefits to disproportionately impacted communities ("DI Communities.") This is the only provision in the rule that directly improves equity, mobility access, and health outcomes in DI Communities. Therefore, it cannot be left as an afterthought in the case of noncompliance.

To give an example of how this might play out in practice – according to the proposed rule, DRCOG must demonstrate a 0.82 MMT reduction in GHG emissions by 2030. In a scenario where DRCOG models their plan and finds a 0.5 MMT reduction by 2030, they are then required to develop a Mitigation Action Plan with GHG Mitigation Measures to address the remaining 0.32 MMT. However, only the 0.32 MMT remaining gap is subject to the rigorous standards and

equity scoring put forth in the Mitigation Policy Directive. To improve equity and ensure consistency, CDOT and MPOs should use the same set of standards for all GHG reductions.

Comparing the Mitigation Action Plan to the Applicable Planning Documents:

	Mitigation Policy Directive / Mitigation Action Plan	**Applicable Planning Document**
GHG Mitigation Measures	Assigns a "GHG Working Group" to define and verify a set of GHG Mitigation Measures	Combines all projects and relies on travel demand model to calculate GHG reductions from the plan or program
Traffic system improvements	Excluded from GHG Mitigation Menu	Included in system wide travel demand modeling
Co-benefits (co-pollutants, VMT reductions, transit, bike/ped use, etc)	Must be quantified in the Mitigation Action Plan	No requirement
Benefits to DI Communities	Must be described in the Mitigation Action Plan	No requirement
Equity	Applies an "equity multiplier" to GHG Mitigation Measures to prioritize projects that deliver benefits in DI Communities.	No requirement
Transportation / Land Use Nexis	Includes calculators to measure the VMT and GHG impacts of transportation projects with certain land use characteristics.	Not considered

Solution:

To simplify implementation, ensure consistency, and clarify intent, the rule should:

- Require the use of GHG Mitigation Measures to comply with the GHG reduction targets in Table 1.
- Limit the allowable GHG reductions to the GHG Mitigation Measures listed and verified in the Mitigation Policy Directive. For example, CDOT and MPOs may not use traffic system improvements to reduce GHG emissions at any stage of the compliance determination.
- Require CDOT and MPOs to submit a Mitigation Action Plan alongside each Applicable Planning Document, with an overview of projects that increase GHGs and VMT, as well as projects that decrease GHGs and VMT.

- The Mitigation Action Plan must also include an Equity Report to quantify the mitigation investment, pollution impacts, and benefits delivered to DI Communities. The Mitigation Policy Directive shall include a list of qualitative and quantitative metrics to measure the impacts and benefits in DI Communities.
- Use the scoring criteria established in the Mitigation Policy Directive to prioritize GHG Mitigation Measures that maximize GHG reductions and deliver co-benefits, especially to DI Communities.

See proposed redlines at Sections 8.02.1, 8.02.5

IMPROVING EQUITY AND ACCESS IN DISPROPORTIONATELY IMPACTED COMMUNITIES (DI COMMUNITIES)

In the latest draft of the rule, CDOT acknowledges the existing inequities in our transportation system and takes positive steps to address them by requiring a "geographic nexus" between project-level pollution impacts and mitigation, and by assigning an "equity multiplier" to GHG mitigation measures located in DI Communities. However, the rule does not do enough to guarantee benefits for DI Communities or to minimize the additional harm caused by new transportation capacity projects. Improving equity must be a top priority for this rule and better outcomes must be guaranteed.

Air pollution from highways impacts Black, Latinx, Indigenous, and low-income neighborhoods the most. When we look at reducing pollution from the transportation sector, the communities that have been hardest hit must directly benefit from any policies moving forward. Targeted investment in DI Communities is a precedent that has been clearly established on the state and national levels by initiatives like the Biden Justice40 Initiative, Denver's 2A ballot measure, and Xcel Energy's Transportation Electrification Plan.

To improve equity, reduce pollution, and expand mobility access in DI Communities, the rule must 1) Establish and a minimum GHG mitigation investment in DI Communities that is proportionate to the percentage of residents living in DI Communities and, 2) Require regionally significant projects in DI Communities to, at the very least, "do no harm."

1) **Establish a minimum GHG mitigation investment in DI Communities that is proportionate to the percentage of residents living in DI Communities.**

Concern:
Applying an equity lens and "geographic nexus" to new transportation projects is absolutely critical, but is not enough to rectify the existing racial, health, and economic inequities in our transportation system. We are not starting with a clean slate, but rather one that has systematically prioritized the air quality, safety, and mobility needs of wealthier and whiter

communities at the expense of low-income communities and communities of color. As stated by the Northern Front Range MPO, the goal of environmental justice is to ensure

> "disadvantaged populations do not face higher and more adverse impacts of public programs or projects than the rest of the population. Throughout history, low income and minority populations have endured discrimination, been excluded from the decision-making process, and have often faced more neighborhood and localized impacts, worse air quality, and fewer services." [1]

Therefore, it's not enough to "soften the blow" of new highway projects in DI Communities; we must also take concrete steps to measurably improve conditions in DI Communities. Without a minimum level of investment in DI Communities, this policy will continue to perpetuate the tradition of environmental racism in our transportation system, in which negative externalities like pollution continue to be discharged in low-income communities and communities of color.

Colorado's Environmental Justice Act (HB21-1266) finds that, "the state government has a responsibility to achieve environmental justice, health equity, and climate justice for all communities by avoiding and mitigating harm." In other words, climate policy is not exempt from perpetuating environmental racism, and the State of Colorado is responsible for imbuing all climate policy with environmental justice -- the urgent practice of rectifying disparities in pollution burdens, infrastructure, and access.

In the draft Mitigation Policy Directive, CDOT proposes a multiplier (value TBD) for GHG mitigation measures that "cross through or are in close proximity to a DIC". We agree with this approach as a means to uplift and prioritize projects that improve equity. However, the multiplier does not guarantee a minimum investment in DI Communities and only applies to planned projects already in the pipeline. By requiring GHG Mitigation Measures in every applicable planning document (see above), and assigning a minimum threshold to DIC mitigation investment, the rule would secure measurable benefits for DI Communities and force CDOT and the MPOs to engage with local communities to understand their mobility needs and to develop new projects that reduce emissions and improve access.

Solution:

For Mitigation Action Plans submitted by CDOT or an MPO, the share of GHG mitigation investment in DI Communities must be equal to or greater than the share of the population living in DI Communities within the region. For GHG mitigation projects that span multiple communities within a region, CDOT and the MPOs shall calculate the percentage of the project investment located within each community when determining compliance.

[1] Northern Front Range MPO website: https://nfrmpo.org/environmental-justice/ visited on 11/17/21.

CDPHE's Data Viewer for Disproportionately Impacted Communities displays the census block groups where 40% of households 1) are low income, 2) are housing cost-burdened, or 3) include people of color. According to the Data Viewer, 1,339,032 residents in the DRCOG region live in DI Communities, about 48% of the total population in the 8-county region. An equity-neutral transportation GHG planning policy would direct at least 48% of the GHG mitigation spending in both the Applicable Planning Documents and the associated Mitigation Action Plan toward these communities to guarantee a proportionate amount of climate, air quality, public health, safety, and mobility access benefits to all residents of our state. A policy that aims to improve equity and address historic disparities in health and transportation access, would direct an even greater share of the investment into DI Communities. We ask for at least a proportionate investment to avoid making a bad situation worse by inflicting additional harm on DI Communities.

See proposed redlines at Section 8.02.8.4.4

2) **Require regionally significant projects in DI Communities to, at the very least, "do no harm"**

Concern:
The second guiding principle in the updated rule states, "where regionally significant projects are projected to increase net greenhouse gas emissions, those emissions should be offset with project-specific mitigation measures that benefit communities that will be impacted by the project." This language is well-intended, but the offset requirement is unclear. For example, it might be possible for CDOT to construct a highway capacity project that would increase pollution by 2%, but include mitigation measures like transit infrastructure or a bike lane that offsets only a fraction of that additional pollution, resulting in a net negative impact on local communities.

Solution:
For regionally significant projects in DI Communities, the emissions reductions from the mitigation measures must be commensurate with the pollution impacts. CDOT and MPOs should work diligently and authentically with local communities to determine the appropriate GHG mitigation measures and proximity to the new capacity projects. If a regionally significant project is expected to increase GHG emissions and the associated co-pollutants within a community already disproportionately exposed to air pollution, CDOT or the MPO must modify the project design and/or include project-specific mitigation measures to offset at least 100% of the additional pollution burden. Any lower percentage would only exacerbate existing health and pollution disparities.

See proposed redlines at Section 8.02.4

CONCLUSION

We appreciate that CDOT has committed to building an Environmental Justice Branch within the agency and will be adopting a transportation equity framework.[2] We also understand that some of the benefits to disproportionately impacted communities are contemplated through the implementation of the Mitigation Policy Directive that may give additional weight or credit to those projects that benefit disproportionately impacted communities. However, we believe that the rule can and must do more. We offer these proposed changes in the hope that the goals of reduced GHG and addressing systemic inequities can and will be addressed in this rule and in the projects planned and built throughout the state of Colorado in the next 30 years.

Respectfully submitted on November 18th, 2021,

[redacted]
Conservation Colorado,
Transportation Advocate

[redacted]
Colorado Sierra Club,
Chair of the Conservation Committee

[redacted]
NRDC,
Mobility and Climate Advocate

[redacted]
Southwest Energy Efficiency Project,
Senior Transportation Associate

[redacted]
[redacted] LLC,
Attorney for the Environmental Coalition

[2] CDOT Press Release, "CDOT issues updated air pollution reduction standard proposal," 10/19/21. Available at: https://www.codot.gov/news/2021/october-2021/updated-air-pollution-reduction-proposal

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Fwd: GHG Reduction Planning Standard

1 me age

Takushi - CDOT, Theresa <theresa.takushi@state.co.us> Thu, Nov 18, 2021 at 11:23 AM
To: DOT_ Rules - CDOT <dot_rules@state.co.us>

---------- Forwarded message ---------
From: [redacted]
Date Wed, Nov 17, 2021 at 8 31 PM
Subject: GHG Reduction Planning Standard
To: <theresa.takushi@state.co.us>

To the Colorado Transportation Commission,

I am writing today to express my enthusiastic support for the GHG Transportation Planning Standard Our state and planet are at a tipping point, and nothing short of extraordinary measures will provide the course correction needed. Every summer our skies fill with wildfire smoke mixed with ground level ozone. Our dependence on automobile travel fuels sprawling and inefficient development patterns, long commutes, and a dependency on expensive metal boxes to live our lives. Many of the benefits of this rule will come from a reduction in driving (whatever the energy source of the vehicle), and for this reason I strongly support the additional focus on VMT reduction.

I lived for 10 years in Colorado without owning a car, and as a young single person with a tolerance for biking in all conditions, it was doable- but not easy. However, I have many friends who scoff at the idea of getting around without a private car, and for very legitimate reasons. Biking often requires taking chances with your life on dangerous roads with no bike facilities. Walking in our suburban cities is like a game of hop-scotch between fragments of sidewalks. Taking transit usually takes two to three times as long to get anywhere. How anyone could do this with kids or a disability stretches the imagination.

It pains me to see how much this state continues to spend on highway capacity expansion, and then lament the state of our air, our climate. The solution is obvious: we need a transformational shift in our spending away from roadway expansion and towards walking, biking and transit. I am hoping this rule will deliver.

The draft is strong, but could be stronger. Granting waivers for capacity projects if we are in a non-compliant state is preposterous. If we are failing to meet our targets, such a use of waivers would only dig us further in the hole. Waivers must be reserved for safety projects that will not increase emissions. If this change is not incorporated, at a minimum “significant increase in emissions” must be defined for the waiver process. If we are in a compliant state, and continuing to build roadway capacity projects, all such projects should be required to set aside a percentage (how about 10%) of their total cost for GHG reducing mitigation measures

I urge you to adopt the strongest rule possible for the sake of our planet. Nothing less will do.

Thank you,

[redacted]

[redacted]

--
Aloha,

Theresa

Theresa Takushi (she/her/hers)
Greenhouse Gas Climate Action Specialist

COLORADO
Department of Transportation
Division of Transportation Development

P 303.757.9977
2829 W. Howard Pl., Denver, CO 80204
theresa.takushi@state.co.us | www.codot.gov

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments regarding the proposed Transportation Planning Process to reduce Greenhouse Gas Emissions

1 message

[redacted] Thu, Nov 18, 2021 at 11:16 AM
Reply-To: [redacted]
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc: Governor Poli GOVOffice governorpoli @ tate co u , " ho hana lew@ tate co u " ho hana lew@ tate co u , "herman.stockinger@state.co.us" <herman.stockinger@state.co.us>, [redacted]

Dear Commissioners:

There needs to be a stop to the ongoing stream of rules and regulations created by government agencies under the Polis administration that are based on fraud

It is inexcusable, but not at all surprising, that the UPDATED RULE DRAFT 10/19/21 does not state explicitly what the benefits of the rule will be for the people of Colorado.

Instead, the draft rule contains a four-page, single-spaced preamble that is clearly written to create the implication that the draft rule will provide several idealistic benefits

However, as explained below, there is no question that

- The rule will do nothing to reduce global warming or climate change
- The rule will do nothing to reduce ozone levels in Colorado.
- The rule will provide no benefit whatsoever to Disproportionately Impacted (DI) Communities.

As written, the draft rule will make it difficult or even impossible to build projects that will improve traffic flow, reduce congestion, and improve the safety of our roadways.

As written, the draft rule will exacerbate congestion, which will cause a significant increase in greenhouse gas (GHG) emissions, a significant increase in emissions of ozone precursors, and a

significant degradation in the quality of life in Colorado.

As written, the draft rule will waste thousands of man-hours and tens of millions of dollars forcing agencies to jump through hoops with no benefit to the people of Colorado whatsoever.

The draft rule is a sham and should not even be considered for adoption by the Colorado Transportation Commission (Commission).

State the Benefits Directly and Clearly

The preamble of the draft rule makes several references to legislation that claims to reduce climate change and improve air quality, such as HB19-1261 and Governor Polis's Roadmap. The preamble implies that the draft rule will address the issues it raises, but there is no statement in the draft rule anywhere that clearly defines what the benefits of the rule will be for the people of Colorado.

The preamble is deliberatively deceptive. The people of Colorado do not need any more fraud in our government. If there are any benefits for the people of Colorado, the rule must state the benefits clearly, such as:

The Commission represents that the rule will achieve the following benefits for the people of Colorado:

- The rule will increase the snowpack by _____%
- The rule will reduce days of drought by _____%
- The rule will reduce the number of days over 90 degrees by _____%
- The rule will reduce the risk of wildfire by _____%
- The rule will reduce the occurrences of "more-frequent and severe flooding" by _____%
- The rule will reduce ozone levels in the non-attainment area by _____ parts per billion.

If the Commission cannot present what the benefits of the rule would be in clear, explicit detail, then the Commission should not adopt the rule.

Take personal responsibility

Every person in a position of management at CDOT, every member of the Commission, and every other government official who supports this rule should be required to sign a statement that declares that they personally guarantee that the rule, if adopted, will provide the benefits listed above, and that they are prepared to accept any and all consequences personally if the benefits are not achieved

Quit lying about the benefit of reducing Greenhouse Gas Emissions

The draft rule claims that legislation already adopted, such as HB19-1261 and the Governor's Roadmap, gives the Commission the authority to create the rule to achieve reductions in greenhouse gas (GHG) emissions. However, the basis for both HB19-1261 and the Roadmap is pure fraud

As written into HB19 1261, and repeated in the Roadmap, the entire premise for reducing GHG is shown as follows:

> (Preamble)
> Colorado is already experiencing harmful climate impacts, including declining snowpack, prolonged drought, more extreme heat, elevated wildfire risk and risk to first responders, widespread beetle infestation decimating forests, increased risk of vector borne diseases, more frequent and severe flooding, more severe ground-level ozone pollution causing respiratory damage and loss of life, decreased economic activity from outdoor recreation and agriculture, and diminished quality of life.
>
> (Questionable Opinion)
> Many of these impacts disproportionately affect rural communities, communities of color, youth and the elderly, and working families.
>
> (Justification of the Bill and the Roadmap)
> **Reducing <u>statewide</u> greenhouse gas pollution as outlined in this subsection (2) <u>will protect</u> these frontline communities, first responders, and <u>all Colorado residents</u> from these and other climate impacts.**

Anyone who believes that reducing GHG emissions within the state of Colorado will have any effect on reducing climate impacts within the state has no business having a job in state government, and certainly has no business being involved in any way in writing rules, regulations, or laws about emissions.

It is called “global warming.” We do not live in a bubble. Climate change is caused by global emissions raising CO2 levels in the atmosphere around the world.

In 2019, annual global GHG emissions were 57.4 **B**illion metric tons of CO2 equivalents. According to APCD, Colorado produces only about 120 million tons of CO2e. That means that Colorado produces only about 0.21% of the global total.

The single most objective measurement of global warming is the level of carbon dioxide (CO2) in the atmosphere. Due to man-made emissions, CO2 levels have risen about 137 parts per million from pre-industrial levels to about 415 parts per million in 2019.

If we eliminate all GHG produced in Colorado, we might reduce the level of CO2 in the atmosphere by 0.21% of 137, or about 0.3 parts per million. That means that if we spend tens of billions of dollars to eliminate all GHG in Colorado, CO2 in the atmosphere might drop from 415 to 414.7 parts per million.

Perhaps environmental extremist groups, and the Colorado Energy Office, can explain exactly what the effect would be to global warming if we eliminate 100% of GHG in Colorado.

This is Table 1 from the draft rule:

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	2050 Reduction Level (MMT)
DRCOG	14.9	0.27	11.8	0.82	10.9	0.63	12.8	0.37
NFRMPO	2.3	0.04	1.8	0.12	1.9	0.11	2.2	0.07
PPACG	2.7	N/A	2.2	0.15	2.0	0.12	2.3	0.07
GVMPO	0.38	N/A	0.30	0.02	0.30	0.02	0.36	0.01
PACOG	0.50	N/A	0.40	0.03	0.30	0.02	0.4	0.01
CDOT/Non-MPO	6.7	0.12	5.3	0.36	5.2	0.30	6.1	0.17
TOTAL	27.4	0.435	21.8	1.5	20.6	1.2	24.2	0.7

According to this table, the draft rule will achieve a TOTAL reduction of only 3.83 million metric tons of CO2e through 2050, which amounts to only about 0.006% of the global total of 57.4 Billion metric tons.

In terms of reducing CO2 in the atmosphere, the draft rule might reduce CO2 levels by 0.006% of 137 parts per million, or by 0.008 parts per million. That means the rule might reduce CO2 levels in the atmosphere from 415 to 414.992 parts per million.

If the Commission is going to represent that the rule will have any effect on reducing climate change, the Commission needs to provide some sort of scientific evidence to show exactly what effect reducing CO2 levels from 415 to 414.992 parts per million will have.

Any claim that the draft rule will help reduce the effects of climate change, and especially that the draft rule will reduce the effects of climate change in Colorado, is pure fraud.

Explain the difference between the Draft Rule and APCD's GHG inventory update

The draft rule claims that it will reduce GHG emissions from transportation by a whopping 3.83 MMT between 2020 and 2050.

Explain how the rule relates to the APCD Greenhouse Gas Inventory Update, which shows that GHG emissions from transportation are supposed to drop by 25.2 MMT of CO2e from 2020 to 2050, as shown in the table below:

Exhibit ES 2: Projected Colorado GHG Emissions by Sector 2020 - 2050 ($MMTCO_2e$)

Emissions by Sector ($MMTCO_2e$)	2020	2025	2030	2035	2040	2045	2050
Electric Power	24.039	21.000	8.000	6.177	4.295	3.243	2.192
Transportation	25.483	23.000	18.000	9.287	5.245	2.406	0.206
Residential, Commercial & Industrial Fuel Use	27.582	26.000	20.000	13.886	8.492	4.934	2.597
Natural Gas and Oil Systems*	20.767	11.600	7.100	7.109	5.259	3.409	1.559
Agriculture	10.661	10.641	9.673	8.588	7.639	6.690	5.741
Coal Mining & Abandoned Mines	1.819	1.786	0.536	0.197	0.188	0.180	0.173
Industrial Processes	4.694	3.500	2.900	2.602	2.206	1.695	1.057
Waste Management	4.459	3.072	2.031	2.412	2.436	2.454	2.463
Negative Emissions Technologies	0.000	0.000	0.000	-1.056	-1.744	-2.431	-3.119
Grand Total	119.504	100.598	68.241	49.200	34.015	22.579	12.869

The draft rule should explain whether the projected reduction of 3.83 MMT represents part of the reduction shown by APCD, or the reduction of 3.83 MMT is supposed to represent additional reductions above and beyond what APCD shows.

APCD claims that GHG emissions from transportation are going to drop by 25.2 MMT even without the rule. Why do we need this rule?

State clearly how the Rule will reduce Ozone

The draft rule claims that the rule will reduce GHG by a total of 1.93 MMT through 2030. That amounts to 7.6% of the total current emissions from the transportation sector, according to APCD.

Assuming all the numbers are correct, then presumably the rule will also reduce ozone precursors from the transportation sector by the same 7.6% by 2030.

According to the RAQC, on-road vehicles produced 48 tons per day (tpd) of NOx and 32 tpd of VOC in 2020. If the rule achieves a 7.6% reduction in ozone precursor emissions, that means that the rule will reduce NOx by 3.6 tpd and VOC by 2.4 tpd by 2030.

According to the RAQC, from 2011 to 2020, we reduced anthropogenic NOx by 156.3 tpd and VOC by 226.5 tpd, but ozone levels have not dropped at all.

Since reducing NOx by 156 tpd over the past ten years did nothing to reduce ozone, explain how much the rule is going to reduce ozone levels by reducing NOx by 3.6 tpd over the next ten years.

Since reducing VOC by 226 tpd over the past ten years did nothing to reduce ozone, explain how much the rule is going to reduce ozone by reducing VOC by 2.4 tpd over the next ten years.

Any representation that the rule is going to have any effect whatsoever on reducing ozone levels is pure fraud.

Quit lying about helping Disproportionately Impacted Communities

Just like every other document coming out of the Liberal Left, the draft rule makes reference to providing extra benefits to Disproportionately Impacted (DI) Communities.

While the preamble of the draft rule implies that the rule will provide some benefit to DI Communities, the draft rule makes no commitments to do anything that will actually provide any benefit whatsoever to DI Communities. Again, the preamble is deliberately deceptive.

It is Politically Correct these days to suggest that climate change and air pollution affect DI Communities, such as Globeville, more than other (read “middle-class and affluent white”) communities, such as Golden. As part of the rule, the Commission needs to define exactly the following:

- How does a declining snowpack affect people in Globeville more than people in Golden?

- How does prolonged drought affect people in Globeville more than people in Golden?

- How does the “more-frequent and severe flooding” (???) that we are supposed to be experiencing (along with the prolonged drought, no less) affect people in Globeville more than people in Golden?

- There has been a representation that wildfire smoke affects people in Globeville more than people in Golden because people of color are inherently less healthy than white people, which means that any additional health impact has more of an effect on them. This position is incredibly racist. Does the Commission believe that people of color are inherently less healthy than white people?

- There has been a representation that people in Globeville are affected more by the number of high-heat days than people in Golden because they have less access to air conditioning. That is probably true.

    Explain how the rule is going to reduce the number of high-heat days in order to provide a special benefit to DI Communities and, especially, Globeville.

- There has been a representation that DI Communities are more affected by higher levels of ozone than other communities, again because people of color are inherently less healthy than white people. This representation is pure fraud.

> The ozone monitor at La Casa is directly adjacent to Globeville, and it is about 9 miles upwind of the monitor at NREL, in Golden. The ozone levels at La Casa are routinely 5 to 10 parts per billion (ppb) less than the levels at NREL. So, are the "unhealthy" people in Globeville impacted more by an ozone level of, say, 68 ppb than the people in Golden when they are exposed to ozone levels of 78 ppb?
>
> There are higher ozone levels all along the foothills than in Denver. Areas such as Roxborough Park, Lakewood, Boulder, Longmont, Loveland, and Ft. Collins all experience much higher ozone levels than Globeville and Elyria-Swansea. How many of these areas are considered DI Communities?

Any representation that the rule is going to provide special and additional benefits to DI Communities is pure fraud.

Enforcement is impossible

The preamble of the draft rule includes this statement:

> …it is declared to be in the national interest to promote transportation systems that accomplish a number of mobility objectives "**while minimizing transportation related fuel consumption and air pollution** through metropolitan and statewide transportation planning processes…"

The draft rule includes the following article:

> 4.03.3 Transportation systems planning by Regional Planning Commissions **shall include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility** of people goods, and services.

How exactly does the Commission expect to enforce any of the directives included in the draft rule when CDOT has been adamantly opposed to this obligation for years, with the direct support of the Commission?

CDOT has known for at least the past six years that it is possible to reduce congestion on I-25 through Denver and on I-70 in the mountains in a very short time and at a very low cost. CDOT management has been adamantly opposed to accepting the obligation in this article for at least the past six years, and the Commission has allowed CODT to take no action to reduce congestion.

If CDOT is going to oppose this article in the draft rule, how can the Commission expect CDOT to obey any article in the rule?

Any representation that CDOT will obey the rule once it is enacted is pure fraud.

The congestion on I-25 through Denver can be cut dramatically in a matter of weeks using simple traffic management techniques, such as improved signage, new striping, and additional ramp meters. The congestion on I-70 in the mountains can be improved in only a few weeks with just new signage.

Paul Jesaitis, the Director of CDOT Region 1, sent me an email stating very clearly that CDOT is not willing to use any “unproven” techniques, such as improved signage, new striping, and new ramp meters to reduce congestion on I-25 through Denver or on I-70 in the mountains.

Never mind that Jesaitis has wasted more than $15 million on the so-called Smart 25 project by installing new ramp meters.

Three years ago I had a 45-minute conversation with Andy Karsian. He stated categorically that even if CDOT had the funds to implement simple improvements such as new signage, new striping, and additional ramp meters, CODT would never do anything to reduce congestion on I-25 through Denver or on I-70 in the mountains.

The managers at CDOT have abrogated their responsibility, and they have done so with the complete support of the Commission. Why should anyone support a new rule that is guaranteed to make traffic worse when CDOT and the Commission have already guaranteed that they will make traffic worse without the new rule?

Stop lying about “induced demand”

The single fastest way to reduce GHG and ozone precursor emissions is to reduce congestion on our highways. The window sticker on every car shows that cars have better fuel economy, and thus create lower emissions, when driving at steady highway speeds instead of in stop-and-go conditions similar to driving in a city.

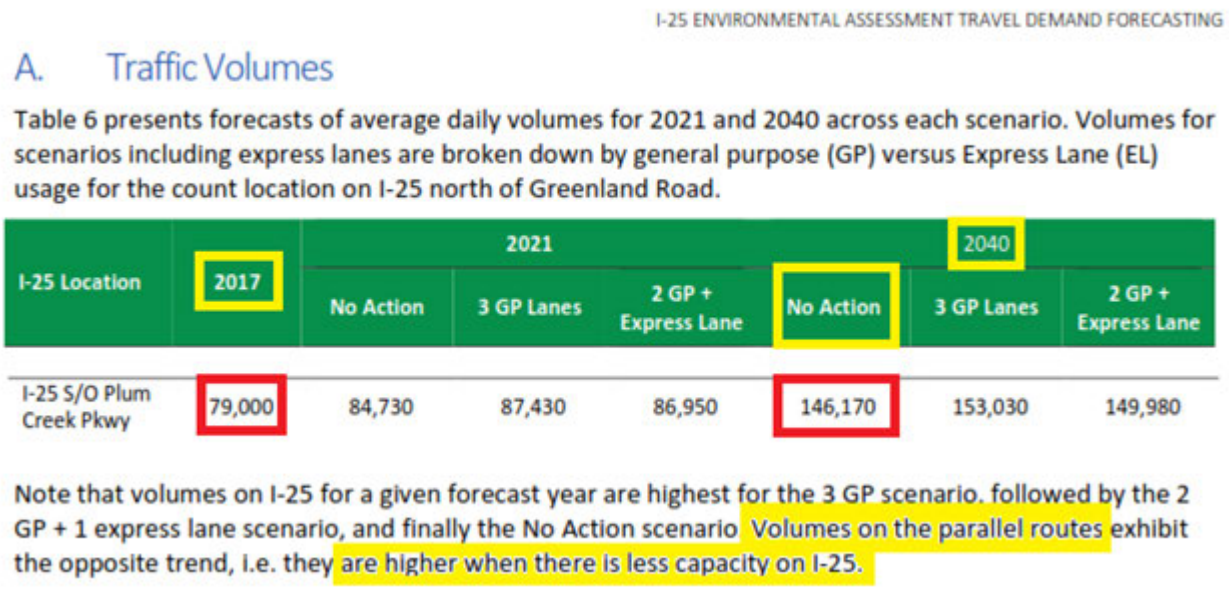
Since CDOT refuses to reduce congestion using simple traffic management techniques, another alternative is to improve areas on roadways that cause congestion, such as poorly-designed interchanges, or to add capacity by adding another lane for traffic.

The draft rule opposes any action that reduces congestion by taking the position that improving the flow of traffic and increasing capacity will cause an increase in GHG emissions because the reduced congestion will result in “induced demand.“

The concept that reduced congestion causes induced demand is pure fraud, and both CDOT and the Commission have already acknowledged that fact. If the addition of new capacity results in an immediate increase in traffic volume, that is because the demand already exists. The demand is not induced.

If I-70 in the mountains had three lanes in each direction, there would be higher traffic volume. There is existing demand for trips to the mountains that is not realized because people choose not to sit in congestion. Adding capacity would not induce new demand. The demand already exists.

CDOT and the Commission have both signed off on the fact that demand increases in spite of how bad congestion is, not because congestion is reduced. This table is from the I-25 GAP project between Castle Rock and Monument. It shows the projected traffic volumes for 2017, 2021, and 2040 based on different scenarios.



I-25 ENVIRONMENTAL ASSESSMENT TRAVEL DEMAND FORECASTING

A. Traffic Volumes

Table 6 presents forecasts of average daily volumes for 2021 and 2040 across each scenario. Volumes for scenarios including express lanes are broken down by general purpose (GP) versus Express Lane (EL) usage for the count location on I-25 north of Greenland Road.

I-25 Location	2017	2021			2040		
		No Action	3 GP Lanes	2 GP + Express Lane	No Action	3 GP Lanes	2 GP + Express Lane
I-25 S/O Plum Creek Pkwy	79,000	84,730	87,430	86,950	146,170	153,030	149,980

Note that volumes on I-25 for a given forecast year are highest for the 3 GP scenario, followed by the 2 GP + 1 express lane scenario, and finally the No Action scenario. Volumes on the parallel routes exhibit the opposite trend, i.e. they are higher when there is less capacity on I-25.

This document, created by CDOT and accepted by the Commission, shows that even if CDOT took no action in the GAP area, traffic volumes would increase from 79,000 vehicles per day to 146,170 vehicles per day, or an increase in traffic volume of 85%.

So, even if CDOT took no action, CDOT and the Commission believed that traffic would increase by 85%. Is that induced demand?

Demand increases as the population increases. The population of Colorado increased by 750,000 people from 2010 to 2020. Did 750,000 people move to Colorado because CDOT is doing such a great job of managing our roadways?

The representation that emissions will increase if congestion is reduced is pure fraud.

Do not adopt a new rule that cannot achieve any benefit whatsoever

There is now way for the rule to achieve any benefit for the people of Colorado. A minimal reduction of GHG emissions, which will do nothing to reduce global warming or the effects of climate change, is not a justification for creating a rule to make it more difficult to reduce congestion.

The Commission should have stopped any consideration of this rule months ago.

In any event, the Commission must refuse to adopt the rule as written.

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Fwd: Support for GHG Reduction Planning Standard

1 me age

Takushi - CDOT, Theresa <theresa.takushi@state.co.us> Thu, Nov 18, 2021 at 11:25 AM
To: DOT_ Rules - CDOT <dot_rules@state.co.us>

---------- Forwarded message ---------
From: [redacted]>
Date Wed, Nov 17, 2021 at 5 30 PM
Subject: Support for GHG Reduction Planning Standard
To: <theresa.takushi@state.co.us>

CDOT Transportation Commission,

I would like to see our state make meaningful progress on climate change. It is frustrating to have our skies full of smog and wildfire smoke all summer long, and to see our winters and water supplies dwindling.

For these reasons, I support the GHG Reduction Planning Standard. Due to the transportation options available in Jefferson County, where I live and work, I have to drive to most places. I bike or ride RTD when I can, but for many trips this isn't feasible because there isn't a good bike route or taking transit would take three (or more) times as long. I would like to see more funding shifted towards walking, biking, and transit facilities so travel via these modes is more feasible.

I support making the GHG Planning Standard as strong as possible, including limiting the use of waivers to safety projects only Thank you for your leadership in this area, and I look forward to your adoption of this rule next month

Thank you,

[redacted]

[redacted]

--
Aloha,

Theresa

Theresa Takushi (she/her/hers)
Greenhouse Gas Climate Action Specialist

COLORADO
Department of Transportation
Division of Transportation Development

P 303.757.9977
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STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Arapahoe County Comments

1 me age

[redacted] Thu, Nov 18, 2021 at 11:35 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted] "Rebecca White (rebecca white@ tate co u)" <rebecca.white@state.co.us>

On behalf of the Board of County Commissioners, please see the attached comment letter regarding the greenhouse gas rulemaking from Arapahoe County. Please reach out to Public Works & Development Director [redacted] with any questions.

Thanks,

[redacted]

ARAPAHOE COUNTY

[redacted]

LTR_CDOT_GHG_Rulemaking_Comments_20211118.pdf
143K

ARAPAHOE COUNTY

BOARD OF COUNTY COMMISSIONERS

[redacted]

November 18, 2021

Colorado Transportation Commission
2829 W Howard Pl
Denver, CO 80204

VIA EMAIL SUBMITTAL to dot_rules@state.co.us

Dear Chair Hall and Commissioners,

The Colorado Department of Transportation (CDOT) recently announced a new transportation planning rulemaking to curb existing and future greenhouse gas (GHG) emissions based upon the recommendations of House Bill 19-1261 and Senate Bill 21-260. The Denver Regional Council of Governments (DRCOG) has also been tracking the proposed rules and has been meeting with CDOT related to such. DRCOG issued a letter to CDOT regarding the rules on October 7. There are several key provisions within this ruling, as well as potential mitigation measures that would be determined by CDOT through a process in the spring/summer of 2022. It is unclear at this time how these mitigation measures will be selected, measured, and managed overall by CDOT and DRCOG.

Arapahoe County certainly understands the issues associated GHG and environmental impacts of such. From that perspective, Arapahoe County plans for and delivers a variety of projects that are largely emission-reducing and multimodal-focused (congestion reduction, operational improvements, supported transit enhancement, pedestrian, bicycle, ITS) and fully supports increasing choices and options for the movement of people, goods, and services through our community and region. While fully supporting the goal of reducing gas emissions, this rulemaking and decision process causes some concern, mainly focused upon the overall management, administration of this process, and what the long-term goal of CDOT might be. The following is a list of our comments and items that require additional information regarding this Rulemaking for your consideration:

- GHG mitigation measures need to include consideration of various sub-regions as it relates to maturity of the transportation network and growth potential. This is of particular concern given the projected populations growth by demographers in high growth areas.

- The rule making process and then pursuit of mitigation measures after adoption is similar to ordering a car then when it shows saying you want a sunroof. The two elements really need to occur at the same time so that one can see how they are integrated together. If the process does not change, local jurisdictions should be included the development process for the "standards allowed for selection of GHG Mitigations" measures. This would allow valuable feedback in the development process for this new standard. These two elements, (rulemaking and establishing the mitigation criteria), really needs to occur at the same time so all parties involved can see how they are integrated.

- Colorado has an extensive backlog of transportation needs throughout the state, including CDOT as well as local jurisdictions. This of major concern as the proposal could mean less spending on roadways in need of improvements which could very well be the unintended or at worst the intended consequences of the rule making. The result of such policies could include additional congestion and less efficient use of the transportation system and increase in GHG emissions. Adopting a policy of forced congestion in the hopes of forcing mode shift has proven not to be a successful strategy.

- Clarifications on which projects would qualify for this ruling and support focusing on large "regionally significant" projects vs smaller operations and maintenance type projects. Exemptions should be granted to safety, operational and maintenance projects. Mitigation measures should focus on large "regionally significant" projects while the smaller operational improvement projects should also be exempt.

- Current/past investments in GHG reducing projects within a jurisdiction near future transportation projects should be factored into future funding applications as mitigations, as the cumulative effect of additional TDM-oriented and multi-modal investments can increase mode shift and provide a complete transportation option instead of single occupant vehicles. This is of particular concern within 8.02.6.3 of the proposed rule and the need for clarification.

- The major concern with GHG is focus in the Denver MPO area. With the goals and mitigation requirements shown to be significantly higher for this area, additional increase in the share of funding should be considered to assist these MPO's ability to meet these higher goals and mitigations requirements. If this type of funding shift occurs, it will likely be a problem for the rural counties and mountain communities, (in non-congested areas), that are already facing limited funding concerns.

- The largest change in GHG reduction comes from the electrification of vehicles per CDOT's reports. SB21-260 takes steps forward in jump starting that transition, but if this is the change necessary, CDOT should drive this change occurring as a primary mitigation measure and strategy to meet the goals expressed in this rule making.

- The most recent proposed rule has included provisions associated with vehicle miles traveled. (VMT). Starting September 1, 2022 and then annually, CDOT must provide a report to the TC documenting VMT/capita for MPO areas and statewide for previous years. If VMT/capita does not decrease for three consecutive years in any one area, the Transportation Commission shall consider revisions to the rules to achieve reductions in VMT consistent with the intent of the rule.

  We are concerned the rule assumes an artificially low VMT year due to the global pandemic. While there can be a correlation between VMT and GHG emissions, GHG emissions are most directly related to fuel consumption, so improved vehicle operations that reduce congestion and delay will reduce GHG emissions even if VMT per capita does not go down. For example, traveling 20 miles on Parker Road from Arapahoe County to Denver has greater GHG than the same 20-mile trip in rural Arapahoe County. As a result, we would like the rule to remain focused on reducing GHG emissions as VMT is affected by many factors and not a good annual measure to trigger rulemaking. From these perspectives, we recommend striking this VMT requirement from the rule.

In closing, we want to thank you for allowing us the opportunity to provide this information to CDOT; and we look forward to working with you in moving forward to address our concerns regarding GHG rulemaking.

Sincerely,
ARAPAHOE COUNTY

[redacted]
Chair, Board of County Commissioners

cc: [redacted]
Rebecca White, CDOT Director of Transportation Development

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment regarding Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions

1 message

[redacted] Thu, Nov 18, 2021 at 11:40 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Hello,

Please find the attached public comment on behalf of Common Sense Institute Terry J. Stevinson Fellow [redacted].

[redacted]
Vice Pre ident of Policy and Re earch
[redacted]
[redacted]

CSI Comments CDOT planning process rule 11.18.21 FINAL.pdf
142K

Public Comment Submitted to the Colorado Department of Transportation Regarding the Proposed Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions

DATE SUBMITTED: November 18th, 2021

Dear Transportation Commissioners and CDOT Executive Director Lew,

Continued public investment in transportation infrastructure in Colorado is essential to meet the demands of a growing population and economy. A surface transportation system that facilitates the movement of goods and people decreases "friction," lowers mobility costs, and, in particular, is vital to maintaining the economic viability of rural Colorado. Bolstered by both recent state and federal funding increases, the outlook for a more efficient and effective state transportation network should be brighter than ever.

Unfortunately, the recent cost/benefit analysis related to the proposed change in rules governing the Statewide Planning Process and Transportation Planning Regions indicates the exact opposite. Though the details are sparce, the summary results indicate that the proposed planning process and alternative selection process for new projects will cause additional traffic delays and decrease mobility.

The state recently passed laws requiring aggressive greenhouse gas emission reductions but meeting these requirements does not need come at the expense of the expanded capacity and diverse mobility needs across every region of the state. Implemented in the way outlined in the proposed rule may have the unintended impact of increasing GHGs.

Recent federal policy changes regarding the future of the vehicle fleet brings the current assumptions of emission from the transportation sector into question.

According to the Center for Climate and Energy Solutions (C2ES) https://www.c2es.org/content/regulating-transportation-sector-carbon-emissions/) there are dramatic decreases in the GHG emissions of new vehicles entering the market today, and even those vehicles in use today produce fewer emissions than those of 20 years ago. Specifically:

In August 2021, the Environmental Protection Agency (EPA) proposed new greenhouse gas emission standards for new passenger cars and light-duty trucks. The ***proposed rule***[1] *requires automakers to improve average fuel efficiency by 10 percent from model years 2022 to 2023, followed by 5 percent annual increase from model years 2024 to 2026.*

In addition to the proposed vehicle greenhouse gas emission standards, the National Highway Traffic Safety Administration (NHTSA) proposed new ***fuel economy standards***[2] *for new passenger cars and light trucks for model years 2024–2026. The standards would*

[1] https://www.epa.gov/system/files/documents/2021-08/ld-ghg-stndrs-nprm-2021-07-29.pdf
[2] https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy#40466

increase in stringency by about 8 percent each year, reaching a fleetwide average of 48 miles per gallon (mpg) by 2026.

If you account for the changes in vehicle fleet mix (EVs/PHEV as an increasing share, and improved mileage) overall GHG emissions from motor vehicles are already on a downward trend. The one thing that can jeopardize this trend is increased congestion and enforced idling of vehicles. This situation decreases fuel efficiency, and increases people's reluctance to purchase EVs, since sitting in congestion is a significant contributor to "range anxiety."

The challenge facing regions across the state to meet these new restrictive planning requirements is affirmed by comments from the North Front Range MPO submitted earlier in the process:

"The principles identified in the Preamble to the Rule could require much more extensive modeling efforts during the long-range planning process and overly restrict the types of projects eligible for reducing GHG emissions."

The cost/benefit analysis of the Floyd Hill project reflects just how important large new capacity projects are both to improving the state's economic future and ensuring that road congestion does not become a policy objective.

The cost/benefit analysis associated with this proposed rule does not provide the certainty or a detailed understanding of how new capacity and efficiency improvements will be valued across the full spectrum of benefits they may provide. In particular, it is not clear exactly how fundamental changes in the mix of vehicles on our roads is being factored into infrastructure investment decisions.

Until many of the critical and precise questions raised by stakeholders have been addressed, and assurances that types of projects that the public expects will move forward so that people can recreate, get to work, ship goods, and visit family members, it is unclear why the rule as proposed should move forward given its potential for large unintended consequences.

Sincerely,

[redacted]

Terry J. Stevinson Fellow
Common Sense Institute

CSI's mission is to examine the fiscal impacts of policies, initiatives, and proposed laws so that Coloradans are educated and informed on issues impacting their lives. Common Sense Institute was founded in 2010 originally as Common Sense Policy Roundtable. CSI's founders were a concerned group of business and community leaders who observed that divisive partisanship was overwhelming policymaking and believed that sound economic analysis could help Coloradans make fact-based and common sense decisions.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse Gas Emissions Rule Recommendations

1 me age

[redacted] Thu, Nov 18, 2021 at 11:51 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc [redacted]

On behalf of the under igned member of the Denver ba ed Land U e Working,

Plea e ee the attached document erving a written comment for the GHG Propo ed Rule

Thank you,

[redacted]

[redacted]

Program Officer

[redacted]

Mile High Connects is fiscally sponsored by Colorado Center on Law and Policy.

mhconnects

LUWG_CDOT GHG Rulemaking_ revised rule.pdf
301K

11/18/2021

Subject: Green House Gas Emissions Rulemaking – Recommendations for a more equitable process

The undersigned members of the Denver-based Land Use Work Group (LUWG), including nonprofit advocacy organizations, nonprofit developers, Business Improvement Districts (BIDs), and residents tracking and amplifying local efforts while advocating for policy change to reflect the nexus of housing and transportation and ensure that investments in the built environment reduce racial disparities, maintain community, build a culture of health, and respond to the climate crisis.

Thank you CDOT for undertaking the project on Rules Governing Statewide Transportation Planning Process and Planning Regions and providing the opportunity for public comment. We appreciate the changes that have been incorporated into the revised rule and for the chance to further improve the rule to ensure we remain on track to meet the state's climate goals and address the needs of communities who have been disproportionately impacted by climate change.

The rule thoughtfully addresses the importance of multi-agency modeling, ensures mitigating measures stay local among road projects, explicitly acknowledges the role of induced demand, and many other modifications to mitigate transportation pollution. Nevertheless, the current rule still fails to adequately promote climate-friendly land use policies and center people and environmental justice.

The following recommendations seek to create a more equitable approach to reducing greenhouse gas emissions while centering the needs of Colorado's most disproportionately impacted communities (DICs):

Center People and Climate Justice: It is imperative that the rule is centered around communities that have been the most disproportionately impacted by the effects of transportation pollution. While the revised rule acknowledges the importance of mitigation investments that provide localized benefits to DICs, it fails to directly provide explicit measures for community benefit and does not emphasize the need for public engagement within decision-making processes. To strengthen climate justice and advance equity the rule should incorporate the following:

- Immediate adoption of a transportation equity framework must be a priority for CDOT. The framework should be vetted by community, modifiable to meet the unique needs of different communities, and equity measures should address community-voiced needs. Equity assessments should be used to inform the transportation equity framework by collecting and

analyzing community-shared information related to harmful transportation project development and pollution.

- Establishment of a Community Advisory Committee or Steering Committee comprised of community residents, organizations, youth, etc. charged with reviewing equity assessments submitted by community.
- Increased opportunities for community engagement and outreach to identify disparities among community. Community input should shape the specific equity metrics and outcomes used to measure the direct/project benefits related to improve air quality and mobility options and access among DICs.
- Resources for community informed processes to assess and co-create solutions that mitigate the health impacts of GHG emissions in DICs.
- Consider funding opportunities for Community Benefit Agreements among DICs based on project location and potential impact. OR provide funding for building capacity amongst community benefits groups.
- Elevated needs and benefits of equitable transit-oriented development, prioritizing projects that increase access to transportation, education work, food, goods, and services, etc.

Reduction targets for VMT: Reducing VMT serves as one of the best ways to permanently reduce transportation pollution. To meet the state's climate goals, the rule should include explicit and measurable VMT reduction levels required by each planning region. Allowing three consecutive years of non-VMT reduction among MPO areas prior to conducting revisions, will not achieve VMT reductions that are necessary to meet state goals. Furthermore, we cannot consider VMT reductions without including smart land use strategies. To increase knowledge of the undoubtable connection between smart land use strategies and VMT reduction CDOT should:

- Consider local land use and development patterns and the extent to which they contribute to VMT per capita reductions for the proposed transportation project.
- Prioritize projects that incorporate additional smart growth strategies such as up zoning, mixed-use infill development, adaptive re-use, and transit-oriented development.
- Create a bonus for projects that advance equity by incorporating affordable housing and TDM programs that lower the combined housing and transportation costs for low-income households.
- Act swiftly to expand mitigation measures should any region fail to achieve the 2025 GHG or 2030 reduction targets. The reductions are cumulative – the lessons of climate change indicate that early action is the cheapest action.
- Ensure that RTD and other regional transit authorities are explicitly funded by name to guarantee certainty in service delivery going forward.

We appreciate your commitment and efforts to reduce greenhouse gas emissions from the transportation sector, improve air quality, and provide more travel options throughout Colorado, and your consideration of these recommendations.

Sincerely,

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

CDOT Rule Making

1 me age

[redacted] Thu, Nov 18, 2021 at 11:56 AM

To: dot_rules@state.co.us

Hello,

My name is [redacted] and I am a Northglenn City Councilmember.

I ee the effect of climate change every day and I'm ure you have too You turn on the news and you ee other natural di a ter ravaging a part of our world Every year the fire ea on get longer, the air get thicker, and le now fall Thi i a deva tating reality for all of u

The city of Northglenn ha a Su tainability Action Plan which include 97 e i ting u tainability initiative But the e action are not enough, we need to work with the tate to en ure we reach the goal et by SB19 1261 and SB21 260 which e tabli h tatewide greenhou e ga emi ion target

In order to follow-up on the work that has already been done I am asking that we include Added tracking and reporting of Vehicle Miles Traveled (VMT). This was avoided entirely in the original proposal, and the addition i important There i al o a major loophole that need to be clo ed We need to make ure that a highway capacity project (e g , adding lane) cannot be done and claim it a air pollution mitigation by aying that reducing conge tion through capacity addition mean le pollution becau e vehicle top le Thi i not the type of infra tructure work Colorado need

Some other key concern include

- The overall pollution reduction target (up to 1 5MMT) i too mall That i n't adequate becau e it till leave a izable gap that CDOT mu t figure out how to fill Thi propo al would be tronger if a target i et at a level clo er to the actual gap
- The addition of VMT tracking and reporting i great, but there hould be actual VMT target
- The provisions intended to protect at-risk communities (which CDOT refers to as "disproportionately impacted communities") need strengthening. In order for the rule to meet the equity intent of HB21-1266, it needs to specify how benefits and investments will be prioritized for Colorado's most impacted communities.
- CDOT may need to clarify that you can't double-count emissions reductions from EVs, which is a potential loophole that needs to be addressed.
- GHG mitigation measures should be required if a plan fails to meet GHG reduction targets. These measures absolutely should not be optional.
- The proposed waiver process should be limited to safety projects.

This proposal should result in significant progress towards meeting the GHG Roadmap's transportation sector emissions reduction targets.

The co t aving for Coloradan from adoption of thi rule are con ervatively e timated at a tunning $9 4 billion by 2030, and a total of $40 3 billion by 2050 The three large t ource of co t aving come from reduced vehicle operating co t , afety, and traffic delay And the two large t ource afety (reduced

vehicle crashes) and traffic delay - make up over 2/3 of these savings, largely due to reductions in Vehicle Miles Traveled. VMT should be a primary goal of this rule and these economic benefits will be a win for all Coloradans, in particular for disproportionately impacted communities.

Northglenn is a city of families, of people, my constituents who want to ensure their children will have a livable planet for generations to come. As the mother of three young children I also share this sentiment as the work we do today will determine the quality of their lives.

There i a large pu h acro the metro area to addre our ongoing ozone non compliance tatu In the next 10 years we'll see more electric vehicles on the road and we need to prepare our community for that large shift. Northglenn will continue to advocate regionally for solutions and take responsibility for electrifying our own fleet to set the example of good stewardship.

My con tituent urgently demand aggre ive action to reduce GHG emi ion and avoid the wor t impact of climate di ruption If we want a livable and vibrant planet to la t we have to act now and that tart in my small community of Ward 3 and extends to all of Colorado.

Thank you to CDOT and the Tran portation Commi ion for their leader hip on thi GHG planning rulemaking Thi i an opportunity for Colorado to be a leader on climate friendly tran portation planning

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Written Comments re Proposed Revisions to 2 CCR 601-22

1 me age

[redacted] Thu, Nov 18, 2021 at 11:56 AM

To: dot_rules@state.co.us

Cc [redacted]

Good morning Hearing Officers Hogle and Reece

Attached, please find written comments related to CDOT Proposed Transportation Planning Modifications to Address Transportation Sector GHG Emissions Proposed Revisions to 2 CCR 601 22

Thank you!

[redacted]

[redacted]

[redacted]

NCLA Written Comment Updated pdf
457K

Pa tedGraphic 2 pdf
12K

[redacted]

To: Director Shoshana Lew
Hearing Officers Andrew Hogle and Christine Reece
Transportation Commissioners
via email to dot_rules@state.co.us

From: Northern Colorado Legislative Alliance
Fort Collins Chamber of Commerce
Loveland Chamber of Commerce
Greeley Chamber of Commerce
Upstate Colorado Economic Development
Grand Junction Chamber of Commerce
Longmont Chamber of Commerce
Club 20
Colorado Springs Chamber and Economic Development Corporation

Re: Comments on CDOT Proposed Transportation Planning Modifications to Address Transportation Sector GHG Emissions – Proposed Revisions to 2 CCR 601-22

Date: November 18, 2021

Passage of Senate Bill 21-260 and its environmental provisions encompassed within its Section 30 set in motion an expedited rulemaking process intended to dramatically change the infrastructure investment priorities of Colorado's Department of Transportation from roadway safety and congestion improvements to multi-modal transportation modes with the purpose of significantly reducing vehicle miles traveled.

The operative one size fits all approach of the rule, taken with the desires and pressure of the environmental community as articulated in public testimony and written comment and the GHG Reduction Roadmap, present a myriad of avenues to threaten an ongoing investment in congestion relief, capacity improvements and operational strategies of critical regionally significant corridors across Colorado. Left unfunded, the resulting

flow of traffic will be impeded, safety will be compromised, and air quality will be impacted from heightened emissions from congestion.

Rule change and mission shift are the prerogative of the state's political leaders and administration officials. It is incumbent upon our leaders, however, to be intellectually honest with Coloradoans about the intent of the rule, the methodologies and data used to substantiate the rule requirements, assure the rule requirements are attainable, and that the costs of the rule – financial, cultural, social and quality of life – are fairly and accurately estimated and considered.

The North Front Range MPO[1] and Weld County[2] have done remarkable work bringing to the fore the significant shortcomings of the proposed rule and its revisions. We commend and concur firmly in their detailed analysis, feedback, and recommendations for modifications to the rule. We strongly urge your careful and thoughtful consideration of their work that is done with the intent to be constructive, practical, and pragmatic in achieving the goal of reducing GHG from the transportation sector.

Below we highlight a number of challenges with the rule that the Commission should consider as you move forward with a new planning process to reduce GHG emissions from the transportation sector.

Include Capacity Improvements and Operations Strategies in the GHG Mitigation Measures

- Under the rule revisions, roadway capacity improvements to address congestion and operational strategies that can include technology improvements that improve the flow of traffic are specifically disallowed despite no technical basis provided in the rule. Capacity improvements and operational strategies should be allowed mitigation measures for regionally significant projects.[3]

Remove the requirement to require CDOT to measure Vehicle Miles Traveled (VMT)[4]

- The revisions to the rule that require CDOT to measure VMT is an unsubstantiated expansion of the rule provisions. There is not a 1:1 correlation between GHG emissions and VMT and any requirement to reconsider the provisions of the rule should be solely tied to GHG reductions.
- Data modeling associated with the proposed rules focus on vehicle miles traveled and do not incorporate other pertinent factors. In response to a report by RMI, Executive Director Lew noted the importance of other necessary factors when applying modeling data, arguing, "The [RMI] report appears to look only at a simple calculation of lane mileage, omitting a broad range of other factors pertinent to traffic modeling that affect vehicle miles traveled, mitigations, and the geographic nuances of individual projects. Taking

[1] North Front Range MPO, November 5, 2021 Written Comments
[2] Weld County Board of County Commissioners, November 18, 2021 Written Comments
[3] Id. NFRMPO, page 7
[4] Id. NFRMPO, page 11

any single variable out of context tends to lead to misleading conclusions that fail to reflect the full costs and benefits of a more comprehensive project."[5]

- VMT reduction strategies often rank among the costliest and least efficient options to reduce GHG. In contrast, less intrusive policy approaches such as improved fuel efficiency and traffic signal optimization are more likely to directly reduce GHGs than behavioral approaches such as increasing urban densities to promote higher public transit usage. As a general principle, policymakers should begin addressing policy concerns using the least intrusive and costly approaches first. Climate change policy should focus on directly targeting greenhouse gas emissions (e.g., through a carbon tax) rather than using the blunt instrument of VMT reduction to preserve the economic and social benefits of mobility in modern, service-based economies.[6]

Overall Costs in Cost Benefit Analysis are too low by $14 Billion

- The Cost Benefit Analysis goes to great lengths to demonstrate the economic benefits of the rule. The overall costs, however, are poorly calculated and are too low by a factor of four – $14 billion. We urge you to pay particular attention to NFRMPO's very thorough critique of the Cost Benefit Analysis[7]. Using the same methodology used in the CBA, the NFRMPO estimates the costs of the rule at $18.8B, a four-fold difference from the final number of only $4.5B in the CBA. A fair question is why does the CBA severely underestimate the costs of the rule? An answer or modification to the CBA should be secured before passage of the rule.

SB 260 Accelerates Electric Vehicle Adoption and Reduction in GHG Emissions from Sector

- To accelerate the shift in electric vehicles, newly inaugurated Governor Polis signed his first executive order in January 2018 to accelerate the electrification of cars, buses, trucks, and other vehicles in Colorado. The Governor set a goal of 940,000 electric vehicles on the road by 2030.[8]
- The funding, enterprise structures, and policy directives encompassed within SB 21-260 work to realize the goals of Executive Order B 2019 002 and the GHG Roadmap. An analysis of SB 21-260 published by the Southwest Energy Efficiency Project (SWEEP) finds that "we can expect about 75% of 2030 [GHG] reductions to come from more energy-efficient and electric vehicles."[9]
- SB 21-260's EV provisions were structured to lower the upfront cost of EVs, increase model availability, and expand EV charging infrastructure. The bill's funding components will raise $734 million for EVs, the largest investment in EVs of any state outside California.

[5] Colorado Department of Transportation, Office of the Executive Director, Letter dated April 21, 2021.
[6] Reason Foundation, Samuel Staley, Why VMT Reduction Should Not Be A Climate Change Goal, August 23, 2010
[7] Cost Benefit Analysis Critique – Page 11 - 13 of NFRMPO Written Comments, November 5, 2021
[8] Executive Order B 2019 002, Supporting a Transition to Zero Emission Vehicles
[9] Frommer, Matthew, "A Breakdown of Colorado's Giant Transportation Funding Bill", Southwest Energy Efficiency Project (SWEEP), June 15, 2021

Rule will have Negative Economic Impacts upon Disproportionately Impacted Communities (DICs)

- The Rules and their intended and consequential reduction of investment in congestion relief and capacity improvements will negatively impact and place unequal burdens on disproportionately impacted communities, particularly low income workers, and conflict with the intent of HB21-1266, the Environmental Justice Act.
- Low income and hourly employees are more likely to hold positions that must be performed in person at the worksite. Positions in the service industry and those that involve manual labor usually cannot be performed remotely. White collar and professional employees can often perform their work remotely and may reduce their time spent commuting by doing so. Low income and hourly employees would instead increase their time spent commuting. Commuting by mass transit, carpool, or vanpool takes more time than driving directly from home to work with no stops. Consequently, these employees would lose time out of their day, with their families and other activities.
- Various mitigation measures to reduce VMTs, in particular, from parking fees to other mandated inconveniences, will burden low-income workers disproportionately. Low income and hourly employees are more susceptible to parking charges because they have less ability to work remotely, may live in neighborhoods with less access to transit, and are less able to afford the parking charges when they drive to work.
- The rule impacts economic opportunities, making it more difficult for those in DICs to travel from their communities to places of work. For example, a construction worker living in Adams County (identified as DIC per the State's Data Viewer) will face more challenges to retain that job with increased transportation costs and the time necessary to travel to work. Compared to the executive-level person living in Fort Collins, that will more easily absorb the increased cost and time requirements to travel to their job in downtown Denver.
- CDPHE is engaged in extensive outreach and development of the Environmental Justice Action Task Force. This task force aims to develop state agency-wide EJ strategies that consider key definitions, including defining "disproportionately impacted community".

Women, Quality of Life and Equal Job Opportunities Impacted by Proposed Rule

- Studies show that women are more likely to link different trips, or "trip chain," on the way to and from work. This is especially true for women with younger children. Yet restricting an individual's ability to drive to work makes trip chaining difficult or impossible. Mitigation measures intended to reduce VMTs would likely increase commute time, while at the same time limiting an individual's flexibility to combine trips to accomplish other tasks, e.g., pickup from daycare. Limitations in travel flexibility may significantly burden women, who are more likely to trip chain, and therefore impose a disparate impact.
- Mitigation measures and requirements and reduction of investments in congestion mitigation/capacity improvements could diminish work and advancement opportunities for women and compound the current "She-Cession." The pandemic's economic upheaval created disproportionate negative impacts

for women, and policies that result in hindered travel will greatly impede women's recovery as their job opportunities could be limited due to required commute considerations. Despite the unfolding economic recovery from the pandemic, the impacts on women continue. In the U.S., over 2.1 million women left the labor market entirely since the beginning of the pandemic and are not yet looking to return to work.[10]

- The ability and decision for these women to re-enter the workforce is dependent upon their accessibility to jobs that consider their ongoing responsibilities and their time constraints. Research from the UK suggests a gender commuting gap is a reality that may impact women's wages and work opportunities. According to the study by the Office for National Statistics (ONS), women are more likely than men to commute for 15 minutes or less. Men, on the other hand, made two-thirds (65%) of the commutes lasting an hour or more.[11]
- Working closer to home due to parental responsibilities may limit women's chances of finding a high-paying job, or one that offers the best prospects for developing their careers, and it may be yet another of the many factors that contribute to the gender pay gap.
- The prospect for women under the proposed rule in the workplace environment, in consequence, will have a compounding detrimental impact upon women emerging from the pandemic, reentering the workforce, career advancement, and accelerating economic conditions.

Induced Demand Theory Inconclusive and Misapplied

- The theory of "Induced Demand" is not universally agreed upon by transportation planning experts. In response to RMI[12], CDOT Director Lew stated "Induced demand is not a one-size-fits-all [theory] and the actual use patterns along the corridor must be considered." [13]
- Weld County, in their comments, "believes that CDOT misapplied the phenomenon of induced travel", explaining, "The majority of research reviewed and used by CDOT to support the rationale of induced travel in the Proposed Rule is based on roadways in California and, particularly, those that exist in an urban context."
- The higher concentration of cars idling will negatively impact our emissions. Director Lew identified this concern as well in her response letter to RMI in early 2021 stating, "Models that include induced demand should also factor pollution from sitting in traffic to have accurate pros/cons…." She continued, "we fully agree that induced demand needs to be modeled on capacity projects and, again, CDOT is taking the lead on building out these models (an area in which we are well ahead of many of our counterpart agencies). However, it is also true that sitting in traffic creates pollution. Both need to

[10] https://www.bls.gov/bls/newsrels.htm #latest-releases

[11] The commuting gap: men account for 65% of commutes lasting more than an hour, Office for National Statistics, November 7, 2018.

[12] If You Build It, the Cars (and Pollution) will Come", RMI, April 21, 2021

[13] Id. CDOT.

be included to accurately assess net impact. For us to assess the accuracy of the new model, we would need to fully understand how it incorporates sensitivities that are key to accurate traffic modeling."[14]

Lack of Clarity Throughout Rule Ripe for Litigation

- The rule is permeated by ambiguous terms, expectations, and modeling. The lack of clarity around key questions will only create questions during implementation and likely inconsistency of application or interpretation. Such ambiguity leaves the rule – and projects – ripe for litigation, further impeding forward progress on important transportation projects across the state. We only look to water storage projects and the extended litigation that has interfered with the building of water projects over the years to appreciate the challenge of ambiguity.

The rules fail to consider the impacts of COVID on Commuting and Workforce.

- The natural occurrences resulting from the pandemic have decentralized the workforce, changed commuting behaviors and residential living, and have reduced transit ridership.
- The way of work is changing and the rule doesn't reflect the future. Today's employer is sensitive to the needs of its workforce. In a post-pandemic era, employers, where possible, are offering flexible work schedules with an appreciation for the productivity of its workforce without the in-office oversight. Gone are the days of 9-5 and welcome are the days of get your work done on your schedule. This new quality of life will bring with it a complete shift in traffic patterns, vehicle use, transit needs and congestion relief.
- Similarly, rehiring of employees comes with it the pursuit by potential employees of flexible work schedules, work from home/remote work options. Through the experience of the last 17 months, employees gained clarity around what they want and what their employer is willing to provide. At least 70% of U.S. workers say they would prefer to switch to a hybrid work-from-home schedule or stay remote full time, a recent survey by the Society for Human Resource Management found.
- Job recruiters are adjusting their counsel to employers to consider the new expectations, advising that "whereas remote work used to be seen as a perk, it's become an everyday reality for many – and they're not going back to commuting."[15]
- Many companies' policies have shifted to reflect that permanent remote work is the future of work– pandemic or not. By 2025, an estimated 70% of the workforce will be working remotely at least five days a month.[16]
- The percentage of workers permanently working from home is expected to double in 2021, according to a survey from Enterprise Technology Research (ETR). "The productivity metric is proving that remote work is working," said Erik Bradley, chief engagement strategist at ETR. "So, we all thought that there

[14] Id. CDOT
[15] Forbes Human Resource Council, The Return To Office And Return To Job Hopping: What Recruiters Need To Know Now, Forbes, July 8, 2021
[16] Rani Molla, How remote work is quietly remaking our lives, Recode

would be some increase in permanent remote work, but we didn't expect that to double from pre-pandemic levels."[17]

- Another recent Gartner CFO survey revealed that over two-thirds (74%) plan to permanently shift employees to remote work after the Covid-19 crisis ends.[18] Big Tech companies are paving the way. 30 major companies, many with a presence in Colorado, have switched to long-term remote work.[19] As the trend continues to build – and the competition for employees intensifies - other large employers will follow suit.
- Most large employers across the state and MPO have begun to shift their expectations of their workers where possible. This response to the pandemic, this experience, is still unfolding. The final look at how our traffic and commutes will change won't be a factor of mitigation measures but natural market forces.
- Commuter behavior has already begun to change with the pandemic experience as more folks will continue to work from home and/or have a blended, more flexible schedule for work.
- New traffic hours that more closely reflect errands and work from home habits in which your days are managed on your time and convenience, not that of the employers.
- Indeed, congestion relief will result in air quality improvements. This type of behavior modification and air quality benefit is desired by the ruleset. It's coming. Not by the imposition of a government mandated behavior change but by the natural unfolding of an experience in which productivity wasn't harmed by work from home, in many cases it was improved.

One-Size Fits All Approach Creates Greater Challenges for Rural Colorado

- The revised GHG mitigation measures present even more challenges for rural Colorado and disproportionately impacted communities since non-MPO or TPA mitigation measures will no longer qualify or be counted toward mitigation.
- Commitments made to rural Colorado are still important, yet these rules redirect those commitments. CDOT Executive Director, in a letter earlier this year, noted, "integrating intercity transit into key corridors like I-25 and I-70, expanding our Bustang outrider system to rural areas that are underserved by transit, supporting main streets throughout the state through a first of its kind effort to support active transportation and outdoor commerce on state and local roads that anchor communities… [these projects] integrate these priorities into our governance of Colorado's roadway system as the state grows"[20]. With capacity limitations, these projects will be difficult to get approved.

Contact: [redacted]

[17] Gertrude Chavez-Dreyfuss, How remote work is quietly remaking our lives, Reuters
[18] Gartner CFO Survey Reveals 74% Intend to Shift Some Employees to Remote Work Permanently, April 3, 2020
[19] Emily Courtnay, 30 Companies Switching to Long Term Remote Work, FlexJobs
[20] Colorado Department of Transportation, Office of the Executive Director, Letter dated April 21, 2021. ¶3.

Capitol Solutions/Northern Colorado Legislative Alliance
[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comment on Greenhouse Gas Emissions Reduction Opportunities

1 me age

[redacted] Thu, Nov 18, 2021 at 11:59 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Hello,

I work for the Town of Breckenridge as the Sustainability/Alternative Transportation Administrator, tasked with helping the Town reach our u tainability goal of reducing greenhou e ga emi ion (GHG) 50% by 2030 and 80% by 2050 (relative to a 2005 baseline).

The only way we can reach these goals is with support from the State, by having CDOT include Greenhouse Gas Emissions Reductions baked into their transportation planning standard. This will help our community improve quality of life and air quality, provide opportunities for improving active transportation options, and provide a necessary positive impact on how Coloradan are able to travel

Here in Breckenridge, we are committed to taking action to help curb climate change, but we cannot do it alone Our town is very interested in expanding sidewalks, bike paths, bringing online an e-bike share program, “complete streets” efforts, and expanding public transit service to reduce the need for people to drive in our town. We have state Highway 9 that runs right through the middle of our community, and having CDOT incorporate greenhouse gas emissions reductions as part of it planning proce will be key to our u tainability goal moving forward, and helping u provide a multitude of transportation options besides just putting more vehicles on the road.

Thank you for hearing our comments and for your consideration.

Kind regards,

[redacted]

Sustainability/Alternative Transportation Administrator

[redacted]

TOWN OF BRECKENRIDGE
MOBILITY

SUSTAINABLEBRECK

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Re: Colorado Concern GHG Rulemaking Comment Letter

1 me age

[redacted] Thu, Nov 18, 2021 at 1:49 PM

To: dot_rules@state.co.us

Cc Sho hana Lew ho hana lew@ tate co u

Please note that we had a small error in our prior comments. We are hopeful that you will accept this amended version from Colorado Concern. Thank you.

On Thu, Nov 18, 2021 at 1 49 PM [redacted] wrote

> Please note that we had a small error in our prior comments. We are hopeful that you will accept this amended version from Colorado Concern. Thank you.
>
> On Thu, Nov 18, 2021 at 12 05 PM [redacted] wrote
>
> > Colorado Transportation Committee,
> >
> > Please see the attached comments regarding the GHG Transportation Planning Standard from Colorado Concern.
> >
> > Thank you for your service.
> > --
> > [redacted]
> >
> > [redacted]
> >
> > COLORADO CONCERN
> >
> > [redacted]

--

[redacted]

Corporate Affairs Director

[redacted]

COLORADO CONCERN

[redacted]

[redacted]

[redacted]
Corporate Affairs Director

[redacted]

COLORADO
CONCERN

[redacted]

Colorado Concern - November 17, 2021 (2).pdf
154K

November 17, 2021

Colorado Transportation Commissioners
Colorado Department of Transportation
2829 West Howard Place
Denver, CO 80204

Colorado Transportation Commission:

Thank you for your service to the state of Colorado.

As you no doubt have seen, the CDOT rulemaking effort to reduce GHG emissions has been met with intense interest and apprehension. It is vital that the Department view the rulemaking exercise while taking the widest possible view of the needs of the people of Colorado. As leading proponents of Senate Bill 260, we are concerned about the direction of this rulemaking due to the unintended consequences for future road-building projects. We offer the following comments to realign this process in a way that better reflects the intention of bill supporters and CDOT's historic purpose as spelled out both in the original legislative declaration and CDOT's current website.

During the months long debate on SB 21-260 was a reduction in Vehicle Miles Traveled (VMT) was not stated as a goal and yet, it has reared its head in this rulemaking. Colorado is a growing state that has not dedicated the resources necessary to its highways system to meet that growth, let alone the coming growth. The state demographer's office projects a 49% increase in the Colorado population between now and 2050, as it expects our 5.8 million to swell to 8.7 million. Our infrastructure is not ready for this growth and SB 21-260 was passed, in part, to prepare for this future. Colorado needs more capacity in its highway system, not less. The rule, as proposed, could slow down or even prohibit the very projects we so desperately need.

Shutting down projects that allow people to travel in their vehicles through less congestion will decrease both mobility and economic freedom. The rallying cry from the business community for Senate Bill 260 was to deliver *safer roads and less traffic congestion*. At no point was removing people from their cars on the table. Rather, SB 21-260 significantly invested in multimodal projects as well as alternative transportation. These investments are nudges that incentivize people away from single-occupancy vehicle travel. A rule that requires the tracking and year-over-year reduction in vehicle miles traveled is not a nudge, it is a requirement. Furthermore, reduced VMT is plainly not necessary for GHG reduction and therefore has no place in this rulemaking.

An increase in VMT, which might be expected from our rapidly growing population, will not necessarily translate into an increase in GHG and other emissions. As technology improved and older higher-emitting vehicles cycled out of service, the Denver Metro region saw a 50% decrease in GHG and other emissions alongside a 25% increase in VMT over the past 10 years, according to data collected by the RAQC. Clearly, a reduction in VMT is not necessary to reduce GHG and other emissions. Therefore, it is surprising to see a VMT report detailing a year-over-year reduction goal included in this rulemaking.

Colorado Concern, an alliance of more than 130 CEOs representing every sector of the Colorado economy, strongly advises that sections 8.06.2 and 8.06.2.1, within Reporting, be removed from the Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards.

> ~~*8.06.02 Beginning September 1, 2022, and annually thereafter, CDOT shall provide to the Transportation Commission a VMT report. The report shall provide total VMT per capita within the MPO areas and statewide for the past calendar year.*~~
>
> ~~*8.06.2.1 In three consecutive years of reports demonstrate no decrease in VMT per capita in one or more areas, the Commission shall consider revisions to these rules in order to achieve reductions in VMT consistent with the intent of this rule.*~~

In 2019, the Colorado Department of Public Health and Environment promulgated the Colorado Low Emissions Automobile Regulation, which required automakers to increase the percentage of Zero Emissions Vehicles (ZEV) available for sale. Even without additional federal or state mandates, vehicles will continue to get cleaner, no matter their power source. Thus, it is likely that GHG reductions naturally occur through innovation, technology, and rising consumer demand for lower-emitting vehicles. Therefore, we urge the Commission not to get sidetracked creating what is likely to become a predicate for VMT reduction mandates that would restrict CDOT's ability to meet its most basic obligation, as stated on its website:

> *The Colorado Department of Transportation (CDOT) exists to ensure that Colorado has a safe and efficient highway system by building and maintaining interstates, U.S. highways and state highways.*

Reducing VMT is not the role of government, it is not the role of CDOT, and it is not the role of employers as seen from the failed Employer Trip Reduction Program rulemaking process. There is no appetite among the business community for government mandates that restrict the mobility options of Coloradans. We strongly discourage CDOT from getting into the business of tracking and altering VMT. This kind of governmental overreach is unnecessary to achieve the primary goal of this rulemaking, which is to reduce GHG and other emissions. Please remain focused on the top line goal of GHG reductions.

Finally, the leaders at Colorado Concern recommend that all GHG and other emissions reduction targets be measured against population. Our rapidly growing population could easily distort real emissions reduction

progress and unnecessary stall or sideline much needed capacity projects if the GHG goals are not considered on a per capita basis. We are confident in our state's ability to achieve per capita GHG reductions, especially in light of the newly established low emissions vehicle (LEV) and ZEV standards established by the state in 2019.

If total removal of VMT is not possible, we advise the following in-line edits to the previously mentioned sections.

> *8.06.02 Beginning September 1, 2022, and biennial thereafter, CDOT shall provide to the Transportation Commission a per capita GHG reduction report which it may obtain from data derived by CDPHE and may include a summary of VMT per capita within the MPO areas and statewide for the past calendar year; if a VMT per capita report is prepared it shall include a report citing the ratio of public tax dollars spent on new public transportation spending to VMT per capita reduced.*
>
> ~~*8.06.2.1 In three consecutive years of reports demonstrating no decrease in VMT per capita in one or more areas, the Commission shall consider revisions to these rules in order to achieve reductions in VMT consistent with the intent of this rule.*~~

Colorado Concern appreciates the opportunity to share feedback on this proposed rule and is committed to remaining an engaged partner with CDOT as we address our infrastructure backlog.

Sincerely,

[redacted]
President & CEO
Colorado Concern

CC: Executive Director Shoshana Lew

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse Gas Rulemaking

1 me age

[redacted] Thu, Nov 18, 2021 at 1:47 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

[redacted]

Promoting the development of Teller County's Core Values:

TEAMWORK, SERVICE, INTEGRITY, FISCAL RESPONSIBILITY AND TRANSPARENCY

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81K

[redacted]

Department of Transportation and Transportation Planning Commission

RE: Comments from Teller County Board of County Commissioners on Greenhouse Gas Rulemaking

November 18, 2021

Honorable members of the Transportation Department and the Transportation Commission,

The Teller County Commissioners have significant concerns over the proposed rules for the reduction of Greenhouse Gas emissions pursuant to 2 CCR 601-22

Regional travel demands are a by-product of our environment in Teller County and our culture of outdoor recreation in our beautiful state. Under the proposed rules, Teller County projects would be forced to mitigate the increased capacity of highways going through Teller County to accommodate the hundreds of thousands of cars that annually travel US Hwy 24 to connect Colorado's southern front range to the mountainous recreational areas to the West. The assumption by the rule-makers that people will simply not drive if capacity is not increased and becomes inconvenient does not reflect the reality of what is currently happening on Interstate 70 and US Hwy 285. People will not be dissuaded from going to the mountains for recreation and a failure to not increase capacity due the costs of mitigation will result in even more traffic congestion, stop and go traffic and actually increased greenhouse gas emissions from excessive (and unnecessary) idling.

Teller County projects would be forced to mitigate expanding capacity for a population which does not reside in the county, but uses it as a travel corridor to reach the mountains. The pandemic has shown a significant increase in traffic to reach healthy outdoor areas. Our ability to mitigate GHG as a small county is extremely limited and to create unused multimodal projects would be a waste of taxpayer money and make needed capacity projects unattainable. It is our position that rural areas in identified recreation transportation corridors need to have a clear, defined and attainable access to waivers from the Transportation Commission, something which is not currently clear, defined or attainable. Saddling small-county projects with unreasonable and likely unattainable mitigation is simply not fair and will negatively impact the quality of life for the residents of Teller County. It is our belief that failure to provide clear, defined and attainable waivers in rural counties will result in more traffic congestion, and more greenhouse gas emissions coming from travelers from outside Teller County. We urge the Commission to adopt rules that make mitigation attainable for rural counties and waivers that are attainable in rural areas that must accommodate capacity projects for travel originating outside our borders.

With Respect,

[redacted]

Teller County Board of County Commissioners

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Letter to Commissioners

1 me age

[redacted] Thu, Nov 18, 2021 at 1:51 PM

To: dot_rules@state.co.us

From: [redacted]
Date: November 17, 2021 at 8:57pm

Sincerely,

[redacted]

"The ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy."
Martin Luther King Jr.

Letter To CDOT Commissioner.docx
14K

Dear Commissioner,

Thank you for your work on the Greenhouse Gas (GHG) Pollution Standards Rulemaking.

This rulemaking is a chance to clean up the dirty air that is harming our health, especially our kids, the elderly, friends and family. Many of the aforementioned community members also live near busy highways, for this reason I am asking you to stand up for clean air, safe streets, and healthy neighborhoods.

As the Colorado Department of Transportation (CDOT) revises the draft GHG Pollution standard over the next few months, we are asking CDOT to:

1. Include the voices of those communities that are most impacted by poor air quality.
2. Include those community voices in the decision making process. Be mindful of what the community needs are, in order to participate at this level.
3. Providing information about the public hearings directly to these communities.
4. Language translation and targeted outreach a must.

This is Colorado's opportunity to do right by the communities that are most impacted to follow through on its commitment to environmental justice and to prioritize public transportation. Most importantly center the process around the families and kids that are most impacted by transportation pollution. This isn't just the right thing to do it is the ethical thing to do.

Sincerely,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Transportation Planning Rules

1 me age

[redacted] Thu, Nov 18, 2021 at 2:17 PM

To: dot_rules@state.co.us

The GHG Rule a written are far too confu ing, cumber ome, bureaucratic, and ba ed on invalid theoretical assumptions and poor analytic methods.

I want to reduce GHGs, and I also want people to drive less, but I fear this rule will create more inefficient bureaucratic, compliance and reporting procedures, and will have very little, if any, positive impact. It may actually go so far as to bring anti climate changer back into political power We mu t work together to find politically mutual agreement on truly effective GHG strategies - not bureaucratically wasteful procedures.

The only mathematical ways to truly reduce GHG emissions in Colorado in a **meaningful amount** would be to do 3 things:

Rai e the fuel ta ignificantly (which I upport); Greatly increa e and ub idize the increa e of electric vehicle (I support); Halt the growth in population and employment in Colorado (not politically possible).

We must stop putting so much emphasis on public transit. I fully support the benefits of transit for personal mobility. But remember, it makes up a tiny amount of the state's travel. Even if the number of transit trips triples, that would have a tiny impact on GHG

The draft rules as written go too far down the path of bureaucracy and will be ineffective, or potentially detrimental, to GHGs in the end.

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

PeopleForBikes Public Comment concerning the GHG Rule (2 CCR 601-22)

1 me age

[redacted] Thu, Nov 18, 2021 at 2:53 PM

To: dot_rules@state.co.us

Greeting ,

Please see the attached public comment from PeopleForBikes concerning the proposed GHG Rule (2 CCR 601-22).

Thank you,

[redacted]

Check out our Keep Riding campaign

Follow me on Ride Spot!

PeopleForBikes_CDOT_GHG_rule.pdf
93K

peopleforbikes

[redacted]

November 16, 2021

Transportation Commission of Colorado
Colorado Department of Transportation Headquarters
2829 W. Howard Place
Denver, CO 80204-2305

Subject: Transportation Greenhouse Gas Rulemaking

Dear Commissioners,

On behalf of the PeopleForBikes Coalition, we write to thank you for improving the proposed rule governing the statewide transportation planning process and transportation planning regions (2 CCR 601-22) by highlighting the need for multimodal transportation projects such as bicycle and pedestrian infrastructure and outlining the importance of reducing vehicle miles traveled (VMT) as the key metric in reducing harmful pollution from transportation projects.[1]

PeopleForBikes is the national bicycle advocacy group and industry association that works for better policies and infrastructure for bike riding. We strive to make bike riding a safer and more inclusive activity for everyone, including our 36,000 individual supporters and 1,700 bicycle retailers, suppliers, and distributors in Colorado.

What the bicycle industry has long known to be true is now growing in popularity in cities across the country: bicycles are part of a broader climate solution and Americans nationwide are increasingly choosing bicycles to meet their transportation needs. Given our current air quality and climate crisis, our collective need to combat climate change requires bold action now.

We appreciate the Colorado Department of Transportation for prioritizing this need through this rulemaking process. The recent improvements to this rule will help ensure that the transportation projects that we plan, fund, and build will create new mode options, such as bicycle and pedestrian infrastructure, access to transit and shared ride and electric bicycle options that shift transportation behaviors and reduce the need for everyday car trips – a positive change that will give Coloradans practical, non-polluting, and affordable transportation options. Two final ways in which the proposed rule could be strengthened is by outlining a requirement to directly target efforts and set aside funds to benefit disproportionately impacted communities and further clarify the timeline and details for compliance by Metropolitan Planning Organizations.

This rule will allow Colorado to stand as a proactive leader in our fight to combat climate change. Thank you for undertaking this critical rulemaking process and highlighting the important role that bikes and bike infrastructure plays in the climate solution.

Sincerely,

[redacted]

Deputy Director of State + Local Policy
PeopleForBikes Coalition

[1] P oposed u e gove g es a ew de a spo a o pa gp ocess a d a spo a o pa g ego s (2 CCR 60 22)

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Response to GHG Rulemaking

1 me age

[redacted] Thu, Nov 18, 2021 at 3:12 PM

To: dot_rules@state.co.us

Hello,

Please accept CASTA's letter outlining our response to the current GHG Rulemaking effort.

Sincerely,

[redacted]

CASTA GHG Response.pdf
68K

COLORADO ASSOCIATION OF TRANSIT AGENCIES

[redacted]

Date: November 18, 2021

To: Director Shoshana Lew, Hearing Officers Andrew Hogle and Christine Reece, and Transportation Commissioners (via email to dot_rules@state.co.us)

From: Colorado Association of Transit Agencies (CASTA)

Re: CASTA Comments on the Updated GHG Rule

Thank you for the opportunity to submit comments on the Colorado Department of Transportation's (CDOT) proposed rule to 2 CCR 601-22.

The Colorado Association of Transit Agencies (CASTA) represents approximately 55 transit agencies around the state. This includes RTD in the Denver metro area, as well as systems serving resort areas like Breckenridge Transit, and smaller rural systems like Dolores County Senior Services in Dolores County, Colorado.

Colorado transit agencies are pleased to have been included in the bill and are looking forward to the new funding opportunities. Agencies are watching the GHG rulemaking process closely, with the expectation of partnering with either their MPO's or CDOT to help provide new mobility options, mitigate GHG emissions and provide better access to jobs and medical appointments.

With the intent of being good partners, CASTA would like to bring up some concerns that seem to put transit agencies in a precarious position. We want to be and should be, a part of the mitigation solution. We feel that the baselines and parameters in the current GHG rule set up many agencies to fail.

For example, the transit expansion strategy does not account for reduced transit service and ridership due to COVID. RTD is currently seeing about 50% of its pre-pandemic ridership. That is not a surprise as employers figure out how to manage their workforce in the midst of the continuing pandemic. Other agencies around the state reported a 40-70% decrease in ridership during the first half of this year. CDOT itself is encouraging its employees to work from home as we watch the Delta variant impact our communities.

Other areas in Colorado are experiencing the opposite. They are providing more rides than ever before, as more people are vacationing and relocating to Colorado mountain towns. Obviously, the workforce is in transition and there are no indicators that in the near future we will be back to "normal," or 2019 ridership levels.

Decreased fares and increased frequency can help but even these strategies are unlikely to allow agencies to meet the ridership baseline in the near future. Realistic assumptions about service and ridership will position transit agencies and communities to be successful in reaching the GHG reduction targets.

Other data points contribute to CASTA's concerns, such as the 6% annual vehicle revenue miles increase over the next 8 years and a 2% ridership increase for the following twenty years. Even if the ridership returns to 2019 levels, agencies in the state are not able to fund this level of expansion. In 2019 we saw a statewide ridership increase of 1.7%. As we look forward to sustained growth at a higher rate, it is unlikely that transit funding will keep pace.

There is a driver shortage in segments of the US market and unfortunately, transit salaries lag behind the salaries of other driving jobs. In hopes of filling open positions, agencies are increasing wages and benefits packages, but are still having trouble competing for employees. With the salary line item being the largest in most agencies, their budgets are increasing at an unsustainable rate. Between the driver shortage and the increased operational costs, some agencies are already making hard decisions about how long they can continue providing their current level of service.

Although there are some funding possibilities noted in the GHG Rule, they are not the most appropriate solutions for addressing today's ongoing transit operations issues, in particular the current difficulty of hiring and retaining drivers. For instance, CMAQ funding can go towards transit operations but must be used for new transit service, and for three to five years only, or for transit fare subsidies during Ozone Action days. The STBG funds noted in the rule cannot be used for transit operations.

Other transit funding sources at the state and federal levels have not grown at a rate to support the desired transit expansion over the last 5-10 years either. Those of us in the transit industry hope that the increased federal funding through the Infrastructure bill will be enough that transit agencies can not only begin requesting additional funds for operational expansion but can meet the expectations of the transit expansion strategy in the GHG bill.

Meeting the regional or state GHG reductions is only one goal many agencies strive to achieve. Agencies have expressed concern that meeting the GHG goals may come at the expense of serving the transportation disadvantaged groups in their communities and that focusing on the

GHG goals would put them in the precarious position of possibly not meeting equitable service provisions, required by Title VI of the Civil Rights Act, which is necessary to maintain funding eligibility.

Colorado has one of the fastest-growing elderly populations in the country. Transit agencies in both urban and rural communities around the state are seeing their ridership grow in this population segment. Transit provides aging populations with mobility options and greater flexibility that may prove to be more cost-effective and offer an improved quality of life. For example, these rides allow people to age in place rather than making a costly move to a facility in order to maintain access to medical care and other life necessities. However, these rides result in minimal increases in ridership; increase agency salary line items substantially, and are expensive to provide.

Disproportionately Impacted (DI) communities, defined as areas that are 40% or more minority, low-income, or housing cost-burdened or that face other systemic socioeconomic or health inequities, are more likely to rely on transit as their primary mode of transportation to access economic opportunity and social mobility. The current GHG provisions concerning DI communities currently only pertain to the mitigation plans after emissions targets are not met. To live up to the equity intent of HB19-1261, HB21-1266, and SB21-260, investments, and benefits for DI communities should be central to the project prioritization process.

In addition, we request that the rulemaking protect the MMOF funding in the bill and allow it to maintain its original purpose to support transit statewide, and that meeting GHG goals would not be its first best use, but that the MMOF would continue funding projects that provide resources and increased access in communities around the state.

Transit agencies ask that the implementation of the rule keep in mind the goals beyond GHG mitigation as we continue to piece together a transit network that connects Coloradans to their communities, their regions, and beyond, providing access to healthcare, education, employment, shopping, and recreation.

Sincerely,

[redacted]

Board President

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment: Greenhouse Gas (GHG) Transportation Planning Standard

1 me age

[redacted] Thu, Nov 18, 2021 at 4:37 PM

Reply-To: [redacted]
To dot rule @ tate co u

November 11, 2021

To: Colorado Department of Transportation

RE: Public Comment: Greenhouse Gas (GHG) Transportation Planning Standard

As the CDOT revises the draft GHG Pollution standard I am asking CDOT to:

1. Center EQUITY in all decision-making processes,
2. Elevate COMMUNITY VOICES through robust public participation processes that include language translation, targeted outreach, and early publication of hearings,
3 Set MORE AMBITIOUS pollution reduction target

This is Colorado's opportunity to make good on our climate and environmental justice commitments, prioritize investments in public transit, and include a public engagement process that centers communities most impacted by transportation pollution

Rationale and Context:

- Colorado's transportation sector is the leading source for greenhouse gas pollution.
- There are more cars and trucks in Colorado than ever before and the record setting air quality alerts from this ummer illu trate ju t how much of a cri i we have on our hand And a more and more people continue to move to Colorado, this crisis unfortunately won't fix itself. We simply can't continue doing what we've always done -- build new lanes and roads. That only worsens congestion and air quality. We have to think about transportation differently. We need to address this crisis in a way that not only reduces air pollution, but does so in a manner that prioritize our di proportionately impacted communitie that have long been forced to live with the pollution, noi e and other hazards from our transportation systems.
- Colorado's Department of Transportation (CDOT) is the state agency that manages, fixes and builds state roads and bridges across the state, plows the roads, fixes the potholes and seems to have an endless supply of orange cone We don't u ually think of CDOT a a beacon for creativity in addre ing climate change That i until now
- Under the direction of Gov. Jared Polis and Executive Director Shoshana Lew, CDOT is currently working on a new set of rules -- called the Greenhouse Gas Pollution Standard or GPS -- that will begin to solve some of our transportation problems and also help the state meet its GHG emissions reduction goals. The rules will basically require that tran portation planning take into account impact on climate and air quality Thi i the fir t time any state transportation agency anywhere in the US has attempted this sort of planning and rulemaking and CDOT deserves a lot of credit for thinking outside of roads and bridges.The state's GHG reduction goals, established by law in 2019, require statewide emissions from all sources be reduced 26% by 2030, 50% by 2040 and 90% by 2050 Cut in pollution from our car and truck will be a big part of that reduction
- CDOT and other state agencies are pursuing several strategies to cut GHG emissions, including electrification of more cars, trucks and other fossil-powered engines, increased transit so that Coloradans will have more choices getting where they need to be, bike lanes and more pedestrian friendly ways of getting around. All of these trategie will be critical in cleaning up our air My organization, along with dozen of allie and partner from the conservation, health and business communities have been providing input to CDOT on the GPS proposed rules. CDOT has shown a willingness to consider many ideas for meeting these goals.
- However, there is one area where we believe they have fallen short: the impact of emissions on our most vulnerable communitie Frontline communitie in our citie and uburb have for year born the brunt of pollution from cars and trucks. Interstate highways were built dividing neighborhoods, for example, and residents of those communities suffer from higher rates of respiratory diseases, cancer and even more serious impacts from COVID.
- As we plan for new ways to move people and goods in the face of a growing population and economy, our state mu t recognize the long term impact of tran portation deci ion that were made in the pa t, and commit to not making the same ones in the future. Let's not waste the opportunity to bring real change to the way Coloradans move around.

Thank you,

[redacted]

"I am a human being, nothing human can be alien to me ' That' one thing I'm learning " Dr Maya Angelou

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment on Proposed Rule (GHG Reductions)

1 me age

[redacted] Thu, Nov 18, 2021 at 4:42 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Hi,

Please see my comment, unless it is too late. I just noticed the time change between the original submission date (midnight on Oct 15th) and the noon cutoff today.

Thanks,

[redacted]

Public Comment.pdf
193K

To: Colorado Department of Transportation (CDOT)

From: [redacted]

Date: October 14th, 2021

Subject: Public Comment on "Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions" (2 CCR 601-22)

My name is Patrick Duffy, and just over two years ago I graduated with a masters degree in wind energy engineering from the Technical University of Denmark and moved to Colorado for a wind energy research position at the National Renewable Energy Laboratory (NREL). In that time, I have seen wildfires and drought impact livelihoods and reduced the quality of life of Colorado residents. Transportation related emissions are some of the largest greenhouse gas sources, and we must act with urgency and intentionality to mitigate the worst effects of a changing climate.

This proposed rule (2 CCR 601-22) is exciting because it puts Colorado at the forefront of advancing meaningful climate policies at a crucial moment, but I think it must go further. The rule would be more effective if it:

- Included **specific and measurable** targets for reducing vehicle miles traveled (VMT)
- Provided **strict enforcement** mechanisms to ensure emissions reductions targets are met
- **Frontloads emissions** reductions targets and includes a **margin of error** in the targets

Colorado Energy Office's *Greenhouse Gas (GHG) Pollution Reduction Roadmap*[1] emphasizes that transportation is the single largest source of GHG emissions in Colorado, with the bulk of those emissions coming from light-duty vehicles (everyday Coloradans driving). **Specific and measurable** VMT reductions goals are needed to track progress in overall emissions reductions and quantify success. I recommend starting with at least the 10% reduction that the *GHG Pollution Reduction Roadmap*[2] calls for in the HB 1261 Targets Scenario over its reference scenario. While zoning policies are not up to CDOT, forming partnerships promoting transit-oriented development, increase walkability, and invest in multimodal transit are key to bring about the wide array of societal, heath, and economic benefits highlighted in the *Cost Benefit Analysis for Rules Governing Statewide Transportation Planning*[3].

With clearly defined goals and the ability to measure progress against those goals, this rule also needs **strict enforcement mechanisms** to ensure Colorado stays on track in reducing emissions. Without enforcement, there is not much to guarantee the goals of the state will be met. I appreciate the proposed rule's efforts to equitably share the burden of emissions reductions between the front range and other Colorado communities for which low density development precludes large public transit systems. Perhaps

---

[1] https://energyoffice.colorado.gov/climate-energy/ghg-pollution-reduction-roadmap

[2] Ibid.

[3] https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf

utilizing ideas from the economic oriented transit development model in Hong Kong can increase social support and utilization of public transit options where they make the most sense[4] [5] [6] [7].

Finally, the rule should **frontload emissions reductions set with a margin of error** to make sure that even some other categories of emissions reductions miss their original targets, the statewide emissions reductions are significant enough to achieve the goal established in HB 1261. The *GHG Pollution Reduction Roadmap*[8] calls for transitioning to nearly 100% electric vehicles by 2050. This is very aggressive given the lifetimes of vehicles can be well over 200,000 miles (decades)[9]. That means that we need a step-change in the deployment of electric cars to be remotely close to achieving a 100% electric vehicle fleet. On top of that the particulate matter emissions from automobile breaks do not disappear for electric cars. Frontloading emissions reductions buys the state time and flexibility later. Including a margin of error in targets mean there is higher probability of accomplishing what is needed.

Overall, I support this rule and advocate that it goes further to develop specific and measurable targets, use strict enforcement mechanisms, and frontload emissions reductions while accounting for a margin of safety.

Sincerely,

[redacted]

[redacted] https://www.theguardian.com/cities/2019/mar/19/how-public-transport-actually-turns-a-profit-in-hong-kong

[5] https://www.mtr.com.hk/archive/corporate/en/investor/annual2018/E134.pdf

[6] https://www.theatlantic.com/china/archive/2013/09/the-unique-genius-of-hong-kongs-public-transportation-system/279528/

[7] https://www.mckinsey.com/business-functions/operations/our-insights/the-rail-plus-property-model

[8] https://energyoffice.colorado.gov/climate-energy/ghg-pollution-reduction-roadmap

[9] https://www.nytimes.com/2012/03/18/automobiles/as-cars-are-kept-longer-200000-is-new-100000.html?_r=2&ref=business&pagewanted=all&

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Upper Front Range TPR GHG Rulemaking Comments

1 me age

[redacted] Thu, Oct 14, 2021 at 2:55 PM
To: "DOT_Rules@state.co.us" <DOT_Rules@state.co.us>
Cc Rebecca White CDOT rebecca white@ tate co u , [redacted]

Good afternoon,

Plea e ee the attached letter which pre ent comment from the UFR Regional Planning Commi ion on the Transportation Commission's proposed revision to the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions.

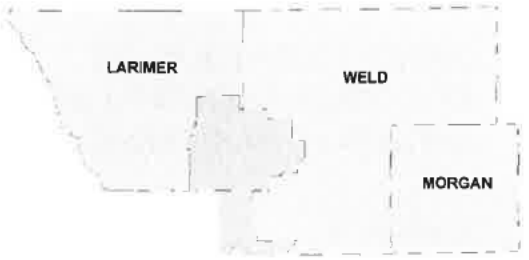
We acknowledge and appreciate CDOT's efforts to extend the written comment deadline and are hopeful the anticipated rule amendments will address the UFR comments during this extension timeframe. Please do not hesitate to reach out if you have any follow up que tion We really appreciate your time and con ideration!

Thank you,

[redacted]

10 14 21 UFRTPR GHG Rule Comment pdf
208K

UPPER FRONT RANGE
TRANSPORTATION PLANNING REGION
REGIONAL PLANNING COMMISSION



[redacted]

Dear Transportation Commissioners and Executive Director Lew:

The Upper Front Range Transportation Planning Region (UFRTPR) appreciates the opportunity to comment on the proposed Greenhouse Gas (GHG) rule and acknowledges the transportation sector is one of the largest contributors to GHG and ozone precursor emissions. Therefore, the UFRTPR generally supports reasonable options applicable by region type, which achieve reductions in greenhouse gas emissions.

The UFR is a rural transportation planning region unique from the other rural TPRs of the state because we have been located within the 8-hour ozone nonattainment boundary since 2008. We are the only rural TPR to have this designation, which is more typically associated with urbanized areas (MPO's). The proposed rule speaks to CDOT being responsible for the non-MPO areas, which implies the rural TPR's. However, the rule does not speak to how CDOT will manage the nonattainment boundary requirements of the rule for the UFRTPR. Management of the nonattainment boundary requirements are only addressed to the MPO's. The UFRTPR would like CDOT to amend the rule to better address how they will manage the rule requirements identified for the nonattainment boundary for the UFRTPR. Similar to the MPO's, it seems more reasonable for the UFRTPR to manage the nonattainment boundary requirements for their jurisdiction and recommends CDOT modify the rule accordingly.

In addition, the illustrative mitigation measures provided in the rule are not applicable options for rural areas. The UFRTPR requests CDOT identify and evaluate mitigation measures applicable for rural regions. Many rural areas do not have the same air quality issues more commonly found in the urban areas. The GHG mitigation strategies for the transportation sector have been targeted to more densely populated areas. How do you reduce VMT to rural areas that already have lower traffic volumes? Rural areas generally have less resources and may bear disproportionate financial burdens from increased taxes, fuel costs and vehicle costs. The infrastructure to support electrification is not available and electric vehicles for many rural residents are impractical, unattainable, or both.

Rural areas should be allowed to implement non-transportation sector mitigation measures to realize GHG emissions reductions. A holistic statewide approach that encourages, incentivizes, and rewards climate-smart agricultural practices and other mitigation measures pertinent to rural areas should be embraced.

The proposed rule implies a punitive approach to mitigation measures. Currently, the Transportation Commission (TC) may restrict certain funds to projects, which is a contradiction, since the rule implies there will be no capacity projects in the rural areas. If it is not the intent of the TC to restrict funds to projects, then the rule should be amended to say so. The easiest way to address this issue is to modify the rule so mitigation measures do not apply to rural areas.

There is also a fallacy to the baseline figures assuming no capacity projects will occur in the rural areas, yet the proposed rule requires CDOT to implement the second highest GHG emission reduction standards for rural areas, which currently have nominal GHG pollution. Rural areas need capacity safety projects, such as passing lanes, intersection auxiliary lanes, and safety shoulders. CDOT has not proven capacity projects adversely affect GHG emissions and should not take this position without providing scientific data to support it. This rule should be based on data driven, quantifiable facts and not model simulation assumptions.

The proposed rule is vague in addressing capacity project waivers and what criteria is being used to ensure a fair and reasonable evaluation of the waivers. No quantifiable measure is identified and therefore no assurance the TC will evaluate

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Weld County Comments of 10-14-21

1 me age

[redacted] Thu, Oct 14, 2021 at 4:58 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

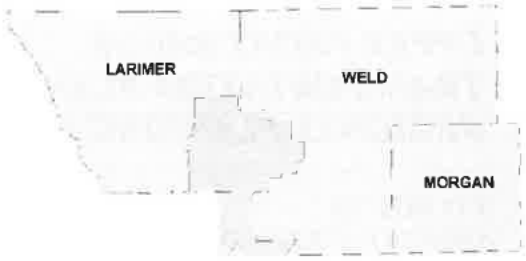
Cc [redacted]

Please see the attached. These comments are in addition to those we submitted on September 24, 2021. Weld County i reviewing MOVES modeling data received from CDPHE earlier today and therefore re erve the right to ubmit additional comments on or before the extended deadline of November 18, 2021.

[redacted]

WeldCo_CDOT Comment and Exhibits - 10-14-21.pdf
1298K

UPPER FRONT RANGE
TRANSPORTATION PLANNING REGION
REGIONAL PLANNING COMMISSION



[redacted]

capacity projects in a consistent manner. The UFR requests the rule be amended to include quantifiable evaluation criteria for capacity project waiver requests.

As previously mentioned, the UFRTPR is part of the ozone nonattainment boundary and the proposed rule does not elaborate how the enterprises created by SB21-260 would be utilized to reduce GHG emissions. The congestion, mitigation, and air quality (CMAQ) funding associated with the nonattainment boundary is fundamentally used to improve air quality. Why would the proposed rule make this funding source punitive to projects in the nonattainment boundary or enterprise? The UFRTPR is the only rural area to receive CMAQ funding and would ask the rule to be amended to remove CMAQ funding from consideration of being eliminated as a funding source on projects that do not meet GHG emission standards. It should be apparent that a project that improves ozone also reduces GHG emissions.

It is unclear in the rule how the UFR Regional Transportation Plan (RTP) project list will be affected by this rulemaking. CDOT is discussing updating the 10-year plan but not the process for how the project lists of all the rural TPR's will be reviewed. The proposed rule only speaks to how MPO's will have to update their regional plans. Is CDOT saying the rural TPR's don't need to update their project lists because CDOT is assuming no capacity projects will occur in rural areas before 2050?

The TPR RTP's are an integral part of the statewide plan and any changes to that statewide plan should be vetted by the TPRs. This summons the question of how CDOT will amend the rule to accommodate for a new 10-year list of projects that will be different then what is being used to create the GHG baseline standards for this rule. For example, the UFRTPR has identified capacity projects that would meet the definition of regionally significant project, i.e., SH 71 widening/passing lanes and the grade separated interchange at I-76 and Weld County Road (WCR) 8 to accommodate a future intermodal facility, of which, both projects should be included in CDOT's 10-year plan. How will this rule allow a regionally significant project to occur in rural areas that are not currently in CDOT's 10-year plan?

The UFRTPR is committed to working with CDOT through these issues and concerns but requests more time to be able to accomplish a transportation rule that works for the entire state and not just the urban areas. More evaluation time fosters greater transparency and trust. While we believe it is the role of the Colorado Department of Public Health and Environment's (CDPHE) to implement air quality strategies and CDOT's role to maintain existing and future multimodal transportation systems, we appreciate TC's consideration for amending the current rule to address our concerns.

Sincerely,

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse Gas Emissions Draft Rule Recommendations

1 me age

[redacted] Thu, Oct 14, 2021 at 4:51 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

On behalf of the undersigned members of the Denver-based Land Use Working,

Please see the attached document serving as written comment for the GHG Draft Rule

Thank you,

[redacted]

[redacted]

202109_LUWG_CDOT GHG Rulemaking - Final Draft.docx
131K

10/14/2021

Subject: Green House Gas Emissions Rulemaking – Recommendations for a more equitable process

The undersigned members of the Denver-based Land Use Work Group (LUWG) led by Mile High Connects, Denver Streets Partnership, and YIMBY Denver applauds CDOT in its stakeholder outreach and thanks you for the opportunity to provide input on the draft Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions. The LUWG is a Denver-based group of nonprofit advocacy organizations, nonprofit developers, Business Improvement Districts (BIDs), and residents tracking and amplifying local efforts while advocating for policy change to reflect the nexus of housing and transportation and ensure that investments in the built environment reduce racial disparities, maintain community, build a culture of health, and respond to the climate crisis.

While the draft rule proposes important policies to mitigate transportation pollution, it fails to adequately and directly promote climate-friendly land use, a key near-term strategy listed in the state's GHG Pollution Reduction Roadmap.

More investment in multimodal transportation is essential to reducing VMT and should be coupled with smart land use policies to locate housing, jobs, schools, goods, and services near one another. Achieving a 11% VMT reduction target by 2030 requires a comprehensive approach that integrates transportation and smart land use planning.

The following recommendations seek to create a more equitable approach that responds to the needs of community:

- **Strengthen and Review Travel Demand Modeling:** Fundamentally, the success or failure of a project depends on the modeling involved, and yet state DOT models have a track record of being inaccurate. To improve the accuracy of project assumptions, modeling scenarios must be strengthened and periodically reviewed to ensure that modeling results reflect real world data. Additionally, Both CDOT and MPOs should be required to model the impacts of transportation projects to evaluate plans for compliance. CDOT should also maintain its commitment to project-level modeling in addition to program or transportation-plan level

Commented [GU1]: Chris: Can we add YIMBY Denver to the top-line?

Commented [2R1]: Yes, let's make sure to get that in there -

Commented [GU3]: it fails to meet the bolder strategies included in the State's climate roadmap

Commented [GU4]: The proposed GHG targets translate to an 11% VMT reduction by 2030. (See the Cost-Benefit Analysis Table A.11: https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf)

- Matt Frommer

Commented [GU5]: What do we mean by "reconsider"? Fundamentally, we need CDOT and the MPOs to model the impacts of transportation projects in order to evaluate plans for compliance. I'd suggest focusing our comment on strengthening the modeling and reviewing periodically to improve the assumptions based on whether the modeling results match the real-world data.

- Matt Frommer

Commented [GU6]: I'm not sure what the specific recommendation is here - de-emphasize modeling in project selection? Jill L.

modeling. Finally, to prevent conflicts of interest and ensure accuracy, CDOT should require an independent agency to verify and validate results produced by all compliance models.

- **Center People and Climate Justice for Greater Equity:** CDOT should seek to strengthen public engagement in the decision-making process, with an emphasis on climate resilience and advancing equity. We believe that, while engagement has been positive, this is an opportunity to test innovative solutions to gather meaningful input. The rule should incorporate the following:
    - Adopt a transportation equity framework identifying equity-related performance measures adopted at the state and national level, and indicators that drive local decision-making. Assessing equity includes quantitative and qualitative analysis, and a decision-making process that is inclusive and representative of communities that are most burdened, leading to a more equitable outcome. Incorporating an equity lens provides a complete picture of the overall impact.
    - Support capacity building, including education about planning processes, to realize meaningful engagement and powerful collaboration among community organizations and CDOT in implementing the rulemaking.
    - Transparency in the equity evaluation process is crucial to emphasize inclusion in numerous ways – at the staff level, decision-making level, and through deliberate community engagement.
- **Lead with Smart Land Use Strategies:** DRCOG's Metro Vision 2050 Scenario Modeling compares different transportation and land use scenarios to identify pathways to achieve their Metro Vision GHG and VMT targets. One scenario would invest $16 billion in transit over 30 years, resulting in a 2% decrease in VMT per capita by 2050. A second scenario combines the same $16 billion transit investment with a land use scenario that focuses two-thirds of all new housing and employment in existing urban centers and along high-frequency transit corridors. The result is a 25% reduction in VMT per capita. CDOT and MPOs are required by Senate Bill 21-260 to "consider the role of land use in the transportation planning process and development strategies to encourage land use decisions that reduce vehicle miles traveled and greenhouse gas emissions." Reports have shown that daily VMT are about three times higher in suburban areas, than in compact multimodal neighborhoods (VTPI, 2021). Therefore, CDOT should aim to incorporate smart land use policies within transportation funding to reduce car dependence and overall VMT, specifically among suburban locations. Furthermore, CDOT should consider the role of specific land use policies such as ADUs, equitable transit-oriented development, up zoning in dense urban areas, reduced parking requirements, etc. in transportation planning efforts. The rule should incorporate land use metrics in the evaluation of each transportation project by requiring CDOT and MPOs to:
    - Measure the VMT and VMT per capita impacts of individual transportation projects in all planning and programming, including the RTPs and 10 Year Plans, and the TIP and Four-Year Prioritized Plan project selection process.

Commented [GU7]: The 3/4 of growth in urban areas is more of a compliance scenario than a business-as-usual assumption. Adjusting this assumption might lead them to lower the GHG reduction target. So our recommendation here might be for CDOT to tie transportation funding to smart land use policies to reduce car-dependence and VMT (or something like that). More specific land use policies (ADUs, transit-oriented development, upzoning in dense urban areas, reduced parking requirements, etc) would be helpful coming from this group.
- Matt Frommer

Commented [GU8]: Chris: A lot of outreach still leads to very inequitable outcomes because the process is so burdensome. Do we want to add a note about ensuring equitable outcomes as well as process?

Commented [GU9R8]: Great point Chris! Equity as both an outcome and process

Commented [GU10]: Do we have any specific data about the relationship between land use and VMT? Something like: density of X people per square mile = average VMT of Y. Maybe we can pull something from this VTPI report? (see Figure 2): https://www.vtpi.org/vmt_red.pdf

We might suggest that CDOT and the MPOs gather baseline data on transportation-efficient land use for each local government in the state, then require them to report on specific land use metrics in each plan to demonstrate progress toward the VMT and GHG reduction targets.

Matt Frommer

- Gather baseline data on transportation-efficient land use for each local government in Colorado.
    - Once baseline data is determined, local governments should be required to report on specific land use metrics in each plan to demonstrate progress toward VMT and GHG reduction targets.
- Consider local land use and development patterns and the extent to which they contribute to VMT per capita reductions for the proposed transportation project.
- Prioritize projects that incorporate additional smart growth strategies such as up zoning, mixed-use infill development, and transit-oriented development.
- Create a bonus for projects that advance equity by incorporating affordable housing and TDM programs that lower the combined housing and transportation costs for low-income households.

We appreciate your commitment and efforts to reduce greenhouse gas emissions from the transportation sector, improve air quality, and provide more travel options throughout Colorado, and your consideration of these recommendations.

Sincerely,

Mile High Connects

YIMBY Denver

Denver Streets Partnership

All In Denver

JJK Places

BEFORE THE DEPARTMENT OF TRANSPORTATION AND TRANSPORTATION COMMISSION
STATE OF COLORADO

IN THE MATTER OF PROPOSED REVISIONS TO 2 CCR 601-22

WRITTEN COMMENTS FROM THE BOARD OF COUNTY COMMISSIONERS OF WELD COUNTY, COLORADO

EXECUTIVE SUMMARY

The Board of County Commissioners of Weld County ("Weld County") submits these comments in connection with the above-captioned rulemaking. Weld County appreciates the opportunity to participate in this rulemaking proceeding regarding the Colorado Department of Transportation's ("CDOT") revisions to 2 CCR 601-22, Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions ("Proposed Rule"). The Proposed Rule establishes greenhouse gas ("GHG") emission reduction targets for transportation. It requires CDOT and the Metropolitan Planning Organizations ("MPOs") to demonstrate through travel demand modeling and approved air quality modeling that statewide and regional aggregate emissions resulting from state or regional plans do not exceed target emission reduction levels. If compliance cannot be demonstrated, even after committing to GHG Mitigation Measures, the Proposed Rule requires the Transportation Commission ("TC") to restrict the use of certain funds to projects that are recognized as approved mitigation measures to reduce GHG emissions from the transportation sector.

The transportation sector is one of the largest contributors to GHG and ozone precursor emissions. Therefore, Weld County generally supports efforts to increase multimodal options and provide more sustainable travel options to achieve reductions in air pollution from the sector. However, the Proposed Rule is deficient in numerous ways, including that the Proposed Rule exceeds CDOT's rulemaking authority, presents significant compliance challenges, and rests on technical inaccuracies and inconsistencies. Moreover, as with California's Senate Bill 375, the Proposed Rule may be ineffective in reducing vehicle miles traveled ("VMT") by establishing GHG reduction targets for MPOs.

Finally, Weld County is troubled by the rushed nature of the rulemaking and lack of data provided by CDOT. This lack of critical information has deprived stakeholders of the opportunity to evaluate the overall efficacy of the Proposed Rule and provide meaningful comments. Weld County submitted its initial concerns and recommendations regarding the Proposed Rule on September 23, 2021. At that time, CDOT had not responded to Weld County's numerous requests for missing data that are essential to Weld County's analysis of the Proposed Rule. Just a day before the original deadline for written comments, Weld County received a shared Google folder from CDPHE containing what appears to be the modeling data it repeatedly requested from CDOT. Weld County is still reviewing these data, but nevertheless submits these additional written

comments to assist CDOT as it revises the Proposed Rule. Weld County asks that CDOT schedule an additional hearing before the close of the extended comment period. Weld County reserves the right to submit additional written comments following its analysis of the recently received data and its review of any upcoming revisions to the Proposed Rule.

EXHIBITS

Weld County has attached several exhibits to these comments as shown in the table below.

Number	Title
WeldCo_EX-001	Redline Rule Language
WeldCo_EX-002	Request for Data and Information Submitted, dated August 6, 2021
WeldCo_EX-003	Request for CBA, Regulatory Analysis and Model Data, dated August 27, 2021
WeldCo_EX-004	CORA Request, dated September 17, 2021
WeldCo_EX-005	Letter following up on Weld County's CORA Request, dated October 8, 2021
WeldCo_EX-006	Email Response from CDOT Regarding Weld County's CORA Request, dated October 8, 2021

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LEGAL, FACTUAL, AND POLICY CONCERNS

I. The Proposed Rule Exceeds CDOT's Statutory Authority

The Proposed Rule exceeds CDOT's rulemaking authority and therefore is invalid. The general assembly delegated rulemaking authority to CDOT for the limited purpose of "producing a statewide transportation policy to address the statewide *transportation* problems[.]"[1] Indeed, on its website, CDOT describes its mission as "provid[ing] the best multi-modal transportation system for Colorado that most effectively and safely moves people, goods, and information."[2] Nevertheless, the stated purpose of the Proposed Rule is to "improve air quality" and "reduce smog." Neither of these goals fall within the purview of CDOT's limited authority to promulgate regulations to address Colorado's transportation problems.

The Proposed Rule improperly shifts highway funds from road capacity expansion to programs intended to reduce greenhouse gas emissions. In essence, the Proposed Rule requires CDOT and the MPOs to prioritize GHG emission reductions over projects that effectively and safely move people and goods throughout Colorado. Given the limited availability of GHG Mitigation Measures, particularly in rural areas, the Proposed Rule may prohibit critical transportation projects from proceeding as originally planned for and approved by Coloradans. It is the purpose of the Air Quality Control Commission ("AQCC") and the Air Pollution Control Division ("APCD")—not CDOT and the TC—to adopt air quality programs that "promote[] clean and healthy air . . . and promote[] statewide greenhouse gas pollution abatement."[3] CDOT does not have the expertise to regulate or enforce emission regulations. That is the job of the AQCC and the APCD. The Proposed Rule constitutes a clear example of mission creep encroaching on another agency's expertise and rulemaking authority.

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[1] C.R.S. § 43-1-101 (emphasis added).

[2] Colo. Dep't Transp., Mission, Vision & Values, https://www.codot.gov/about/mission-and-vision.html.

[3] Colo. Air Quality Control Comm'n, https://cdphe.colorado.gov/aqcc-about-the-commission.

Accordingly, the Proposed Rule exceeds CDOT's rulemaking authority and should not be adopted. C.R.S. § 24-4-106 ("The court shall hold unlawful and set aside the agency action . . . if the court finds that the agency action is "[i]n excess of statutory jurisdiction [or] authority.").

II. Stakeholders Need More Time to Evaluate the Proposed Rule.

Echoing the concerns of numerous stakeholders, Weld County is troubled by the rushed nature of this rulemaking. The Proposed Rule is markedly different from prior CDOT rules. Unlike other CDOT rules, the Proposed Rule contains a GHG standard, evaluates the social cost of carbon, and delegates quasi-enforcement responsibility to the TC. Given the scope and novelty of this rule, stakeholders need more time to review the rule and provide comments.

Despite presenting a novel rule with lasting implications for transportation projects statewide, CDOT rushed the comment period and undercut the benefit of the public hearings by failing to provide the underlying documentation supporting the Proposed Rule. Indeed, for much of the comment period, Weld County did not have the data it needed to adequately evaluate the rule during the comment period. On multiple occasions, Weld County requested MOVES modeling data (including model inputs and outputs) and associated documentation, data sources, and references regarding the Proposed Rule. Weld County first requested this information by email on August 6, 2021, and again on August 27, 2021, in its request for a cost-benefit analysis and regulatory analysis. *See* WeldCo_EX-002; WeldCo_EX-003. CDOT provided a cost-benefit and regulatory analysis before the first rulemaking hearing, but this analysis did not include the requested modeling data, nor did it provide the information necessary to fully understand and review the assumptions and methodology used in the modeling.

Given CDOT's failure to respond to Weld County's multiple data requests, Weld County submitted a CORA request on September 17, 2021. *See* WeldCo_EX-004. After extending the deadline on at least one occasion, CDOT finally responded to Weld County on October 1, 2021, just two weeks before the comment period on the Proposed Rule closes. Here again, CDOT failed to provide the requested model input and output files for the MOVES model, including mysql databases, rate lookup tables, and runspecs. With the deadline for written comments just a week away, on October 8, 2021, Weld County made yet another plea to CDOT for this information. *See* WeldCo_EX-005. That same day, CDOT responded that the requested "MOVES input and output files" were "not in [its] possession." *See* WeldCo_EX-006. Thus, CDOT informed Weld County for the first time that the requested records are not in its custody or control, but rather within APCD's possession.

On October 14, 2021, the day before the close of the comment deadline, Weld County received a shared Google folder from CDPHE containing what appears to be the modeling data it repeatedly requested from CDOT. That same day, CDOT announced its decision to extend the comment period to November 18, 2021. Weld County appreciates the extension of the comment period, and urges CDOT and CDPHE to make the data Weld County requested—including the recently received MOVES modeling data—widely available to the public for the benefit of all stakeholders. This will ensure an equitable, transparent rulemaking process. Once Weld County has had a chance to review the recently received data, it intends to submit additional written comment regarding its analysis of the data and review of any future revisions to the Proposed Rule.

III. The Proposed Rule Presents Significant Implementation and Compliance Challenges.

A. The Proposed Rule Does Not Ensure Consistent Use of the Same Model to Demonstrate Compliance as Compared with the Models used to Estimate the Baseline and Reduction Levels.

As currently written, the Proposed Rule allows MPOs to use different models to demonstrate compliance, as compared to the models used to estimate the baseline. For example, the Proposed Rule allows regulated entities to use *either* the MPO models or the Statewide Travel Model when performing GHG emissions analyses:

- Baseline - estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using the MPO Models or the Statewide Travel Model. Section 1.04
- Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model. Section 8.02.1.
- Identification and documentation of the MPO Model or the Statewide Travel Model and the Approved Air Quality Model used to determine GHG emissions in MMT of CO2e. Section 8.02.5.2.

Running two different models with the same inputs and assumptions could yield different results. For instance, it may be feasible to achieve the emission reduction levels shown in Table 1 using the Statewide Travel Model, but not the MPO model(s). Additionally, the use of different models in GHG emissions analyses will further complicate the APCD and the TC's review of the GHG Transportation Reports, as required in Sections 8.04.1 and 8.05.

In addition, Weld County is concerned that future changes to the Proposed Rule's Approved Air Quality Model will present additional compliance challenges for CDOT and the MPOs. MOVES3, the MOtor Vehicle Emissions Model,[4] represents the current "Approved Air Quality Model" as set forth in Section 1.03 of the Proposed Rule. However, the definition of "Approved Air Quality Model" refers to "the most recent" model, suggesting the model used to demonstrate compliance with the Proposed Rule in the future may differ from the model that was used to estimate the baseline emissions and reduction targets. Future updates to the approved air quality model may alter the model's response to key inputs (e.g., VMT) used in the GHG emissions analyses. In fact, this occurs to some degree with every change to a model version, and Table 1 below presents the most recent changes to the MOVES model for reference. Thus, allowing for future changes to Approved Air Quality Model may present compliance challenges for CDOT and the MPOs.

[4] EPA, *MOVES3: Latest Version of Motor Vehicle Emissions Simulation* (2021), https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

Table 1.CO_2 emission factor changes for light duty vehicles due to model updates between MOVES2014b and MOVES3

Vehicle type	Model Year	MOVES2014b CO_2 (g/mile)[1]	MOVES3 CO_2 (g/mile)[2]	% Difference[3]
Passenger Cars	2017	269	219	-19%
	2018	258	208	-19%
	2019	247	197	-20%
	2020	236	188	-20%
	2026	190	168	-12%
Light duty trucks	2017	348	295	-15%
	2018	340	285	-16%
	2019	332	278	-16%
	2020	324	270	-17%
	2026	250	243	-3%

[1] Emission factors for MOVES2014b from https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100NNUQ.pdf
[2] Emission factors for MOVES3 from https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M5F.pdf
[3] Calculated as [(MOVES3/MOVES2014b) - 1], rounded to the nearest whole percentage.

Table 1 above shows carbon dioxide ("CO_2") emission factors in grams per mile (g/mile) for passenger cars and light duty trucks in MOVES3, as compared to MOVES2014b, the previous version of the EPA's MOtor Vehicle Emission Simulator model.[5] Table 1 shows that GHG emissions per VMT for light duty vehicles are much lower in MOVES3, the new version of the model. This illustrates the general trend that GHG emissions per VMT decrease over time with model updates due to federally mandated improvements in vehicle fuel economy, improvements in the quality of the underlying data, and other factors. Because the Proposed Rule specifies both future baselines and reductions targets, CDOT and the MPOs would not get credit for modeled emission changes even if overall GHG emissions from transportation are reduced. In fact, if GHG emission factors per VMT are lower in future versions of the Approved Air Quality Model, CDOT and MPOs would have to achieve greater VMT reductions to meet the reduction targets in the Proposed Rule. This identifies a fundamental issue in the structure of the Proposed Rule: The Proposed Rule establishes an artificial framework that does not recognize the true underlying driver of reducing emission relative to 2005 baseline levels, as established in Colorado's GHG

[5] EPA, *Official Release of the MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity* (2021). The EPA announced the availability of MOVES3 for official purposes outside of California in the federal register on January 7, 2021. *See* Official Release of the MOVES3 Motor Vehicle Emissions Model for SIPs and Transp. Conformity, 86 Fed. Reg. 1106 (Jan. 7, 2021). MOVES3 supersedes MOVES2014b.

Roadmap and Colorado House Bill 19-1261, codified in C.R.S. § 25-7-102(2)(g). Not only does this make the rule more difficult to comply with, but GHG emission reductions achieved relative to future baseline levels do not accurately reflect progress toward the true objective of reducing emissions relative to the 2005 baseline. Thus, the measure of success in the Proposed Rule is disconnected from the state's GHG emission reduction targets.

Given that the Proposed Rule establishes baseline levels and reduction targets through 2050, changes to the Approved Air Quality Model are inevitable. However, the GHG Transportation Planning levels in Table 1 are fixed, and the Proposed Rule does not consider revaluation of the GHG Transportation Planning levels due to updates to the Approved Air Quality Model or travel demand models. Therefore, Weld County recommends CDOT establish a process for determining whether model changes are critical and GHG emission estimates in Table 1 and Table 2 should be updated.[6]

Finally, the Proposed Rule requires an Intergovernmental Agreement in Section 8.02.2, but the role of this agreement in ensuring consistent modeling assumptions and methodology for GHG emissions analyses is unclear. For example, it is not clear if CDOT, CDPHE, and the MPOs must agree upon a uniform set of modeling assumptions and methodology as implied by the section title (e.g., "Agreements on Modeling Assumptions and Execution of Modeling Requirements"), or if the agreement simply "outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel." Proposed Rule, Section 8.02.2. Weld County recommends revisions to Section 8.02.2 that clarify what information must be included in the Intergovernmental Agreement.

B. CDOT Did Not Evaluate Model Sensitivities and Uncertainties in Developing the Proposed Rule.

CDOT used multiple models in developing the Proposed Rule, including EERPAT, the statewide travel model, and MOVES3. To Weld County's knowledge, CDOT did not evaluate the sensitivity of these models, nor has it presented the uncertainties associated with the modeling to contextualize the results. Decision models are tools to evaluate courses of actions, but they cannot be solely relied upon to make decisions without providing sufficient context regarding the importance of assumptions. The proper use of modeling in decision analysis requires understanding what assumptions significantly affect the outcome and scrutiny of the assumptions' validity and basis. Given the importance of the Proposed Rule, CDOT should provide more

[6] For example, to ensure the same air quality model is used for GHG budget setting and compliance assessments, Weld County suggests that CDOT either: (1) revise the definition of Approved Air Quality Model to refer to the specific model used in the determination of the GHG emission estimates in Table 1 and Table 2, or (2) revise the Proposed Rule to require updates to the GHG emission estimates in Table 1 and Table 2 following the release of a new (or update to an existing) Approved Air Quality Model. These changes will ensure CDOT and the MPOs do not face compliance challenges due to future model changes. Additionally, if the baseline values remain fixed, Weld County recommends CDOT revise the definition of "Baseline" in Section 1.05 to specify the Approved Air Quality Model and travel demand model that should be used to determine the baseline estimates of GHG emissions.

information about the modeling, assumptions, and the resulting uncertainties to allow the TC and stakeholders to effectively evaluate the Proposed Rule. For example, the TC needs to understand the magnitude of the uncertainty associated with the models being used to estimate the GHG emission reductions to determine if the mandated reduction levels in Table 1 are within the model uncertainty. If they are, then any reductions that comply with the rule demonstrated through modeling would not reasonably be expected to occur.

Numerous studies have been conducted to analyze the sensitivities of the models used in the Proposed Rule. For example, several analyses are available focusing on on-road project level humidity and temperature sensitivity on emission factors or emissions sensitivity between the MOVES2010 and MOVES2014b model. Similar studies may be available for MOVES3. The EERPAT model is a screening tool used to compare, contrast, and analyze various greenhouse gases reductions based on policy implantation and in commonly used in conjunction with other models for greenhouse gas inventories. Sensitivity analyses for the transportation emissions modeling is limited, but there are several studies that incorporate EERPAT into transportation emissions drafting.[7] It is not clear what differences in sensitivities exist between the statewide travel model and the MPO models. Weld County recommends CDOT analyze the sensitivities of the models used relative to key assumptions and parameters, and make this information widely available to the TC and stakeholders.

C. The Timeframes Specified in the Proposed Rule are Problematic.

Numerous sections of the Proposed Rule specify timeframes that are problematic and may lead to compliance challenges. For instance, under the Proposed Rule, the TC may have to evaluate a GHG Transportation Report without the benefit of the APCD's technical review. Under Section 8.04.1 of the Proposed Rule, "[i]f APCD has not provided written verification within thirty (30) days, the document shall be considered acceptable." However, the APCD may not be able to complete its review and verification of the technical data contained in the draft GHG Transportation Report within 30 days. If the APCD does not have sufficient time to complete its review, it is not clear that the TC is equipped to perform this technical review and verification of the GHG emissions analysis. Without this review, the TC cannot confirm the accuracy of the GHG emission estimates. Similarly, under Section 8.02.5, GHG Transportation Reports must be submitted to the TC at least thirty days prior to adoption of any Applicable Planning Document. In some instances, the GHG Transportation Report may be submitted to the TC 15 days after submission to the APCD, and the TC could reach a compliance determination before the APCD completes its review. Thus, the overlapping timeframe could result in the TC accepting a GHG

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[7] *See* Liming Wang, Brian Gregor, Huajie Yang, Tara Weidner and Anthony Knudson, *Capturing the Built Environment-Travel Interaction for Strategic Planning: Development of a Multimodal Travel Module for the Reg'l Strategic Planning Model (RSPM)*, 11 JOURNAL OF TRANSPORT AND LAND USE 1287 (2018); Fed. Highway Admin., *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning* (Dec. 1, 2013), https://rosap.ntl.bts.gov/view/dot/50820; C.D. Porter, A. Brown, J. DeFlorio, E. McKenzie, W. Tao, and L. Vimmerstedt, *Transp. Energy Futures Series. Effects of Travel Reduction and Efficient Driving on Transp. Energy Use and Greenhouse Gas Emissions*. (Mar. 1, 2013), https://www.osti.gov/biblio/1219932.

Transportation Report that the APCD deemed unacceptable at the end of its 30-day review period.[8] Moreover, the Proposed Rule does not clarify what happens if the APCD deems a GHG Transportation Report unacceptable.

In addition, Section 8.05 specifies the enforcement of the Proposed Rule, stating that "[t]he Commission shall review all GHG Transportation Reports to determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance." However, the rule does not impose a timeframe for the TC to complete its review of a GHG Transportation Report. Thus, if the TC does not act within 30 days, a regulated entity may obtain approval of its Applicable Planning Document through its respective process before the TC reaches a compliance determination on the associated GHG Transportation Report. Because this compliance determination may impact the use of funds, it is critical that the TC make its determination *before* the adoption of an Applicable Planning Document.

Finally, the Proposed Rule does not specify the timeframe for enforcement actions under Section 8.05.2 of the Proposed Rule. For example, if the TC restricts the use of funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, it is not clear when funding restrictions would be implemented or to which projects they would apply.

To address these concerns, Weld County recommends CDOT revise the Proposed Rule to:

- Require GHG Transportation Reports to undergo technical review and verification prior to the TC's compliance determination;
- Describe the process for CDOT and the MPOs should the APCD deem a GHG Transportation Report unacceptable;
- Require the TC to review and evaluate the compliance of GHG Transportation Reports within a specified timeframe; and
- Specify enforcement timeframes, particularly regarding the restriction of funds.

D. Actual Emission Reductions Achieved May Fall Short of Estimated Totals.

In some instances, the total reduction levels in Table 1 overestimate the actual emission reductions, even if the regulated entities meet all the requirements specified in the Proposed Rule. For example, 2025 reduction levels for DRCOG, the NFRMPO, and CDOT are shown as 0.27 MMT, 0.04 MMT, and 0.12 MMT, respectively, the sum of which is 0.43 MMT. However, Table 1 states that the total reduction level for those entities in 2025 is 0.5. Therefore, even if DRCOG, the NFRMPO, and CDOT meet their respective reduction targets, the total GHG emission

[8] In addition, the Proposed Rule does not provide adequate guidance to the TC for performing its duties specified in the Proposed Rule. For instance, under Section 8.05, the TC must review "the sufficiency of any GHG Mitigation Measures needed for compliance." However, the Proposed Rule does not specify how to determine the "sufficiency" of mitigation measures, and it is not clear if the TC has the expertise and resources to perform such a review.

reductions achieved would fall short of the 0.5 MMT estimated for total reductions in 2025. While the discrepancy of 0.07 MMT may seem small in magnitude, it is greater than the reduction level for the NFRMPO's regional area that year, and significantly greater than the reduction levels specified for other regional areas in future years. CDOT should clarify the calculation of the "TOTAL" row in Table 1, as rounding errors alone do not explain this discrepancy.

Similarly, to demonstrate compliance with emission reductions, regulated entities may round their regional area reductions, such that actual emission reductions fall short of the estimated total. For instance, for the 2025 reduction level, DRCOG, the NFRMPO, and CDOT may have actual emission reductions of 0.265, 0.035, and 0.115, respectively, and total actual emission reductions of 0.415. However, the entities could round their actual emission reductions of 0.27, 0.04, and 0.12 respectively, such that the total reduction appears to be 0.43 when actual emission reductions are 0.415. To ensure actual reductions are consistent with expected totals, the Proposed Rule should provide guidance regarding the number of significant figures to be used in GHG emission estimates, including instructions to regulated entities for rounding regional area totals.

E. The Proposed Rule Does Not Establish Specific Criteria for Evaluating Waivers.

Section 8.05.2.1 allows a regulated entity to request a waiver from the TC "imposing restrictions on specific projects not expected to reduce GHG emissions." However, the basis for waivers in Sections 8.05.2.1 and 8.05.2.1 of the Proposed Rule is vague, and it is not clear what criteria will be used to ensure fair and equitable evaluation of these waivers. Specifically, under Section 8.05.2.1.1, the TC may waive the restrictions on specific projects if the GHG Transportation Report reflects "significant effort and priority placed" on projects that reduce GHG emissions. Under 8.05.2.1.2, waivers will be denied if it results in a "substantial increase in GHG emissions." Importantly, these sections do not provide quantitative criteria for evaluating waiver requests, and therefore make it hard to ensure the TC is applying the waiver exception consistently. Weld County understands that CDOT may want to retain some flexibility in the waiver review process, but to ensure the consistent application of this provision, Weld County recommends that CDOT clarify the criteria used to evaluate waivers. Additionally, Weld County recommends striking the last sentence in Section 8.05.2.3 of the Proposed Rule so that the TC is required to act on waivers and reconsideration requests, avoiding the potential for automatic denial simply due to inaction.

F. The Availability of GHG Mitigation Measures to Achieve the Reduction Targets in the Proposed Rule is Unclear.

For areas outside the urban corridor—including rural areas and those with a lower population density—the Proposed Rule's GHG mitigation measures may present compliance challenges for CDOT and the MPOs. Lifestyles, land usage, density, and thus transportation patterns vary dramatically between urban and rural lifestyles. To date, most GHG mitigation

strategies for the transportation sector have been targeted to more densely populated areas.[9,10] According to the Transportation Research Board, "[b]y far, and not surprisingly, most of the research on GHG emission reduction strategies has focused on metropolitan areas or at the national and state levels[,]" and "[v]ery little attention has been given to nonurban areas."[11]

Currently, the Proposed Rule provides the following examples of GHG mitigation measures:

- 8.03.1 The addition of transit resources in a manner that can displace VMT.
- 8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.
- 8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use in a way that links and rewards transportation project investments with the city making these changes.
- 8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.
- 8.03.6 Adopting locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.
- 8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.
- 8.03.9 Adoption of transportation demand management practices that reduce VMT.

The illustrative GHG mitigation strategies listed in Section 8.03 are likely to be less effective in rural areas, which are less densely populated, are not well-suited to public transportation, and where individuals are more reliant on personal vehicles. In addition, rural roads

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[9] New England Transport Consortium, *Data and Information to Support Cost Effective Transportation GHG Mitigation in Rural Communities* (2020), https://www.newenglandtransportationconsortium.org/wp-content/uploads/N20ME2-GHG-Mitigation-1.pdf.

[10] Org. for Econ. Co-operation and Dev., *Decarbonising Urban Mobility with Land Use and Transport Policies: The Case of Auckland, New Zealand* (2020), https://www.oecd-ilibrary.org/sites/5181a1e0-en/index.html?itemId=/content/component/5181a1e0-en.

[11] PB Americas, Inc., Cambridge Systematics, Inc., E.H. Pechan & Assocs., Inc., EuQuant, Inc., Strategic Highway Rsch. Program Capacity Focus Area, Transp. Rsch. Bd., and Nat'l Academies of Scis., Eng'g, and Med., *Incorporating Greenhouse Gas Emissions into the Collaborative Decision-Making Process*, at 22805 (2012), https://doi.org/10.17226/22805.

tend to already have lower traffic flows and thus have less traffic impacts.[12] For example, the California Air Pollution Control Officers Association found that reducing VMT through carpooling measures is not applicable for implementation in rural areas.[13] Moreover, rural areas generally have less resources, and may bear disproportionate financial burdens from higher taxes, fuel costs, and vehicle costs associated with GHG reduction strategies.[14,15] Weld County recommends that CDOT revise Section 8.03 to provide examples of transportation GHG mitigation measures for non-urban areas.

Additionally, the Proposed Rule does not provide non-urban areas with the flexibility to implement mitigation measures from non-transportation sectors. Section 1.19 defines GHG mitigation measures as strategies that "reduce *transportation* GHG pollution." Section 1.19 (emphasis added). Thus, mitigation measures that reduce GHG emissions from other sources would not qualify as mitigation measures to help achieve the Proposed Rule's GHG Reduction Levels. To ensure non-urban areas can comply with the Proposed Rule, CDOT should revise the rule to recognize additional mitigation measures, such as strategies that reduce GHG pollution from other sources that have a nexus to transportation.

Moreover, substantial ambiguity exists as to whether projects undertaken by the statutorily created enterprises constitute GHG Mitigation Measures under the Proposed Rule. SB21-260 created four enterprises "to serve the primary business purpose of reducing and mitigating the adverse environmental and health impacts of air pollution and greenhouse gas emissions."[16] The non-attainment area mitigation enterprise focuses its efforts on projects that "directly reduce air pollution," including "retrofitting of construction equipment, construction of roadside vegetation barriers, and planting trees along medians."[17]

Importantly, the Proposed Rule does not address the relationship between actions taken by the regulated entities to reduce GHG emissions and actions taken by the enterprises. While it seems

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[12] N. Singru, *Reducing Carbon Emissions from Transport Projects*, at 107 (2010), https://www.oecd.org/derec/adb/47170274.pdf.

[13] Cal. Air Pollution Control Officers Ass'n, *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (2021), http://www.airquality.org/ClimateChange/Documents/Handbook%20Public%20Draft_2021-Aug.pdf.

[14] Marisa Beck, Nicholas Rivers, & Hidemichi Yonezawa, *A rural myth? Sources and implications of the perceived unfairness of carbon taxes in rural communities*, ECOLOGICAL ECON. 124–134 (2016), https://doi.org/10.1016/j.ecolecon.2016.01.017.

[15] Cynthia J. Burbank, *Greenhouse Gas (GHG) and Energy Mitigation for the Transportation Sector* (2009), http://onlinepubs.trb.org/onlinepubs/sr/sr299GHG.pdf.

[16] SB21-260 created the community access enterprise, the clean fleet enterprise, the clean transit enterprise, the nonattainment area air pollution mitigation enterprise. *See* Colo. SB 21-260.

[17] *Id*.

unlikely the enterprises would complete a "regionally significant project" as defined in the Proposed Rule, the enterprises may undertake projects that qualify as GHG Mitigation Measures under the Proposed Rule. It is not clear in the Proposed Rule if projects that reduce GHG emissions undertaken by the Enterprises could be used as mitigation measures by CDOT and the MPOs to meet the reduction targets. Moreover, it is not clear if the modeling conducted for Table 1 and Table 2 of the Proposed Rule account for any enterprise projects, either in the baseline or the reduction targets. Accurate accounting of GHG reduction projects is critical to avoid double counting and to understand CDOT and the MPOs' compliance options. The Proposed Rule should foster collaboration among agencies to reduce GHG emissions. Accordingly, Weld County recommends that CDOT revise the Proposed Rule to recognize enterprise activities as GHG Mitigation Measures.

Finally, the Proposed Rule does not define the process for selecting, measuring, confirming, and verifying GHG Mitigation Measures. That process does not occur until *after* the Proposed Rule has been adopted. Section 8.02.3. To ensure compliance with the Proposed Rule is even feasible for much of the state, CDOT should clarify what GHG Mitigation Measures are available to non-urban areas.

G. The Proposed Rule Does Not Include Guidance Regarding How to Demonstrate Compliance Through Modeling.

No guidance is provided as to how regulated entities should conduct modeling to demonstrate compliance with the reduction targets in Table 1. For example, the Proposed Rule does not specify the following:

- What model inputs, assumptions, and methodology the regulated entities should use to conduct the GHG emissions analysis required in Sections 8.02.1 and 8.02.5.1;
- How the Intergovernmental Agreement ensures consistent modeling assumptions and methodology for GHG emissions analyses; and
- Whether CDOT and the MPOs must meet the reduction levels in Table 1, or instead an absolute GHG emissions target determined based on baseline projections and reduction levels in each target year.[18]

[18] For example, Section 8.02.1 states that "[t]he emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in Table 1." This section suggests GHG emissions analyses must estimate total CO2e emissions and compare those values to the baseline specified in Table 1. However, other sections—including Sections 8.02.4.1, 8.02.5.1, 8.02.5.3, and 8.05—specifically refer to demonstrating compliance based on the reduction levels. In particular, Section 8.05 states that "[t]he Commission shall review all GHG Transportation Reports to determine whether the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance." Thus, it is not clear whether CDOT and the MPOs must meet

Weld County recommends CDOT revise the Proposed Rule to clarify how the TC will assess compliance. In addition, Weld County recommends developing guidance that describes the modeling methodology that should be used to determine compliance. This guidance should be developed through a public stakeholder process by April 1, 2022 and should inform the development of the Intergovernmental Agreement described under Section 8.02.2.

IV. Concerns with CDOT's CBA.

A. Interpolation and Extrapolation of Results from Statewide Model Runs

Based on the information presented in the CBA, the statewide travel model was not run for 2040 or 2050, two target years for GHG emission reductions in the proposed rule. On Page 17, the CBA states that "[a]t the time of the analysis the statewide model was set up for 2015, 2030, and 2045. Results from 2030 and 2045 runs were interpolated to obtain 2040 estimates. Results from 2045 runs were extrapolated to represent 2050." No further information or explanation is provided as to why the decision was made to interpolate and extrapolate results from existing model runs, rather than running the model for the target years in the Proposed Rule. Therefore, it is not clear if the results of the analysis would materially change if the statewide travel model were set up to run for 2040 and 2050. Further, there is no information provided on the assumptions and methodology used to extrapolate results to 2050 based on results from 2045. Weld County recommends CDOT run the statewide model for all years necessary to derive the GHG emission estimates in the Proposed Rule, or explain why doing so would not materially change the results of the analysis.

B. Technical Inaccuracies and Inconsistencies Between the CBA and the Proposed Rule

Weld County has several concerns with the information presented in Tables A.13, A.14, and A.15 in Appendix A of the CBA. Weld County's specific concerns include:

- Table A.13 presents Light-Duty Vehicle Electrification Projections and appears to have two numerical errors.
    - First, the *EV% of Stock* in 2050 is reported as 83%. However, Section 8.01.1 of the Proposed Rule states that 97% of all light duty vehicles are electric vehicles in 2050. It is not clear why the discrepancy exists, when electric vehicle population numbers in the Proposed Rule agree with *EV Stock* numbers in Table A.13 of the CBA in years 2030 and 2040.

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the reduction levels in Table 1, or instead an absolute GHG emission target determined based on baseline projections and reduction levels in each target year. To illustrate this issue, take DRCOG's compliance requirements in 2030. To demonstrate compliance, would DRCOG need to demonstrate its GHG emissions are 10.98 MMT (11.8 minus 0.82), or would it need to demonstrate, by modeling two or more scenarios, that it met a reduction level of 0.82 MMT? If compliance is assessed based on meeting reduction levels, it is not clear why Section 8.02.1 requires comparing emissions to the baseline.

- Second, the *EV Sales* numbers in 2030 shown in Table A.13 appear inconsistent with the *EV Sales %* reported for the same year and the *EV Sales* and *EV Sales %* values reported in other years. For example, in 2025, 17% EV sales are reportedly equal to 66,858 vehicles. In 2040, 100% EV sales are equal to 458,267 vehicles. In contrast, 50% EV sales in 2030 are reported as only 21,800 vehicles, a factor of approximately 10 too low.

- The final paragraph on Page 24 of the CBA states, "Table A.14 shows projected total GHG emissions from on-road sources for the rule and alternatives, while Table A.15 shows the expected GHG reductions in 2025, 2030, 2040, and 2050 respectively, for the rule and alternatives." However, Table A.14 and Table A.15 do not show any data for the year 2025.

- Table A.14 is stated as showing "projected total GHG emissions from on-road sources for the rule and alternatives," and includes the *Proposed Rule Implementation: Travel Choices + Transit + Land Use* scenario. However, it is not clear what these values represent, as the values reported in this scenario appear inconsistent with values derived from Table 2 in the Proposed Rule and Table A.15 of the CBA for the same scenario. For example, Table 2 in the Proposed Rule shows baseline emissions (assuming a high level of electrification of the future vehicle fleet), and Table A.15 of the CBA shows the GHG emissions change from baseline by year for different scenarios, including if the Proposed Rule is implemented. However, in the scenario where the Proposed Rule is implemented, subtracting the GHG emissions change from baseline in Table A.15 from the baseline values presented in Table 2 of the Proposed Rule does not produce the GHG emissions in Table A.14 for the same scenario.

- Table A.15 presents GHG Emissions Change from Baseline Forecast by Year. However, the value shown for 2030 in the *Proposed Rule Implementation: Travel Choices + Transit + Land Use* scenario—which is 1.70 MM—does not match the total value in the Proposed Rule for this year—1.50 MMT.

CDOT should clarify these discrepancies and revise the CBA and Proposed Rule accordingly to correct any errors.

C. Concerns with Technical Assumptions and Methodology used in the CBA

Weld County is concerned about several other assumptions presented in the CBA. First, the CBA states that "[e]nergy use and GHG emissions from EVs are assumed not to be sensitive to the level of congestion or delay." However, this assumption fails to account for the effects of speed and acceleration on energy consumption and the potentially significant energy load associated with the heating, ventilation, and air conditioning ("HVAC") system in electric vehicles. Electric vehicle energy consumption is highly dependent upon vehicle speed and acceleration, as well as other factors such as use of vehicle HVAC systems. According to Chiara Fiori et al., "differences in speed and acceleration distributions can significantly affect the

instantaneous energy consumption level."[19] For two trips with the same average speed, vehicles consume significantly more energy for the trip with higher maximum speeds but more stops. Additionally, the use of cooling or heating can reduce energy efficiency by up to 24%.[20,21] Thus, not only does EV energy use depend upon speed and acceleration, which are directly impacted by the level of congestion, but overall energy use increases with increased commute time and increased use of the HVAC system. Temperature extremes, such as the high summer temperatures and low winter temperatures experienced in many parts of Colorado, will only tend to increase the energy use associated with the HVAC system and thus the sensitivity of EV energy use to the level of congestion or delay.

Second, the light-duty vehicle electrification projections assumed in the analysis may be double counting improvements in vehicle fuel economy, and in turn, reductions in GHG emissions per VMT, from electrification of light duty vehicles. MOVES3, published in November 2020, accounts for the effects of regulations on vehicle emissions, including Federal Safer Affordable Fuel Efficient Vehicle[22] and Greenhouse Gas (GHG) and Corporate Average Fuel Economy[23] standards. MOVES3 assumes that light duty vehicle fleets are compliant with applicable federal greenhouse gas standards.[24] Vehicle manufacturers meet federal fuel economy and GHG standards by selling a fleet of vehicles that comply with applicable standards in a given model year. Thus, while MOVES3 does not explicitly include electric vehicles in the model default fleet mix, manufacturers sell a combination of fossil-fueled and electric vehicles to meet federal standards, as shown in Table 1, *supra*. Because MOVES3 incorporates these standards, GHG emission factors in the model account for electric vehicle penetration, even if the number of electric vehicles in the model is assumed to be zero. Indeed, MOVES3 assumes zero additional penetration of electric light duty vehicles beyond compliance with federal fuel economy and GHG standards:

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[19] Chiara Fiori, Kyoungho Ahn, and Hesham A. Rakha, *Power-Based Electric Vehicle Energy Consumption Model: Model Development and Validation*, APPLIED ENERGY 168, 257–68 (April 15, 2016), https://doi.org/10.1016/j.apenergy.2016.01.097.

[20] Tugce Yuksel and Jeremy J. Michalek, *Effects of Regional Temperature on Elec. Vehicle Efficiency, Range, and Emissions in the United States*, ENV'T SCIENCE & TECH. 49, 3974–80 (Mar. 17, 2015), https://doi.org/10.1021/es505621s.

[21] R. Farrington and J. Rugh, *Impact of Vehicle Air-Conditioning on Fuel Economy, Tailpipe Emissions, and Electric Vehicle Range: Preprint*, NREL (Sep't 22, 2000), https://www.osti.gov/biblio/764573.

[22] The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, 85 Fed. Reg. 84 (April 30, 2020).

[23] 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 199 (Oct. 15, 2012).

[24] EPA, *Greenhouse Gas and Energy Consumption Rates for Onroad Vehicles in MOVES3*, EPA-420-R-20-015 (2020), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M5F.pdf.

> *In MOVES, all electric passenger cars are modeled in the national case to have zero penetration. This is because electric vehicle market penetration varies widely by geographic region and MOVES does not have the capabilities to model this variance accurately at the national scale.*[25]

Therefore, any analysis assuming additional penetration of electric vehicles into the fleet should consider the extent to which electric vehicles penetrating the fleet are already accounted for in the fleet standards. Without doing so, the benefits of electric vehicles may be double counted in the model. It is incorrect to assume that all electric vehicles penetrating the fleet will result in additional improvements in fuel economy or GHG emission reductions, above and beyond applicable federal fleet standards. Weld County recommends CDOT confirm whether it has addressed this double counting issue in the model, and further provide guidance to ensure that light duty vehicle electrification projections used to develop the GHG emission estimates do not result in double counting.

Third, the methodology and modeling data used to estimate changes in emissions of particulate matter (PM) and oxides of nitrogen (NOx) as described in Appendix A of the Proposed Rule is inconsistent with that used to estimate GHG emissions. For example, emission rates were sourced from MOVES2014 rather than MOVES3, the most recently approved version of the air quality model used in the GHG emission estimates. According to the EPA, "MOVES3 includes many updates to exhaust emission rates to better estimate the real-world emissions of new vehicle technologies."[26] Further, emission rates were sourced from two different studies, and it is not clear if these studies focused on Colorado or used the same model configuration and assumptions. As stated in the CBA, "[t]he MOVES model accounts for Colorado-specific factors such as the age of the vehicle fleet, the distribution of VMT by different vehicle types and road types, and the speeds at which vehicles travel." Therefore, utilizing MOVES data from studies of other geographic areas with potentially inconsistent model configuration and assumptions is not appropriate and may not be representative of emission factors in Colorado.

Finally, rather than running the MOVES model for the analysis years, emission factors were interpolated between discrete years for which data was available from these studies. This interpolation methodology is particularly problematic when emission rates are obtained from two different studies. Criteria air pollutant emission factors are very sensitive to meteorological conditions and fleet characteristics (among other factors), which vary based on geographic region. Additionally, interpolation of emission factors fails to account for changes due to age distribution and other model parameters which are typically nonlinear. This flawed methodology raises significant concerns regarding the accuracy of the PM and NOx emission estimates, and the corresponding pollutant damage values and cost savings associated with air pollution presented in the CBA. Weld County therefore recommends CDOT revise the CBA to accurately estimate the air pollution impacts of the Proposed Rule using the approved air quality model, following a

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[25] EPA, *Population and Activity of Onroad Vehicles in MOVES3*, EPA-420-R-21-012 (2021), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1011TF8.pdf.

[26] EPA, *EPA Releases MOVES3 Mobile Source Emissions Model: Questions and Answers* (2020), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M06.pdf.

methodology that accounts for Colorado-specific factors such as the age of the vehicle fleet, the distribution of VMT by different vehicle types and road types, and the speeds at which vehicles travel. Weld County also recommends the CBA include estimates of criteria air pollutant emission reductions achieved by the Proposed Rule.

D. Other Concerns with Assumptions in the CBA

CDOT's CBA claims of significant cost savings are unfounded because their estimated reductions in VMT are unlikely to be realized. The CBA is driven by aspirational assumptions about transport mode shifts that are unrealistic. History convincingly demonstrates that programs to reduce VMT have failed. In addition, the CBA does not recognize new post-pandemic transportation realities. The pandemic has accelerated decentralization for both jobs and residences, which will reduce transit ridership because mass transit does not work well in decentralized areas. Policies encouraging transit ridership, bicycle use, and walking have failed in the past and face even greater headwinds given the post-pandemic trends toward decentralization. Accordingly, the Proposed Rule shifting highway funds to programs to get people out of their cars will not result in cost savings and instead will reduce public safety and increase traffic congestion with minimal reductions in GHG emissions.

The CBA is driven by unrealistic assumptions for the adoption of alternative transportation modes. For example, CDOT assumes a three-fold increase in tele-travel, a 37-77% increase in bicycle travel and walking, 151% increase in transit, and a 30-50% increase in population density. These assumptions are not supported by any empirical analysis or modeling. As CDOT states, these are the assumptions required to meet the stated GHG emission reduction goals. In this sense, the analysis is reversed engineered in which the modeling is designed to achieve a preconceived outcome. As a result, the estimated cost savings are illusory.

Another issue with CDOT's CBA is that it fails to consider new transportation realities created by the COVID-19 pandemic. Vehicle miles travel fell to 73 percent of the pre-pandemic levels during the second quarter of 2020 compared to the second quarter of 2019. *See* Figure 1. In contrast, transit ridership fell to 24 percent of pre-pandemic levels over the same interval and remain far below previous levels. *See* Figure 2. The pandemic may have completely undermined efforts to make transit ridership appealing. Young, upwardly mobile professionals who intended to use transit are now working from home and many may never go back to the office. Since the pandemic, many people who were taking transit switched to driving. As a result, per capita transit ridership is likely to be far lower after the pandemic.[27]

[27] R. O'Toole, *Zero-base Transportation Policy: Recommendations for 2021 Transportation Reauthorization*, Cato Institute, Policy Analysis No. 913 (2021), https://www.cato.org/policy-analysis/zero-based-transportation-policy-recommendations-2021-transportation.

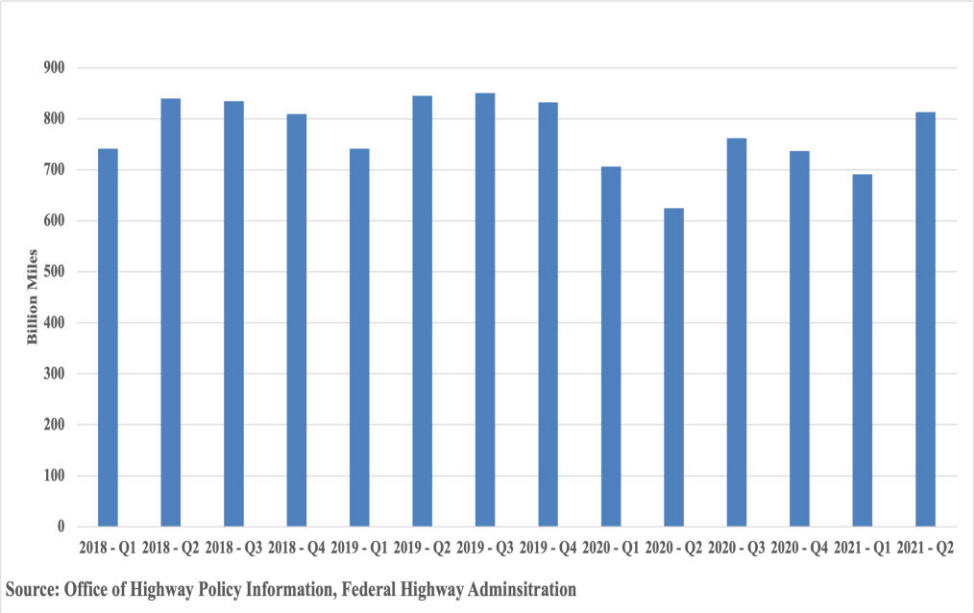

Figure 1: Vehicle miles traveled

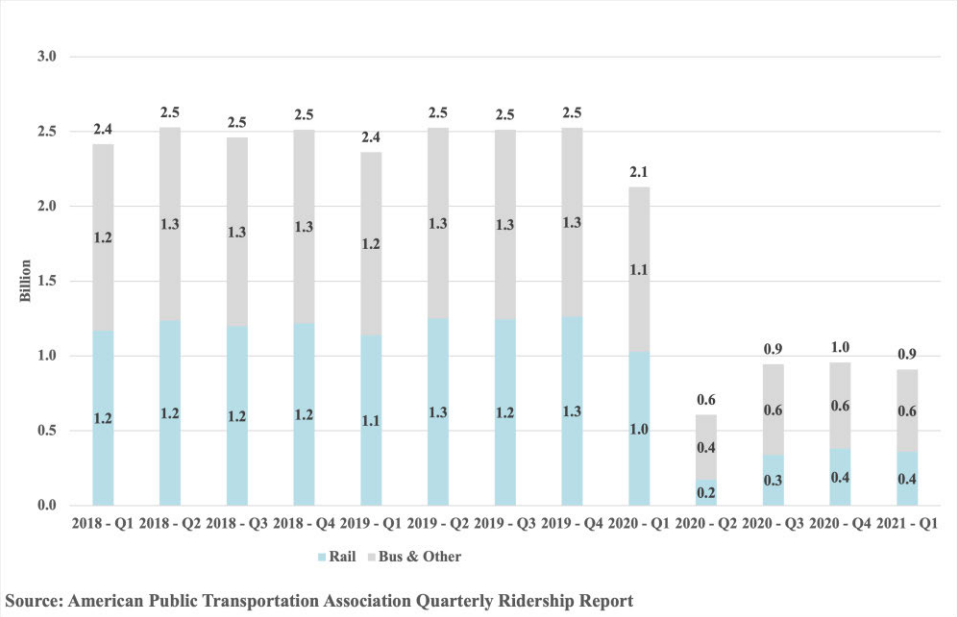

Figure 2: Transit Ridership

The CDOT study also includes walking and bicycling as alternative mitigation measures. Complete streets or road diets that increase congestion are a popular movement in American cities to encourage walking and cycling. Most cities with high rates of bicycle commuting, such as Boulder, are college towns with young populations. Therefore, demographics rather than street design may have the greatest influence on cycling and walking. Colorado is a diverse state. Estimating the costs and benefits of programs to encourage walking and bicycling should recognize that this diversity affects rates at which these alternatives are adopted. For example, while bicycling and walking may be popular in Boulder, they may be impractical in Sterling. The pandemic has accelerated decentralization for both jobs and residences, which will reduce transit

ridership because mass transit does not work well in decentralized areas. Even city dwellers are now wary of crowded transport options. If this trend continues, policies to increase density may not be effective. This implies that CDOT's estimated benefits from policies to encourage greater density may be overestimated.

History has demonstrated that efforts to get people to drive less fail.[28] The EPA was created in 1970 with a mandate to reduce air pollution by adopting a two-pronged strategy: first to reduce driving by encouraging states and cities to find alternatives to single-occupancy vehicle travel and second to reduce tailpipe emissions. The first strategy failed—the total number of miles driven in the United States nearly tripled between 1970 and 2019. As discussed in Section V, GHG reduction targets for the MPOs are among the list of failed strategies to reduce VMT. Nonetheless, air pollution from motor vehicles declined 88 percent during the same period. An average car today emits less than 4 percent of the pollution from the average car in 1970. New cars sold in 2019 produce only about 1 percent of the pollution as 1970 vehicles. Thus, reducing emissions is best accomplished on-board vehicles via efficiency improvements, rather than rules focused on changing behavior.

Overall, the proposed GHG emission mitigation rule to divert transportation funds from improving highway capacity to policies encouraging people to get out of their cars is a losing proposition, achieving little emission savings at a significant cost to travelers from traffic congestion and diminished public safety. As described previously, Weld County is concerned that the Proposed Rule requires CDOT and the MPOs to prioritize GHG emission reductions over projects that effectively and safely move people and goods throughout Colorado.

V. GHG Reduction Targets for MPOs Have Proven to be Ineffective at Reducing VMT in Other States

In 2008, California adopted Senate Bill 375,[29] which required the MPOs to meet GHG reduction targets by incorporating a sustainable communities strategy as part of the long-range regional transportation plans. In November 2018, the California Air Resources Board ("CARB") published a report[30] on the progress made under SB 375. This report showed that SB 375 did not have any impact on the statewide VMT, and in fact, the VMT per capita increased from 2008 to 2018. CDOT should review this report to understand the factors that affect travel behavior and provide the appropriate guidance for the MPOs in developing their long-range regional transportation plans ("RTP"). Below are key highlights of the issues identified in CARB's progress report that are outside the control of MPOs:

- Economic factors such as employment rates and fuel prices can have significant impact on travel choices. Increases in employment generally leads to increases in vehicle

[28] *Id*.

[29] Cal. SB 08-375.

[30] Cal. Air Res. Bd., Tracking Progress – Sustainable Communities, https://ww2.arb.ca.gov/resources/documents/tracking-progress.

ownership. Increased vehicle ownership and reduced gas prices can lead to an increase in per capita VMT; and

- Job and housing imbalances and the lack of affordable housing can lead to increased VMT. As housing costs rise in urbanized areas, residents tend to move into suburban regions, thereby increasing the home-work commute trip lengths. Therefore, prior to developing the long-range RTP, it is essential to gather and analyze regional-level data that provides information on the balance of low-wage jobs and low-cost housing. Further, the MPOs will have to coordinate with other state and local agencies to address any job and housing imbalances that are identified.

Accordingly, the MPOs cannot be solely responsible for reducing VMT. Agencies at both the state and local level should coordinate to effect change that addresses the interconnected relationship of land use, housing, economic and workforce development, transportation investments, and travel choices. This is also reflected in Colorado's GHG Roadmap.[31] The Roadmap highlights the role of various state and local agencies, including the Division of Housing within the Colorado Department of Local Affairs, the Colorado Housing and Finance Authority, local governments, and transit agencies, in increasing the availability of affordable housing and improving access to job location, healthcare, and other services.

CONCLUSION

Weld County is committed to protecting air quality and supports efforts to provide more sustainable travel options to achieve reductions in air pollution from the transportation sector. But that commitment does not extend to a rushed rulemaking that exceeds CDOT's rulemaking authority, presents significant compliance challenges, and rests on technical inaccuracies and inconsistencies. Accordingly, Weld County asks that CDOT schedule an additional hearing before the close of the extended comment period. Weld County reserves the right to submit additional written comments following its review of the revised Proposed Rule and the recently received data. Weld County appreciates the opportunity to participate in this rulemaking and thanks CDOT and the TC in advance for their attention to these written comments.

[31] Colo. Greenhouse Gas Pollution Reduction Roadmap (Jan. 14, 2021), https://www.codot.gov/programs/research/pdfs/other-reports/colorado-greenhouse-gas-pollution-reduction-roadmap/co-ghg-pollution-reduction-roadmap-final-report.pdf.

WeldCo_EX-001

DEPARTMENT OF TRANSPORTATION

Transportation Commission

RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

2 CCR 601-22

[Editor s Notes follow the text of the rules at the end of this CCR Document.]

August 13, 2021, Version

Please note the following formatting key:

Font Effect	Meaning
Underline	New Language
~~Strikethrough~~	Deletions
[Blue Font Text]	Annotation
~~Green Strikethrough~~	Suggested Deletions from Weld County
Green Underline	Suggested New Language from Weld County

[Note: The Commission proposes to add nineteen (19) new definitions. New proposed defined terms include: Applicable Planning Document, Approved Air Quality Model, Baseline, Carbon Dioxide Equivalent, Congestion Mitigation and Air Quality, Disproportionately Impacted Communities, Four-Year Prioritized Plan, Greenhouse Gas, Greenhouse Mitigation Measures, Greenhouse Gas Reduction Levels, Mitigation Action Plan, MPO Model, Multimodal Transportation and Mitigation Options Fund, Regionally Significant Project, State Interagency Consultation Team, Statewide Travel Model, Surface Transportation Block Grant, Vehicle Miles Traveled, and 10-Year Plan. Only minor non-substantive changes, such as correcting grammar errors or capitalizing defined terms, were made to the existing forty-six (46) defined terms.]

1.00 Definitions

1.01 Accessible - ensure that reasonable efforts are made that all meetings are reachable by persons from households without vehicles and that the meetings will be accessible to persons with disabilities in accordance with the Americans with Disabilities Act (ADA), and also accessible to persons with Limited English Proficiency. Accessible opportunities to comment on planning related matters include those provided on the internet and through such methods as telephone town halls.

1.02 Applicable Planning Document - refers to MPO Fiscally Constrained RTPs,TIPs for MPOs in NAAs, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

1.03 Approved Air Quality Model - he most recent Environmental Protection Agency issued model that quantifies GHG emissions from on-road transportation.

Commented [A1]: To ensure the same air quality model is used for GHG budget setting and compliance assessments, Weld County recommends CDOT revise the Proposed Rule to require the GHG emission estimates in Table 1 and Table 2 be updated following the release of a new (or update to an existing) Approved Air Quality Model as shown here and in Section 8 01.1.

1.04 Attainment Area - any geographic region of the United States that meets the national primary or secondary National Ambient Air Quality Standards (NAAQS) for the pollutants as defined in the Clean Air Act (CAA) (Amendments of 1990).

1.05 Baseline - estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using ~~the MPO Models or~~ the Statewide Travel Model. Estimates must include GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules.

Commented [A2]: If baseline emissions are prepared using only the statewide travel model, the definition should be revised as shown.

1.06 Carbon Dioxide Equivalent (CO_2e) - a metric measure used to compare the emissions from various GHG based upon the 100-year global warming potential (GWP). CO_2e is multiplying the mass amount of emissions (metric tons per year), for each GHG constituent by that gas's GWP, and summing the resultant values to determine CO_2e (metric tons per year). This calculation allows comparison of different greenhouse gases and their relative impact on the environment over different time periods.

1.07 Commission - the Transportation Commission of Colorado created by § 43-1-106, C.R.S.

1.08 Congestion Mitiga ion and Air Quality (CMAQ) - a federally mandated program established in 23 U.S.C § 149 to improve air quality in Nonattainment and Maintenance Areas for ozone, carbon monoxide, and particulate matter. References related to this program include any successor programs as established by the federal government.

1.09 Corridor - a transportation system that includes all modes and facilities within a described geographic area.

1.10 Corridor Vision - a comprehensive examination of a specific transportation Corridor, which includes a determination of needs and an expression of desired state of the transportation system that includes Transportation Modes and facilities over a planning period.

1.11 Department or CDOT - the Colorado Department of Transportation created by § 43-1-103, C.R.S.

1.12 Disproportionately Impacted Communities - defined in § 24-38.5-302(3), C.R.S. as a community that is in a census block group, as determined in accordance with the most recent United States Decennial Census where the proportion of households hat are low income is greater than forty percent (40%), the proportion of households that identify as minority is greater than forty percent (40%), or the proportion of households hat are housing cost-burdened is greater than forty percent (40%).

1.13 Division - the Division of Transportation Development within CDOT.

1.14 Division Director - the Director of the Division of Transportation Development.

1.15 Fiscally Constrained - the financial limitation on transportation plans and programs based on the projection of revenues as developed cooperatively with the MPOs and the rural TPRs and adopted by the Commission that are reasonably expected to be available over the long-range transportation planning period and the TIP and STIP programming periods.

1.16 Four-Year Prioritized Plan - a four-year subset of the 10-Year Plan consisting of projects prioritized for near-term delivery and partial or full funding.

1.17 Greenhouse Gas (GHG) - for purposes of hese Rules, GHG is defined as the primary transportation greenhouse gases: carbon dioxide, methane, and nitrous oxide.

1.18 Greenhouse Gas (GHG) Reduction Level - the amount of the GHG expressed as CO_2e reduced from the projected Baseline that CDOT and MPOs must attain through transportation planning.

1.19 Greenhouse Gas (GHG) Mi igation Measures - non-Regionally Significant Project strategies implemented by CDOT and MPOs that reduce transportation GHG pollution and help meet the

GHG Reduction Levels.

1.20 Intergovernmental Agreement - an arrangement made between two or more political subdivisions that form associations for the purpose of promoting the interest and welfare of said subdivisions.

1.21 Intermodal Facility - a site where goods or people are conveyed from one mode of transportation to another, such as goods from rail to truck or people from passenger vehicle to bus.

1.22 Land Use - the type, size, arrangement, and use of parcels of land.

1.23 Limited English Proficiency - individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English.

1.24 Long-Range Planning - a reference to a planning period with a minimum 20-year planning horizon.

1.25 Maintenance Area - any geographic region of the United States previously designated by the U.S. Environmental Protection Agency (EPA) as a Nonattainment Area pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequen ly redesignated to attainment subject to the requirement to develop a maintenance plan under § 175A of the CAA, as amended in 1990.

1.26 Memorandum of Agreement (MOA) - a written agreement between two or more parties on an intended plan of action.

1.27 Metropolitan Planning Agreement (MPA) - a written agreement between the MPO, he State, and the providers of public transportation serving the Metropolitan Planning Area that describes how they will work cooperatively to meet their mutual responsibili ies in carrying out the metropolitan planning process.

1.28 Metropolitan Planning Area - a geographic area determined by agreement between the MPO for the area and the Governor, in which the metropolitan transportation planning process is carried out pursuant to 23 U.S.C. § 134.

1.29 Metropolitan Planning Organization (MPO) - an organization designated by agreement among the units of general purpose local governments and he Governor, charged to develop the RTPs and programs in a Metropolitan Planning Area pursuant to 23 U.S.C. § 134.

1.30 Mitigation Ac ion Plan - an element of the GHG Transportation Report that specifies which GHG Mitigation Measures shall be implemented that help achieve the GHG Reduction Levels.

1.31 Mobility - the ability to move people, goods, services, and information among various origins and destinations.

1.32 MPO Models - one (1) or more of the computer-based models maintained and operated by he MPOs which depict the MPO areas' transportation systems (e.g., roads, transit, etc.) and development patterns (i.e., number and location of households and jobs) for a defined year (i.e., past, present, or forecast) and produce estimates of roadway VMT, delays, operating speeds, transit ridership, and other characteristics of transportation system use.

1.33 Multimodal - an integrated approach to transportation that takes into account all modes of travel, such as bicycles and walking, personal mobility devices, buses, transit, rail, aircraft, and motor vehicles.

1.34 Multimodal Transportation and Mitigation Options Fund (MMOF) - a program created in the State Treasury pursuant to § 43-4-1003, C.R.S. which funds bicycle, pedestrian, transit and other Multimodal projects as defined in § 43-4-1002(5), C.R.S. and GHG Mitigation projects as defined in § 43-4-1002(4.5), C.R.S.

1.35 National Ambient Air Quality Standards (NAAQS) - are those established by the U.S. Environmental Protection Agency for air pollutants considered harmful to public health and

environment. These criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, ozone, small particles, and sulfur dioxide.

1.36 Nonattainment Area - any geographic region of the United States which has been designated by the EPA under section 107 of the CAA for any pollutants for which a NAAQS exists.

1.37 Non-Metropolitan Area - a rural geographic area outside a designated Metropolitan Planning Area.

1.38 Plan Integration - a comprehensive evaluation of the statewide transportation system that includes all modes, an identification of needs and priorities, and key information from other related CDOT plans.

1.39 Planning Partners - local and tribal governments, the rural TPRs and MPOs.

1.40 Project Priority Programming Process - the process by which CDOT adheres to 23 U.S.C. § 135 and 23 C.F.R. Part 450 when developing and amending he STIP.

1.41 Regional Planning Commission (RPC) - a planning body formed under the provisions of § 30-28-105, C.R.S., and designated under these Rules for the purpose of transportation planning within a rural TPR.

1.42 Regionally Significant Project - a transportation project hat is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team.

1.43 Regional Transportation Plan (RTP) - a long-range plan designed to address the future transportation needs for a TPR including, but not limited to, Fiscally Constrained or anticipated funding, priorities, and implementation plans, pursuant to, but not limited to, § 43-1-1103, C.R.S. and 23 C.F.R. Part 450. All rural and urban TPRs in the state produce RTPs.

1.44 State Interagency Consultation Team - consists of he Division Director or the Division Director's designee, the Colorado Department of Public Health and Environment (CDPHE) Director of Air Pollution Control Division or the Director's designee, and the Director of each MPO or their designee.

1.45 State Transportation System - refers to all state-owned, operated, and maintained transportation facilities in Colorado, including, but not limited to, interstate highways, other highways, and aviation, bicycle and pedestrian, transit, and rail facilities.

1.46 Statewide Transportation Advisory Committee (STAC) - the committee created by § 43-1-1104, C.R.S., comprising one representative from each TPR and one representative from each tribal government to review and comment on RTPs, amendments, and updates, and to advise both the Department and the Commission on the needs of the transportation system in Colorado.

1.47 Statewide Transportation Improvement Program (STIP) - a Fiscally Constrained, multi-year, statewide, Multimodal program of transportation projects which is consistent with the Statewide

Transportation Plan and planning processes, with Metropolitan Planning Area plans, Transportation Improvement Programs and processes, and which is developed pursuant to 23 U.S.C. § 135.

1.48 Statewide Travel Model - the computer-based model maintained and operated by CDOT which depicts the state's transportation system (roads, transit, etc.) and development scale and pattern (number and location of households, number and location of firms/jobs) for a selected year (past, present, or forecast) and produces es imates of roadway VMT and speed, transit, ridership, and o her characteristics of transportation system use.

1.49 Statewide Transportation Plan - the long-range, comprehensive, Multimodal statewide transportation plan covering a period of no less than 20 years from time of adoption, developed through the statewide transportation planning process described in these Rules and 23 U.S.C. § 135, and adopted by the Commission pursuant to § 43-1-1103, C.R.S.

1.50 Surface Transportation Block Grant (STBG) - a flexible federal funding source established under 23 U.S.C. § 133 for state and local transportation needs. Funds are expended in the areas of the State based on population. References related to this program include any successor programs established by the federal government.

1.51 System Continuity - includes, but is not limited to, appropriate intermodal connections, integration with state modal plans, and coordination with neighboring RTPs, and, to the extent prac icable, o her neighboring states' transportation plans.

1.52 Traditionally Underserved - refers to groups such as seniors, persons with disabilities, low-income households, minorities, and student populations, which may face difficulties accessing transportation systems, employment, services, and other amenities.

1.53 Transit and Rail Advisory Committee (TRAC) - an advisory committee created specifically to advise the Executive Director, the Commission, and the Division of Transit and Rail on transit and rail-related activities.

1.54 Transportation Commonality - the basis on which TPRs are established including, but not limited to: Transportation Commission Districts, the Department's Engineering Regions, Travelsheds, Watersheds, geographic unity, existing Intergovernmental Agreements, and socioeconomic unity.

1.55 Transportation Improvement Program (TIP) - a staged, Fiscally Constrained, multi-year, Multimodal program of transportation projects developed and adopted by MPOs, and approved by the Governor, which is consistent with an MPO's RTP and which is developed pursuant to 23 U.S.C. § 134.

1.56 Transportation Mode - a particular form of travel including, but not limited to, bus, motor vehicle, rail, transit, aircraft, bicycle, pedestrian travel, or personal mobility devices.

1.57 Transportation Planning and Programming Process - all collaborative planning-related activities including the development of regional and Statewide Transportation Plans, he Department's Project Priority Programming Process, and development of the TIPs and STIP.

1.58 Transportation Planning Region (TPR) - a geographically designated area of the state, defined by sec ion 2.00 of these Rules in consideration of the criteria for Transportation Commonality, and for which a regional transportation plan is developed pursuant to the provisions of § 43-1-1102 and 1103, C.R.S. and 23 U.S.C. § 134. The term TPR is inclusive of these types: non-MPO TPRs, MPO TPRs, and TPRs with both MPO and non-MPO areas.

1.59 Transportation Systems Planning - provides the basis for identifying current and future deficiencies on he state highway system and outlines strategies to address those deficiencies and make improvements to meet Department goals.

1.60 Travelshed - the region or area generally served by a major transportation facility, system, or Corridor.

1.61 Tribal Transportation Improvement Program (TTIP) - a multi-year Fiscally Constrained list of proposed transportation projects developed by a tribe from the tribal priority list or tribal long-range transportation plan, and which is developed pursuant to 25 C.F.R. Part 170. The TTIP is incorporated into the STIP without modification.

1.62 Urbanized Area - an area with a popula ion of 50,000 or more designated by the Bureau of the Census.

1.63 Vehicle Miles Traveled (VMT) - the traffic volume of a roadway segment or system of roadway segments multiplied by he length of the roadway segment or system.

1.64 Watershed - a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

1.65 10-Year Plan - a vision for Colorado's transportation system that includes a specific list of projects categorized across priority areas as identified in the Statewide Transportation Plan.

8.00 GHG Emission Requirements

8.01 Establishment of Regional GHG Transportation Planning Reduction Levels

8.01.1 The GHG emission reduction levels within Table 1 apply to MPOs and the Non-MPO area within the state of Colorado as of the effective date of these Rules. Baseline values are specific to each MPO and CDOT area and represent estimates of GHG emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules. Table 2 reflects the difference in Baseline levels from year to year assuming a rapid growth in electric vehicles across the State (940 000 light duty electric vehicles in 2030, 3.38 million in 2040 and a total of 97% of all light duty vehicles in 2050). Values in both tables include estimates of population growth as provided by the state demographer. The GHG emission reduction levels in Table 1 and Table 2 shall be reevaluated upon a change in he Approved Air Quality Model as defined in Sec ion 1.03.

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	2050 Reduction Level (MMT)
DRCOG	14.9	0.27	11.8	0.82	10.9	0.63	12.8	0.37
NFRMPO	2.3	0.04	1.8	0.12	1.9	0.11	2.2	0.07
PPACG	2.7	N/A	2.2	0.15	2.0	0.12	2.3	0.07
GVMPO	0.38	N/A	0.30	0.02	0.30	0.02	0.36	0.01

PACOG	0.50	N/A	0.40	0.03	0.30	0.02	0.4	0.01
CDOT/Non-MPO	6.7	0.12	5.3	0.37	5.2	0.30	6.1	0.18
TOTAL	27.4	0.5	21.8	1.5	20.6	1.2	24.2	0.7

8.01.3 Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles

Table 2: Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles

	2025 Projections (MMT)	2030 Projections (MMT)	2040 Projections (MMT)	2050 Projections (MMT)
TOTAL	27.0	20.0	14.0	8.9

8.02 Process for Determining Compliance

8.02.1 Analysis Requirements When Adop ing or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to es imate total CO2e emissions. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects. The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and determine whether he applicable reduction targets ~~compare these emissions to the Baseline specified~~ in Table 1 have been met. This provision shall not apply to MPO TIP amendments.

8.02.2 Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior to the adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel Model, and Approved Air Quality Model.

8.02.3 By April 1, 2022, CDOT shall establish an ongoing administrative process, through a public process, for selecting, measuring, confirming, and verifying GHG Mitigation Measures, so that CDOT and MPOs can incorporate one or more into each of their plans in order to reach he Regional GHG Planning Reduction Levels in Table 1. Such a process shall include, but not be limited to, determining the relative impacts of GHG Mitigation Measures, measuring and prioritizing localized impacts to communities and Disproportionately Impacted Communi ies in particular. The mitigation credit awarded to a specific solu ion shall consider both aggregate and community impact.

8.02.4 By April 1, 2022, CDOT shall develop, through a public process, a guidance document that describes the modeling methodology that should be used to conduct the GHG emissions analysis described in Section 8.02.1 and the process for assessing compliance with the GHG Transportation Planning Reduction Levels specified in Table 1. This guidance document shall describe how the actions taken by the Enterprises created under SB21-260 that reduce GHG emissions may be counted as GHG Mitigation Measures to comply with the reductions level specified in Table 1.

8.02.4 Timing for Determining Compliance

8.02.4.1 By October 1, 2022, CDOT shall update their 10-Year Plan and DRCOG

Commented [A3]: Weld County recommends CDOT provide guidance regarding the number of significant figures to be used in GHG emissions estimates, particularly regarding rounding for regional area totals compared against the values in Table 1, to ensure actual reductions are consistent with expected totals.

Furthermore, Weld County recommends CDOT clarify the calculation of the TOTAL row in Table 1 of the Proposed Rule, particularly for 2025. Weld County also recommends revising Table 1 to show the same significant figures for all of the values, or providing additional detail in a technical support document.

Commented [A4]: Other sections (i.e., 8.02.4.1, 8.02.5.1, 8.02.5.3, 8.05, etc.) specifically refer to meeting or demonstrating compliance with the reduction levels. t is not clear why Section 8.02.1 requires comparing emissions to the baseline if compliance is assessed based on meeting reduction levels.

Weld County recommends CDOT revise the rule language to clarify how compliance is assessed and develop a guidance document that describes the modeling methodology that should be used to determine compliance with the Proposed Rule as shown in Section 8.02.4 below.

If compliance is assessed based on meeting reduction levels, comparison to the baseline should not be required and Section 8 02.1 should be revised as shown.

Commented [A5]: Weld County recommends that additional language be added to the proposed rule in Section 8 02.2 to specify the items that must be addressed and information that must be included in the Intergovernmental Agreement.

Commented [A6]: Weld County recommends CDOT revise the rule language to clarify how compliance is assessed and develop a guidance document that describes the modeling methodology that should be used to determine compliance with the Proposed Rule. Weld County recommends this guidance document be developed through a public stakeholder process by April 1, 2022 and inform the development of the Intergovernmental Agreement described in Section 8.02 2.

Commented [A7]: Weld County recommends that CDOT clarify, through revised rule language or a guidance document accompanying the Proposed Rule, how Enterprise activities interact with the actions taken by CDOT and MPOs as a part of the Proposed Rule, particularly as related to GHG mitigation measures. Weld County believes that the Proposed Rule should foster collaboration to reduce GHG emissions, and thus the rule should allow CDOT and MPOs to take credit for GHG emission reductions from transportation in their respective regional areas regardless of the project proponent (i.e., local governments, enterprises, etc.).

and NFRMPO shall update their RTPs pursuant to § 43-4-1103, C.R.S. and meet the reduction levels in Table 1 or the requirements pursuant to § 43-4-1103, C.R.S and restrictions on funds.

8 02.4.2 After October 1, 2022

8.02.4.2.1 CDOT must for each Applicable Planning Document, meet either the reduction levels within Table 1 for Non-MPO areas or the requirements as set forth in Rule 8 05.

8.02.4.2 2 MPOs must meet either the corresponding reduc ion levels within Table 1 for each Applicable Planning Document, or the relevant MPO and CDOT each must meet the requirements as set forth in Rule 8 05.

8.02.5 Demonstrating Compliance. At least thirty (30) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to the Commission a GHG Transportation Report containing the following information:

8 02.5.1 GHG emissions analysis demonstrating that the Applicable Planning Document is in compliance wi h the GHG Reduction Levels in MMT of CO2e for each compliance year in Table 1 or that the requirements in Rules 8.02.5.1.1 or 8.02 5.1.2., as applicable, have been met.

8.02.5.1.1 In non-MPO areas or for MPOs hat are not in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the Department utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in hose areas on projects that reduce GHG emissions.

8.02.5.1 2 In MPO areas that are in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the MPO utilizes those funds on projects or approved GHG Mi igation Measures that reduce GHG emissions, and CDOT utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in that MPO area, on projects that reduce GHG emissions.

8 02.5.2 Identification and documentation of the MPO Model or the Statewide Travel Model and the Approved Air Quality Model used to determine GHG emissions in MMT of CO2e.

8 02.5.3 A Mitigation Action Plan that identifies GHG Mitigation Measures needed to meet the reduction levels within Table 1 shall include:

8.02.5.3.1 The anticipated start and completion date of each measure.

8.02.5.3 2 An estimate, where feasible, of the GHG emissions reductions in MMT of CO2e achieved by any GHG Mitiga ion Measures.

8.02.5.3 3 Quantifica ion of specific co-benefits including reduction of co-pollutants (PM2 5, NOx, etc.) as well as travel impacts (changes to VMT, pedestrian/bike use, transit ridership numbers, etc. as applicable).

8.02.5.3.4 Description of benefits to Disproportionately Impacted Communities.

8.02.6 Reporting on Compliance- Annually by April 1, CDOT and MPOs must provide a status report to the Commission on an approved form with the following items for each GHG Mitigation Measure identified in their most recent GHG Transportation Report:

8 02.6.1 The implementation timeline;

8 02.6.2 The current status;

8 02.6.3 For measures that are in progress or completed, quantification of the benefit or impact of such measures; and

8 02.6.4 For measures that are delayed, cancelled, or substituted, an explanation of why that decision was made.

8 03 GHG Mitigation Measures. When assessing compliance with the GHG Reduction Levels, CDOT and MPOs shall have the opportunity to utilize approved GHG Mitigation Measures as set forth in Rules 8.02.3 and 8.02.5.3 to offset emissions and demonstrate progress toward compliance. Illustrative examples of GHG Mi igation Measures include, but are not limited to:

8 0.3.1 The addition of transit resources in a manner that can displace VMT.

8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.

8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use in a way that links and rewards transporta ion project investments with the city making these changes.

8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.

8.03.5 Improving the safety and efficiency of crosswalks for pedestrians, bicyclists, and other non-motorized vehicles, including to advance compliance with the ADA.

8.03.6 Adopting locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.

8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.

8.03.8 Establishing policies for clean construction that result in scalable improvements as a result of factors like lower emission materials, recycling of materials, and lower truck emissions during construction.

8.03.9 Adoption of transportation demand management practices that reduce VMT.

8.03.10 Encourage local adoption or expansion of school bus programs or a school carpool programs to reduce private vehicle trips.

8.03.11 Encourage the replacement of high congestion traffic controls with roundabouts to smoo h traffic flow, reduce idling, eliminate bottlenecks, and manage speed.

8.03.12 Electrify loading docks to allow transporta ion refrigeration units and auxiliary power units to be plugged into the electric grid at the loading dock instead of running on diesel.

8.04 Air Pollution Control Division (APCD) Confirmation and Verification

8.04.1 At least forty-five (45) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to APCD for review and verification of the technical data contained in he draft GHG Transportation Report required per Rule 8.02.5. If APCD has not provided written verification or committed to a review schedule within hirty (30) days, CDOT will commission review by an outside contractor ~~the document shall be considered acceptable~~.

8.04.2 At least thirty (30) days prior to adoption or amendment of policies per Rule 8.02.3, CDOT shall provide APCD the opportunity to review and comment. If APCD has not provided written comment within forty-five (45) days, the document shall be considered acceptable.

8.05 Enforcement. The Commission shall review all GHG Transportation Reports to determine whe her the applicable reduction targets in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance. The Commission may not review a GHG Transportation Report until the report has undergone APCD confirmation and verification per Section 8.04.1 and has been deemed acceptable. The Commission shall review and act, by resolution, on a GHG Transportation Report within thirty (30) days of receipt of the report or at the next regularly scheduled Commission Meeting, whichever is later.

8.05.1 If the Commission determines the requirements of Rule 8.02.5 have been met, the Commission shall, by resolution, accept the GHG Transportation Report.

8.05.2 If the Commission determines, by resolution, the requirements of Rule 8 02.5 have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02 5.1.1 or 8.02.5.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG. Prior to the enforcement of such restriction, an MPO, CDOT or a TPR in a non-MPO area, may, within thirty (30) days of Commission action, issue one or bo h of the following opportunities to seek a waiver or to ask for reconsideration accompanied by an opportunity to submit addi ional information:

8 05.2.1 Request a waiver from the Commission imposing restrictions on specific projects not expected to reduce GHG emissions. The Commission may waive the restrictions on specific projects when applicants use CDOT's waiver form that specifies ~~on~~ the following ~~basis~~:

Commented [A8]: Weld County recommends that CDOT evaluate the feasibility of, and provide examples of, transportation GHG mitigation measures for rural areas. Three examples are provided in revised rule language in Section 8.03.

Commented [A9]: t is not clear what steps would need to be taken if the APCD does not consider a GHG Transportation Report acceptable.

Weld County recommends establishing a process for CDOT and the MPOs to follow if the APCD considers a GHG transportation report unacceptable, including the process and timeframes for revisions and resubmission for review, as needed.

Commented [A10]: Weld County recommends revising this section to ensure GHG Transportation Reports undergo technical review and verification.

Commented [A11]: Weld County recommends adding this language to ensure GHG Transportation Reports have undergone review and verification of the technical data by the APCD prior to review and evaluation by the TC.

Commented [A12]: Weld County recommends adding this language to ensure the TC reviews and evaluates the compliance of GHG Transportation Reports within a specified timeframe.

Commented [A13]: It is not clear when funding restrictions would be implemented or to which projects they would apply. Weld County therefore recommends the Proposed Rule be modified to specify the timeframe for enforcement and applicability to projects.

8.05.2.1.1 The GHG Transporta ion Report reflected significant effort and priority placed, in total, on projects and GHG Mitigation Measures that reduce GHG emissions; and

8.05.2.1.2 In no case shall a waiver be granted if such waiver results in a substantial increase in GHG emissions when compared to the required reduction levels in this Rule.

Commented [A14]: Weld County understands that some flexibility in the waiver review process may be desirable, but nonetheless recommends that CDOT clarify the criteria used to evaluate waivers. For example, guidance on how "significant effort" will be evaluated should be provided, and a "substantial increase in GHG emissions when compared to the required reduction levels" should be quantified. CDOT should provide a standardized waiver form.

8.05.2.2 Request reconsideration of a non-compliance determination by the Commission and provide written explanation of how the requirements of Rule 8.02.5 have been met.

8.05.2.3 The Commission shall act, by resolution, on a waiver or reconsideration request within thirty (30) days of receipt of the waiver or reconsideration request or at the next regularly scheduled Commission Meeting, whichever is later. ~~If no action is taken within this time period, the waiver or reconsidera ion request shall be deemed to be denied.~~

8.05.3 Notwithstanding any other provision of this Rule, CDOT, DRCOG and NFRMPO must meet the requirements of § 43-4-1103, C.R.S.

8.06 Reporting. Beginning July 1, 2025, and every 5 years thereafter, the Executive Director on behalf of CDOT shall prepare and make public a comprehensive report on the statewide GHG reduction accomplishments.

9.00 Materials Incorporated by Reference

9.01 The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements in Rule 9.01.1 and federal funding programs in Rules 9.01.2 and 9.01.3, which are incorporated into the Rules by this reference, and do not include any later amendments.

9.01.1 Fixing America's Surface Transportation Act or the "FAST Act"), 23 U.S.C. §§ 134, 135 and 150, Pub. L. No. 114-94, signed into law on December 4, 2015, and its accompanying regulations, where applicable, contained in 23 C.F.R.Part 450, including Subparts A, B and C in effect as of November 29, 2017, and 25 C.F.R. § 170 in effect as of November 7, 2016.

9.01.2 Congestion Mitigation and Air Quality Improvement (CMAQ) Program, 23 U.S.C. § 149, in effect as of March 23, 2018.

9.01.3 Surface Transporta ion Block Grant (STBG) Program, 23 U.S.C. § 133, in effect as of December 4, 2015.

9.02 Also incorporated by reference are the following federal laws and regula ions and do not include any later amendments:

9.02.1 Americans with Disabilities Act (ADA), 42 U.S.C. § 12101, *et. seq.*, in effect as of January 1, 2009.

9.02.2 Clean Air Act (CCA), 42 U.S.C. §§ 7407-7410, and 7505a, in effect as of November 15, 1990.

9.02.2 Transportation Conformity Regulations, 40 C.F.R. § 93.101, in effect as November 24,1993.

9.03 Also incorporated by reference are the following documents, standards, and models and do not include any later amendments:

9.03.1 Greenhouse Gas Pollution Reduction Roadmap by the Colorado Energy Office and released on January 14, 2021.

Commented [A15]: Weld County recommends striking this language to avoid denial of waivers or reconsideration requests simply due to inaction.

9.03.2 MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity released by the U.S. Environmental Protection Agency, in effect as of January 7, 2021.

9.04 All referenced laws and regulations are available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.

9.05 Copies of the referenced federal laws and regulations, planning documents, and models.

9.05.1 Copies of the referenced United States Code (U.S.C.) may be obtained from the following address:

Office of the Law Revision Counsel
U.S. House of Representatives
H2-308 Ford House Office Building
Washington, DC 20515
(202) 226-2411
https://uscode.house.gov/browse.xhtml

9.05.2 Copies of the referenced Code of Federal Regulations (C.F.R.) may be obtained from the following address:

U.S. Government Publishing Office
732 North Capitol State, N.W.
Washington, DC 20401
(866) 512-1800
https://www.govinfo.gov/

9.0.5.3 Copies of the Greenhouse Gas Pollution Reduction Roadmap (Roadmap) may be obtained from the following address:

Colorado Energy Office
1600 Broadway, Suite 1960
Denver, CO 80202
(303) 866-2100
energyoffice.colorado.gov

9.0.5.4 To download MOVES3 released by the U.S. Environmental Protec ion Agency may be obtained from the following address:

U.S. Environmental Protection Agency
The Office of Transportation and Air Quality
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
(734) 214–4574 or (202) 566-0495
mobile@epa.gov
https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

10.00 Declaratory Orders

10.01 The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.

Editor's Notes

History

Entire rule eff. 12/15/2012.

Section SB&P eff. 05/30/2013.

Entire rule eff. 09/14/2018.

Annotations

Rules 1.22, 1 25, 1.42, 2.03.1 – 2.03.1.4, 4.01, 4.02.1 – 4.02.3, 4.02.5.9, 4.04.2.2, 4.04.2.4, 4.06.1.7, 6 01.2, 7.01, 7.03 – 7.04 (adopted 10/18/2012) were not extended by Senate Bill 13-079 and therefore expired 05/15/2013.

WeldCo_EX-002

From: Elizabeth Relford
Sent: Friday, August 6, 2021 10:32 AM
To: shoshana.lew@state.co.us
Cc: rebecca.white@state.co.us
Subject: CDOT Rulemaking/Project Questions

Hi Executive Director Lew,

As the Deputy Director for Weld County Public Works, I have been paying special attention to CDOT's rulemaking process, and in particular the Greenhouse Gas Pollution Reduction Planning Rulemaking. I have several questions about
the process I hope you can help answer:

- Creating CDOT's Regulatory Agenda
    - How does CDOT create its annual Regulatory Agenda, including the new rules it intends to propose?
    - What criteria does CDOT use to select transportation projects for its Regulatory Agenda?
    - In the 10-year Development Plan, what criteria is CDOT using to decide which 5-10 year projects are being advanced over years 1-4 projects?
    - Following finalization of GHG Pollution Reduction Roadmap in HB-19 1261 and SB 21-260, how does CDOT select projects for funding to further the Roadmap's objectives?
- Altering CDOT's Regulatory Agenda
    - How does CDOT decide to alter the Regulatory Agenda?
    - What criteria does CDOT use to determine whether the Regulatory Agenda should be altered in light of recent legislation?
    - Does CDOT issue a record of decision or other formal justification supporting its decision to alter the Regulatory Agenda?

Lastly, would you please provide information related to CDPHE's inputs and outputs from EPA's Motor Vehicle Emission Simulator (MOVES) model, including fleet characteristics like age distribution and vehicle type, and any associated documentation/data source references?

If you have any questions or are unclear on what I am requesting, please do not hesitate to contact me. I know you are busy so I really appreciate your time.

Sincerely,

[redacted]
Deputy Director
Weld County Public Works

WeldCo_EX-003

[redacted]

August 26, 2021

[redacted]

Re: Request for Cost-Benefit Analysis and Regulatory Analysis Under the Colorado Administrative Procedure Act in the Matter of Proposed Revisions to Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions, 2 CCR 601-22

Executive Director Lew and Executive Director Salazar:

The Board of County Commissioners of Weld County, Colorado ("Weld County") submits this request to the Colorado Department of Regulatory Agencies ("DORA") for a cost-benefit analysis under C.R.S. § 24-4-103(2.5) and a regulatory analysis under C.R.S. § 24-4-103(4.5) regarding the Colorado Department of Transportation's ("CDOT") proposed revisions to the rules governing the statewide transportation planning process and transportation planning regions, 2 CCR 601-22 (the "Proposed Rule").[1]

[1] It is not clear whether CDOT or the Transportation Commission is the proponent of this proposed rule. *See, e.g.*, *Project Fact Sheet Regarding Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards*, Colo. Dep't of Transp. (stating "*CDOT* is

I. BACKGROUND

On August 13, 2021, CDOT filed a Notice of Proposed Rulemaking with the Colorado Secretary of State to consider revisions to the Proposed Rule. Among other things, the Proposed Rule aims to reduce greenhouse gas ("GHG") emissions from the transportation sector. If finalized, the rule would require CDOT and the state's five Metropolitan Planning Organizations ("MPOs") to determine the total GHG emissions expected from future transportation projects and take steps to ensure that emissions do not exceed set GHG reduction amounts.

The transportation sector is one of the largest contributors to GHG and ozone precursor emissions, and Weld County generally supports efforts to reduce air pollution, including GHG emissions, from this sector. The Proposed Rule will impact individuals living in Weld County, as well as transportation projects planned throughout the county. As an interested stakeholder, Weld County must be able to assess the impacts of the Proposed Rule. However, CDOT has not yet provided any documentation or analysis to explain the rule or how it calculated the baseline emissions or reduction levels. Accordingly, Weld County submits this request for a cost-benefit analysis and regulatory analysis to provide this missing information.

II. LEGAL STANDARD

Under two separate provisions of the APA, "any person" may request additional economic and regulatory impact analyses. C.R.S. §§ 24-4-103(2.5), (4.5). Given the lack of analysis or supporting documentation accompanying the Proposed Rule, Weld County requests both a cost-benefit analysis and regulatory analysis to ensure the Transportation Commission fully considers the economic and regulatory impacts of the Proposed Rule.

A. DORA-Ordered Cost-Benefit Analysis Under C.R.S. § 24-4-103(2.5)

Under C.R.S. § 24-4-103(2.5)(a) "any person may, within five days after publication of the notice of proposed rule-making in the Colorado Register, request that [DORA] require the agency submitting the proposed rule or amendment to prepare a cost-benefit analysis." Such cost-benefit analysis shall include the following:

1. The reason for the rule or amendment;

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proposing a new standard to reduce greenhouse gas emissions from the transportation sector . . . .") (emphasis added); *Press Release Regarding Colorado Developing New Pollution Reduction Planning Standards to Address Climate Change and Air Quality*, Colo. Dep't of Transp. (stating the "*Colorado Transportation Commission* today proposed bold new transportation pollution reduction planning standards . . . .") (emphasis added). This request for a cost-benefit analysis and regulatory analysis is directed to CDOT. If this is incorrect, Weld County asks that this request be redirected to the Transportation Commission.

2. The anticipated economic benefits of the rule or amendment, which shall include economic growth, the creation of new jobs, and increased economic competitiveness;

3. The anticipated costs of the rule or amendment, which shall include the direct costs to the government to administer the rule or amendment and the direct and indirect costs to business and other entities required to comply with the rule or amendment;

4. Any adverse effects on the economy, consumers, private markets, small businesses, job creation, and economic competitiveness; and

5. At least two alternatives to the proposed rule or amendment that can be identified by the submitting agency or a member of the public, including the costs and benefits of pursuing each of the alternatives identified.

C.R.S. § 24-4-103(2.5)(a)(I) – (V).

CDOT has not yet provided an economic analysis of the Proposed Rule or otherwise addressed these considerations. To assess the factors set forth above, Weld County requests a complete cost-benefit analysis under C.R.S. § 24-4-103(2.5).

B. Regulatory Impact Analysis Under § 24-4-103(4.5)

Under C.R.S. § 24-4-103(4.5) "upon [the] request of any person, at least fifteen days prior to the hearing, the [Division] shall issue a regulatory analysis of a proposed rule." Such regulatory analysis must contain:

1. A description of the classes of persons who will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule;

2. To the extent practicable, a description of the probable quantitative and qualitative impact of the proposed rule, economic or otherwise, upon affected classes of persons;

3. The probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues;

4. A comparison of the probable costs and benefits of the proposed rule to the probable costs and benefits of inaction;

5. A determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule; and

6. A description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule.

24-4-103(4.5)(a)(I) – (VI).

To assess the factors set forth above, Weld County requests a complete regulatory analysis under C.R.S. § 24-4-103(4.5).

III. WELD COUNTY REQUESTS BOTH A COST-BENEFIT ANALYSIS AND A REGULATORY IMPACT ANALYSIS UNDER THE STATE APA

Weld County requests that DORA require CDOT to perform both a cost-benefit analysis pursuant to C.R.S. § 24-4-103(2.5) and a regulatory impact analysis under C.R.S. § 24-4-103(4.5) with respect to the Proposed Rule.

As an initial matter, Weld County submits this request in advance of publication of the Proposed Rule in the Colorado Register and well before the first hearing scheduled on September 14, 2021. *See* C.R.S. §§ 24-4-103(2.5), (4.5). Moreover, the DORA website states that requests for a cost benefit analysis for the Proposed Rule are due on August 30, 2021. Rules Governing Statewide Transportation Planning Process and Transportation Planning Region, https://www.dora.state.co.us/pls/real/SB121_Public_Comment_GUI.submission_form?p_rule_id=8981. Because this request is being submitted on August 26, 2021, it is timely.

Importantly, CDOT has not provided any type of analysis or the underlying documentation supporting its Proposed Rule. For instance, Table 1 and Table 2 listed on page 25 of the Proposed Rule set forth the GHG transportation planning reduction levels and baseline emissions, respectively. CDOT has not provided critical information regarding these tables, such as what methodology was used to reach these figures and what inputs and assumptions were used in the modeling. Accordingly, there is no way to evaluate the reasonableness of these figures or the efficacy of the Proposed Rule.

To allow interested stakeholders and the Transportation Commission to adequately evaluate the Proposed Rule, Weld County requests that CDOT provide supporting documentation—such as a technical support document, if available—describing the methods used to conduct the analysis for the GHG estimates in Table 1 and Table 2 of the Proposed Rule. Specifically, Weld County requests the following information be provided to all stakeholders and the Transportation Commission:

- Model inputs and outputs for all models used in the analysis, i.e., Land Use Model(s), EERPAT, MPO Models and Statewide Travel Model, and the Approved Air Quality Model, as applicable;

- Assumptions used in all models;

- Population growth data and assumptions;

- Data, assumptions, or modeling related to electric sector grid mix in future target years;

- Description of different scenarios considered in the modeling, if any, and which scenario was selected to determine GHG estimates shown in Table 1 and Table 2 of the Proposed Rule; and

- Description of any qualitative or off-model adjustments used to determine the GHG estimates in Table 1 and Table 2 of the Proposed Rule.

Weld County has separately requested from CDOT data regarding the Proposed Rule. To ensure that this information is provided to all interested stakeholders, and to enable the Transportation Commission to make an informed decision, Weld County requests that DORA require CDOT to produce this information in connection with its cost-benefit analysis and its regulatory impact analysis. This is what the Colorado APA requires. *See* C.R.S. §§ 24-4-103(2.5), (4.5).

IV. CONCLUSION

For the above-stated reasons, Weld County respectfully requests that DORA require CDOT to conduct a cost-benefit analysis under C.R.S. § 25-7-103(2.5) and a separate regulatory impact analysis under C.R.S. § 25-7-103(4.5). This information will enable the Transportation Commission to make a better-informed decision on the proposed revisions to the rules governing the statewide transportation planning process and transportation planning regions, 2 CCR 601-22.

WeldCo_EX-004

September 17, 2021

VIA ONLINE SUBMISSION

Colorado Department of Transportation ("CDOT")
2829 W Howard Place
Denver, Colorado 80204

Re: Colorado Open Records Act Request

Dear Custodian of Records,

Pursuant to the Colorado Open Records Act ("CORA"), §§24-72-201 *et seq.*, Weld County respectfully requests copies of the following public records (including all Correspondence, Electronic Mail, and Writings, as such terms are defined in § 24-72-202):

- All documents, files, and correspondence (including emails) describing the methods used to conduct the analysis for the greenhouse gas ("GHG") estimates in Table 1 and Table of CDOT's proposed revisions to the rules governing the statewide transportation planning process and transportation planning regions, 2 CCR 601-22 (the "Proposed Rule"), and specifically:
    - Model inputs and outputs for all models used in the analysis, i.e., Land Use Model(s) (including but not limited to UrbanSim), EERPAT, MPO Models and Statewide Travel Model, and the Approved Air Quality Model, as applicable;
    - Assumptions used in all models and any deviations from default model inputs and assumptions;
    - Population growth data and assumptions;
    - Data, assumptions, or modeling related to electric sector grid mix in future target years;

- Description of different scenarios considered in the modeling, if any, and which scenario was selected to determine GHG estimates shown in Table 1 and Table 2 of the Proposed Rule; and

- Description of any qualitative or off-model adjustments used to determine the GHG estimates in Table 1 and Table 2 of the Proposed Rule.

Weld County will pay all reasonable fees associated with this request, up to a maximum of $500. If the applicable fees associated with this request are expected to exceed this amount, please notify me of the expected amount and obtain my authorization to pay the additional amount before processing this request any further.

As you know, the deadline to respond to this request under the statute is within three working days following receipt of this letter. *See* C.R.S. § 24-72-203(3)(b).

If all or any of the requested records are not in your custody or control, please state to the best of your knowledge the reason for the absence of the records, their location, and what person or persons has custody or control of the records. *See* C.R.S. § 24-72-203(2)(a). If you deny any or all of this request, please cite each specific exemption that you believe justifies the refusal to release the information.

If you have any questions about this letter, or are unclear on what we are requesting, please do not hesitate to call me.

Sincerely,

WeldCo_EX-005

[redacted]

October 8, 2021

[redacted]

Re: Colorado Department of Transportation ("CDOT") Response to Colorado Open Records Act ("CORA") Request, Dialog Case No. 86981

Dear Director Lew and Mr. Hogle:

Your response to the Board of County Commissioners of Weld County, Colorado's ("Weld County") CORA Request is insufficient to satisfy your obligations under Colorado law. Weld County respectfully requests you supplement your response as soon as possible.

"CORA creates a presumptive right of public inspection of public records." *Mountain-Plains Inv. Corp. v. Parker Jordan Metro. Dist*., 2013 COA 123, ¶ 38, 312 P.3d 260 (citing C.R.S. §§ 24–72–201, 24–72–203(1)(a), 24–72–204(1)). Thus, courts "must narrowly construe exceptions from CORA's presumption in favor of public access to public records." *City of Fort Morgan v. E. Colorado Pub. Co*., 240 P.3d 481, 486 (Colo. App. 2010). "When the custodian [of public records] is a government agency, the burden of proving that a record is not public is on that agency …." *Mountain-Plains*, ¶ 23. So, too, in the context of a CORA request, "[t]he burden of establishing the applicability of [a] privilege rests with the claimant of the privilege." *Black v. Sw. Water Conservation Dist*., 74 P.3d 462, 467 (Colo. App. 2003); *see also City of Colorado Springs v. White*, 967 P.2d 1042, 1056 (Colo. 1998) ("As it does in the discovery context, the government entity asserting the privilege has the initial burden of proof in response to a public records request.").

CDOT's response to Weld County's CORA request is deficient because the agency has not provided the requested information, nor has it established its basis for withholding that information. In an email dated October 1, 2021, Mr. Hogle explained that CDOT responded to Weld County's request by withholding "three otherwise responsive records" on the basis of privilege, and indicated that Weld County would receive a signed, notarized *Vaughn* index detailing these records soon. To date, Weld County has not received that index. Moreover, Weld County does not believe the index will provide an adequate basis for withholding the requested modeling data and data sources on the basis of privilege.

On multiple occasions, Weld County has requested MOVES modeling data (including model inputs and outputs) and associated documentation, data sources, and references regarding CDOT's revisions to 2 CCR 601-22, Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions ("Proposed Rule"). Weld County first requested this information by email on August 6, 2021, and again on August 27, 2021, in its request for a cost-benefit analysis and regulatory analysis. CDOT provided a cost-benefit and regulatory analysis before the first rulemaking hearing, but this analysis did not include the requested modeling data, nor did it provide the information necessary to fully understand and review the assumptions and methodology used in the modeling.

Given CDOT's failure to respond to Weld County's multiple data requests, Weld County submitted a CORA request on September 17, 2021. After extending the deadline on at least one occasion, CDOT finally responded to Weld County on October 1, 2021, just two weeks before written comments on the Proposed Rule close. Here again, CDOT failed to provide the requested model input and output files for the MOVES model,[1] including:

- MariaDB or mySQL input databases from MOVES
- MariaDB or mySQL output databases from MOVES
- Run specification file, i.e. runspecs (.mrs) from MOVES
- MOVES lookup tables (rate per distance, rate per vehicle) exported as .csv files from databases
- Post-processing files (excel spreadsheets, scripts, etc.) used to calculate GHG emissions based on MOVES EFs and VMT inputs

Simply put, CDOT should provide all files necessary for stakeholders to be able to run the model and verify the greenhouse gas ("GHG") emission estimates in the Proposed Rule.

To date, CDOT has not provided some of the key analyses, data, and the underlying documentation used to develop the Proposed Rule. This information is critical to evaluating the reasonableness of the Proposed Rule's GHG emission estimates and the overall efficacy of the Proposed Rule. Without this data, Weld County and the public have been deprived of a meaningful opportunity to comment on the Proposed Rule. Indeed, other stakeholders noted in their comments that they have requested—but not yet received—technical information that is

[1] Weld County referred to the MOVES model as the "Approved Air Quality Model" in the CORA request, following the definition in the Proposed Rule.

critical to their analysis of the Proposed Rule. Moreover, because CDOT has failed to provide the *Vaughn* index to date, Weld County has not had a meaningful opportunity to examine CDOT's claims of privilege or exception.

Accordingly, Weld County reiterates its request for modeling files and supporting documentation, such as a technical support document, describing the methods used to conduct the analysis for the GHG estimates in Table 1 and Table 2 of the Proposed Rule. Similarly, Weld County requests that you provided a *Vaughn* index identifying and describing in detail each document that has been withheld, including the document's author, recipient and subject matter, and a description of the privilege or exception asserted. We request that this information be provided no later than October 11, 2021.

If the CDOT denies this request in whole or in part, this letter constitutes Weld County's statutory notice of its intention to apply for the assistance of the district court to show cause why the documents are being withheld. *See* C.R.S. § 24-72-204(5).

Thank you in advance for your prompt attention to and consideration of this request.

WeldCo_EX-006

-----Original Message-----
From: [redacted]
Sent: Friday, October 8, 2021 4:02 PM
To: [redacted]
Subject: RE: Dialog case #86981 - CORA Request: [redacted] [ref:_00DF08MQ5._5002I2LbiqM:ref]

[redacted]

We are in receipt of your follow up email concerning MOVES input and output files. The Colorado Department of Transportation is not in possession of any additional records responsive to your records request.

In our initial response to your request, we provided you with the same files that we gave to Air Pollution Control Division (APCD) at the Colorado Department of Public Health and Environment, which constitute our inputs to MOVES. We also provided you with the output files that APCD provided to us. Since APCD runs MOVES, please contact Gary Kaufman at CDPHE (garrison.kaufman@state.co.us) regarding any additional files they may have.

You will find attached the privilege log relating to the three withheld records, as well as an invoice for CDOT staff time spent responding to your request.

Please consider your request closed.

Thank you,
Andrew

---------- Original Message ----------
From: [redacted]]
Sent: 10/6/2021 5:18 PM
To: dot_info@state.co.us
Cc [redacted];
[redacted]
Subject: RE: Dialog case #86981 - CORA Request: [redacted] [ ]

Mr. Hogle:

Thank you for the information.

Upon review of the information, we see that CDOT did not provide MOVES input and output files. We did receive model files for EERPAT and the statewide travel model, and some GIS files that seem to show roadway/traffic data (such as roadway lengths, etc.), but no files that are directly used in the MOVES model.

The MOVES input and output files are critical for our review of the proposed CDOT GHG rules. Is there some reason those files were not provided? Are they considered to be privileged? If so, for what reason?

Additionally, I have not yet seen your Vaughn Index as of today.

[redacted]

[Logo 2012 Color]

From: [redacted]
Sent: Friday, October 1, 2021 5:06 PM
To: [redacted]
Subject: Dialog case #86981 - CORA Request: [redacted]

[redacted]

We are in receipt of your September 17, 2021 records request concerning the GHG rulemaking 2 CCR 601-22. The need to cite extenuating circumstances, specifically C.R.S. § 24-72-203(3)(b)(II)(A), was due to the fact that CDOT is currently attempting to schedule and hold nine public hearings within a three week period. Many of the subject matter experts and other staff that would have been responsible for gathering responsive records are also directly involved in preparing for and executing these hearings. Thank you for your patience and understanding.

You will find the records you requested at the following Google Drive link.

[redacted]

[redacted]

Note that there are three otherwise responsive records which are being withheld for privilege. A signed and notarized Vaughn Index detailing these records will be prepared and sent to you next week. An invoice for staff time spent responding to your request will also be sent to you.

Andrew Hogle
Records Request Officer
Colorado Department of Transportation, Office of Communications
2829 W. Howard Place, Denver, CO 80204

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment for GHG Reduction Standards

1 me age

[redacted] Thu, Oct 14, 2021 at 5:33 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Good Evening,

After reading about the proposed transportation projects I had a question regarding the building materials.

Since con truction project can produce a great deal of Greenhou e Ga emi ion will u tainable material be u ed in the proposed transportation projects?

If so, which ones and what research has been done on the potential materials?

Thank you for your time and the opportunity to submit my comment.

Very Respectfully,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Input on Greenhouse Gas Transportation Planning Standard

1 me age

[redacted] Thu, Oct 14, 2021 at 6:44 PM

To: dot_rules@state.co.us

Cc [redacted]

Thanks for the opportunity to provide input.
Please see attached from Community Cycles.
Thank you

--

[redacted]

Join the Movement, Become a Member!

CC Comment on Greenhou e Ga propo ed rule (1) pdf
62K

COMMUNITY CYCLES
Creating a culture of cycling

[redacted]

COMMUNITYCYCLES.ORG

10/14/2021

Community Cycles' comments on the proposed Greenhouse Gas Transportation Planning Standard

We commend CDOT and the State of Colorado for acknowledging the climate crisis and the need for urgent action. In order to meet our emissions reductions targets, we support CDOT's proposed Greenhouse Gas Transportation Planning Standard. We suggest the following amendments to strengthen this rule.

Given the magnitude of the climate crisis, we urge CDOT to establish the greatest amount of emissions reductions under consideration for this rulemaking: 1.5 million metric tons. In other words, don't water it down!

Electric cars will help to reduce greenhouse gases (GHG) emissions, but they alone won't solve the problem, especially in the short term. Electric cars are currently only a small portion of the private vehicle fleet and it will take them decades to displace fossil-fuel-powered vehicles. Meanwhile, much of our electric generation mix remains far from GHG-free. Therefore, a reduction in Vehicle Miles Traveled (VMT) is the only effective means to meet the 2025 and 2030 targets. Reducing VMT has other benefits, including:

- reducing the negative impacts of driving on historically impacted communities
- improved safety
- decreased local air pollution
- reduced noise
- decreased traffic congestion.

Reducing VMT also addresses one of Community Cycles' primary concerns, making bicycling safer.

We believe that projects that maintain our infrastructure in a state of good repair – such as bridge repair, guardrails, resurfacing, and ongoing maintenance -- and which are greenhouse-gas neutral, should be among the state's highest road and highway priorities. In order to meet the GHG reductions targets, spending on expansion of highway capacity – including new general purpose lanes, road widening, and higher capacity interchanges and intersections – should be severely restricted. Funds should be placed towards making transit, cycling, and walking safer, easier, faster, and less expensive than driving.

We are concerned about the waiver process as currently proposed. The rulemaking is like putting yourself on a diet. The waiver process is like giving yourself permission to have an extra dessert. Unless that dessert is within the limits of your diet, your diet will not succeed. As currently proposed, isn't the waiver process much like letting ourselves eat to our heart's content?

The very existence of a waiver process that allows capacity expansion, leading to more VMT, would undermine the whole purpose of the rule. However, we do support a waiver process for safety projects that do not induce higher VMT. They may not reduce emissions, but they also don't increase emissions. In cases where the state or an MPO are failing to meet GHG targets, waivers should only be allowed to fund safety projects.

We commend CDOT for acknowledging the phenomenon of induced demand. However, we believe that CDOT and the Transportation Commission have not fully recognized the variety of projects that contribute to induced demand. In addition to adding lane miles, everything else we do to make driving easier – including additional turn lanes, intersection operation improvements, and additional auxiliary lanes – adds capacity and thereby causes people to drive more miles. As long as we continue to spend our transportation money on making it easier to drive, VMT will increase and traffic congestion will always return, undoing any short-term GHG reductions achieved from less car idling. This reality – which is now broadly acknowledged by state and national DOTs – has direct bearing on how these projects should be modeled.

Thank you for your thorough public process and for advancing this necessary change that can decrease Colorado's contribution to global warming.

Sincerely,
Community Cycles Advocacy Committee

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards, 2 CCR 601-22 - Comments

1 message

[redacted] Thu, Oct 14, 2021 at 11:24 PM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Dear Colorado Department of Transportation and Governor Polis,

Thank you for the opportunity to comment on the Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards, 2 CCR 601-22, and for your efforts in this rulemaking process. I am a concerned citizen from Avon, Colorado and formerly a natural re ource and finance profe ional with a focu on u tainability My concern for the climate crisis grows every day. As the UN Secretary General noted, the most recent IPCC report is signaling "Code Red" for humanity

I support a strong GHG standard for future transportation projects because our mountain communities are suffering from increasing fires, floods, mudslides, and heat. Seriously addressing transportation emissions is an important step to mitigating the e threat

I upport the following

Require tran portation project to meet the tate climate roadmap goal that call for a 10% reduction in vehicle mile traveled (VMT) by 2030 with clear targets and enforcement mechanisms.

Implement the rules as soon as possible to meet our GHG reduction goals.

- Prioritize multimodal transit, bike lanes, and walking projects -- these sustainable modes of transportation mitigate and reduce both highway expansion pollution and VMTs.

- Consider harmful air-pollution when selecting transportation improvement projects; all projects should have to model VMT impacts.

- I am also writing to ask that the rule include more investment in public transportation such as a rail system in the mountain re ort area We are eeing ignificantly increa ed vehicle traffic on I 70 Thi tretch of road i becoming congested and more dangerous due to increased vehicle miles traveled, traffic accidents, recurring bad weather, closures and detours. This not only causes fatalities to CO citizens and guests but also results in negative economic impact to businesses and employees as a result of frequent highway closures. Connecting Denver to the e area and connecting the e area to each other via rail would be very beneficially impactful to the state and CO could serve as a great example to the rest of the world.

- I would like to suggest that across Colorado, communities lack access to non-polluting, reliable, and affordable transportation options, which impacts their access to healthcare, education, employment, recreation and food.

New roads are not only environmentally harmful, but they're also financially unsustainable because they commit future dollars to expensive road maintenance. Studies show that widening highways leads to more traffic and pollution

Climate change i happening right now in Colorado, and the tate mu t hift it prioritie to en ure the health and afety of all Coloradoans. The primary set of transportation solutions can no longer be on infrastructure that supports single occupancy vehicles. We are calling on you to be creative and shift the focus to reducing vehicle miles traveled via multimodal, accessible, and transportation options that are beneficial for all.

Thank CDOT for undertaking the project. We are excited by the possibilities. The future is literally in your hands.

Thank you,

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Rulemaking Public Comments

1 me age

Willis - CDOT, Aaron <aaron.willis@state.co.us> Fri, Oct 15, 2021 at 8:48 AM
To: DOT_Rules@state.co.us

Hello Aaron,

I understand you are involved in helping with GHG rulemaking. I am writing to express my opinion that telework should be a MAJOR part of it. If people can work remotely, they should! This is the biggest thing we can do to reduce pollution from the car It will al o free up peak our traffic for tho e who need it like ervice ector worker and parent with children in school. So, I believe ther is also an equity aspect to telework.

Please, do not raise taxes. It's already hard enough to live in Colorado. If you take money from people, it should be voluntary That i to ay without force

Please, no new taxes and greater emphasis on teleworking.

Thank !

[redacted]

Sent with ProtonMail Secure Email.

Aaron Willis
Statewide and Regional Planning Section Manager

COLORADO
Department of Transportation
Division of Transportation Development

2829 W. Howard Place, Denver CO, 80204
aaron.willis@state.co.us | www.codot.gov | http://ytp.codot.gov/

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

GHG Pollution Planning comment

1 me age

[redacted] Fri, Oct 15, 2021 at 1:03 PM

To: dot_rules@state.co.us

Good afternoon,

Please see the following as some of my thoughts and concerns surrounding the current rule making. Thank you for the opportunity to comment.

Best regards,
[redacted]

****

July was the hottest month ever recorded, our Earth is hotter than it's ever been since the beginning of the last ice age, and yet Colorado is not on track to meet its climate targets! **It is critical that our state agencies embrace bold, transformative policies that drive broad scale decarbonization.** The current draft rule is a good start, but should be more ambitious to ensure that we meet our emissions reduction targets.

As a matter of environmental justice, **disproportionately impacted communities and communities of color must be at the heart of any decision making process** to en ure acce to affordable, multimodal, transportation options that reduce toxic air pollution and traffic congestion. Please also develop an equity framework beyond thi rulemaking that en ure that individual from di proportionately impacted communities are given a real seat at the decision making table.

GHG reduction levels in the draft rules do not add up to the 12.7 million metric tons of CO2e reductions from Transportation by 2030 figure outlined in the state's GHG Pollution Reduction Roadmap issued by Governor Polis' Office in January of this year. Coloradans deserve a clear, enforceable, and equitable plan to reduce GHG emissions from the transportation sector — not more account tricks.

The draft rules rely heavily upon optimistic electric vehicle (EV) adoption rates and provide no alternative propo al for achieving the e GHG reduction if EV adoption i lower than anticipated Therefore, this rule should adopt stricter carbon budgets that will allow us to meet our emissions reduction target given the liklihood that EV adoption doe not occur a fa t a thi rule anticipate

Instead of more highway expansion projects, Coloradans need more and better transportation alternatives to driving a vehicle — like electric bicycles and scooters for shorter trips, affordable and efficient public tran it for longer trip , e panded light rail and bu rapid tran it along major route , and better land use decisions to provide more bike lanes, sidewalks, and pedestrian-centric urban centers. This rule hould impo e a moratorium on highway e pan ion , a thi trategy ha only hown to increa e traffic, air pollution and displace neighborhoods.

The draft rules do not account for all greenhouse gas sources from vehicles. Hydrofluorocarbons (HFCs) are not included in the definition of a greenhouse gas. This is a significant omission because HFCs from vehicle air conditioners and refrigeration trucks are powerful GHGs with Global Warming Potentials (GWPs) hundreds to thousands of times greater than that of CO2.

Transportation models, assumptions, estimates and **figures used to guide transportation policy by CDOT must be transparent for the public** to engage in decision making processes that impact public health, traffic congestion and our state's GHG emissions.

Sent from my iPhone

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Public Comment for Greenhouse Gas Pollution Reduction for Transportation Planning Proposed Standards

1 message

[redacted] Fri, Oct 15, 2021 at 3:09 PM

To: dot_rules@state.co.us

Dear Colorado Department of Transportation and Governor Polis,

Thank you for the opportunity to comment on the Greenhou e Ga Pollution Reduction for Tran portation Planning Proposed Standards, 2 CCR 601-22, and for your efforts in this rulemaking process. I am a concerned citizen as well as the Manager for the Eagle County Climate Action Collaborative. In this role, it is my job to work with community partners, local governments, utilities, and businesses to implement climate mitigation strategies in our mountain community.

I support a strong GHG standard for future transportation projects because such standards will help the state reach its emissions reduction goals, encourage multi-modal transportation methods that reduce vehicle miles traveled and improve the health and safety of all Colorado residents. We cannot expect that electric vehicles will be enough to stop emissions from the Tran portation Sector In addre ing thi global i ue of climate change, we have an opportunity to re think the way we design our systems of transportation to be more focused on people and community than on cars and highways. This opportunity cannot be squandered and the GHG Standard for CDOT will ensure that data is driving the decisions for any transportation systems we design and deploy.

Without a GHG standard in place, CDOT will continue to make decisions that drive us away from a clean energy economy rather than closer to it. The primary set of transportation solutions can no longer be on infrastructure that supports single-occupancy vehicles. We are calling on you to be creative and shift the focus to reducing vehicle miles traveled via multimodal, acce ible, and ju t tran portation option that are beneficial for all

The aggressive GHG reduction goals set for the State of CO will only be possible with a full-scale change in the way we currently do business. Carbon reduction must be at the center of every decision from every department at the State of CO Without thi full focu on the goal ahead, we will not be able to meet our GHG target and we will put our elve at the mercy of the risks brought on by a changing climate.

Our mountain community is currently, and will continue to be on the frontlines of climate change risks. From forest fires to poor air quality, to changing precipitation level that threaten our outdoor indu try We cannot let climate change run unchecked, and therefore I urge you to pass the GHG Standard for CDOT. Our future livelihood depends on it.

Thank you for your consideration,

[redacted]

walking mountains
sustainability

for everyone

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Sierra Club- Written Comments & Petition - Draft Transportation GHG Rule

1 me age

[redacted] Fri, Oct 15, 2021 at 5:19 PM

To: dot_rules@state.co.us, Shoshana.Lew@state.co.us

Cc Herman Stockinger CDOT Herman Stockinger@ tate co u , Jennifer Uebelher CDOT <Jennifer.Uebelher@state.co.us>

Dear CDOT Commissioners and CDOT Executive Director Shoshana Lew,

Thank you for your continued work to addre greenhou e ga (GHG) emi ion and other air pollutant from the transportation sector.

On August 12th, we delivered a petition signed by 119 Coloradans asking for strong transportation greenhouse gas rules. Following the draft rule relea e, an additional 278 Coloradan who re ide in 75 different citie igned the attached petition asking you to promulgate stronger rules to reduce greenhouse gas emissions from the transportation sector. Of those 278 who signed the second petition, 79 also made personal comments noting the urgency of the situation; those comments are in the attached document as well.

Thank you for your attention and consideration of these community voices in the rulemaking.

[redacted]

Sierra Club- Written Comments & Petition - Draft Transportation GHG Rule.pdf
359K

SIERRA CLUB
COLORADO

October 15, 2021

Colorado Department of Transportation
2829 W Howard Pl.
Denver, CO 80204

Re: Transportation GHG Rulemaking - Written Public Comments and Petition

Dear CDOT Commissioners and CDOT Director Shoshana Lew,

Thank you for your work on the Transportation Greenhouse Gas (GHG) Rulemaking.

On August 12th, we delivered a petition signed by 119 Coloradans asking for strong transportation greenhouse gas rules. Following the draft rule release, an additional 278 Coloradans who reside in 75 different cities signed the below petition asking you to promulgate stronger rules to reduce greenhouse gas emissions from the transportation sector. Of those 278 who signed the second petition, 79 also made personal comments noting the urgency of the situation; those comments are below as well.

Thank you for your attention and consideration of these community voices in the rulemaking.

Sincerely,

SIERRA CLUB
COLORADO

1) 79 Personal Written Public Comments

Arvada	
[redacted]	As a state we owe it to each other to reduce our impact on the health of the planet.
Bayfield	
[redacted]	Colorado needs to Focus on public transportation and clean emissions!
Boulder	
[redacted]	Be a frontrunner and change to electric NOW.
[redacted]	As someone who cares deeply about our planet and mitigating global warming I am disappointed in the goals CDOT has proposed. Please do more!
[redacted]	Air pollution including from motor vehicles has limited the time I've been able to spend outside including working in my yard and garden. It affects the quality of my life.
[redacted]	Transportation is a major source of Greenhouse Gas emissions. Pollution clean-up tends to drive adoption of electric vehicles
[redacted]	Emissions from motor vehicles are a leading cause of climate change and local air pollution (not to mention the death and injuries they cause). We can and must address this now. CDOT must stop building highways that harm us and start building transit including rail to preserve our health (reduce asthma obesity and traffic injuries and improve mental health) and prevent further greenhouse gas emissions. Electric cars are not enough. They pollute too. They kill too. The status quo is driving us into fires and drought. Real action is needed now. We need transit! We need to increase the price of driving gas powered vehicles and use the funds to create the clean and quiet transportation of the future.
[redacted]	I recently stood on the corner of Broadway and Baseline for about 30 minutes helping with my daughter's fundraiser for school. I had black mucus and had to cough for several hours afterwards. This is what our kids are breathing. We can do better.
[redacted]	The current state of pollution in this state is downright foul. While vehicle travel is only one part of this rulemaking, a statewide initiative to reduce these miles will be much more effective than simply

[redacted]

	encouraging people to drive less in a place with barely viable public transportation. I urge both of you to take this issue seriously.
[redacted]	This matters to me because my wife recently died unexpectedly of a cerebral hemorrhage, one of a variety of cardiovascular diseases in which petrochemical air pollution is implicated. I also have several cardiovascular conditions likely caused or aggravated by pollution. In addition the notoriously high ozone levels of the Front Range produced both by motor vehicles and by fracking force me to remain inside much of the summer. Thus both my family's health and my daily activities have been harmed by pollution.
[redacted]	People/corporations must be held accountable for their products. If you bake a cake and you promise it'll be gluten free sample cakes should be tested to make sure they are as advertised. Same goes for making vehicles - if they're supposed to emit fewer toxins into the air they should be tested and held to the advertised standard. If fewer miles traveled has been advertised as a reason for building a particular transit entity, steps/enticements must be taken to lessen the number of miles traveled.
Broomfield	
[redacted]	With cars & highways spewing out pollutants enough to rank Denver as one of the most polluted places to be...well we need to place an emphasis on reduced car usage and more emphasis on bikes and public transportation. This misguided idea that once we get "electric vehicles" everything will change is nothing but a lot of wishful thinking nonsense. Most electricity is still generated from fossil fuels. Get off the fossil-fuel sponsored crap! NOW!
Centennial	
[redacted]	Fossil fuel emissions need to be lowered now. This past summer has had too many ozone action days that negatively affect our human health and those of all living things in Colorado. This air pollution is causing illness among our young who will require asthma treatment for the rest of their lives and lives made short. Covid patients also are negatively affected by the bad air quality thwarting their recovery. Older people are becoming asthmatic and also have their lives shortened. This issue is not to be pushed off into a non-existent future that all of us may not have. NOW is the time to switch to electric run vehicles and large equipment that is powered by clean energy. The UN put out a CODE RED warning requiring emissions are at the tipping point and we must act NOW!!!!
[redacted]	I have three children who couldn't play or exercise outside on multiple

[redacted]

[redacted]	days this summer due to poor air quality. I know we Coloradans cannot fix California's fire problem but we can improve the air here at home!
[redacted]	Thank you Governor Polis and all the Colorado Elected Officials who worked to align State Spending with Our Climate Obligations!
Clifton	
[redacted]	I'm worried about climate changes. They are already happening now. I have grandchildren and I am very worried about their futures
Colorado Springs	
[redacted]	Transportation is the leading cause of greenhouse gas emissions in the country. We have made great advances in the utility sector. It is now time to take on transportation.
[redacted]	Public transportation is a safer cleaner alternative to gas-guzzling automobiles and it would open up a world of opportunity to underprivileged people that need reliable transportation but can't afford a car.
[redacted]	The city of Colorado Springs has ZERO emissions testing for gasoline vehicles. Tens of thousands of these gasoline vehicles commute to the Denver metro area every day. Also every single petroleum station in Colorado Springs lacks VOC vapor capturing on the gasoline nozzles. Combined these two major forms of front range pollution will continue to plague the entire state of Colorado from one city's mayor who is just waiting for out of attainment status. Instead of being proactive Colorado Springs is decades behind the most conservative cities in the conservative State of Texas. How does that make sense for a beautiful mountainous state such as Colorado? It doesn't. El Paso County and Colorado Springs will continue to permeate our air quality with ozone and other pollutants until the State of Colorado decides to reduce funding for the city and county. Please focus on this as it's our greatest opportunity for reducing pollution across the entire Front Range. Thanks
Cortez	
[redacted]	I want my descendants to have a clean world to live in.
[redacted]	I would love to see our state ahead in the fight to control climate change. With good common sense we can do it!
Craig	
[redacted]	My native Denver used to be healthy; now it is a polluted mess!!!

[redacted]

SIERRA CLUB
COLORADO

Denver	
[redacted]	Air quality in Denver is too toxic to safely exercise outside much of the year. It's hard to see the mountains at times due to smog. A lot of this is caused by cars. And that same pollution is heating up the planet and causing more very hot days in the Front Range and more wildfire risk. We desperately need to get gas powered cars off the road.
[redacted]	As I learned in grad school 15 years ago transportation accounts for the biggest portion of greenhouse gas emissions so we must at this crucial juncture in time do everything we can to curb those emissions and keep us from going beyond the tipping point.
[redacted]	We can't see the beautiful mountains some days. I understand a portion was from wildfires. But a lot had to do with our own pollution as well.
[redacted]	Lead by example CDOT! Let's clean up Denver's air so we can enjoy our city and breathe clean air.
[redacted]	The GHG Rule needs to reduce greenhouse gas emissions. Not codify the status quo of business as usual.
[redacted]	Clean air and a healthy place to live is important for us now and even more important for future generations.
[redacted]	The proposed rules for greenhouse gas emissions proposed by CDOT are not strong enough.
[redacted]	I am a citizen of Denver and of the world; I want to breathe cleaner air. Please help!
[redacted]	I am a U.S. citizen and Colorado resident with an MBA and twenty years experience. I am writing to urge you to ensure the Transportation Greenhouse Gas Rulemaking is strengthened through stronger enforcement guidelines. Thank you.
[redacted]	It is time for Colorado to step up and be a leader in reducing pollution. We have the know-how - where is the will?
[redacted]	We have the worst air in the world!!! It's beyond time to take action.
[redacted]	More comprehensive actions are required in order for CO to meet the environmental goals set during the campaign. Please work harder to live up to the goals set.
[redacted]	We are at a tipping point on this planet. Humans have really messed it up. Now it behooves us to make things better. Strengthening the GHG rule can really help.

[redacted]

[redacted]	Air quality continues to decline in our city of Denver making it an undesirable place to live. We need to get off of fossil fuels to improve the quality of our air!
[redacted]	We in Colorado decided to clean up our air in the 1970s and we actually DID IT! But we've now slowly devolved into putrid highly polluted air again....and with the fires it's extremely bad. Why can't we make the same commitment and clean up our air again? Make it healthy!! [redacted]
[redacted]	My child and I have asthma and suffer from all the pollution in the Denver metro area. We are considering moving after two summers of horrible smoke that makes the usual high ozone pollution more unlivable. Please please do something to help those of us with health conditions that are dying from exposure to this pollution
Durango	
[redacted]	Colorado's and my local economy depend greatly upon a stable climate and I feel we must do our part to lower emissions in our state and with transportation contributing the highest level of co2 emissions we MUSt reduce transportation pollution. Please act NOW.
[redacted]	Colorado must set an example to others. Every little bit helps in protecting the environment.
Eagle	
[redacted]	Let us be the ancestors our descendants will thank!
Erie	
[redacted]	We need to protect our environment.
Estes Park	
[redacted]	Make us a gold standard leader in all aspects of using renewable energy!
[redacted]	WE NEED TO REDUCE POLLUTION. MORE ELECTRIC BUSSES.
Evergreen	
[redacted]	This is just the logical way to start!!!
Fort Collins	
[redacted]	I care very much about reducing air pollution and have learned that transportation is now the single largest source in the nation. We must do more to significantly mitigate this!

[redacted]

[redacted]	We aren't meeting air quality standards. We need bold action to address this. Low income residents who live near freeways should not bear the further injury of harm to their health.
Golden	
[redacted]	I want myself and my family to breathe clean air. Please create stronger rules that address the 2 million tons of GHG emissions shortfall of what needs to be reduced.
[redacted]	Please do your part to make our air breathable!
[redacted]	I'd like to be able to breathe the air outside my house without fear that it is making me sick and shortening my life. That's not possible with all the NO2 spewing out of tailpipes.
Grand Junction	
[redacted]	We must address the issue that transportation is the number one source of climate change pollutants.
[redacted]	You need to help get the amount of pollution from transportation under control. We only have one planet. The more each state does to get control of the pollution the better our planet will be.
Greeley	
[redacted]	We need clean air now!
Lakewood	
[redacted]	All pollution must be minimized. Emissions from transportation is a huge public safety issue. Don't replace it with electric cars. Their dead batteries cause even more pollution hazards. Figure it out if it isn't already too late. I have grandkids.
[redacted]	We need effective action now to cut our greenhouse gas emissions. Please adopt stronger standards to help meet our climate goals.
Littleton	
[redacted]	This bill has the opportunity to address two crucial issues facing America today: the environment and racial injustice.
Longmont	
[redacted]	It is vital that ALL people be responsible for cleaning up the mess we've made no matter where it is made. All of our lives depend on it!
[redacted]	Let's make this rule really effective by beefing up necessary enforcement, closing enforcement loopholes and creating impactful

[redacted]

	target reductions of GHGs.
[redacted]	NOTHING is more important than to begin to address the amount of GHG pollution.
[redacted]	I have two children who are asthmatic. And we know it does not help with asthma. We need high-speed rail roads going from Fort Collins to Colorado Springs in Denver to Silverthorne! This would help take so many cars off the streets!
Louisville	
[redacted]	Our air pollution is some of the worst in the country. The transportation GHG is a big contributor to this. Please protect our air and quality of life.
Loveland	
[redacted]	Please do the right thing for the future of our children and grandchildren.
[redacted]	I moved to Colorado four years ago from Utah and I am disgusted by the horrific air quality all along the front Rangeâ€¦. To the point that we are planning to leave Colorado. Colorado has some of the worst air quality in the world and yet nothing is being done to stop fossil fuel emissions or move to all EV vehicles. Besides the poor air quality that affects everyone's health in this state the roads here are in dire need of repair and have been for decades. Not sure where all the revenue from pot sales are going but they're not going into cleaning up our environment air quality and improving our roads and infrastructure. NOT a great state!
[redacted]	Why aren't all buses and light rail electric? When is light rail going to follow I 25 and I 70? It could be put in the median.
[redacted]	I constantly see trucks that spew black smoke and leave a stench in their wake. That is only a small portion of pollution that other vehicles are also leaving. Please tighten up your pollution emissions testing and regulations. Cheep is not the answer. our breath is much more important.
Lyons	
[redacted]	My grandchildren's quality of life and perhaps life itself depends on slowing climate change. Transportation is a big contributor.
Manitou Springs	
[redacted]	This is critically important because we must get off fossil fuels which will improve our air quality and will decrease the exacerbation of cardiovascular and pulmonary illnesses that are directly related to

[redacted]

	breathing the horrible air we now have to breathe. We need to decrease CO2 and this is one way to do it.
Montrose	
[redacted]	I live in Montrose CO because the freeways/congestion in Denver is unbelievable. Colorado needs stronger emission rules, incentives for electric vehicles and higher taxes on gas guzzling vehicles.
Salida	
[redacted]	Now is the moment to switch our thinking to renewable energy for transportation. Not only has President Biden stepped forward in support of electric vehicles for government agencies but now Ford has laid over 11 billion dollars on the table to construct an all-electric F-150 pickup (which has over 150 000 orders already!) and battery manufacture. Tesla is manufacturing hundreds of thousands of all-electric cars each year and GM is committed to compete with Tesla over the next few years. Please help make Colorado a leader in this grand revolution and put all-electric transportation front and center in all of your deliberations!!
Silverthorne	
[redacted]	CDOT has developed draft rules for the state's transportation sector to reduce its greenhouse gas emissions however the current draft rule falls short by about 2 million metric tons of GHG emissions These rules need to be stronger by making a sufficient commitment to the state's transportation greenhouse gas reduction targets (as outlined in the Governor's GHG roadmap).
Telluride	
[redacted]	Colorado is one of the most beautiful and precarious climates that I have ever lived in. I adore this place and am willing to go out of my way to protect it. Are you?
[redacted]	Reduced pollution is reduced CO2 emissions! The time for action is now!
Timnath	
[redacted]	Common sense please. We need the strongest standards in Colorado.
Trinidad	
[redacted]	We need strong regulations to keep Colorado air clean.
Wheat Ridge	

[redacted]

[redacted]	One planet = one chance!

2) 278 Petition signatures addressing the current draft rule

[redacted]

SIERRA CLUB
COLORADO

Dear CDOT Commissioners and CDOT Director Shoshana Lew,

Thank you for your work on the Transportation Greenhouse Gas (GHG) Rulemaking. If successful, this rulemaking will be among the first of its kind in the country. To be successful, the rule must be strengthened in the following ways:

The rule must include the 10% reduction in Vehicles Miles Traveled (VMT) outlined in the Governor's GHG roadmap. There is a gap of 2 million metric tons that must be achieved through stronger targets in the rule, to meet the state's transportation GHG reduction targets.

The rule must close enforcement loopholes. For example, as the draft rule is currently written, mitigation measures have no deadline and can be delayed or cancelled without enforcement.

The rule must direct CDOT to develop both a Transportation Equity Framework, and a plan for how to include representatives of disproportionately impacted and marginalized communities in developing, monitoring and implementing the rule. Multimodal investments and mitigation efforts must be prioritized in disproportionately impacted neighborhoods.

The rule must improve project-level modeling by modeling for and explicitly prioritizing individual projects that maximize VMT and GHG reductions. It must mandate a periodic reassessment of the model based on how well it performs against real-world data, and that report should be transparent with all relevant information easily accessible.

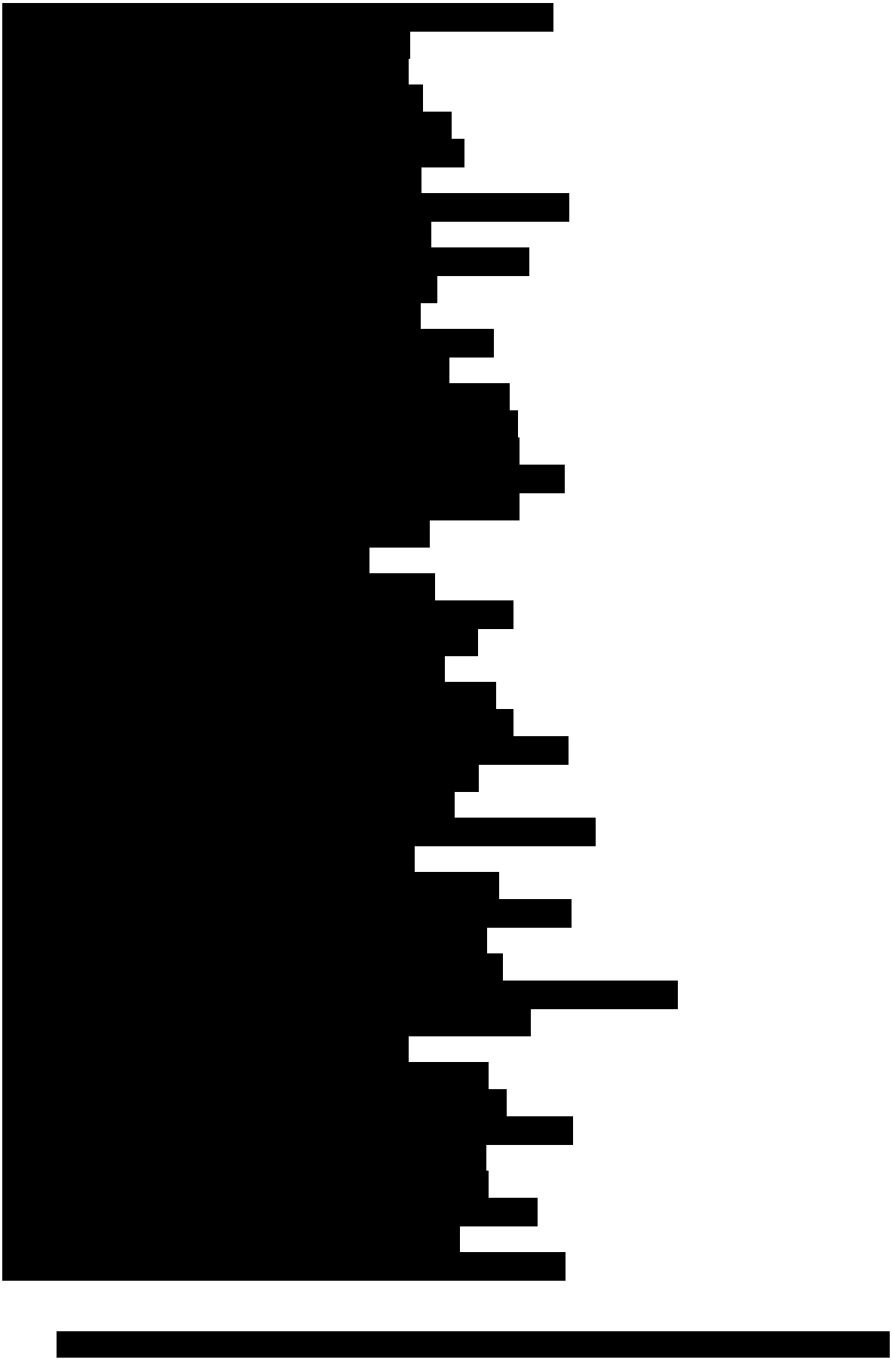
Thank you for your consideration.

Sincerely,

[redacted]

[redacted]

SIERRA CLUB
COLORADO



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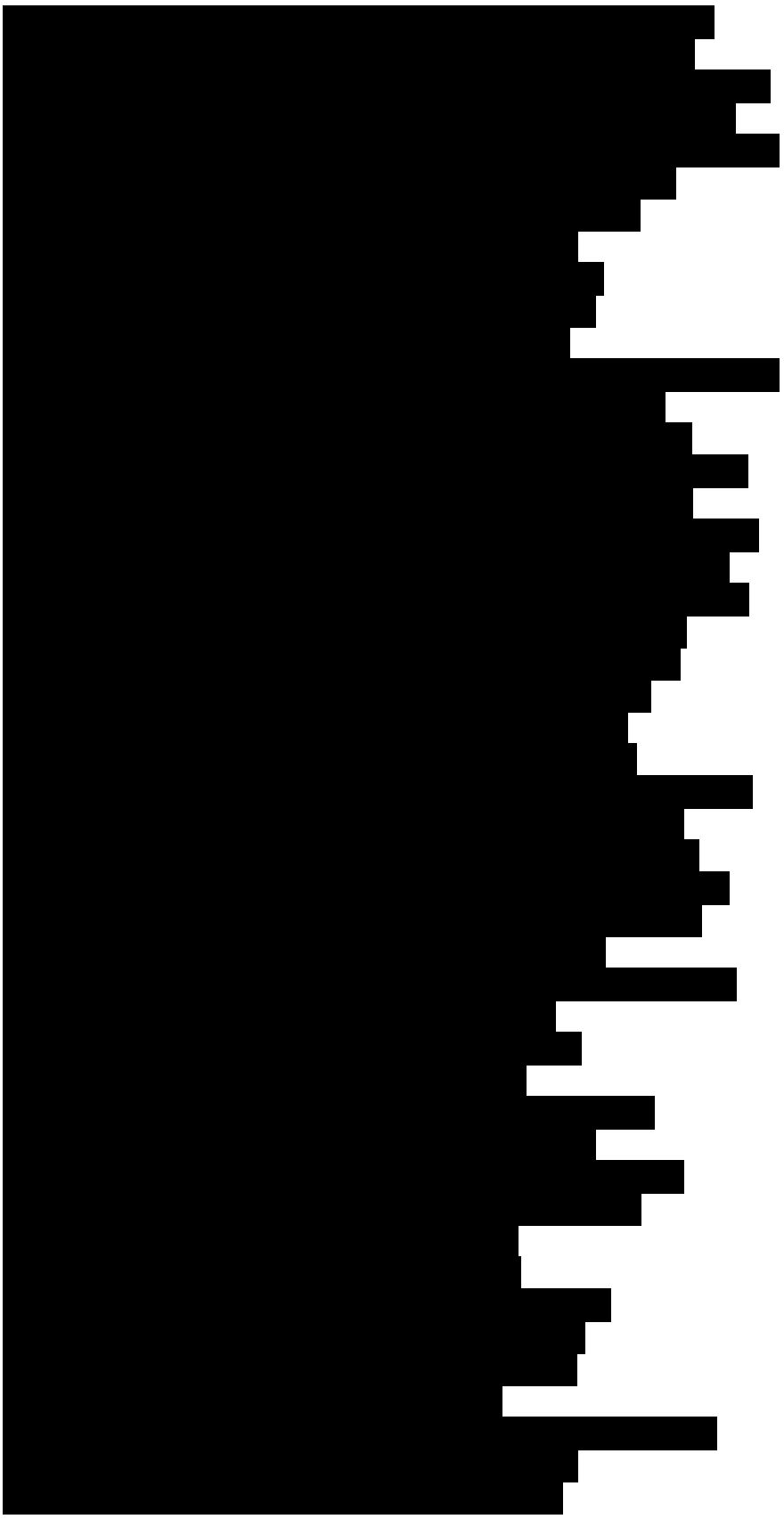
COLORADO



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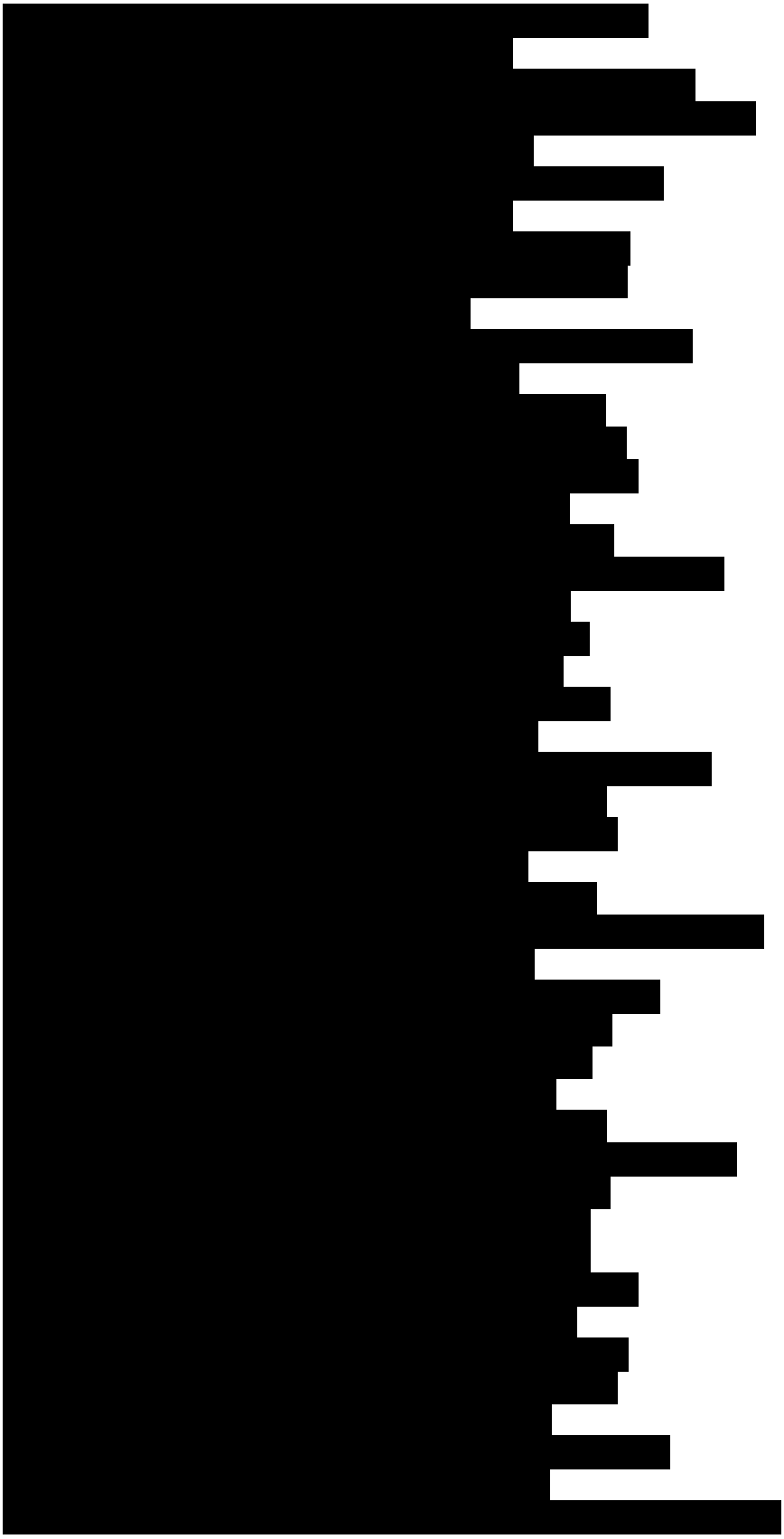
COLORADO



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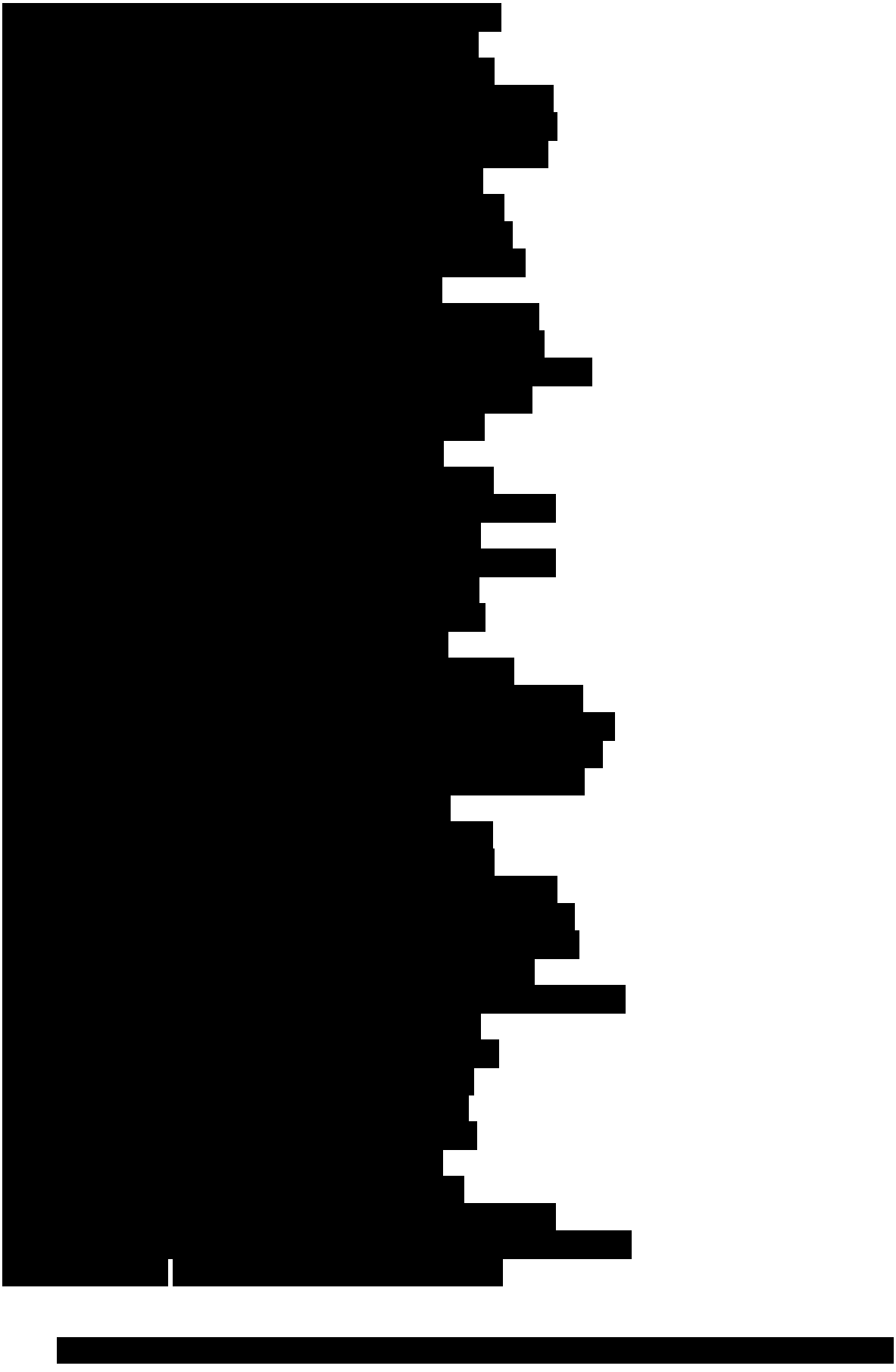
COLORADO



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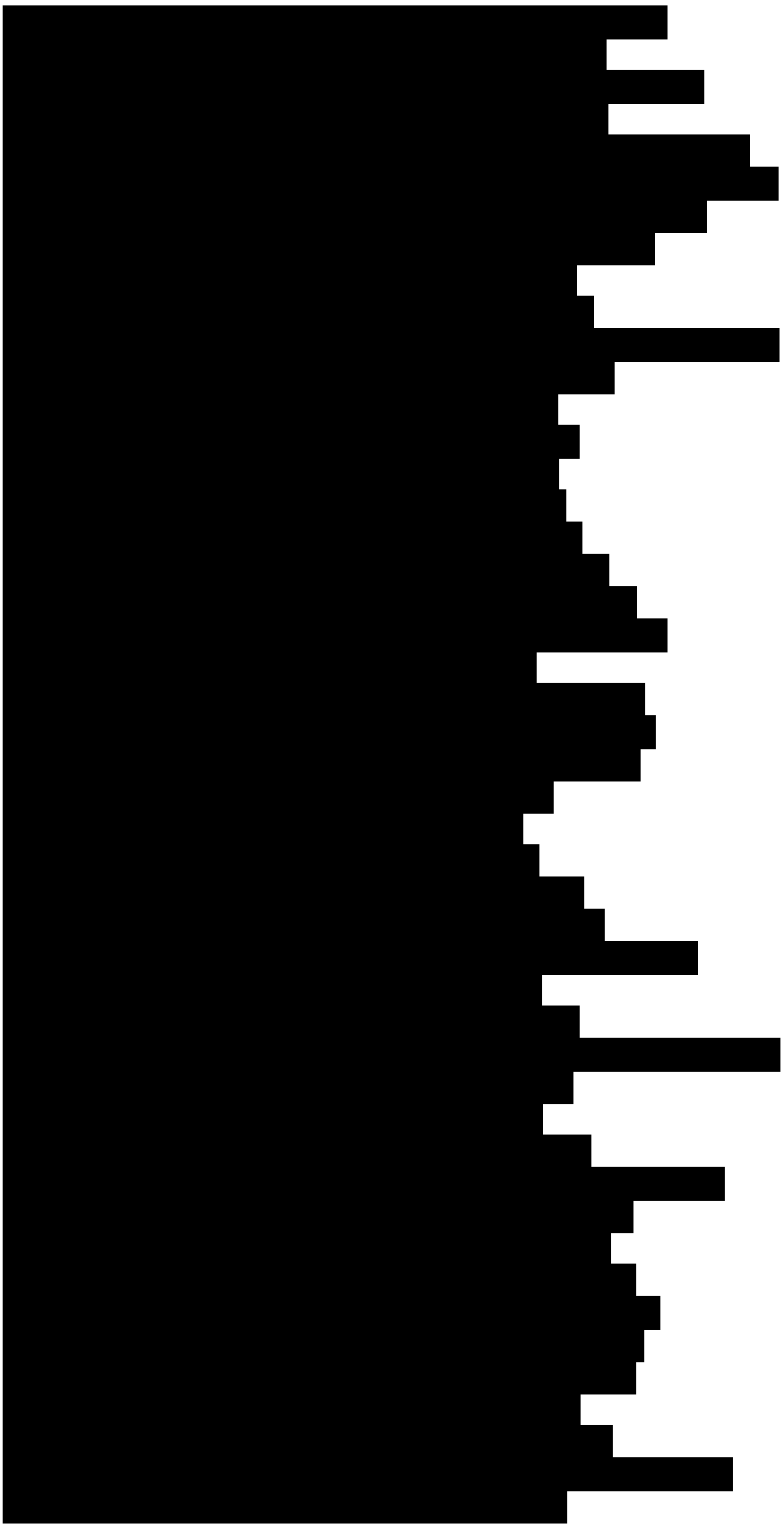

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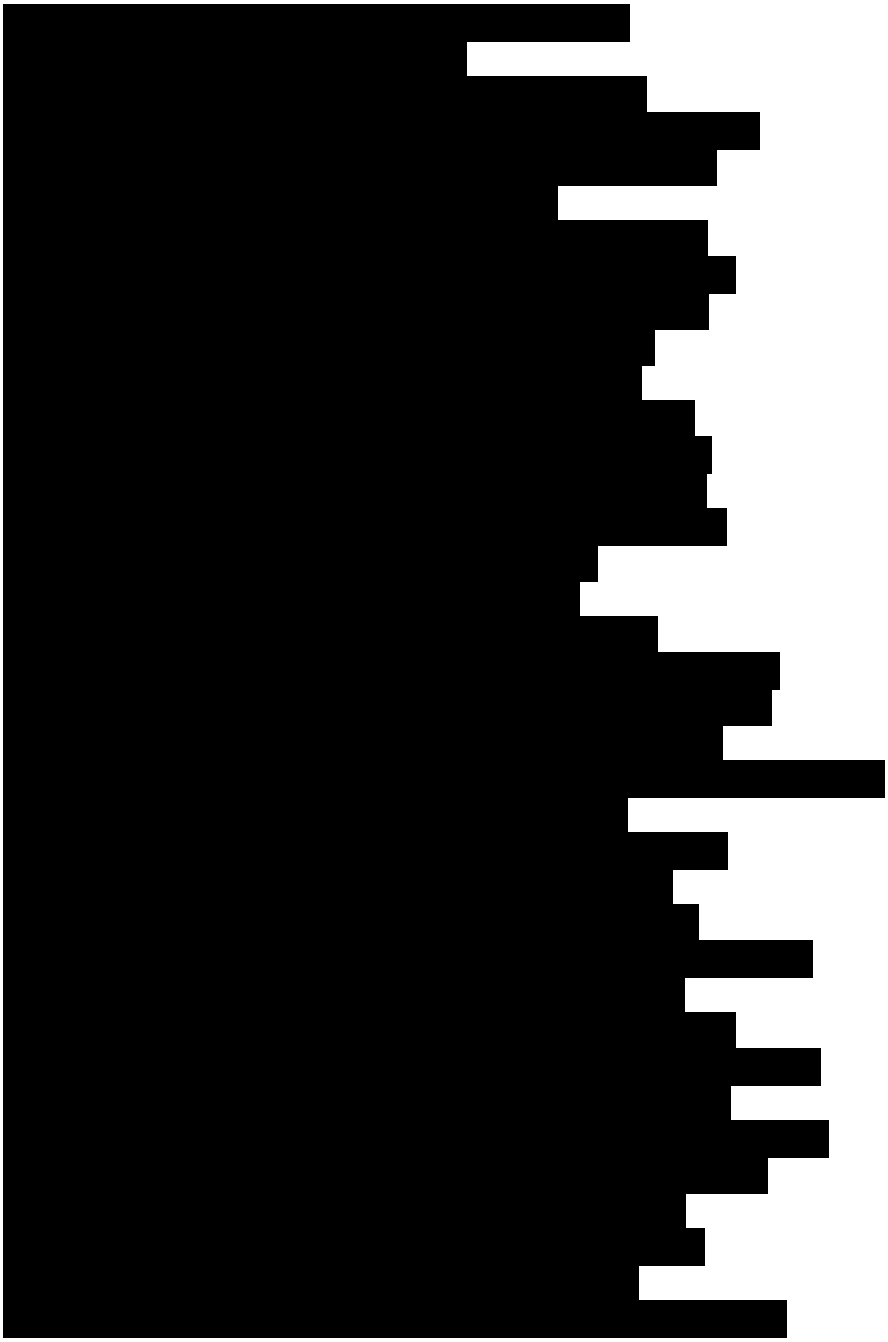

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

Comments & Alternate Proposal of Community Groups

1 me age

[redacted] Sat, Oct 16, 2021 at 9:59 AM

To: dot_rules@state.co.us

Cc [redacted]

Hello,

Plea e find attached initial comment & a propo ed alternate rule on CDOT' propo ed Rule Governing Statewide Transportation Planning Process and Transportation Planning Regions: 2 CCR 601-22. These comments are submitted by Earthjustice on behalf of the Community Groups (the Elyria and Swansea Neighborhood Association and GreenLatinos).

Best regards,

[redacted]

2 attachments

Community Groups Ex. 1 Proposed Alternate Rule.pdf
572K

Community Groups Comment.pdf
462K

[redacted]

EARTHJUSTICE

October 16, 2021

Transportation Commission of Colorado
2829 W. Howard Place
Denver, CO 80204-2305

Submitted via email: dot_rules@state.co.us

Re: Comments on Notice of Proposed Rulemaking: Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions: 2 CCR 601-22.

Dear Commissioners:

Earthjustice submits these comments on behalf of the Elyria and Swansea Neighborhood Association and GreenLatinos (together, Community Groups). These comments respond to the Transportation Commission of Colorado's (Commission) Notice of Proposed Rulemaking for Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions: 2 CCR 601-22.

The proposed rule would require transportation planning organizations (including the Colorado Department of Transportation (CDOT) and Metropolitan Planning Organizations (MPOs)) to determine the total greenhouse gas emissions from future transportation project plans and ensure that those emissions do not exceed set limits.

As explained below, the Community Groups urge the Commission to adopt a strong, equitable rule that prioritizes Disproportionately Impacted Communities (DICs) and ensures reductions in greenhouse gases (GHGs), air toxics, and other harms stemming from the transportation sector. The transportation system has been built on a legacy of racist and classist planning decisions that have shunted disproportionate harms onto frontline communities.

[redacted]

To address these inequities and reduce emissions, the Commission should amend the proposed rule to prohibit the funding of highway expansions. New and expanded highways disproportionately harm low-income and minority communities and drive increases in GHGs and air pollutants. The Commission should therefore take immediate action to prevent further harm to communities that already suffer disproportionate harms from transportation infrastructure.

The Commission should additionally include more robust protections for DICs in the final rule. Recent legislation requires the Commission to address the inequities in the transportation sector, yet the proposed rule offers no protections or benefits for DICs. The Community Groups recommend a number of amendments to provide substantive protections and benefits to DICs and to ensure that future decision-making processes are equitable and inclusive.

In addition, more robust reduction targets that focus on reducing traffic are necessary for Colorado to meet its GHG reduction targets, as required by law. The Community Groups recommend stronger reduction targets that specifically target Vehicle Miles Traveled (VMT). Finally, the Community Groups urge the Commission to ensure the final rule's effectiveness by eliminating loopholes and by strengthening requirements around reporting and modeling.

Elyria and Swansea Neighborhood Association

The Elyria and Swansea Neighborhood Association (ESNA) is a Registered Neighborhood Organization with the City of Denver. It represents residents and small business owners within the geographical neighborhoods of Elyria and Swansea in north Denver. ESNA's mission is to educate and inform the community and facilitate informed discussion of the many unique issues and challenges facing its neighborhoods. It provides grassroots access for residents and property owners to the dialogue formulating and implementing the common future we all share. That mission includes public meetings and outreach, advocacy of its common interests and goals to its civic leaders, as well as specific projects that provide tangible benefit for the community. The future in Elyria and Swansea is threatened at all levels: many large, outside forces are acting on these neighborhoods, and ESNA is an advocate for the interests of its residents, and a bulwark against outside interests interfering with the cohesion of these affected communities.

GreenLatinos

GreenLatinos is a national nonprofit organization that convenes a broad coalition of Latino leaders committed to addressing environmental, natural resources, and conservation issues that significantly affect the health and welfare of the Latino community. GreenLatinos engages in this advocacy at the national, regional, and local levels. It strives to amplify the voices of minority, low-income, and tribal communities and to advance health equity, environmental justice, and community resilience. Environmental justice, clean transportation, clean air, and climate change are among the organization's core priorities.

CONTENTS

BACKGROUND

PROPOSAL

BACKGROUND

I. Our Transportation System Is Broken

A. The Transportation System Is a Major Contributor to Air Pollution and Climate Change, Threatening Community Health

After suffering through a record number of high ozone days in 2021 and an unprecedented wildfire season in 2020, the importance of reducing transportation emissions has never been clearer in Colorado.

Pollution from the transportation system—including from traffic and from construction impacts—causes asthma, lung cancer, heart disease, respiratory illnesses, and death. These health impacts are primarily caused by fine particular matter (PM), ground-level ozone precursors, nitrogen oxide, and carbon monoxide emitted from vehicles.[1] Localized pollution means that communities overburdened by traffic are most at risk. Living near major roads, particularly between roughly 150 to 5,000 feet, increases the risk of asthma and reduced lung function, the onset of childhood asthma, and cardiovascular death.[2]

PM is fine particulate matter that can be made up of hundreds of different chemicals and comes from many sources including vehicle exhaust, construction, fires, and more.[3] When this microscopic particulate material enters your lungs, serious health problems result. It causes premature death, asthma, aggravated asthma, decreased lung function, difficulty breathing and more.[4] PM also

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[1] Shireen Malekafzali, *Healthy, Equitable Transportation Policy Recommendations and Research*, PolicyLink Prevention Inst. Convergence P'ship 22 (last visited Oct. 12, 2021), https://www.preventioninstitute.org/sites/default/files/publications/Healthy%20Equitable%20Transportation%20Policy%20Recommendations%20and%20Research.pdf.

[2] *Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects*, Health Effects Inst. 3–4 (2010) [hereinafter "*HEI Literature Review*"], https://www.healtheffects.org/system/files/SR17TrafficReview_Exec_Summary.pdf.

[3] *What is PM, and how does it get into the air?*, U.S. Env't Prot. Agency, (last visited Oct. 12, 2021), https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#PM.

[4] *Health and Environmental Effects of Particular Matter (PM)*, U.S. Env't Prot. Agency, https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm (last visited on Oct. 12, 2021).

exacerbates severity of Covid-19 outcomes; even a "small increase in long-term exposure" to PM results in a "large increase" in deaths from Covid-19.[5]

Ground-level ozone, caused in part by the transportation sector, has plagued Coloradans for years. Ozone results from a chemical reaction between sunlight, heat, and a mix of pollutants such as nitrogen oxides and volatile organic compounds that are produced by industrial facilities, electric utilities, and motor vehicle exhaust.[6] Ozone pollution aggravates lung diseases such as asthma, and children and the elderly are particularly vulnerable. This asthma vulnerability compounds with the heightened vulnerability that children living near high traffic areas and highways already face. As a result of ozone pollution, Coloradans are faced with unnecessary asthma attacks, missed days of school and work, and even premature death.

This summer, Coloradans living on the Front Range suffered through a record 65 days of ozone levels in excess of the standards set to protect public health.[7] The Denver Metro/North Front Range area has been in nonattainment with federal ozone standards for over a decade. It is currently designated as a "serious" nonattainment area for the 2008 75 parts per billion (ppb) ozone standard, but designation as "severe" is imminent in early 2022 as a result of continued violations picked up by air monitors.[8] Unable to attain the 75 ppb standard, the state shows no signs of complying with the 2015 70 ppb ozone standard.

Beyond air pollution impacts, transportation also has an outsized effect on the climate crisis. In 2020, the transportation sector was the largest source of GHG emissions in Colorado, with passenger vehicles contributing the largest share of

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[5] X. Wu et al., *Air pollution and Covid-19 mortality in the United States: Strengths and limitations of an ecological regression analysis*, 6 Sci. Advances (2020), https://projects.iq.harvard.edu/covid-pm.

[6] *Ground-level Ozone Basics*, U.S. Env't Prot. Agency, https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics#formation (last visited on Oct. 12, 2021).

[7] Kelsey Vlamis, *People are flocking to Colorado for the great outdoors, but the air pollution is so bad, it's forcing many to stay inside*, Bus. Insider (Oct. 2, 2021), https://www.businessinsider.com/air-pollution-colorado-wildfires-climate-threatening-access-to-the-outdoors-2021-10.

[8] *See* Shale Daily, *Colorado Officials to Ramp Up Ozone Controls on Natural Gas, Oil Industry*, Nat. Gas Intel. (Dec. 28, 2020), https://www.naturalgasintel.com/colorado-officials-to-ramp-up-ozone-controls-on-natural-gas-oil-industry/.

emissions within the sector.[9] These emissions are exacerbating the climate crisis, which is already hitting home with increased severe weather events. In fact, 2020 was the state's most active fire season in recorded history, scorching over 700,000 acres.[10] Governor Polis has recognized that the size of these destructive fires is due to a "hotter, drier climate."[11] And as the director of the Colorado Energy Office has noted, these severe impacts of climate change are "happening much earlier than expected."[12] This new reality heightens the urgency of the Commission's mandate to reduce emissions from the transportation sector.

B. Disproportionately Impacted Communities Bear the Brunt of the Transportation System's Harms

The widespread harms of the transportation sector are not distributed equally. Instead, harms are concentrated in lower-income communities and communities of color. Here in Colorado, the north Denver area—including Denver neighborhoods Elyria-Swansea and Globeville, and Commerce City in Adams County—endures heavy traffic and the resulting pollution from intersecting highways I-70, I-25, and I-270. Historic disinvestment in these neighborhoods has led to poor transit infrastructure that results in limited mobility: roads are disconnected due to intersecting railroad tracks, making it challenging to travel around the neighborhood by walking; sidewalks are far and few between; bike infrastructure is lacking; and many public bus stops do not have benches or places to wait safely.[13] These deficiencies in public health and mobility

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[9] Governor Jared Polis, *Colorado Greenhouse Gas Pollution Reduction Roadmap* III (Jan. 14, 2021) [hereinafter "*Roadmap*"], https://drive.google.com/file/d/1jzLvFcrDryhhs9ZkT_UXkQM_0LiiYZfq/view.

[10] Wilson Beese, *Looking back at Colorado's historic 2020 wildfire season*, 9News (May 2, 2021), https://www.9news.com/article/news/local/wildfire/colorado-2020-historic-wildfire-season/73-c9458147-c945-45e6-bea9-a1d426cca102; Hillary Rosner, *Boulder, Colorado wakes up to the threat of worsening wildfires*, Nat'l Geographic (Oct. 26, 2020), https://www.nationalgeographic.com/environment/article/boulder-isnt-ready-to-evacuate-for-wildfires.

[11] John Fialka, *Colorado Contends with Record-Setting Wildfires*, Sci. Am. (Oct. 26, 2020), https://www.scientificamerican.com/article/colorado-contends-with-record-setting-wildfires1/.

[12] Bruce Finley, As Colorado wildfires burn, fears that climate change is causing "multi-level emergency" mount, Denver Post (Oct. 25, 2020), https://www.denverpost.com/2020/10/25/colorado-wildfires-climate-change/.

[13] Gretchen Armijo & Gene C. Hook, *How Neighborhood Planning Affects. Health in Globeville and Elyria Swansea,* Denver Dep't of Env't Health 39 (2014) [hereinafter "*Health Impact Assessment*"], https://www.denvergov.org/content/dam/denvergov/Portals/746/documents/HIA/HIA%20Composite%20Report_9-18-14.pdf.

collectively impact the wellbeing of residents who report delays in transit due to train and truck traffic, concerns about constant and excessive pollution exposure, and a constant presence of noise and construction.[14]

The communities most impacted by the transportation sector already endures disproportionate harms from other sources of air pollution. North Denver suffers from some of the greatest environmental health risks in the country.[15] For example, the Suncor oil refinery contributes significantly to pollution in north Denver with its long history of permit noncompliance that has resulted in accidents so significant that schools and residents have had to shelter in place to avoid toxic ash.[16] These routine "upsets" fill the air with pollutants that cause respiratory problems and heart disease. As a result of the cumulative harms from transportation, industry, superfund sites, and other sources of pollution, north Denver residents suffer some of the highest rates of cardiovascular disease, diabetes, and asthma in the metro area.[17] Yet these same residents also have more limited access to health care, further compounding these harms.[18]

Transportation harms also have far-reaching consequences that extend beyond air pollution impacts. The transportation sector contributes to noise pollution; congestion and stress; limited mobility and inaccessibility to public transit; and traffic accidents. Once again, DICs like those in north Denver bear the brunt of these harms.

The transportation sector also contributes to inequitable economic conditions. Public transportation users are disproportionately made up of minorities with

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[14] *Id.* at 7.

[15] The Denver zip code 80216, which includes Elyria-Swansea and Globeville, carries the highest environmental hazard housing risk in the county. To conduct the report, ATTOM Data Solutions evaluated 8,665 U.S. zip codes for four environmental risk factors: superfund sites, brownfields, polluters and poor air quality. *Home Prices in Highest-Risk Zips for Environmental Hazards Increased at Faster Pace Than U.S. Average Over Past Decade,* ATTOM Data Solutions (Feb. 22, 2018), https://www.attomdata.com/news/risk/2017-environmental-hazard-housing-risk-index/.

[16] *See Enforcement Actions Against Suncor*, Colo. Dep't of Pub. Health & Env't, https://cdphe.colorado.gov/enforcement-actions-against-suncor (last visited Oct. 12, 2021); Bruce Finley, *Suncor oil refinery's release of clay-like "catalyst" triggers alarm, prompts air tests north of Denver,* Denver Post, (Dec. 11, 2019), https://www.denverpost.com/2019/12/11/suncor-refinery-emissions-alarm/.

[17] *Health Impact Assessment*, *supra* note 13, at 5.

[18] *Id.* at 6.

low to moderate incomes.[19] In Denver, over a third of public transit riders earn less than $25,000 per year.[20] These households that rely on public transit are forced to spend a larger share of their income on transportation than middle- and higher-income families.[21] Yet poor public transit offerings make it more difficult for low-income and minority households to access affordable housing, jobs, and services. Thus, to achieve an equitable transportation system, public transit must increase in routes and frequency while lowering costs.

C. Decades of Racist and Classist Planning Decisions, Which Continue Today, Are Responsible for These Harms.

The manifest disparities in today's transportation system are rooted in decades of planning decisions that have favored high-income and white communities over low-income and minority communities.[22] For example, when constructing the country's interstate highway system, agencies frequently sited projects in low-income communities as part of so-called "slum clearance" and "urban renewal."[23] These highways "displaced or physically divided entire communities."[24] DICs have been permanently harmed by the resulting segregation and by the loss of homes, churches, and schools that were razed to make way for traffic.[25] Ultimately, our transportation system has "contributed to

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[19] Thomas W. Sanchez, Rich Stolz, & Jacinta S. Ma, *Moving to Equity: Addressing Inequitable Effects of Transportation Policies on Minorities*, The Civ. Rts. Project Harvard Univ. VII (2003) [hereinafter "*Moving to Equity*"], https://civilrightsproject.ucla.edu/research/metro-and-regional-inequalities/transportation/moving-to-equity-addressing-inequitable-effects-of-transportation-policies-on-minorities/sanchez-moving-to-equity-transportation-policies.pdf.

[20] Shelly Tan et al., *Amid the pandemic, public transit is highlighting inequalities in cities*, Wash. Post (May 15, 2020), https://www.washingtonpost.com/nation/2020/05/15/amid-pandemic-public-transit-is-highlighting-inequalities-cities/.

[21] In 2014, lower-income households spent 16 percent of their income on transportation, whereas high-income households spent only 8 percent of their income. *Household Expenditures and Income*, The Pew Charitable Tr. (Mar. 30, 2016), https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2016/03/household-expenditures-and-income.

[22] *See, e.g.*, *Moving to Equity*, *supra* note 19, at 3 ("Post-World War II surface transportation policies were not favorable to minority and low-income communities.").

[23] *Id*. at 3; *see also* Noel King, *A Brief History Of How Racism Shaped Interstate Highways*, NPR (Apr. 7, 2021), https://www.npr.org/2021/04/07/984784455/a-brief-history-of-how-racism-shaped-interstate-highways.

[24] *Moving to Equity*, *supra* note 19, at 3.

[25] Noel King, *supra* note 23.

today's intense racial segregation and concentrated racialized poverty, and created physical, psychological, and economic trauma that persist to this day."[26]

We can see these impacts right here in Colorado. Denver's I-70 "ravaged the largely Latinx neighborhoods in its path" when it was first completed in 1964.[27] Homes were destroyed by the elevated viaduct, and "[t]hose who stayed saw their neighbors replaced by dangerous exhaust fumes and roaring traffic."[28]

Today, transportation planning continues to disproportionately harm low-income and minority communities. For instance, Denver's light rail serves low-ridership and whiter suburban routes, while high-ridership transit routes that serve more minorities are stuck with buses in slow-moving mixed traffic.[29] In another glaring example, the state is intensifying I-70's harmful impacts, having begun construction in 2019 on the Central 70 project in the face of immense community opposition. The project expands the I-70 highway in the Elyria-Swansea and Globeville neighborhoods in north Denver.[30] Instead of selecting a tree-lined boulevard that would cater to local traffic and public transit options, as well as create a green community space, CDOT chose to further degrade the air quality for the residents of these neighborhoods by rebuilding and expanding the highway.[31] The project displaced five percent of people in the neighborhood, demolished a local elementary school playground, and increased the number of residents living within unhealthy proximity to the highway.[32] Worse yet, and as

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[26] Deborah N. Archer, *Transportation Policy and the Underdevelopment of Black Communities*, 106 Iowa L. Rev. 2125, 2136 (2021).

[27] *Building Roads to a Just & Equitable Future: Highway Advocacy Toolkit*, Center on Race, Inequality, & the Law, NYU School of Law 17 (2020) [hereinafter "*Building Roads*"], https://www.law.nyu.edu/sites/default/files/Highway%20Advocacy%20Toolkit%20v2_508_0.pdf; *see also* Andrew R. Goetz & E. Eric Boschmann, *Metropolitan Denver: Growth and Change in the Mile High City* 138 (2018).

[28] *Building Roads*, *supra* note 27, at 17.

[29] Christof Spieler, *Racism has shaped public transit, and it's riddled with inequities*, Rice Univ. Kinder Inst. for Urb. Rsch. (Aug. 24, 2020), https://kinder.rice.edu/urbanedge/2020/08/24/transportation-racism-has-shaped-public-transit-america-inequalities.

[30] *Central 70 Project*, Colo. Dep't of Transp., https://www.codot.gov/projects/i70east (last visited Oct. 10, 2021).

[31] Ben Crowther, *Ditch the ditch: Citizens respond to I-70 expansion*, Cong. for the New Urbanism (Apr. 8, 2019), https://www.cnu.org/publicsquare/2019/04/08/ditch-ditch-citizens-respond-i-70-expansion.

[32] *Freeways Without Futures 2019*, Cong. for the New Urbanism 22–23 (2019), https://www.cnu.org/sites/default/files/FreewaysWithoutFutures_2019.pdf.

discussed below, the state has doubled down with a proposed expansion to I-270 that would harm these same communities.[33]

Disparities in infrastructure placement lead to disparities in health. Neighborhoods within 1,500 feet of a highway suffer the greatest impacts for air pollution—and marginalized communities are more likely to live within 500 feet of a major road.[34] These impacts hit home in Elyria-Swansea, which is bordered by I-70 and I-270 and is the most polluted neighborhood in the country.[35] Children who live near I-70 are hospitalized for asthma almost 40% more frequently than the rest of Denver.[36] Heart disease is more prevalent in the area, as well.[37] For these communities, I-70 is "not just destructive—it [is] deadly."[38]

II. This Rulemaking Must Improve Equity and Expand Transportation Options

Given the high burdens of the transportation system, particularly on Disproportionately Impacted Communities, this rulemaking presents an opportunity to rethink Colorado's approach to transportation planning. Rather than building a system for cars, we can—and must—build a system for *people*. Such a system would increase mobility options, particularly within DICs, thereby reducing Vehicle Miles Traveled (VMT) and GHG emissions, air pollution, and noise, all while increasing safety and resident access to housing, jobs, and services.

A. Expanded Transportation Options Would Benefit Communities by Reducing Vehicle Miles Traveled and Emissions While Improving Safety and Access

[33] *See* below, at 22.

[34] Courtnee Melton, *How Transportation Impacts Public Health*, The Sycamore Inst. 2 (Feb. 21, 2017), https://www.sycamoreinstitutetn.org/wp-content/uploads/2017/02/How-Transportation-Impacts-Public-Health.pdf.

[35] Julie Turkewitz, *Colorado Aims to Expand a Main Artery, but Beleaguered Neighbors Balk*, New York Times (Feb. 19, 2017), https://www.nytimes.com/2017/02/19/us/denver-interstate-70-expansion.html.

[36] *Health Impact Assessment*, *supra* note 13, at 16.

[37] *Id.* at 16, Figure 6.

[38] *Building Roads*, *supra* note 27, at 17.

Adopting a GHG reduction rule with an emphasis on VMT reduction will improve public health and alleviate inequities. To reduce VMT, planning agencies must increase travel options for residents, such as by increasing public transit and by improving walkability and bikeability—through both targeted land use reform and improved infrastructure. These increased options materially benefit residents in numerous ways, and those benefits are further multiplied when improvements are concentrated in DICs. By increasing travel choices, community members will have increased access to housing, jobs, and services. Communities will also benefit greatly from the reduced air pollution and noise. Further health benefits will be realized from residents being able to safely walk or bike in their neighborhood. In this rulemaking, we can remake our transportation systems to foster both a cleaner environment and healthy, sustainable lifestyles for all residents.

Expanding public transit options—both by increasing routes and frequency, and by lowering costs to riders—has the dual benefit of improving equity and reducing emissions. Because low-income residents are more reliant on public transit and spend a great proportion of their income on transportation, reducing or eliminating fares and increasing service would create a more equitable and just transportation system.[39] Those measures would also result in increased ridership and decreased VMT—lowering emissions of GHGs and other air pollutants like PM and ozone precursors. Critically, increased transportation options would also improve residents' access to jobs, housing, and services. In just one example, increasing RTD service by forty percent would allow Westwood residents in Denver to access four times—that's 400 percent—as many jobs within a 30-minute transit commute.[40]

Indeed, other jurisdictions have recognized the benefits of increased travel choices. For example, Minnesota has proposed an ambitious reduction target of

[39] *See* above, at 9–10.

[40] *See Colorado Greenhouse Gas Pollution Standard Rulemaking: An opportunity to reduce transportation pollution and increase mobility options for all Coloradans*, Southwest Energy Efficiency Project Transit Center, Slide 20 (2021) (citing Transit Center 2021) [hereinafter "*SWEEP Presentation*"], https://docs.google.com/presentation/d/1oKt11Qw-Ccl4rvFqghznTh1zQxxVMTvbhiGuawTcms8/edit#slide=id.ge49193fea1_3_0.

VMT per capita: 20% by 2050.[41] In doing so, Minnesota acknowledged that cutting VMT "will have immediate, lasting benefits for those who have historically been marginalized," who "breathe worse air and are at higher risk of traffic crashes."[42] For its part, Albuquerque will eliminate bus fares in 2022, recognizing that access to free transit "will open a lot of doors for low-income" residents while improving climate justice.[43] In stark contrast, Denver's bus and train fares "are the most expensive in the nation."[44] Colorado must do better. This rulemaking must encourage similarly bold solutions to improve travel options and reduce VMT.

Another critical approach to reducing VMT and protecting communities is to target commercial and travel-through users. Neighborhoods like north Denver, with large highways cutting through them as well as numerous industrial sources, may have high volumes of VMT as a result of through traffic, rather than trips originating or ending in the community. Those trips may be heavily composed of truck traffic, contributing even more to harmful air pollution.[45] Origin-destination studies are necessary to better understand these traffic patterns and determine the best ways to reduce VMT.[46]

Reducing vehicle emissions by investing in infrastructure that supports active mobility such as biking, walking, and public transit (public transit use increases walking) also leads to significant health benefits from increased physical activity

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[41] *MnDOT Response: 2020 Sustainable Transportation Advisory Council Recommendations*, Minnesota Dep't of Transp. 31–33 (revised Apr. 28, 2021), http://www.dot.state.mn.us/sustainability/docs/advisory%20council/stac-recommendations-response-2020.pdf.

[42] *Id.* at 32.

[43] *See, e.g.*, *Albuquerque will eliminate bus fares for riders in 2022*, KOB4 (updated Sept. 21, 2021), https://www.kob.com/albuquerque-news/albuquerque-will-eliminate-bus-fares-for-riders-in-2022/6244103/#:~:text=ALBUQUERQUE%2C%20N.M.,on%20the%20ABQ%20RIDE%20system.

[44] Andy Bosselman, *Denver's New Bus and Train Fares Are the Most Expensive in the Nation*, StreetsBlog Denver (Jan. 2, 2019), https://denver.streetsblog.org/2019/01/02/denvers-bus-and-train-fares-now-the-most-expensive-of-major-cities/.

[45] *See* Ean Thomas Tafoya, Presentation to the Colorado Transp. Legislation Rev. Comm. at 4:32:56 (Oct. 13, 2021) (noting high volumes of trucks in north Denver and concerns about increases in air toxics), https://sg001-harmony.sliq.net/00327/Harmony/en/PowerBrowser/PowerBrowserV2/20211013/20/12400#info_.

[46] *See What is an O/D (Origin-Destination) Study?*, Quality Counts, https://www.qualitycounts.net/Newsfeed/38 (last visited Oct. 15, 2021) ("Origin-destination studies serve as a foundation for transportation planning and are essential to understanding traffic patterns.").

such as lower incidents of cardiovascular disease and diabetes.[47] In fact, heart disease is one of the leading causes of death in Denver.[48] Investing in cycling infrastructure like bike lanes, separated bike lanes, shared-used paths, and bike boulevards will incentivize citizens to shift their travel method to cycling and increase the number of personal miles cycled—and the same is true of walking. The more sidewalk infrastructure available, the more citizens will be able to walk when they wish to, leading to a cycle of further emissions reductions from decreased VMT.[49]

Importantly, transportation systems that reduce VMT also have mortality-related benefits from avoiding fatal traffic accidents and increasing physical activity. One study on the mortality implications of increased infrastructure that supports active mobility under the Transportation and Climate Initiative (TCI) estimates hundreds of lives saved as a result of heightened physical activity. [50] This translates into dramatic monetized benefits—billions of dollars saved from deaths avoided.[51] Investing in transportation infrastructure that increases choice will also leads to windfalls for thousands of Coloradans who reduce their spending on transportation and escape costly health care bills.

Although the proposed rule will bring roughly $40 billion in net benefits to Coloradans by 2050, those benefits could be much greater.[52] Critically, the Cost-

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[47] Guijing Wang et al., *Physical activity, cardiovascular disease, and medical expenditures in U.S. adults*, 28 Ann. Behav. Med. 88 (2004), https://doi.org/10.1207/s15324796abm2802_3 (cardiovascular disease); Susan P. Helmrich et al, Physical Activity and Reduced Occurrence of Non-Insulin-Dependent Diabetes Mellitus, 325 New Engl. J. Med. 147 (1991), https://doi.org/10.1056/NEJM199107183250302 (diabetes).

[48] *Health Impact Assessment*, *supra* note 13, at 16.

[49] L.D. Gunn et al., *The cost-effectiveness of installing sidewalks to increase levels of transport-walking and health*, 67 Preventative Med. 322 (2014), https://www.sciencedirect.com/science/article/pii/S0091743514002904?via%3Dihub; Jing Gu et al., *The cost-effectiveness of bike lanes in New York City*, 23 Injury Prevention 239 (2017), https://doi.org/10.1136/injuryprev-2016-042057.

[50] Matthew Raifman et al., *Mortality Implications of Increased Active Mobility for a Proposed Regional Transportation Emission Cap-and-Invest Program*, 98 J. Urban Health 315 (2021), https://link.springer.com/article/10.1007%2Fs11524-020-00510-1; *see also* Maggie L. Grabow et al., *Air Quality and Exercise-Related Health Benefits from Reduced Car Travel in the Midwestern United States*, 120 Env't Health Perspectives 68 (2012), https://doi.org/10.1289/ehp.1103440.

[51] Matthew Raifman et al., *supra* note 50, at 315.

[52] *See Cost-Benefit Analysis For Rules Governing Statewide Transportation Planning*, Colo. Dep't of Transp. 4–5 Table 2 (2021) [hereinafter "CBA"]. Note that Table 2's description erroneously references "millions" of dollars; the narrative makes clear that the unit is, in fact, billions. *Id.* at 4–5. The CBA offers a "very

Benefit Analysis (CBA) suggests a proportional relationship between spending and benefits. In other words, more aggressive action to reduce GHGs from transportation would result in correspondingly greater benefits.[53] Our transportation system has the potential to work for people, beyond just on-road emissions reduction and decreased air pollution. Investments dedicated to public transit, biking, and pedestrian infrastructure have myriad benefits: enhanced equity, reduced tailpipe emissions, and improved health as a result of improved air quality and safety as well as increased physical activity. The Commission must use this rulemaking as an opportunity to capitalize on these benefits for the good of all Coloradans.

B. Zero-Emission Vehicles Are Only One Part of the Solution.

Vehicle electrification has garnered much attention in Colorado as the primary solution for reduction the transportation sector's GHG emissions. Vehicle electrification is undoubtedly an important component of Colorado's clean transportation future. But reducing VMT will also play a critical role in both reducing the transportation sector's GHG emissions and ensuring that Colorado's future transportation system is equitable. The Commission should thus not focus solely on the electrification of vehicles to meet GHG reduction targets, as doing so would miss the opportunity to take advantage of the myriad co-benefits that accompany reduced VMT.[54]

As Colorado works to reduce the transportation sector's GHG emissions, it cannot rely exclusively on transportation electrification to meet our GHG targets. Even with policymaking that accelerates the statewide transition to zero-emission vehicles (ZEVs), the transition will take nearly three decades to complete—incurring substantial GHG emissions in the interim from the gas-powered vehicles still on the road.[55] During this transition, electricity is still being produced with fossil fuels, meaning that electrification impacts frontline

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conservative" estimate because it does not account for the value of the lives saved as a result of increased physical activity. *Id.* at 5 n.2.

[53] *See id.* at 11 Table 5 (estimating lower net benefits if fewer measures are implemented).

[54] *See generally* Steven Higashide et al., *A Green New Deal For City And Suburban Transportation*, TransitCenter (Mar. 2020) [hereinafter "*A Green New Deal*"], https://t4america.org/wp-content/uploads/2020/03/20.03_GND-Transit_use_v4.pdf.

[55] *Roadmap*, *supra* note 9, at 114–15.

communities, where power plants are often located. Even the most optimistic estimates of electric vehicle (EV) adoption would result in 4.8 million gas cars on Colorado roads in 2030, compared to only 1 million EVs.[56] But to avoid the worst impacts of climate change, we need to drastically reduce GHG emissions *now*. Reducing VMT provides an immediate opportunity to reduce these GHG emissions as well as non-tailpipe PM emissions from vehicles.[57]

Critically, VMT reductions will also help address many of the structural inequities in our current transportation system, while merely replacing gas-powered vehicles with EVs will not. Only VMT reductions come with the myriad co-benefits to communities described above. "Simply swapping gas guzzlers for EVs will not improve safety . . ., will leave our communities overwhelmed by congestion and non-tailpipe emissions, and will not make jobs and services available to people" who rely on public transit.[58] Accordingly, Colorado must reduce VMT to alleviate the transportation harms experienced by DICs. This rulemaking is an opportunity to tackle the deep inequities caused currently embedded in our transportation system by requiring VMT reductions.

C. Applicable Law Requires the Commission to Center Equity and Address Vehicle Miles Traveled.

Equitable access to transportation services is critical for communities across the state to thrive. The legislature has recognized the need to improve equity across all sectors, declaring that the state "has a responsibility to achieve environmental justice, health equity, and climate justice for all communities by ***avoiding and mitigating harm***."[59]

The legislature has also recognized the importance of equity within the transportation sector. For example, the legislature has defined a sustainable

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[56] *See SWEEP Presentation*, *supra* note 40, at Slide 5.

[57] While zero-emission vehicles eradicate tailpipe-generated pollution, they still produce non-exhaust pollutants such as particular matter (PM) during normal brake and tire wear. *HEI Literature Review*, *supra* note 2, at 3.

[58] *A Green New Deal*, *supra* note 54, at 7; *see also* Ean Thomas Tafoya, *supra* note 45, at 4:23:54 ("This idea that electric vehicles are going to save us in the short term isn't necessarily reality for the people who live in this [north Denver] community.").

[59] 2021 Colo. Legis. Serv. Ch. 411 (H.B. 21-1266) (1)(c)(I)–(III) (emphasis added).

transportation system as one that "[a]ddresses inequities in transportation access and the increased exposure to transportation-related air pollution for communities," including DICs, communities near highways, and Black and LatinX communities.[60] This rulemaking in particular must "fully evaluate" potential environmental and health impacts to DICs.[61] Accordingly, the Commission must prioritize equity concerns in this rulemaking by ensuring that, first, the rule inflicts no additional harm on DICs, and second, that the rule's benefits address the disproportionate harms endured by DICs.

In addition to its directive to improve equity, the Commission has a mandate to reduce VMT in this rulemaking. First, as discussed, equity and increased travel options—which result in decreased VMT—go hand in hand.[62] To improve equity, the Commission must also address VMT.

In addition, the state's 2020 Greenhouse Gas Pollution Reduction Roadmap calls for "[m]ak[ing] changes to transportation planning and investment and land use planning to encourage alternatives to driving."[63] The Roadmap goes on to explain the need for at least a ten percent reduction in VMT by 2030.[64] This rulemaking must ensure those goals are met. The state of Colorado, including the Commission, is also required to "use all available practical methods which are technologically feasible and economically reasonable so as to reduce, prevent, and control air pollution throughout the state of Colorado."[65] The Commission must abide by that requirement and enforce the use of VMT reduction policies in this rulemaking in order to achieve the transportation sector's GHG reduction targets.

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[60] 2021 Colo. Legis. Serv. Ch. 250 (SB 21-260) (1)(b)(IV) ("A sustainable transportation system . . . Addresses inequities in transportation access and the increased exposure to transportation-related air pollution for communities, including disproportionately impacted communities, communities near major roadways, and, as documented in multiple peer-reviewed scientific studies, communities where many of the residents are Black or Hispanic.").

[61] Colo. Rev. Stat. § 43-1-128(3).

[62] *See* above, at 12–16.

[63] *GHG Pollution Reduction Roadmap*, Colo. Energy Office, https://energyoffice.colorado.gov/climate-energy/ghg-pollution-reduction-roadmap (last visited Oct. 10, 2021).

[64] *Roadmap*, *supra* note 9, at 63.

[65] Colo. Rev. Stat. § 25-7-102(1).

Further, when the Denver/North Front Range Ozone Nonattainment Area is downgraded to Severe, Transportation Demand Management (TDM) requirements will likely be required.[66] Some TDM strategies encourage non-single occupancy vehicle travel, such as public transit and carpooling.[67] The Commission can help tackle Colorado's ozone problem by adopting a strong rule that increases travel options and decreases VMT.

At bottom, this rulemaking is an opportunity for the Commission to fulfill a "key recommendation" from the Roadmap by taking the lead in building a sustainable transportation system that reduces VMT. [68] CDOT has asserted that other rulemakings will better address the user side of transportation infrastructure, such as the Employer-based Trip Reduction Program (ETRP).[69] But the Colorado Department of Public Health and Environment (CDPHE) has since abandoned the ETRP rule.[70] With CDPHE abdicating their statutory authority to address individual behavior in the transportation sector, Coloradans need the Transportation Commission to step up and take the necessary steps to reduce VMT in order to achieve the state's GHG emissions reduction targets.

The Commission has an unprecedented opportunity to address the deep inequities in our transportation system. We urge the Commission to adopt an ambitious rule, as described below, that protects all Coloradans and charts a path to equitable, cleaner future.

PROPOSAL

CDOT's proposed rule would set GHG reduction targets for each Metropolitan Planning Organization (MPO) and for CDOT. These planning organizations would each be required to model GHG emissions resulting from packages of

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[66] *Roadmap*, *supra* note 9, at 64.

[67] *Id.*

[68] *Transportation GHG Roadmap Briefing Update*, Colo. Dep't of Transp. Multimodal Planning Branch 2 (July 13, 2021), https://codot.gov/programs/environmental/greenhouse-gas/ghg-briefing-memo-july-2021.pdf.

[69] *Id*. at 16.

[70] Chase Woodruff, *Colorado backs off plan to require large employers to encourage reduced car travel*, Colo. Newsline (July 20, 2021), https://coloradonewsline.com/2021/07/20/colorado-backs-off-plan-to-require-large-employers-to-encourage-reduced-car-travel/.

planned transportation projects. The modeling must demonstrate the applicable GHG reductions, and if it does not, the planning organization must implement GHG-reducing projects selected from an approved list of mitigation measures. If a planning organization is not in compliance, funds will be restricted to the use of GHG-reducing projects.

The Community Groups' attached redline proposes improvements to the rule. First and foremost, the rule should not allow any additional funding for highway expansions. These projects devastate communities and result in increased GHG emissions, and should not be allowed to continue.

In addition to prohibiting highway expansions, the Commission should also strengthen the proposed rule in numerous ways. The Community Groups' amendments would (a) further equity, (b) ensure that the rule achieves ambitious VMT reductions, (c) eliminate loopholes that undermine the rule's effectiveness, and (d) improve transparency and accuracy.

III. The Commission Should Prohibit All Future and Planned Highway Capacity Expansions

This rulemaking should ensure that our transportation system advances equity, benefits communities, and minimizes GHG emissions. The most straightforward path to achieving these goals is to ***stop expanding our highways***.

Highway expansions are usually justified as a way to reduce congestion and improve travel times. But time and again, experience has shown that highway expansions ultimately result in more traffic, longer travel times, and more emissions. When highways are expanded, more drivers are drawn to that road, adding new trips that were previously avoided. Studies have shown that VMT increases in lockstep with the addition of new highway lane miles at a 1:1 ratio.[71] This phenomenon, known as induced demand, is well-documented and leads to

[71] Kent Hymel, *If you build it, they will drive: Measuring induced demand for vehicle travel in urban areas*, 76 Transp. Pol'y 57 (2019), https://doi.org/10.1016/j.tranpol.2018.12.006.

any short-term congestion reductions evaporating within five to ten years—leaving communities worse off than before the construction projects.[72]

Nationwide, an increase in freeway lane-miles of 42% over two and a half decades has nevertheless resulted in a 144% increase in delay—despite population growth of only 32%.[73] Denver has seen even worse results. Over the same time period, population grew by 66%; freeway lane-miles grew by 51%; and delay grew up a whopping 310%.[74] Boulder and Colorado Springs have suffered similar trends.[75] The lesson is clear: Colorado cannot pave its way out of congestion. The state must fundamentally shift its focus to allow for more accessible and interconnected travel choices. This shift begins with banning all highway expansions.[76]

As discussed above, these projects result in serious harm to communities both in the short and long term.[77] In the short-term, construction contributes to localized air pollution, noise, and disruption to the community. Construction demands from highway projects can also supercharge polluting industries like asphalt and cement plants, which in turn exacerbates air quality problems in far-flung communities. And in the long-term, because of the impacts of induced demand, impacted communities are left worse off than before the expansion.

These lessons are readily apparent here in Colorado. The state widened I-25 in 2006 through Denver to the tune of $1.67 billion dollars.[78] Yet, within a mere five years, congestion was as bad as it was before the project.[79] In contrast, spending those funds on expanded public transit would have produced lasting benefits for communities. But Colorado has still not learned from its mistakes. The state is

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[72] *Id.*
[73] Rayla Bellis et al., *The Congestion Con: How more lanes and more money equals more traffic*, Transp. for Am. 9 (Mar. 2020), https://t4america.org/wp-content/uploads/2020/03/Congestion-Report-2020-FINAL.pdf.
[74] *Id.* at 12 Table 1.
[75] *Id.*
[76] *See* http://www.dot.state.mn.us/sustainability/docs/advisory%20council/stac-recommendations-response-2020.pdf at 35; *see also* https://coloradosun.com/2021/02/18/covid-relief-funds-opinion/.
[77] *See* above, at 10–12.
[78] Evan Derby, *Colorado leaders must kick their road-widening addiction to enable a livable future*, Colo. Newsline (Apr. 27, 2021), https://coloradonewsline.com/2021/04/27/colorado-leaders-must-kick-their-road-widening-addiction-to-enable-a-livable-future/.
[79] *Id.*

currently constructing a controversial expansion to I-70 and is plowing ahead with an expansion to I-270, with both projects imposing additional harms on north Denver communities that already overburdened by air pollution.[80]

Unfortunately, Colorado has yet to fully reckon with the far-reaching negative impacts of highway expansions. For example, the Cost-Benefit Analysis for this rulemaking does acknowledge that adding highway capacity results in induced demand.[81] Yet the recently released Environmental Assessment for the proposed I-70 Floyd Hill Expansion estimates that adding capacity to the highway will *decrease* VMT.[82] This assertion flies in the face of accepted transportation planning science. In fact, a team of researchers estimate that Colorado's currently planned highway expansions will, together, increase VMT by at least a billion miles by 2030—a 2% increase.[83] These planned projects will take Colorado in precisely the wrong direction, and, once again, the impacts will be felt most by vulnerable communities. The Commission should therefore prohibit all Regionally Significant Projects that would add more than one mile of lane capacity. This provision would allow for passing lanes but restrict the construction of new and expanded highways.[84]

The Commission must acknowledge the documented negative impacts of highway expansions and prohibit funding for new and planned expansions, including the planned I-270 expansion. Each additional highway expansion propels Colorado in the wrong direction for its climate goals by increasing VMT and, accordingly, GHGs.[85] This single step would ensure that Colorado abides by

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[80] *See* above, at 10–12; *see also* Allen Cowgill, *Commentary: I-270 Expansion Will Harm Latino Communities, Increase Air Pollution, and Accelerate Climate Change*, StreetsBlog Denver (Feb. 23, 2021), https://denver.streetsblog.org/2021/02/23/commentary-i-270-expansion-will-harm-latino-communities-increase-air-pollution-and-accelerate-climate-change/.

[81] CBA, *supra* note 52, at 22.

[82] *Environmental Assessment: I-70 Floyd Hill to Veterans Memorial Tunnels*, U.S. Dep't of Transp. & Colo. Dep't of Transp. 46 (July 2021), https://www.codot.gov/projects/i70floydhill/assets/ea/floydhill-environmental-assessment.pdf.

[83] Nathaniel Minor, *Colorado Is Sure It Can Expand Highways While Also Meeting Climate Goals. History Suggests That'll Be A Tough Climb.*, Colo. Pub. Radio (May 19, 2021), https://www.cpr.org/2021/05/19/colorado-is-sure-it-can-expand-highways-while-also-meeting-climate-goals-history-suggests-thatll-be-a-tough-climb/.

[84] Community Groups' Proposed Alternate Rule, Ex. 1, § 8.02.2.3.

[85] *See id*.

the principle of first doing no harm and could work in conjunction with CDOT's proposed rule.

IV. The Commission Should Further Strengthen CDOT's Proposed Rule.

A. The Commission Should Strengthen Provisions to Protect Disproportionately Impacted Communities Throughout the Rule

The Commission can and must strengthen the proposed rule's environmental justice provisions. The final rule should provide protections for all communities that are disproportionately impacted. In doing so, the rule should lessen the disparities felt by Disproportionately Impacted Communities by protecting DICs from harmful projects and by directing benefits to DICs. The rule should also require the creation of a Transportation Equity Framework to help guide future equitable decision-making. Finally, the rule should provide for robust public participation, ensuring that members of DICs have meaningful opportunities to influence future transportation planning decisions.

1. The Commission Should Widen the Scope of Protections

The proposed rule includes only a narrow definition of Disproportionately Impacted Communities, which unduly risks excluding communities that face disproportionate environmental harms.

The definition of Disproportionately Impacted Community for the Transportation Commission is set by statute.[86] This definition includes quantitative factors for identifying DICs.[87] However, this definition is more narrow than the definition used by the Air Quality Control Commission (AQCC).[88] That definition includes the same quantitative factors, but also allows for the Commission to identify additional communities based on qualitative

[86] Colo. Rev. Stat. § 24-38.5-302(3).
[87] Under the definition, a census block qualifies as a DIC if any more than 40% of households are low income, identify as minorities, or are housing cost-burdened. *Id.*
[88] *Id.* § 24-4-109(2)(b)(II).

factors such as a history of environmental racism.[89] To identify those communities, CDPHE is currently developing a screening tool, expected to be completed in 2022.[90]

These inconsistencies create serious difficulties for DICs. A strong rule, as proposed by the Community Groups and explained below, would offer specific protections and benefits for DICs—for example, by prohibiting projects that would harm frontline communities. If this rule were to utilize only the underinclusive definition of DICs, some communities that have been harmed by systemic racism—such as the practice of redlining—might continue to suffer harmful impacts from the transportation system with no opportunity for recourse.

Further, air pollution impacts from transportation are disproportionately concentrated in areas near major roadways.[91] For the purposes of a transportation rule, these communities also need additional protections. Studies have shown that various harmful pollutants, including PM, are elevated near roadways with a capacity of more than 30,000 vehicles per day.[92] These disproportionate impacts are felt at a range of up to 5,000 feet.[93] Thus, communities living within 5,000 feet of a roadway that carries more than 30,000 vehicles per day should also be prioritized for the benefits stemming from this rule.

We urge the Commission to rectify these deficiencies and ensure that all impacted communities are treated uniformly while complying with the statutory

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[89] Any community can qualify as a DIC under this definition if: "The community has a history of environmental racism perpetuated through redlining, anti-Indigenous, anti-immigrant, anti-Hispanic, or anti-Black laws; or the community is one where multiple factors, including socioeconomic stressors, disproportionate environmental burdens, vulnerability to environmental degradation, and lack of public participation, may act cumulatively to affect health and the environment and contribute to persistent disparities." *Id.*

[90] *Colorado EnviroScreen*, Colo. Dep't of Public Health & Env't, https://cdphe.colorado.gov/enviroscreen (last visited Oct. 10, 2021).

[91] *See* above, at 6, 12.

[92] Doug Brougge et al., *Near-highway pollutants in motor vehicle exhaust: A review of epidemiologic evidence of cardiac and pulmonary health risks*, 6 Env't Health (2007), https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-6-23.

[93] *HEI Literature Review*, *supra* note 2, at 3–4.

definitions. The Commission can accomplish this goal by defining a new term, "Additionally Impacted Communities" (AICs), and extending protections to DICs and AICs alike. AICs would include communities located near major roadways, as well as communities identified by other state agencies such as the AQCC. Thus, if the AQCC uses the Colorado EnviroScreen tool to identify communities with a history of environmental racism, those communities should automatically qualify as AICs for the purposes of the Transportation Commission and should be subject to the same protections and benefits as DICs.[94] This approach would ensure that all impacted communities are protected from transportation system harms.[95]

We urge the Commission to adopt these revisions and thereby extend protections to ***all*** communities in the state that have been historically harmed by environmental racism.

2. The Rule Should Prohibit Projects that Will Contribute to Further Harms in Disproportionately Impacted Communities and Additionally Impacted Communities

As explained above, DICs and AICs already suffer from disproportionately high pollution burdens, in large part due to the transportation system. Going forward, new Regionally Significant Projects must not be built if they will further contribute to harms in these communities. Planning Agencies must be required to apply an equity analysis to Regionally Significant Projects that examines cumulative health impacts to the surrounding communities. If that analysis shows adverse cumulative health impacts to a DIC or an AIC, that project must not be built.[96]

3. Mitigation Measure Funds Should Be Prioritized in Disproportionately Impacted Communities and Additionally Impacted Communities

[94] CDPHE is currently developing the EnviroScreen tool and expects to finalize it in 2022. *See id.*
[95] Community Groups' Proposed Rule, Ex. 1, § 1.03 (definition of AICs); *id.* §§ 1.10, 4.02.1, 4.02.5.1, 4.02.5.2, 4.02.5.4, 4.06.1.9, 8.02.2.3, 8.02.3, 8.02.5.2.3, 8.02.5.3.3, 8.05, 8.05.5 (extending protections and benefits to AICs).
[96] *Id.* § 8.02.2.3.

The final rule must begin to rectify decades of transportation injustice in DICs and AICs. As discussed above, low-income and minority communities have long suffered from destructive infrastructure projects in their communities, while simultaneously having limited access to public transit and other beneficial infrastructure. This rule must address these historic inequities.[97]

At a minimum, the rule should require that at least forty percent of funds expended under a Mitigation Action Plan will benefit DICs and AICs.[98] Mitigation Action Plans will only be implemented when an Applicable Planning Document does not comply with the required GHG reductions. By definition, the Plans will reduce air pollution and will often come with co-benefits such as increased accessibility to housing, jobs, and services for residents. These benefits must be concentrated in communities that currently bear an outsized burden of harms from the transportation system. Of course, the specific types of funded projects are also critical: to improve air quality, mitigation projects in DICs should target air toxics. The Community Groups' proposals below concerning community engagement would work in concert with this provision to ensure that the funds are expended on effective projects.

Forty percent is an appropriate funding target for several reasons. First, under the quantitative definition, roughly forty percent of the state's population lives within a DIC.[99] When qualitative factors are taken into account, that proportion will likely rise. Because these communities bear an outsized burden, any equitable funding equation must, at a bare minimum, direct a proportional amount of funding to DICs and AICs.

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[97] See above, at 8–12.

[98] Community Groups' Proposed Rule, Ex. 1, § 8.02.5.3.3.

[99] Until the EnviroScreen tool is finalized, CDPHE has launched a draft tool to identify DICs in Colorado. The draft tool estimates that 2.398 million Coloradans reside within a DIC as defined by the quantitative factors set forth in HB 21-1266. *Draft Data Viewer for Disproportionately Impacted Communities in Colorado*, Colo. Dep't of Public Health & Env't, https://cohealthviz.dphe.state.co.us/t/EnvironmentalEpidemiologyPublic/views/EJActDICommunities-Public/HB21-1266DICommunities?%3AshowAppBanner=false&%3Adisplay_count=n&%3AshowVizHome=n&%3Aorigin=viz_share_link&%3AisGuestRedirectFromVizportal=y&%3Aembed=y (last visited Oct. 10, 2021). The population of Colorado is roughly 5.8 million. *QuickFacts: Colorado*, U.S. Census Bureau, https://www.census.gov/quickfacts/CO (last visited Oct. 10, 2021).

Second, forty percent is a familiar and achievable target in Colorado. Qualifying utilities are required to direct at least forty percent of their renewable energy investments to DICs and low-income customers.[100] This provision is explicitly intended to "address historical equity issues."[101] The transportation sector similarly suffers from "historical equity issues," and the Commission should accordingly take appropriate steps to address those disparities.

Third, a forty percent commitment would align with President Biden's Justice40 Initiative. Justice40 is a government-wide initiative to ensure that DICS reap at least forty percent of the benefits from federal investments in climate and clean energy.[102] By aligning the final rule with Justice40, the Commission can demonstrate its commitment to environmental justice and take an important step towards rectifying the inequities in our current transportation system.

4. The Commission Should Implement a Transportation Equity Framework

The Commission should utilize this rulemaking to direct the development of an equity framework that is specific to the transportation sector. Currently, the state's Draft Climate Equity Framework offers guidance on community engagement and key questions for gauging the impacts of proposed rules.[103] The proposed Transportation Equity Framework would help to ensure that all future transportation planning decisions and rulemakings are inclusive and equitable. In addition, the Transportation Equity Framework would support the intent of SB 21-260, which requires transportation capacity projects to include measures to increase public participation by members of DICs.[104] The new environmental

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[100] Colo. Rev. Stat. § 40-2-124(1)(g)(I)(D).

[101] *Id.*

[102] Exec. Order No. 14,008, *Tackling the Climate Crisis at Home and Abroad* (Feb. 1, 2021); *see also The Path to Achieving Justice40*, The White House Briefing Room (July 20, 2021), https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/ (last visited Oct. 10, 2021).

[103] *Draft Climate Equity Framework*, Colo. Air Pollution Control Div., https://docs.google.com/document/d/1wY19usrbJd3fXQkeEkX8V4reWE1pr5hzz4h_E0MFD08/edit (last visited Oct. 10, 2021).

[104] Colo. Rev. Stat. § 43-1-128(6).

justice and equity branch created by SB 21-260 would be well-positioned to develop and implement such a framework.[105]

The development of the Transportation Equity Framework must be driven by the communities most impacted by transportation system harms. In developing a Framework, CDOT can benefit from the draft Climate Equity Framework but also learn from its shortcomings. Community and environmental groups have explained how to improve the draft Climate Equity Framework. In particular, a successful framework must "reimagine how decisions are made, and what must be necessary outcomes, by transforming our decision making structures and procedures."[106] The Commission should thus adopt provisions requiring the development and use of a Transportation Equity Framework.[107]

5. The Final Rule Must Ensure a Transparent, Equitable Process for Reducing Harm in Transportation Planning Decisions

The Commission should amend the proposed rule to include additional procedural requirements, which would ensure that DICs and AICs have a meaningful seat at the table for future planning decisions. These amendments would implement statutory requirements for a more inclusive planning process.[108] The Community Group's specific amendments addressing an equitable planning process occur throughout the rule and should be read as a whole.[109]

The Statement of Basis and Purpose must explicitly recognize the importance of including disproportionately impacted perspectives. In addition, the rule must require more than mere listening sessions with community members; it must allow for meaningful input from communities, including full dialogue with regulatory agencies. For example, planning agencies must *respond* to community

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[105] *See id.* § 43-1-116(5).
[106] Adrienne Dorsey et al., Letter to CDPHE re Equity Framework Comments 1 (Mar. 25, 2021), https://www.nrdc.org/sites/default/files/cdphe-equity-framework-joint-comments-20210325.pdf.
[107] Community Groups' Proposed Rule, Ex. 1, § 1.10 (definition of Transportation Equity Framework); *id.* §§ 4.02.1, 4.02.5.4, 4.03.7, 4.04.1.6 (requiring development and use of Framework).
[108] *See* Colo. Rev. Stat. § 43-1-116(5); 2021 Colo. Legis. Serv. Ch. 411 (H.B. 21-1266) (1)(c)(I)–(III).
[109] Community Groups' Proposed Rule, Ex. 1, §§ 4.02.1, 4.02.2, 4.02.3, 4.02.4, 4.02.5.2, 4.02.5.4, 4.03.7, 4.04.1.6, 4.06.1.9, 8.02.4, 8.02.5.2.3, 8.02.5.3.4, 8.01.2.2, 8.05, 8.06, 8.06.2.

concerns, either by remedying the concerns in their final decisions or by explaining, in writing, why those concerns were not addressed.

Meaningful public participation is necessary at several stages in the planning process. First, public participation is absolutely critical in developing the policy for scoring mitigation measures. Not all mitigation measures will be equal. Some measures will come with greater air pollution reductions; some will come with greater co-benefits for impacted communities. The scoring process must address both of these considerations, and address how to balance those considerations if they are in tension. Other issues concerning the specifics of each mitigation measure will also need to be addressed during the policy process.[110] Public participation, especially from members of DICs, will thus be crucial to shaping the scoring policy. Further, the directory of mitigation measures will be a living list, subject to additions and deletions. Those supplementary decisions must not be made without robust public participation.

Second, if an Applicable Planning Document is not in compliance and a planning agency must turn to the mitigation list to develop a Mitigation Action Plan, affected communities must be included in the process of selecting mitigation measures that will reduce harm. DICs and AICs will likely wish to see mitigation measures implemented that reduce air toxics, and they must have a meaningful voice in the Plan development to ensure their concerns are addressed. In addition, even the strongest scoring system may not be able to account for local conditions. For example, a bicycle path may work well in one locale, but it may not be safe to use in another community suffering from poor air quality. Instead, the community might prefer another option, such as a measure that improves access to public transit. Further, communities may have differing levels of through-traffic, as demonstrated by origin-destination studies. A community with high levels of through-traffic may wish to employ a different suite of mitigation measures than communities with mostly local traffic.[111] Thus, to ensure well-tailored and effective mitigation measures, communities must have meaningful input in the development of each mitigation plan.

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[110] For example, if tree coverage is proposed as a possible mitigation, steps must be taken to ensure continuity of care—without continued maintenance, tree coverage as a mitigation will not be long-lasting. Community members must be consulted in order to identify and resolve these types of issues with mitigation measures.

[111] *See* above, at 14.

B. The Rule Should Specifically Target Vehicle Miles Traveled and Ensure that Colorado Reaches Its Greenhouse Gas Reduction Targets for the Transportation Sector

We urge the Commission to both (1) strengthen the targets listed in the rule and (2) to include corresponding VMT reduction targets.[112]

First, the GHG reduction targets listed in the proposed rule's Table 1 are insufficient and must be strengthened. The Roadmap has listed a number of approaches for the state to reduce GHGs from the transportation sector, and estimated the impacts of each. Even with strong proposals to speed electrification, a large gap remains for the transportation sector to hit the 2030 goal.[113] This rule, as the only proposed rule to achieve VMT reductions, must close that gap. We therefore urge the Commission to adopt a target of 3.7 MMT for 2030, and corresponding targets for each planning agency and other target years, in order to ensure that Colorado meets its statutory targets.

Second, the final rule must explicitly target GHG reductions via VMT reductions. As discussed above, electrification—while critically important—is insufficient to meet Colorado's 2030 GHG targets.[114] Further, increasing transportation choice (and thereby reducing VMT) comes with extensive co-benefits that are particularly valuable to DICs and AICs. The Commission should recognize these considerations and explicitly target this rulemaking at the VMT problem, in line with the Roadmap, SB 260, and Colorado's environmental justice goals.[115] Accordingly, the Commission should require Applicable Planning Documents to

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[112] Community Groups' Proposed Rule, Ex. 1, §§ 8.01.1, 8.01.2, Tables 1 & 2.

[113] *See Greenhouse Gas Pollution Reduction Standard for Transportation Planning: Frequently Asked Questions*, Colo. Dep't of Transp. 3 (Aug. 30, 2021) (explaining that the transportation sector has a reduction target of 12.7 MMT of CO2e by 2030, and that 8 MMT is achievable through electrification and improvements in fuel efficiency, leaving 4.7 MMT of reductions to achieve by 2030. The proposed Advanced Clean Truck Rule would increase the share of emission truck sales to 40% by 2030. *See* Roadmap, *supra* note 9, at 112. The Community Groups estimate that Colorado cannot count on more than 1.0 MMT in reductions from truck electrification by 2030. The remaining gap to be addressed by VMT reductions is thus 3.7 MMT by 2030.

[114] *See* above, at 16–17.

[115] *See* above, at 12–16.

comply both with the GHG reduction targets and with the VMT reduction targets shown below.

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	2050 Reduction Level (MMT)
DRCOG	14.90	0.67	11.80	2.02	10.90	1.55	12.80	0.91
NFRMPO	2.30	0.10	1.80	0.30	1.90	0.27	2.20	0.17
PPACG	2.70	0.12	2.20	0.37	2.00	0.30	2.30	0.17
GVMPO	0.38	0.02	0.30	0.05	0.30	0.05	0.36	0.02
PACOG	0.50	0.02	0.40	0.07	0.30	0.05	0.40	0.02
CDOT/Non-MPO	6.70	0.30	5.30	0.91	5.20	0.74	6.10	0.44
TOTAL	27.40	1.23	21.80	3.70	20.60	2.96	24.20	1.73

Table 2: VMT Transportation Planning Reduction Levels (in millions)

Regional Areas	2025 Baseline Projections	2025 Reduction Level	2030 Baseline Projections	2030 Reduction Level	2040 Baseline Projections	2040 Reduction Level	2050 Baseline Projections	2050 Reduction Level
DRCOG	30,855	4,495	33,364	8,991	37,311	10,776	41,258	12,593
NFRMPO	5,387	784	5,826	1,569	6,515	1,736	7,204	2,450
PPACG	5,877	856	6,355	1,712	7,107	2,066	7,859	2,420
GVMPO	980	142	1,059	285	1,184	401	1,310	390
PACOG	980	142	1,059	285	1,184	401	1,310	339
CDOT/Non-MPO	14,693	2,140	15,888	4,281	17,767	5,022	19,647	6,193
Total VMT	58,771	8,563	63,551	17,126	71,069	20,405	78,587	24,388

C. The Commission Should Eliminate Loopholes from the Rule

Various exemptions included in the proposed rule would constrain the rule's impact. The Community Groups recommend several revisions to eliminate loopholes and ensure that the final rule is effective. First, all Transportation Improvement Programs (TIPs) should be subject to the rule. Second, all Metropolitan Planning Organizations should be subject the rule beginning in 2025. Third, the Commission should eliminate the waiver provision. Fourth, the rule should apply to TIP amendments. And finally, mitigation measures must be timely implemented.

1. All Transportation Improvement Programs Should Be Subject to the Rule, Regardless of the Metropolitan Planning Organization's Geographical Location

Greenhouse gas pollution and the resulting climate crisis have no physical boundaries. Yet the proposed rule exempts TIPs for MPOs outside of the Ozone Nonattainment Area (NAA), although this rule is not focused on ozone reductions. The Commission should eliminate this exemption and instead apply the rule to all TIPs.[116]

While MPOs outside of the NAA may currently have less experience with advanced modeling techniques, that is no excuse to indefinitely exempt those MPOs' TIPs from the final rule. If the MPOs need assistance, they can seek input from CDOT's modeling experts. If the Commission chooses not to fully eliminate this exemption, then at minimum the Commission should direct the MPOs to build up their modeling expertise during 2022 and begin applying the rule to their TIPs in 2023. An indefinite exemption is unwarranted and places Colorado's GHG goals at risk.

[116] Community Groups' Proposed Rule, Ex. 1, § 1.04.

2. All Metropolitan Planning Organizations Should Be Subject to Reduction Goals Beginning in 2025

The proposed rule currently does not set a reduction level for 2025 for the Pikes Peak Area Council of Governments (PPACG), Grand Valley MPO (GVMPO), and Pueblo Area Council of Governments (PACOG). As a result of this exemption, the state will not be able to meet its total reduction level of .5 MMT in 2025: the reduction levels for the remaining planning agencies, as listed in the proposed rule, add up to only .4 MMT, amounting to a 20% shortfall.

This exemption is unwarranted: Colorado needs to begin securing reductions across the state immediately. These MPOs are not minimal contributors that can be overlooked. For example, the baseline emissions estimate for PPACG is higher than the baseline for the North Front Range MPO, which is subject to the 2025 limits.[117] Further, these MPOs have resources available to address GHGs and VMT from the transportation system and, in fact, have plans to use those resources. PPACG, for example, has been allocated over six million dollars to implement multimodal projects within the MPO and has put out a call for projects.[118]

The Commission should eliminate this exemption and apply the rule to all MPOs equally beginning in 2025.[119] At minimum, if the Commission chooses to retain the 2025 exemption for the three MPOs, the 2025 reduction goal of .5 MMT and corresponding VMT reduction goal should be redistributed between the remaining agencies to ensure that Colorado meets its climate goals.

3. The Commission Should Eliminate the Waiver Provision

The proposed rule allows for noncompliant planning agencies to request a waiver from the Commission, which, if granted, would allow the agency to build a GHG-increasing project even when the region is already behind on its GHG

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[117] CDOT Proposed Rule § 8.01.2, Table 1 (noting 2025 baselines of 2.7 MMT for PPACG and 2.3 MMT for NFRMPO).

[118] *Multimodal Options Fund (MMOF) – PPACG Call for Projects*, Pikes Peak Area Council of Gov'ts, https://www.ppacg.org/multimodal-options-fund-mmof-ppacg-call-for-projects/ (last visited Oct. 15, 2021).

[119] Community Groups' Proposed Rule, Ex. 1, §§ 8.01.1, 8.01.2, Tables 1 & 2.

goals.[120] This unjustified waiver provision undermines the proposed rule's effectiveness and is likely to perpetuate harm to communities. The waiver provision prioritizes only one kind of safety: that relating to vehicle crashes. It fails to account for the safety and health impacts resulting from air pollution. The concept of safety must include the need for reductions in air toxics and the improvement of public health.

Further, the waiver provision is unnecessary because planning agencies have other options available. If a planning agency feels that a single project is critical, whether for safety or other reasons, yet the Applicable Planning Document (APD) is not in compliance, the agency can amend the project to include GHG-mitigation measures that would protect the surrounding community. In addition, agency can amend the APD by replacing other, less-critical proposed projects with GHG-beneficial projects to balance the regionwide impacts. There is no need for a waiver provision when planning agencies already have full control over the composition of their APDs. The Commission should therefore eliminate the waiver provision.

4. The Rule Should Apply to Transportation Improvement Program Amendments

The proposed rule specifically exempts MPO TIP amendments. This exemption threatens the effectiveness of the rule and should be removed.[121] TIPs consist of prioritized lists of transportation projects—in other words, projects that will be implemented in the near term.[122] If an MPO chooses to amend a TIP, for example by adding a planned project, the revised plan must not escape scrutiny.

RTPs include a relatively length list of projects that the region can afford, while TIPs include only a subset of RTP projects that are actually being built.[123]

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[120] CDOT Proposed Rule §§ 8.05.2–8.05.2.1.2.

[121] Community Groups' Proposed Rule, Ex. 1, §§ 8.02.1.1, 8.02.1.2.

[122] *Project Planning, TIP/STIP*, Colo. Dep't of Transp., https://www.codot.gov/business/localagency/manual/overview/project-planning (last visited Oct. 10, 2021).

[123] *See 2022-2025 Transportation Improvement Program: Public Hearing Draft*, Denver Reg'l Council of Gov'ts 9 (Mar. 17, 2021), https://drcog.org/sites/default/files/resources/DRCOG_2022-2025_TIP_Public_hearing_Draft.pdf.

Imagine an MPO that wishes to pull a project from the RTP and include it in an amended TIP. Both the RTP and the original TIP both underwent modeling and demonstrated compliance with the rule's GHG and VMT targets. But that does not mean that the newly amended TIP will necessarily comply with the targets.

First, RTPs contain numerous projects, which might not all end up being built. Even if the overall RTP is in compliance with the targets, any given subset of projects may not be. That is why TIPs must be modeled in the first place. If MPOs are permitted to amend TIPs without verifying compliance with the rule, they could simply shift up GHG- and VMT-increasing projects from the RTP while snubbing beneficial projects. Second, timing also matters: if a major project is moved up to the near-term plan, that change may affect the MPO's ability to comply with the near-term GHG and VMT targets. Accordingly, the Commission should reject this potential loophole.

5. Planned Mitigation Measures Must Be Timely Implemented

The proposed rule allows planning agencies to explain why a mitigation measure was "delayed, cancelled, or substituted." However, the proposed rule does not require any remedial or punitive action to account for delayed or cancelled mitigation measures, creating an unacceptable loophole that would allow planning agencies to renege on their commitments. Planning agencies must not be permitted to unilaterally delay or cancel mitigation measures. Rather, only substitutions are acceptable, and those are only acceptable when the substitution is subject to full public participation and input.[124]

D. The Rule Should Be Transparent and Accurate

Finally, the Commission should adopt the Community Groups' proposed revisions that would ensure a transparent, accurate process moving forward. The rule should include (1) strong reporting requirements for planning agencies, and (2) robust modeling requirements that ensure accuracy and consistency.

[124] Community Groups' Proposed Rule, Ex. 1, § 8.01.2.2.

1. All Planning Agencies Should Be Subject to Transparent Reporting

Any strong rule must be subject to transparent reporting requirements that allow the public to easily assess progress. This rule is no different. The Community Groups have accordingly proposed amendments throughout the rule to strengthen reporting requirements.

For example, the proposed rule requires planning agencies to submit a GHG Transportation Report at least thirty days before the adoption of any Applicable Planning Document. These reports should be required to include additional information concerning technical methodology as well as underlying data, including, for instance, demographic changes in the region.[125]

In another example, the proposed rule requires CDOT to publish a comprehensive report on GHG reductions every five years. This report should be required to include an explanation of whether Colorado is meeting its GHG and VMT reduction targets. If Colorado is not meeting its targets, CDOT should be required to develop and propose additional requirements to the Commission.[126] This requirement would align with similar requirements at the AQCC and ensure that state agencies are consistently addressing Colorado's climate progress.[127] In addition, the report must include information about specific projects that impact DICs and AICs, as well as a review of modeling techniques.

2. Modeling Requirements Should Be Strengthened to Ensure Accuracy and Consistency

An effective planning rule must be based on sound modeling. Inaccurate estimates of VMT and GHG emissions would effectively eviscerate the proposed rule by allowing planning agencies to artificially circumvent limits. The Community Groups therefore urge the Commission to adopt a number of

[125] Community Groups' Proposed Rule, Ex. 1, §§ 8.02.5.2.1, 8.02.5.2.2, 8.02.5.2.3.
[126] *Id.* §§ 8.06, 8.06.1, 8.06.2, 8.06.3.
[127] Colo. Rev. Stat. § 25-7-105(1)(e)(VII) (requiring that, if the emission reduction targets are not being met, CDPHE must "develop and propose additional requirements to the [AQCC]" to make up the shortfall).

amendments to bolster the required modeling and improve transparency around the modeling process.

First, the Commission should require estimates of GHG and VMT reductions for all mitigation measures.[128] Estimates are necessary for to enable meaningful public input. Estimates are also necessary as a practical matter. CDOT has proposed that difficult-to-estimate mitigation measures will be scored, perhaps with a points system. But even a points system must somehow be converted to GHG emissions and VMT reductions, such that planning agencies can calculate how many points they need to make up for their failure to meet the required targets. To illustrate: imagine that an MPO models its TIP and finds that it has missed their required reduction target by .3 MMT. As a result, the MPO must adopt a Mitigation Action Plan identifying a suite of GHG Mitigation Measures. The available measures are scored on a points system. But how many points does the MPO need to accumulate in order to comply with the rule? The MPO needs to know how many points are equivalent to .3 MMT. For the mitigation plans to work, therefore, planning agencies must use a consistent scale to convert points to GHG and VMT reductions (if a point system is even necessary). Thus, there is no excuse for failing to estimate GHG and VMT reductions from each mitigation measure.

Second, the Commission should define "Induced Travel Elasticity" and set the value at 1.0 for freeways and .75 for arterials.[129] Induced Travel Elasticity identifies the impacts of increased capacity on induced demand. An elasticity of 1.0 indicates that a given percent increase in lane miles will cause the same percent increase in VMT—a one to one ratio. These values are critical to define in order to ensure that planning agencies use consistent assumptions in their modeling. In addition, the values of 1.0 for freeways and .75 for arterials are supported by recent modeling estimates.[130]

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[128] Community Groups' Proposed Rule, Ex. 1, §§ 8.01.2.1.1, 8.02.2.6.

[129] Community Groups' Proposed Rule, Ex. 1, §§ 1.20, 8.02.2.1.

[130] Jamey Volker et al., *Induced Vehicle Travel in the Environmental Review Process*, 2674 Transp. Rsch. Rec. 468 (2020), https://journals.sagepub.com/doi/abs/10.1177/0361198120923365?journalCode=trra; *see also* CBA, *supra* note 52, at 22 (acknowledging that elasticity values selected by CDOT are on the low end of estimates).

Third, planning agencies should be required to use Activity-Based Models by 2023.[131] Activity-Based Models are currently the most accurate transportation models available. This phase-in period will allow the planning agencies time to build out the necessary technical expertise. Further, the models should be regularly reevaluated and continually improved to ensure a strong, lasting rule.

V. Conclusion

The Commission has a statutory obligation to remedy disparities and reduce pollution caused by the transportation system. Further, in the wake of protests that underscored the deep racial inequities in this country and in light of a global pandemic that has further exposed injustices in our health and economic systems, the Commission has an indisputable moral obligation to take decisive actions that protect frontline communities from additional harm. We urge the Commission to prohibit future funding of highway capacity expansions and adopt CDOT's proposal with the changes described in the Community Groups' attached redline.

[131] Community Groups' Proposed Rule, Ex. 1, § 8.02.2.7.

EXHIBIT 1

DEPARTMENT OF TRANSPORTATION

Transportation Commission

RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS

2 CCR 601-22

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

August 13, 2021, Version

Please note the following formatting key:

Font Effect	Meaning
Underline	New Language
~~Strikethrough~~	Deletions
[Blue Font Text]	Annotation
Blue underlined	Community Groups - New Language
~~Blue strikethrough~~	Community Groups - Deletions

STATEMENT OF BASIS AND PURPOSE, ~~AND~~ STATUTORY AUTHORITY AND PREAMBLE

The purpose of the Rules Governing the Statewide Transportation Planning Process and Transportation Planning Regions (Rules) is to prescribe the statewide transportation planning process through which a long-range ~~multimodal~~Multimodal, comprehensive ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~ Plan will be developed, integrated, updated, and amended by the Colorado Department of Transportation (Department or CDOT), in cooperation with local governments, Metropolitan Planning Organizations (MPOs) , Regional Planning Commissions, Indian tribal governments, relevant state and federal agencies, the private sector, transit and freight operators, Disproportionately Impacted Communities, Additionally Impacted Communities, ~~special interest groups,~~ and the general public. This cooperative process is designed to coordinate regional transportation planning, guided by the statewide transportation policy set by the Department and the ~~transportation~~ Transportation ~~commission~~ Commission of Colorado ("Commission"), as a basis for developing the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan. The result of the statewide transportation planning process shall be a long-range, financially feasible, environmentally sound, ~~multimodal~~ Multimodal transportation system plan for Colorado that will reduce traffic and smog, reduce Colorado's Greenhouse Gas (GHG) emissions, and reduce inequities in Colorado's transportation system.

Further, the purpose of the Rules is to define the state's Transportation Planning Regions for which long-range Regional Transportation Plans are developed, prescribe the process for conducting and initiating transportation planning in the non-MPO Transportation Planning Regions and coordinating with the ~~Metropolitan Planning Organizations~~MPOs for planning in the metropolitan areas. Memoranda of Agreement (MOA) that serve as the Metropolitan Planning Agreements (MPAs) ~~per~~ pursuant to 23 C.F.R.

§ 450 between the Department, each MPO, and applicable transit provider(s) further prescribe the transportation planning process in the MPO ~~transportation~~ Transportation ~~planning~~ Planning ~~regions~~Regions. In addition, the purpose of the Rules is to describe the organization and function of the Statewide Transportation Advisory Committee (STAC) as established by § 43-1-1104, Colorado Revised Statutes (C.R.S.).

The Rules are promulgated to meet the intent of both the U.S. Congress and the Colorado General Assembly for conducting a continuing, cooperative, and comprehensive statewide performance-based ~~multimodal~~ Multimodal transportation planning process for producing a Statewide Transportation Plan and Regional Transportation Plans that address the transportation needs of the ~~state~~State. This planning process, through comprehensive input, results in systematic project prioritization and resource allocation.

The Rules, governing the statewide planning process, emphasize Colorado's continually greater integration of Multimodal, cost-effective, and environmentally sound means of transportation which leads to cleaner air and reduced traffic. The Rules reflect the Commission's and the Department's focus on Multimodal transportation projects including highways, transit, rail, bicycles and pedestrians. Section 8 of these Rules establishes an ongoing administrative process for identifying, measuring, confirming, and verifying those best practices and their impacts, so that CDOT and MPOs can easily apply them to their plans in order to achieve the pollution and Vehicle Miles Traveled reduction levels required by these Rules.

The Rules are promulgated by the Commission pursuant to the specific statutory authority in § 43-1-1103 (5), C.R.S., and § 43-1-106 (8)(k), C.R.S.

Preamble for 2018 Rulemaking

In 2018, rulemaking was initiated to update the rules to conform to recently passed federal legislation, update expired rules, clarify the membership and duties of the ~~Statewide Transportation Advisory Committee~~STAC pursuant to HB 16-1169 and HB 16-1018, and to make other minor corrections. ~~The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements contained in 23 United States Code (U.S.C.) §§ 134, 135 and 150, Pub. L. No. 114-94 (Fixing America's Surface Transportation Act or the "FAST Act") signed into law on December 4, 2015, and its implementing regulations, where applicable, contained in 23 Code of Federal Regulations (C.F.R.) Part 450, including Subparts A, B and C and 25 C.F.R. § 170.421 in effect as of August 1, 2017, which are hereby incorporated into the Rules by this reference, and do not include any later amendments. All referenced laws and regulations shall be available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.~~

~~Copies of the referenced United States Code may be obtained from the following address:~~

~~Office of the Law Revision Counsel~~
~~U.S. House of Representatives~~
~~H2-308 Ford House Office Building~~
~~Washington, DC 20515~~
~~(202) 226-2411~~

~~Copies of the referenced Code of Federal Regulations may be obtained from the following address:~~

~~U.S. Government Publishing Office~~
~~732 North Capitol Street, N.W.~~
~~Washington, DC 20401~~
~~(202) 512-1800~~

~~The Statewide Planning Rules, governing the statewide planning process, emphasize Colorado's continually greater integration of multimodal, cost-effective and environmentally sound means of transportation. The Rules reflect the Department's focus on multimodal transportation projects including highways, aviation, transit, rail, bicycles and pedestrians.~~

~~The Rules are promulgated by the Commission pursuant to the specific statutory authority in § 43-1-1103 (5), C.R.S., and § 43-1-106 (8)(k), C.R.S. The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.~~

Preamble for 2021 Rulemaking

Overview

Section 8 of these Rules establishes Greenhouse Gas (GHG) pollution reduction planning levels for transportation that will improve air quality, reduce smog, start to address inequities in our transportation system, and provide more sustainable options for travelers across Colorado. The purpose of these requirements is to limit the GHG pollution which would result from the transportation system if the plan was implemented by providing more transportation options, consistent with the state greenhouse gas pollution reduction roadmap. This is accomplished by requiring CDOT and MPOs to establish plans that meet targets through a mix of long-range and short-term projects that limit and mitigate air pollution and improve quality of life and Multimodal options. CDOT and MPOs will be required to demonstrate through travel demand modeling and approved air quality modeling that statewide and regional aggregate emissions and net Vehicle Miles Traveled resulting from its state or regional plans do not exceed a specified levels. In the event that a plan fails to comply, CDOT and MPOs have the option to ~~commit to~~ implement~~ing~~ GHG Mitigation Measures that provide travelers with cleaner and more equitable transportation options such as safer pedestrian crossings and sidewalks, better transit and transit-access, or infrastructure that supports access to housing, jobs, and retail.

Examples of these types of mitigations, which also benefit quality of place and the economic resilience of communities, will include but not be limited to: adding bus rapid transit facilities and services, enhancing first-and-last mile connections to transit, adding bike-sharing services including electric bikes, improving pedestrian facilities like sidewalks and safe accessible crosswalks, investments that support vibrant downtown density and local zoning decisions that favor sustainable building codes and inclusive multi-use facilities downtown, and more. The process of identifying and approving mitigations will be established by a policy process that allows for ongoing innovations from MPOs, local governments, impacted communities, and other partners to be considered on an iterative basis. The process of identifying and approving mitigations will also be conducted in conjunction with Disproportionately Impacted Communities and Additionally Impacted Communities to ensure that approved mitigations are equitable.

The process of identifying and approving mitigations will also be conducted in conjunction with Disproportionately Impacted Communities to ensure that approved mitigations are equitable. This process will be facilitated by the adoption, by rule or policy, of a Transportation Equity Framework. n order to address past inequities, and to prevent perpetuating inequitable practices, no projects will be allowed that add additional highway capacity. Further, no projects will be allowed that will cause adverse environmental or public health impacts to a Disproportionately Impacted Community that is already experiencing degraded environmental conditions relative to the state population unless those environmental or public health impacts are entirely mitigated. Additionally, 40% of funds expended on mitigation measures to decrease GHG pollution and VMT must directly benefit populations in Disproportionately Impacted Communities and Additionally Impacted Communities.

If compliance still cannot be demonstrated, even ~~after committing to~~ with the inclusion of GHG Mitigation Measures, the Commission shall restrict the use of certain funds, requiring that dollars be focused on projects that help reduce transportation emissions, reduce Vehicle Miles Traveled, and are recognized as approved mitigations. These requirements address the Colorado General Assembly's directive to reduce statewide GHG pollution in § 25-7- 102(2)(g), C.R.S., while reducing vehicle miles traveled, § 43-1-128(3), C.R.S, as well as the directive for transportation planning to consider environmental stewardship and reducing GHG emissions, § 43-1-1103(5), C.R.S., in a manner that addresses the inequities of our current transportation system inflicted on Disproportionately Impacted Communities and Additionally Impacted Communities. § 43-1-128 C.R.S.

Context of Section 8 of these Rules Within Statewide Objectives

The passage of House Bill (HB)19-1261 set Colorado on a course to dramatically reduce GHG emissions across all sectors of the economy. In HB 19-1261, now codified in part at §§ 25-7-102(2) and 105(1)(e),

C.R.S., the General Assembly declared that "climate change adversely affects Colorado's economy, air quality and public health, ecosystems, natural resources, and quality of life[,]" acknowledged that "Colorado is already experiencing harmful climate impacts[,]" and that "many of these impacts disproportionately affect" certain Disproportionately Impacted Communities and Additionally Impacted Communities. *see* § 25-7-102(2), C.R.S. The General Assembly also recognized that "[b]y reducing [GHG] pollution, Colorado will also reduce other harmful air pollutants, which will, in turn, improve public health, reduce health care costs, improve air quality, and help sustain the environment." *see* § 25-7-102(2)(d), C.R.S.

Since 2019, the State has been rigorously developing a plan to achieve the ambitious GHG pollution reduction goals in § 25-7-102(2)(g), C.R.S. In January 2021, the State published its Greenhouse Gas Pollution Reduction Roadmap (Roadmap). The Roadmap identified the transportation sector as the single largest source of statewide GHG pollution as of 2020, with passenger vehicles the largest contributor within the transportation sector. Additionally, the Roadmap determined that emissions from transportation are a "significant contributor to local air pollution that disproportionately impacts lower-income communities and communities of color." *see* Roadmap, p. XII.

A key finding in the Roadmap recognized that "[m]aking changes to transportation planning and infrastructure to reduce growth in driving is an important tool" to meet the statewide GHG pollution reduction goals. *see* Roadmap, p. 32. Section 8 of these Rules also advances the State's goals to reduce emissions of other harmful air pollutants, including ozone.

Why the Commission is Taking This Action

Senate Bill 21-260, signed into law by the Governor on June 17, 2021, and effective upon signature, includes a new § 43-1-128, C.R.S., which directs CDOT and MPOs to engage in an enhanced level of planning, modeling and other analysis to minimize the adverse environmental and health impacts of planned transportation capacity projects. Section 43-1-128, C.R.S. also directs CDOT and the Commission to take steps to account for the impacts of transportation capacity projects on GHG pollution and Vehicle Miles Traveled and to help achieve statewide GHG pollution targets established in § 25-7-102(2)(g), C.R.S.

Under Colorado law governing transportation planning, CDOT is charged with and identified as the proper body for "developing and maintaining the state transportation planning process and the state transportation plan" in cooperation with Regional Planning Commissions and local government officials. *see* § 43-1-1101, C.R.S.

The Commission is responsible for formulating policy with respect to transportation systems in the State and promulgating and adopting all CDOT financial budgets for construction based on the Statewide Transportation Improvement Programs. *see* § 43-1-106(8), C.R.S. The Commission is statutorily charged "to assure that the preservation and enhancement of Colorado's environment, safety, mobility and economics be considered in the planning, selection, construction and operation of all transportation projects in Colorado." *see* § 43-1-106(8)(b), C.R.S. In addition, the Commission is generally authorized "to make all necessary and reasonable orders, rules and regulations in order to carry out the provisions of this part . . ." *see* § 43-1-106(8)(k), C.R.S.

As such, CDOT and the Commission are primarily responsible for ensuring compliance with GHG and Vehicle Miles Traveled reductions in transportation planning.

What Relevant Regulations Currently Apply to Transportation Planning

Transportation planning is subject to both state and federal requirements. Under federal law governing transportation planning and federal-aid highways, it is declared to be in the national interest to promote transportation systems that accomplish a number of mobility objectives "while minimizing transportation-related fuel consumption and air pollution through metropolitan and statewide transportation planning processes…" *see* 23 U.S.C. § 134; *see also* 23 U.S.C. § 135(a)(1). In the metropolitan planning process, consideration must be given to projects and strategies that will "protect and enhance the environment, promote energy conservation, improve the quality of life…" *see* 23 U.S.C. § 134(h)(1)(E); *see also* 23 C.F.R. Part 450, Subpart B (federal regulations governing statewide transportation planning and programming). The same planning objective applies to statewide transportation planning. *see* 23 U.S.C. §

135(d)(1)(E); *see also* 23 C.F.R. Part 450, Subpart C (governing metropolitan transportation planning and programming). Further, the Statewide Transportation Plan shall be developed, as appropriate, in consultation with State...local agencies responsible for...environmental protection…" *see* 23 U.S.C. § 135(f)(2)(D)(i).

Under conforming Colorado law, the Statewide Transportation Plan is developed by integrating and consolidating Regional Transportation Plans developed by MPOs and regional transportation planning organizations into a "comprehensive statewide transportation plan" pursuant to rules and regulations promulgated by the Commission. *see* § 43-1-1103(5), C.R.S. The Statewide Transportation Plan must adress a number of factors including, but not limited to, "environmental stewardship" and "reduction of greenhouse gas emissions." *see* § 43-1-1103(5)(h) and (j), C.R.S.

Regional Transportation Plans must account for the "expected environmental, social, and economic impacts of the recommendations in the plan, including a full range of reasonable transportation alternatives...in order to provide for the transportation and environmental needs of the area in a safe and efficient manner." *see* § 43-1-1103(1)(d), C.R.S. Further, in developing Regional Transportation Plans, MPOs "[s]hall assist other agencies in developing transportation control measures for utilization in accordance with state...regulations...and shall identify and evaluate measures that show promise of supporting clean air objectives." *see* § 43-1-1103(1)(e), C.R.S.

Putting Section 8 of these Rules into Perspective

Section 8 establishes GHG regulatory requirements that are among the first of their kind in the U.S. However, from an air pollutant standpoint, connecting transportation planning to emissions is not a new policy area. In fact, transportation conformity provisions within the Clean Air Act approach ozone much the same way. Transportation conformity ensures that federally funded or approved highway and transit activities within a Nonattainment Area are consistent with or "conform to" a state's plan to reduce emissions. Colorado's front range has been in ozone nonattainment for many years, which has required the North Front Range and the Denver Regional Council of Governments' MPOs to demonstrate conformity with each plan adoption and amendment.

However, because the transportation sector encompasses the millions of individual choices people make every day that have an impact on climate, a variety of strategies are necessary to achieve the State's climate goals. Section 8 of these Rules is one of many steps needed to achieve the totality of reduction goals for the transportation sector.

Purpose of GHG Mitigation Measures

The transportation modeling conducted for this rulemaking may demonstrate that certain projects increase GHG pollution for a variety of reasons. These reasons may include factors such as induced demand as a result of additional lane mileage attracting additional vehicular traffic, or additional traffic facilitated by access to new commercial or residential development in the absence of public transit options or bicycle/pedestrian access that provides consumers with other non-driving options. Transportation infrastructure itself can also increase or decrease GHG and other air pollutants by virtue of factors like certain construction materials, removal or addition of tree cover that captures carbon pollution, or integration with vertical construction templates of various efficiencies that result in higher or lower levels of per capita energy use. The pollution impacts of various infrastructure projects will vary significantly depending on their specifics and must be modeled in a manner that is context-sensitive to a range of issues such as location, footprint of existing infrastructure, design, and how it fits together with transportation alternatives.

Furthermore, other aspects of transportation infrastructure can facilitate reductions in Vehicle Miles Traveled and emissions and thus serve as mitigations rather than contributors to pollution. For example, the addition of transit resources in a manner that can displace Vehicle Miles Traveled can reduce emissions. Moreover, improving downtown pedestrian and bike access, particularly in areas that allow individuals to shift multiple daily trips for everything from work to dining to retail, can improve both emissions and quality of life.

Reduction of Vehicle Miles Traveled through planning is one of the more effective GHG Mitigation measures. It is also a separate goal identified in legislation. See § 43-1-128, C.R.S. Reducing Vehicle

Miles Traveled is necessary for meeting Colorado's GHG reduction goals, but there are numerous co-benefits such as reductions in vehicle fatalities, air pollution, water pollution, wildlife mortality, and traffic congestion, while improving public health, worker productivity, and Colorado's economy.

There is an increasing array of proven best practices for reducing pollution and smog and improving economies and neighborhoods that can help streamline decision-making for state and local agencies developing plans and programs of projects.

[Note: The Commission proposes to repeal Section 1 of these Rules in its entirety and re-enact Section 1 of these Rules below to re-format the numbering of the administrative rules into alphabetical order.]

[Note: The Commission proposes to add nineteen (19) new definitions. New proposed defined terms include: Applicable Planning Document, Activity-Based Model, Additionally Impacted Communities, Approved Air Quality Model, Baseline, Carbon Dioxide Equivalent, Congestion Mitigation and Air Quality, Disproportionately Impacted Communities, Four-Year Prioritized Plan, Greenhouse Gas, Greenhouse Mitigation Measures, Greenhouse Gas Reduction Levels, Induced Travel Elasticity, Mitigation Action Plan, MPO Model, Multimodal Projects, Multimodal Transportation and Mitigation Options Fund, Regionally Significant Project, State Interagency Consultation Team, Statewide Travel Model, Surface Transportation Block Grant, Transportation Equity Framework, Vehicle Miles Traveled (Net), Vehicle Miles Traveled (VMT), Per Capita, Vehicle Miles Traveled (VMT) Reduction Level, and 10-Year Plan. Only minor non-substantive changes, such as correcting grammar errors or capitalizing defined terms, were made to the existing forty-six (46) defined terms.]

1.00 Definitions.

1.01 Accessible - ensure that reasonable efforts are made that all meetings are reachable by persons from households without vehicles and that the meetings will be accessible to persons with disabilities in accordance with the Americans with Disabilities Act (ADA), and also accessible to persons with Limited English Proficiency. Accessible opportunities to comment on planning related matters include those provided on the internet and through such methods as telephone town halls.

1.02 Activity-Based Model - estimates travel demand based on individual daily activity patterns. The model predicts the type of activity, the time the activity occurs, the activity location, the activity duration, the number of individual trips, and the travel mode choice.

1.03 Additionally Impacted Communities – any community identified or approved by another state agency as a Disproportionately Impacted Community pursuant to § 24-4-109(2)(b)(II), C.R.S, and any community located within 5,000 feet of a roadway carrying more than 30,000 vehicles per day.

1.04 Applicable Planning Document - refers to MPO Fiscally Constrained RTPs,TIPs for MPOs ~~in NAAs~~, CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in non-MPO areas that include the addition of Regionally Significant Projects.

1.05 Approved Air Quality Model - the most recent Environmental Protection Agency issued model that quantifies GHG emissions from transportation.

1.06 Attainment Area - any geographic region of the United States that meets the national primary or secondary National Ambient Air Quality Standards (NAAQS) for the pollutants as defined in the Clean Air Act (CAA) (Amendments of 1990).

1.07 Baseline - estimates of GHG emissions for each of the MPOs, and for the non-MPO areas, prepared using the MPO Models or the Statewide Travel Model. Estimates must include GHG

emissions resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules.

1.08 Carbon Dioxide Equivalent (CO_2e) - a metric measure used to compare the emissions from various GHG based upon the 100-year global warming potential (GWP). CO_2e is multiplying the mass amount of emissions (metric tons per year), for each GHG constituent by that gas's GWP, and summing the resultant values to determine CO_2e (metric tons per year). This calculation allows comparison of different greenhouse gases and their relative impact on the environment over different time periods.

1.09 Commission - the Transportation Commission of Colorado created by § 43-1-106, C.R.S.

1.10 Congestion Mitigation and Air Quality (CMAQ) - a federally mandated program established in 23 U.S.C § 149 to improve air quality in Nonattainment and Maintenance Areas for ozone, carbon monoxide, and particulate matter. References related to this program include any successor programs as established by the federal government.

1.11 Corridor - a transportation system that includes all modes and facilities within a described geographic area.

1.10 Corridor Vision - a comprehensive examination of a specific transportation Corridor, which includes a determination of needs and an expression of desired state of the transportation system that includes Transportation Modes and facilities over a planning period.

1.11 Department or CDOT - the Colorado Department of Transportation created by § 43-1-103, C.R.S.

1.12 Disproportionately Impacted Communities - defined in § 24-38.5-302(3), C.R.S. as a community that is in a census block group, as determined in accordance with the most recent United States Decennial Census where the proportion of households that are low income is greater than forty percent (40%), the proportion of households that identify as minority is greater than forty percent (40%), or the proportion of households that are housing cost-burdened is greater than forty percent (40%); or is any other community as identified or approved by a state agency, if: the community has a history of environmental racism perpetuated through redlining, anti-Indigenous, anti-immigrant, anti-Hispanic, or anti-Black laws; or the community is one where multiple factors, including socioeconomic stressors, disproportionate environmental burdens, vulnerability to environmental degradation, and lack of public participation, may act cumulatively to affect health and the environment and contribute to persistent disparities.

1.13 Division - the Division of Transportation Development within CDOT.

1.14 Division Director - the Director of the Division of Transportation Development.

1.15 Fiscally Constrained - the financial limitation on transportation plans and programs based on the projection of revenues as developed cooperatively with the MPOs and the rural TPRs and adopted by the Commission that are reasonably expected to be available over the long-range transportation planning period and the TIP and STIP programming periods.

1.16 Four-Year Prioritized Plan - a four-year subset of the 10-Year Plan consisting of projects prioritized for near-term delivery and partial or full funding.

1.17 Greenhouse Gas (GHG) - for purposes of these Rules, GHG is defined as the primary transportation greenhouse gases: carbon dioxide, methane, and nitrous oxide.

1.18 Greenhouse Gas (GHG) Reduction Level - the amount of the GHG expressed as CO_2e reduced from the projected Baseline that CDOT and MPOs must attain through transportation planning.

1.19 Greenhouse Gas (GHG) Mitigation Measures - non-Regionally Significant Project strategies

implemented by CDOT and MPOs that reduce transportation GHG pollution and reduce VMT and help meet the GHG and VMT Reduction Levels.

1.20 Induced Travel Elasticity - the percentage change in VMT / the percentage change in lane miles. An elasticity of 1.0 indicates that a given percent increase in lane miles will cause the same percent increase in VMT.

1.21 Intergovernmental Agreement - an arrangement made between two or more political subdivisions that form associations for the purpose of promoting the interest and welfare of said subdivisions.

1.22 Intermodal Facility - a site where goods or people are conveyed from one mode of transportation to another, such as goods from rail to truck or people from passenger vehicle to bus.

1.23 Land Use - the type, size, arrangement, and use of parcels of land.

1.24 Limited English Proficiency - individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English.

1.25 Long-Range Planning - a reference to a planning period with a minimum 20-year planning horizon.

1.26 Maintenance Area - any geographic region of the United States previously designated by the U.S. Environmental Protection Agency (EPA) as a Nonattainment Area pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under § 175A of the CAA, as amended in 1990.

1.27 Memorandum of Agreement (MOA) - a written agreement between two or more parties on an intended plan of action.

1.28 Metropolitan Planning Agreement (MPA) - a written agreement between the MPO, the State, and the providers of public transportation serving the Metropolitan Planning Area that describes how they will work cooperatively to meet their mutual responsibilities in carrying out the metropolitan planning process.

1.29 Metropolitan Planning Area - a geographic area determined by agreement between the MPO for the area and the Governor, in which the metropolitan transportation planning process is carried out pursuant to 23 U.S.C. § 134.

1.30 Metropolitan Planning Organization (MPO) - an organization designated by agreement among the units of general purpose local governments and the Governor, charged to develop the RTPs and programs in a Metropolitan Planning Area pursuant to 23 U.S.C. § 134.

1.31 Mitigation Action Plan - an element of the GHG Transportation Report that specifies which GHG Mitigation Measures shall be implemented that help achieve the GHG Reduction Levels.

1.32 Mobility - the ability to move people, goods, services, and information among various origins and destinations.

1.33 MPO Models - one (1) or more of the computer-based models maintained and operated by the MPOs which depict the MPO areas' transportation systems (e.g., roads, transit, etc.) and development patterns (i.e., number and location of households and jobs) for a defined year (i.e., past, present, or forecast) and produce estimates of roadway VMT, delays, operating speeds, transit ridership, and other characteristics of transportation system use.

1.34 Multimodal Projects - capital or operating costs for fixed route and on-demand transit, transportation demand management programs, multimodal mobility projects enabled by new technology, multimodal transportation studies, modeling tools, greenhouse gas mitigation projects, and bicycle or pedestrian projects.

1.35 Multimodal Transportation and Mitigation Options Fund (MMOF) - a program created in the State Treasury pursuant to § 43-4-1003, C.R.S. which funds bicycle, pedestrian, transit and other Multimodal Projects as defined in § 43-4-1002(5), C.R.S. and GHG Mitigation projects as defined in § 43-4-1002(4.5), C.R.S.

1.36 National Ambient Air Quality Standards (NAAQS) - are those established by the U.S. Environmental Protection Agency for air pollutants considered harmful to public health and environment. These criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, ozone, small particles, and sulfur dioxide.

1.37 Nonattainment Area - any geographic region of the United States which has been designated by the EPA under section 107 of the CAA for any pollutants for which a NAAQS exists.

1.38 Non-Metropolitan Area - a rural geographic area outside a designated Metropolitan Planning Area.

1.39 Plan Integration - a comprehensive evaluation of the statewide transportation system that includes all modes, an identification of needs and priorities, and key information from other related CDOT plans.

1.40 Planning Partners - local and tribal governments, the rural TPRs and MPOs.

1.41 Project Priority Programming Process - the process by which CDOT adheres to 23 U.S.C. § 135 and 23 C.F.R. Part 450 when developing and amending the STIP.

1.42 Regional Planning Commission (RPC) - a planning body formed under the provisions of § 30-28-105, C.R.S., and designated under these Rules for the purpose of transportation planning within a rural TPR.

1.43 Regionally Significant Project - a transportation project that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. If the MPOs have received approval from the EPA to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team.

1.44 Regional Transportation Plan (RTP) - a long-range plan designed to address the future transportation needs for a TPR including, but not limited to, Fiscally Constrained or anticipated funding, priorities, and implementation plans, pursuant to, but not limited to, § 43-1-1103, C.R.S. and 23 C.F.R. Part 450. All rural and urban TPRs in the state produce RTPs.

1.45 State Interagency Consultation Team - consists of the Division Director or the Division Director's designee, the Colorado Department of Public Health and Environment (CDPHE) Director of Air Pollution Control Division or the Director's designee, and the Director of each MPO or their designee.

1.46 State Transportation System - refers to all state-owned, operated, and maintained transportation facilities in Colorado, including, but not limited to, interstate highways, other highways, and aviation, bicycle and pedestrian, transit, and rail facilities.

1.47 Statewide Transportation Advisory Committee (STAC) - the committee created by § 43-1-1104, C.R.S., comprising one representative from each TPR and one representative from each tribal government to review and comment on RTPs, amendments, and updates, and to advise both the Department and the Commission on the needs of the transportation system in Colorado.

1.48 Statewide Transportation Improvement Program (STIP) - a Fiscally Constrained, multi-year, statewide, Multimodal program of transportation projects which is consistent with the Statewide Transportation Plan and planning processes, with Metropolitan Planning Area plans, Transportation Improvement Programs and processes, and which is developed pursuant to 23 U.S.C. § 135.

1.49 Statewide Travel Model - the computer-based model maintained and operated by CDOT which depicts the state's transportation system (roads, transit, etc.) and development scale and pattern (number and location of households, number and location of firms/jobs) for a selected year (past, present, or forecast) and produces estimates of roadway VMT and speed, transit, ridership, and other characteristics of transportation system use.

1.50 Statewide Transportation Plan - the long-range, comprehensive, Multimodal statewide transportation plan covering a period of no less than 20 years from time of adoption, developed through the statewide transportation planning process described in these Rules and 23 U.S.C. § 135, and adopted by the Commission pursuant to § 43-1-1103, C.R.S.

1.51 Surface Transportation Block Grant (STBG) - a flexible federal funding source established under 23 U.S.C. § 133 for state and local transportation needs. Funds are expended in the areas of the State based on population. References related to this program include any successor programs established by the federal government.

1.52 System Continuity - includes, but is not limited to, appropriate intermodal connections, integration with state modal plans, and coordination with neighboring RTPs, and, to the extent practicable, other neighboring states' transportation plans.

1.53 Traditionally Underserved - refers to groups such as seniors, persons with disabilities, low-income households, minorities, and student populations, which may face difficulties accessing transportation systems, employment, services, and other amenities.

1.54 Transit and Rail Advisory Committee (TRAC) - an advisory committee created specifically to advise the Executive Director, the Commission, and the Division of Transit and Rail on transit and rail-related activities.

1.55 Transportation Commonality - the basis on which TPRs are established including, but not limited to: Transportation Commission Districts, the Department's Engineering Regions, Travelsheds, Watersheds, geographic unity, existing Intergovernmental Agreements, and socioeconomic unity.

1.10 Transportation Equity Framework – policy to be created by the Department's Environmental Justice Division, that is informed by the state's Climate Equity Framework, and the Climate Equity Advisory Committee, codifying outreach practices and community empowerment in transportation planning and policy decisions. The Transportation Equity Framework must be developed in collaboration with environmental justice advocates and members of Disproportionately Impacted Communities and Additionally Impacted Communities, with final approval from these stakeholders needed in order to finalize the document.

1.56 Transportation Improvement Program (TIP) - a staged, Fiscally Constrained, multi-year, Multimodal program of transportation projects developed and adopted by MPOs, and approved by the Governor, which is consistent with an MPO's RTP and which is developed pursuant to 23 U.S.C. § 134.

1.57 Transportation Mode - a particular form of travel including, but not limited to, bus, motor vehicle, rail, transit, aircraft, bicycle, pedestrian travel, or personal mobility devices.

1.58 Transportation Planning and Programming Process - all collaborative planning-related activities including the development of regional and Statewide Transportation Plans, the Department's Project Priority Programming Process, and development of the TIPs and STIP.

1.59 Transportation Planning Region (TPR) - a geographically designated area of the state,

defined by section 2.00 of these Rules in consideration of the criteria for Transportation Commonality, and for which a regional transportation plan is developed pursuant to the provisions of § 43-1-1102 and 1103, C.R.S. and 23 U.S.C. § 134. The term TPR is inclusive of these types: non-MPO TPRs, MPO TPRs, and TPRs with both MPO and non-MPO areas.

1.60 Transportation Planning Reduction Level - the amount of reduction of VMT and GHG (expressed as CO2e) from the projected Baseline that CDOT and MPOs must attain through transportation planning.

1.61 Transportation Systems Planning - provides the basis for identifying current and future deficiencies on the state highway system and outlines strategies to address those deficiencies and make improvements to meet Department goals.

1.62 Travelshed - the region or area generally served by a major transportation facility, system, or Corridor.

1.63 Tribal Transportation Improvement Program (TTIP) - a multi-year Fiscally Constrained list of proposed transportation projects developed by a tribe from the tribal priority list or tribal long-range transportation plan, and which is developed pursuant to 25 C.F.R. Part 170. The TTIP is incorporated into the STIP without modification.

1.64 Urbanized Area - an area with a population of 50,000 or more designated by the Bureau of the Census.

1.65 Vehicle Miles Traveled (VMT), Net, the traffic volume of a roadway segment or system of roadway segments multiplied by the length of the roadway segment or system.

1.66 Vehicle Miles Traveled (VMT), Per Capita - is calculated as the total annual miles of vehicle travel divided by the total population in the state or in an urbanized area.

1.67 Watershed - a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

1.68 10-Year Plan - a vision for Colorado's transportation system that includes a specific list of projects categorized across priority areas as identified in the Statewide Transportation Plan.

2.00 Transportation Planning Regions (TPR).

2.01 Transportation Planning Region Boundaries. ~~Transportation Planning Region~~TPRs are geographically designated areas of the state with similar transportation needs that are determined by considering transportation commonalities. Boundaries are hereby established as follows:

2.01.1 The Pikes Peak Area ~~Transportation Planning Region~~TPR comprises the Pikes Peak Area Council of Governments' metropolitan area within El Paso and Teller counties.

2.01.2 The Greater Denver ~~Transportation Planning Region~~TPR, which includes the Denver Regional Council of Governments' planning area, comprises the counties of Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Gilpin, Jefferson, and parts of Weld.

2.01.3 The North Front Range ~~Transportation Planning Region~~TPR comprises the North Front Range Transportation and Air Quality Planning Council's metropolitan area within Larimer and Weld counties.

2.01.4 The Pueblo Area ~~Transportation Planning Region~~TPR comprises Pueblo County, including the Pueblo Area Council of Governments' metropolitan area.

2.01.5 The Grand Valley ~~Transportation Planning Region~~TPR comprises Mesa County, including the Grand Valley Metropolitan Planning Organization's metropolitan area.

2.01.6 The Eastern ~~Transportation Planning Region~~TPR comprises Cheyenne, Elbert, Kit Carson, Lincoln, Logan, Phillips, Sedgwick, Washington, and Yuma counties.

2.01.7 The Southeast ~~Transportation Planning Region~~TPR comprises Baca, Bent, Crowley, Kiowa, Otero, and Prowers counties.

2.01.8 The San Luis Valley ~~Transportation Planning Region~~TPR comprises Alamosa, Chaffee, Conejos, Costilla, Mineral, Rio Grande, and Saguache counties.

2.01.9 The Gunnison Valley ~~Transportation Planning Region~~TPR comprises Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel counties.

2.01.10 The Southwest ~~Transportation Planning Region~~TPR comprises Archuleta, Dolores, La Plata, Montezuma, and San Juan counties, including the Ute Mountain Ute and Southern Ute Indian Reservations.

2.01.11 The Intermountain ~~Transportation Planning Region~~TPR comprises Eagle, Garfield, Lake, Pitkin, and Summit counties.

2.01.12 The Northwest ~~Transportation Planning Region~~TPR comprises Grand, Jackson, Moffat, Rio Blanco, and Routt counties.

2.01.13 The Upper Front Range ~~Transportation Planning Region~~TPR comprises Morgan County, and the parts of Larimer and Weld counties, that are outside both the North Front Range and the Greater Denver (metropolitan) TPRs.

2.01.14 The Central Front Range ~~Transportation Planning Region~~TPR comprises Custer, El Paso, Fremont, Park, and Teller counties, excluding the Pikes Peak Area Council of Governments' metropolitan area.

2.01.15 The South Central ~~Transportation Planning Region~~TPR comprises Huerfano, and Las Animas Counties.

2.02 Boundary Revision Process.

2.02.1 TPR boundaries, excluding any MPO-related boundaries, will be reviewed by the Commission at the beginning of each regional and statewide transportation planning process. The Department will notify counties, municipalities, MPOs, Indian tribal governments, and RPCs for the TPRs of the boundary review revision requests. MPO boundary review shall be conducted pursuant to 23 U.S.C. § 134 and 23 C.F.R. Part 450 Subpart B and any changes shall be provided to the Department to update the Rules. All boundary revision requests shall be sent to the Division Director, and shall include:

2.02.1.1 A geographical description of the proposed boundary change.

2.02.1.2 A statement of justification for the change considering transportation commonalities.

2.02.1.3 A copy of the resolution stating the concurrence of the affected ~~Regional Planning Commission~~RPC.

2.02.1.4 The name, title, mailing address, telephone number, fax number and electronic mail address (if available) of the contact person for the requesting party or parties.

2.02.2 The Department will assess and STAC shall review and comment (as set forth in these Rules) on all ~~non~~Non-~~metropolitan~~ Metropolitan ~~area~~ Area TPR boundary revision requests based on transportation commonalities and make a recommendation to the Commission concerning such requests. The Department will notify the Commission of

MPO boundary changes. The Commission may initiate a rule-making proceeding under the ~~State~~ Colorado Administrative Procedure Act, § 24-4-103, C.R.S. to consider a boundary revision request. Requests received for a MPO or non-metropolitan TPR boundary revision outside of the regularly scheduled boundary review cycle must include the requirements identified above.

2.02.3 In the event that the Commission approves a change to the boundary of a TPR that has a ~~Regional Planning Commission~~RPC, the RPC in each affected TPR shall notify the Department of any changes to the ~~intergovernmental~~ Intergovernmental ~~agreement~~ Agreement governing the RPC as specified in these Rules.

2.03 Transportation Planning Coordination with MPOs.

2.03.1 The Department and the MPOs shall coordinate activities related to the development of ~~Regional Transportation Plan~~RTPs, the Statewide Transportation Plan, TIPs, and the STIP in conformance with 23 U.S.C. § 134 and 135 and § 43-1-1101 and § 43-1-1103, C.R.S. The Department shall work with the MPOs to resolve issues arising during the planning process.

2.04 Transportation Planning Coordination with Non-MPO RPCs.

2.04.1 The Department and RPCs shall work together in developing ~~Regional Transportation Plan~~RTPs and in planning future transportation activities. The Department shall consult with all RPCs on development of the Statewide Transportation Plan; incorporation of RTPs into the Statewide Transportation Plan; and the inclusion of projects into the STIP that are consistent with the RTPs. In addition, the Department shall work with the RPCs to resolve issues arising during the planning process.

2.05 Transportation Planning Coordination among RPCs.

2.05.1 If transportation improvements cross TPR boundaries or significantly impact another TPR, the RPC shall consult with all the affected RPCs involved when developing the ~~regional transportation plan~~RTP. In general, RPC planning officials shall work with all ~~planning~~ Planning ~~partners~~ Partners affected by transportation activities when planning future transportation activities.

2.06 Transportation Planning Coordination with the Southern Ute and the Ute Mountain Ute Tribal Governments.

2.06.1 Regional transportation planning within the Southwest TPR shall be coordinated with the transportation planning activities of the Southern Ute and the Ute Mountain Ute tribal governments. The long-range transportation plans for the tribal areas shall be integrated in the Statewide Transportation Plan and the ~~Regional Transportation Plan~~RTP for this TPR. The TTIP is incorporated into the STIP without modification.

3.00 Statewide Transportation Advisory Committee (STAC).

3.01 Duties of the ~~Statewide Transportation Advisory Committee (~~STAC~~)~~. Pursuant to § 43-1-1104 C.R.S. the duties of the STAC shall be to meet as necessary and provide advice to both the Department and the Commission on the needs of the transportation system in Colorado including, but not limited to: budgets, ~~transportation improvement programs~~TIPs of the ~~metropolitan planning organizations~~MPOs, the ~~Statewide Transportation Improvement Program~~STIP, transportation plans, and state transportation policies.

The STAC shall review and provide to both the Department and the Commission comments on:

3.01.1 All ~~Regional Transportation Plan~~RTPs, amendments, and updates as described in these Rules.

3.01.2 Transportation related communication and/or conflicts which arise between RPCs

or between the Department and a RPC.

3.01.3 The integration and consolidation of RTPs into the Statewide Transportation Plan.

3.01.4 Colorado's ~~mobility~~ Mobility requirements to move people, goods, services, and information by furnishing regional perspectives on transportation problems requiring interregional and/or statewide solutions.

3.01.5 Improvements to modal choice, linkages between and among modes, and transportation system balance and ~~system~~ System ~~continuity~~Continuity.

3.01.6 Proposed TPR boundary revisions.

3.02 Notification of Membership

3.02.1 Each RPC and tribal government shall select its representative to the STAC pursuant to § 43-1-1104(1), C.R.S. The Ute Mountain Ute Tribal Council and the Southern Ute Indian Tribal Council each appoint one representative to the STAC. Each TPR and tribal government is also entitled to name an alternative representative who would serve as a proxy in the event their designated representative is unable to attend a STAC meeting and would be included by the Department in distributions of all STAC correspondence and notifications. The Division Director shall be notified in writing of the name, title, mailing address, telephone number, fax number and electronic mail address (if available) of the STAC representative and alternative representative from each TPR and tribal government within thirty (30) days of selection.

3.03 Administration of ~~Statewide Transportation Advisory Committee~~STAC

3.03.1 STAC recommendations on Regional and Statewide Transportation Plans, amendments, and updates shall be documented in the STAC meeting minutes, and will be considered by the Department and Commission throughout the statewide transportation planning process.

3.03.2 The STAC shall establish procedures to govern its affairs in the performance of its advisory capacity, including, but not limited to, the appointment of a chairperson and the length of the chairperson's term, meeting times, and locations.

3.03.3 The Division Director will provide support to the STAC, including, but not limited to:

3.03.3.1 Notification of STAC members and alternates of meeting dates.

3.03.3.2 Preparation and distribution of STAC meeting agendas, supporting materials, and minutes.

3.03.3.3 Allocation of Department staff support for STAC-related activities.

4.00 Development of Regional and Statewide Transportation Plans.

4.01 ~~Regional Planning Commission~~RPCs, MPOs, and the Department shall comply with all applicable provisions of 23 U.S.C. § 134 and § 135, 23 C.F.R. Part 450, and § 43-1-1103, C.R.S. and all applicable provisions of Commission policies and guidance documents in development of regional and statewide transportation plans, respectively.

4.02 Public Participation

4.02.1 The Department, in coordination with the RPCs of the rural TPRs, shall provide early and continuous opportunity for public participation in the transportation planning process. The process shall be proactive and provide timely information, adequate public notice,

reasonable public access, and opportunities for public review and comment at key decision points in the process. Adequate public participation for Disproportionately Impacted Communities and Additionally Impacted Communities requires utilizing best practice notice and engagement methods as outlined in the Transportation Equity Framework. The objectives of public participation in the transportation planning process include: providing a mechanism for directly-impacted communities to provide leadership, share perspectives, needs, and ideas to be considered in the planning process; developing the Department's and public's understanding of the problems and opportunities facing the transportation system; demonstrating explicit consideration and response to public input through a variety of tools and techniques; and developing consensus on plans. The Department shall develop a documented public participation process pursuant to 23 C.F.R. Part 450.

4.02.2 Statewide Plans and Programs. Pursuant to 23 C.F.R. Part 450 Subpart B, the Department is responsible, in cooperation with the RPCs and MPOs, for carrying out public participation for developing, amending, and updating the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan, the ~~Statewide Transportation Improvement Program (~~STIP), GHG Mitigation Plans, and other statewide transportation planning activities.

4.02.3 MPO Plans and Programs. Pursuant to 23 C.F.R. Part 450 Subpart C, the MPOs are responsible for carrying out public participation for the development of ~~regional transportation plan~~RTPs, ~~transportation improvement programs~~TIPs, GHG Mitigation Plans, and other related regional transportation planning activities for their respective ~~metropolitan~~ Metropolitan ~~planning~~ Planning ~~areas~~Areas. Public participation activities carried out in a metropolitan area in response to metropolitan planning requirements shall by agreement of the Department and the MPO, satisfy the requirements of this subsection.

4.02.4 Non-MPO TPR Plans and Programs. ~~Regional Planning Commission~~RPCs for non-MPO TPRs are responsible for public participation related to regional planning activities in that TPR, including GHG Mitigation Plans, in cooperation with the Department. Specific areas of cooperation shall be determined by agreement between the ~~Regional Planning Commission~~RPC and the Department.

4.02.5 Public Participation Activities. Public participation activities at both the rural TPR and statewide level shall include, at a minimum:

4.02.5.1 Establishing and maintaining for the geographic area of responsibility a list of all known parties interested in transportation planning including, but not limited to: elected officials; municipal and county planning staffs; affected public agencies; local, state, and federal agencies eligible for federal and state transportation funds; local representatives of public transportation agency employees and users; freight shippers and providers of freight transportation services; public and private transportation providers; representatives of users of transit, bicycling and pedestrian, aviation, and train facilities; private industry; environmental and other interest groups; Indian tribal governments and the U.S. Secretary of the Interior when tribal lands are involved; and representatives of persons or groups that may be underserved by existing transportation systems, such as minority, low-income, seniors, persons with disabilities, Disproportionately Impacted Communities, Additionally Impacted Communities and those with ~~limited~~ Limited English ~~proficiency~~Proficiency; and members of the general public expressing such interest in the transportation planning process.

4.02.5.2 Providing reasonable notice and opportunity to comment through mailing lists and other various communication methods on upcoming transportation planning-related activities and meetings. Reasonable notice for Disproportionately Impacted Communities and Additionally

Impacted Communities requires the notice to be translated in the major languages spoken in the community.

4.02.5.3 Utilizing reasonably available internet or traditional media opportunities, including minority and diverse media, to provide timely notices of planning-related activities and meetings to members of the public, including ~~LEP~~ Limited English Proficiency individuals, and others who may require reasonable accommodations. Methods that will be used to the maximum extent practicable for public participation could include, but not be limited to, use of the internet; social media, news media, such as newspapers, radio, or television, mailings and notices, including electronic mail and online newsletters.

4.02.5.4 Implementation of the Transportation Equity Framework. Seeking out those persons, ~~or~~ groups, and communities Disproportionately and Additionally Impacted or ~~traditionally~~ Traditionally ~~underserved~~ Underserved by existing transportation systems including, but not limited to, seniors, persons with disabilities, minority groups, low- income, and those with ~~limited~~ Limited English ~~proficiency~~Proficiency, for the purposes of exchanging information, increasing their involvement, ~~and~~ considering their transportation needs in the transportation planning process, responding to public input, and providing leadership opportunities to propose transportation projects in coordination with the Environmental Justice and Equity Branch. Pursuant to § 43-1-601, C.R.S., the Department shall prepare a statewide survey identifying the transportation needs of seniors and of persons with disabilities.

4.02.5.5 Consulting, as appropriate, with ~~Regional Planning Commission~~RPCs, and federal, state, local, and tribal agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation concerning the development of long-range transportation plans.

4.02.5.6 Providing reasonable public access to, and appropriate opportunities for public review and comment on criteria, standards, and other planning-related information. Reasonable public access includes, but is not limited to, ~~LEP~~ Limited English Proficiency services and access to ADA-compliant facilities, as well as to the internet.

4.02.5.7 Where feasible, scheduling the development of regional and statewide plans so that the release of the draft plans may be coordinated to provide for the opportunity for joint public outreach.

4.02.5.8 Documentation of Responses to Significant Issues. ~~Regional Planning Commissions~~RPCs and the Department shall respond in writing to all significant issues raised during the review and comment period on transportation plans, and make these responses available to the public.

4.02.5.9 Review of the Public Involvement Process. All interested parties and the Department shall periodically review the effectiveness of the Department's public involvement process to ensure that the process provides full and open access to all members of the public. When necessary, the process will be revised and allow time for public review and comment per 23 C.F.R. Part 450.

4.03 Transportation Systems Planning. ~~Regional Planning Commission~~RPCs, and the Department, shall use an integrated ~~multimodal~~ Multimodal ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning approach in developing and updating the long-range ~~Regional Transportation~~

~~Plans~~RTPs and the long-range Statewide Transportation Plan for a minimum 20-year forecasting period. ~~Regional Planning Commission~~RPCs shall have flexibility in the methods selected for ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning based on the complexity of transportation problems and available resources within the TPR. The Department will provide guidance and assistance to the ~~Regional Planning Commission~~RPCs regarding the selection of appropriate methods.

4.03.1 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs and the Department shall consider the results of any related studies that have been completed. ~~Regional Planning Commission~~RPCs and the Department may also identify any ~~corridor~~Corridor(s) or sub-area(s) where an environmental study or assessment may need to be performed in the future.

4.03.2 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs shall consider ~~corridor vision~~ needs and desired state of the transportation system including existing and future land use and infrastructure, major activity centers such as industrial, commercial and recreation areas, economic development, environmental protection, and modal choices.

4.03.3 Transportation ~~systems~~ Systems ~~planning~~ Planning by ~~Regional Planning Commission~~RPCs shall include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and ~~mobility~~ Mobility of people goods, and services.

4.03.4 Transportation ~~systems~~ Systems ~~planning~~ Planning by the Department should include capital, operations, maintenance and management strategies, investments, procedures, and other measures to ensure the preservation and most efficient and effective use of the ~~state~~ State ~~transportation~~ Transportation ~~system~~System.

4.03.5 Transportation ~~systems~~ Systems P~~p~~lanning by the Department shall consider and integrate all modes into the Statewide Transportation Plan and include coordination with Department modal plans and modal committees, such as the ~~Transit and Rail Advisory Committee~~ (TRAC).

4.03.6 Transportation Systems Planning by RPCs and the Department shall consider and integrate GHG Roadmap objectives into the Statewide Transportation Plan and include coordination and review with APCD and the Colorado Energy Office,

4.03.7 Transportation Systems Planning by RPCs and the Department shall implement the Transportation Equity Framework for community engagement and identifying projects that effectively promote racial equity and economic justice while meeting transportation and GHG Roadmap objectives.

4.03.8 Transportation Systems Planning by the Department shall provide for the establishment and use of a performance-based approach to transportation decision-making to support the national goals described in 23 U.S.C. § 150 (FAST Act, P.L. 114-94). Performance targets that the Department establishes to address the performance measures described in 23 U.S.C. § 150, where applicable, are to be used to track progress towards attainment of critical outcomes for the state. The state shall consider the performance measures and targets when developing policies, programs, and investment priorities reflected in the Statewide Transportation Plan and STIP.

4.04 Regional Transportation Plans (RTP). Long-range ~~regional transportation plans~~RTPs shall be developed, in accordance with federal (23 U.S.C. § 134 and § 135) and state (§ 43-1-1103 and § 43-1-1104, C.R.S.) law and implementing regulations. Department selection of performance targets that address the performance measures shall be coordinated with the relevant MPOs to ensure consistency, to the maximum extent practicable.

4.04.1 Content of ~~Regional Transportation Plan~~RTPs. Each RTP shall include, at a

minimum, the following elements:

4.04.1.1 Transportation system facility and service requirements within the MPO TPR over a minimum 20-year planning period necessary to meet expected demand, and the anticipated capital, maintenance and operating cost for these facilities and services.

4.04.1.2 State and federal transportation system planning factors to be considered by ~~Regional Planning Commission~~RPCs and the Department during their respective ~~transportation~~ Transportation ~~systems~~ Systems ~~planning~~ Planning shall include, at a minimum, the factors described in § 43-1-1103 (5), C.R.S., and in 23 U.S.C. § 134 and § 135.

4.04.1.3 Identification and discussion of potential environmental mitigation measures, ~~corridor~~ Corridor studies, or ~~corridor~~ Corridor ~~visions~~Visions, including a discussion of impacts to minority and low-income communities.

4.04.1.4 A discussion of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan.

4.04.1.5 Include an analysis of how the RTP is aligned with Colorado's climate goals and helps reduce, prevent, and mitigate GHG pollution throughout the Region.

4.04.1.6 Include an analysis of how the RTP is aligned with the Transportation Equity Framework in engaging the community and identifying projects that effectively promote racial equity and economic justice.

4.04.1.7 For rural RTPs, the integrated performance-based ~~multimodal~~ Multimodal transportation plan based on revenues reasonably expected to be available over the minimum 20-year planning period. For metropolitan RTPs, a ~~fiscally~~ Fiscally ~~constrained~~ Constrained financial plan.

4.04.1.8 Identification of reasonably expected financial resources developed cooperatively among the Department, MPOs, and rural TPRs for ~~long~~Long-~~range~~ Range ~~planning~~ Planning purposes, and results expected to be achieved based on regional priorities.

4.04.1.9 Documentation of the public notification and public participation process pursuant to these Rules.

4.04.1.10 A resolution of adoption by the responsible ~~Metropolitan Planning Organization~~MPO or the ~~Regional Planning Commission~~RPC.

4.04.2 Products and reviews

4.04.2.1 Draft Plan. ~~Transportation Planning Region~~TPRs shall provide a draft of the RTP to the Department through the Division ~~of Transportation Development~~.

4.04.2.2 Draft Plan Review. Upon receipt of the draft RTPs, the Department will initiate its review and schedule the STAC review (pursuant to these Rules). The Department will provide its comments and STAC comments to the ~~Transportation Planning Region~~TPR within a minimum of 30 days of receiving the draft RTP. ~~Regional transportation plan~~RTPs

in metropolitan areas completed pursuant to the schedule identified in 23 C.F.R. § 450.322 shall be subject to the provisions of this section prior to being submitted to the Department for consideration as an amendment to the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan.

4.04.2.3 Final Plan. ~~Transportation Planning Region~~TPRs shall provide the final RTP to the Department through the Division ~~of Transportation Development~~.

4.04.2.4 Final Plan Review. Upon receipt of the final RTP, the Department will initiate its review and schedule the STAC review (pursuant to these Rules) of the final RTPs to determine if the plans incorporate the elements required by the Rules. If the Department determines that a final RTP is not complete, including if the final RTP does not incorporate the elements required by these Rules, then the Department will not integrate that RTP into the statewide plan until the ~~Transportation Planning Region~~TPR has sufficiently revised that RTP, as determined by the Department with advice from the STAC. The Department will provide its comments and STAC comments to the ~~Transportation Planning Region~~TPR within a minimum of 30 days of receiving the final RTP. ~~Transportation Planning Region~~TPRs shall submit any RTP revisions based on comments from the Department and STAC review within 30 days of the Department's provision of such comments. ~~Regional transportation plans~~RTPs in metropolitan areas completed pursuant to the schedule identified in 23 C.F.R. § 450.322 shall be subject to the provisions of this section prior to being submitted to the Department for consideration as an amendment to the ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan.

4.05 Maintenance and Nonattainment Areas. Each RTP, or RTP amendment, shall include a section that:

4.05.1 Identifies any area within the TPR that is designated as a ~~maintenance~~ Maintenance or ~~nonattainment~~ Nonattainment ~~area~~Area.

4.05.2 Addresses, in either a qualitative or quantitative manner, whether transportation related emissions associated with the pollutant of concern in the TPR are expected to increase over the ~~long~~Long ~~range~~ Range ~~planning~~ Planning period and, if so, what effect that increase might have in causing a ~~maintenance~~ Maintenance ~~area~~ Area for a~~n~~ NAAQS pollutant to become a ~~nonattainment~~ Nonattainment ~~area~~Area, or a ~~non-attainment~~Nonattatinment ~~area~~ Area to exceed its emission budget in the approved State Implementation Plan.

4.05.3 If transportation related emissions associated with the pollutant are expected to increase over the ~~long~~Long ~~range~~ Range ~~planning~~ Planning period, identifies which programs or measures are included in the RTP to decrease the likelihood of that area becoming a ~~nonattainment~~ Nonattainment ~~area~~ Area for the pollutant of concern.

4.06 Statewide Transportation Plan. The ~~Regional Transportation Plans~~RTPs submitted by the ~~Regional Planning Commissions~~RPCs shall, along with direction provided through Commission policies and guidance, form the basis for developing and amending the Statewide Transportation Plan. The Statewide Transportation Plan shall cover a minimum 20-year planning period at the time of adoption and shall guide the development and implementation of a performance-based ~~multimodal~~ Multimodal transportation system for the State.

4.06.1 The Statewide Transportation Plan shall:

4.06.1.1 Integrate and consolidate the RTPs and the Department's systems

planning, pursuant to these Rules, into a long-range 20-year ~~multimodal~~ Multimodal transportation plan that presents a clear, concise path for future transportation in Colorado.

4.06.1.2 Include the long-term transportation concerns of the Southern Ute Indian Tribe and the Ute Mountain Ute Tribe in the development of the Statewide Transportation Plan.

4.06.1.3 Coordinate with other state and federal agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation.

4.06.1.4 Include a discussion of potential environmental mitigation activities and potential areas to carry out these activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan developed in consultation with federal, state, and tribal wildlife, land management and regulatory agencies.

4.06.1.5 Include a comparison of transportation plans to state and tribal conservation plans or maps and to inventories of natural or historical resources.

4.06.1.6 Provide for overall ~~multimodal~~ Multimodal transportation system management on a statewide basis.

4.06.1.7 The Statewide Transportation Plan shall be coordinated with metropolitan transportation plans pursuant to 23 C.F.R. Part 450, § 43-1-1103 and § 43-1-1105, C.R.S. Department selection of performance targets shall be coordinated with the MPOs to ensure consistency, to the maximum extent practicable.

4.06.1.8 Include an analysis of how the Statewide Transportation Plan is aligned with Colorado's climate goals and helps reduce, prevent, and mitigate GHG pollution and VMT throughout the State.

4.06.1.9 Include an analysis of how the Statewide Transportation Plan helps prevent, reduce, and mitigate GHG pollution, VMT, and hazardous co-pollutants within Disproportionately Impacted Communities and Additionally Impacted Communities.

4.06.1.10 Includes the 10-Year Plan as an appendix.

4.06.2 Content of the Statewide Transportation Plan. At a minimum, the Statewide Transportation Plan shall include priorities as identified in the RTPs, as identified in these Rules and pursuant to federal planning laws and regulations. The Statewide Transportation Plan shall be submitted to the ~~Colorado Transportation~~ Commission for its consideration and approval.

4.06.3 Review and Adoption of the Statewide Transportation Plan.

4.06.3.1 The Department will submit a draft Statewide Transportation Plan to the Commission, the STAC, and all interested parties for review and comment. The review and comment period will be conducted for a minimum of 30 days. The Statewide Transportation Plan and appendices~~The publication~~ will be available in physical form upon request~~at public facilities, such as at the Department headquarters and region offices, state depository libraries, county offices, TPR offices, Colorado Division offices of the Federal Highway Administration and Federal Transit Administration~~, and made available on the internet.

4.06.3.2 The Department will submit the final Statewide Transportation Plan to the ~~Colorado Transportation~~ Commission for adoption.

5.00 Updates to Regional and Statewide Transportation Plans.

5.01 Plan Update Process. The updates of ~~Regional Transportation Plan~~RTPs and the Statewide Transportation Plan shall be completed on a periodic basis through the same process governing development of these plans pursuant to these Rules. The update cycle shall comply with federal and state law and be determined in consultation with the ~~Transportation~~ Commission, the Department, the STAC and the MPOs so that the respective update cycles will coincide.

5.02 Notice by Department of Plan Update Cycle. The Department will notify ~~Regional Planning Commission~~RPCs and the MPOs of the initiation of each plan update cycle, and the schedule for completion.

6.00 Amendments to the Regional and Statewide Transportation Plans.

6.01 Amendment Process

6.01.1 The process to consider amendments to ~~Regional Transportation Plan~~RTPs shall be carried out by rural RPCs and the MPOs. The amendment review process for ~~Regional Transportation Plan~~RTPs shall include an evaluation, review, and approval by the respective RPC or MPO.

6.01.2 The process to consider amendments to the Statewide Transportation Plan shall be carried out by the Department, either in considering a proposed amendment to the Statewide Transportation Plan from a requesting RPC or MPO or on its own initiative.

6.01.3 The process to consider amendments to the 10-Year Plan shall be carried out by CDOT in coordination with the rural RPCs and the MPOs.

7.00 Transportation Improvement Programs (TIPs) and Statewide Transportation Improvement Program (STIP).

7.01 TIP development shall occur in accordance with 23 C.F.R. Part 450, Subpart C. The Department will develop the STIP in accordance with 23 C.F.R. Part 450, Subpart B.

7.02 The Department will work with its ~~planning~~ Planning ~~partners~~ Partners to coordinate a schedule for development and adoption of TIPs and the STIP.

7.03 A TIP for an MPO that is in a ~~non-attainment~~Nonattainment or Maintenance Area must first receive a conformity determination by FHWA and FTA before inclusion in the STIP pursuant to 23
C.F.R. Part 450.

7.04 MPO TIPs and Colorado's STIP must be ~~fiscally~~ Fiscally ~~constrained~~Constrained. Under 23 C.F.R. Part 450, each project or project phase included in an MPO TIP shall be consistent with an approved metropolitan RTP, and each project or project phase included in the STIP shall be consistent with the long-range ~~statewide~~ Statewide ~~transportation~~ Transportation ~~plan~~Plan. MPO TIPs shall be included in the STIP either by reference or without change upon approval by the MPOs and the Governor.

8.00 GHG Emission and VMT Transportation Planning Reduction Requirements

8.01 Establishment of Regional GHG and VMT Transportation Planning Reduction Levels

8.01.1 ~~The GHG emission reduction levels within Table 1 apply to MPOs and the Non-MPO area within the state of Colorado as of the effective date of these Rules.~~ MPOs and the Non-MPO areas within the state of Colorado shall comply with the GHG and VMT reduction targets set forth in Tables 1 and 2. Baseline values are specific to each MPO and CDOT area and represent estimates of GHG emissions and VMT resulting from the existing transportation network and implementation of the most recently adopted RTP for all MPOs and the 10-Year Plan in non-MPO areas as of the effective date of these Rules. ~~Table 2 reflects the difference in Baseline levels from year to year assuming a rapid growth in electric vehicles across the State (940,000 light duty electric vehicles in 2030, 3.38 million in 2040 and a total of 97% of all light duty vehicles in 2050).~~

Values in both tables include estimates of population growth as provided by the state demographer.

8.01.2 Regional GHG Transportation Planning Reduction Levels

Table 1: GHG Transportation Planning Reduction Levels in MMT of CO2e

Regional Areas	2025 Baseline Projections (MMT)	2025 Reduction Level (MMT)	2030 Baseline Projections (MMT)	2030 Reduction Level (MMT)	2040 Baseline Projections (MMT)	2040 Reduction Level (MMT)	2050 Baseline Projections (MMT)	2050 Reduction Level (MMT)
DRCOG	14.90	0.67	11.80	2.02	10.90	1.55	12.80	0.91
NFRMPO	2.30	0.10	1.80	0.30	1.90	0.27	2.20	0.17
PPACG	2.70	0.12	2.20	0.37	2.00	0.30	2.30	0.17
GVMPO	0.38	0.02	0.30	0.05	0.30	0.05	0.36	0.02
PACOG	0.50	0.02	0.40	0.07	0.30	0.05	0.40	0.02
CDOT/Non-MPO	6.70	0.30	5.30	0.91	5.20	0.74	6.10	0.44
TOTAL	27.40	1.23	21.80	3.70	20.60	2.96	24.20	1.73

~~8.01.1 Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles~~

Table 2: VMT Transportation Planning Reduction Levels (in millions of miles) ~~Baseline Emissions Due to Projected Number of Light Duty Electric Vehicles~~

	~~2025 Projections (MMT)~~	~~2030 Projections (MMT)~~	~~2040 Projections (MMT)~~	~~2050 Projections (MMT)~~
~~TOTAL~~	~~27.0~~	~~20.0~~	~~14.0~~	~~8.9~~

Table 2: VMT Transportation Planning Reduction Levels (in millions)

Regional Areas	2025 Baseline Projections	2025 Reduction Level	2030 Baseline Projections	2030 Reduction Level	2040 Baseline Projections	2040 Reduction Level	2050 Baseline Projections	2050 Reduction Level
DRCOG	30,855	4,495	33,364	8,991	37,311	10,776	41,258	12,593
NFRMPO	5,387	784	5,826	1,569	6,515	1,736	7,204	2,450
PPACG	5,877	856	6,355	1,712	7,107	2,066	7,859	2,420
GVMPO	980	142	1,059	285	1,184	401	1,310	390
PACOG	980	142	1,059	285	1,184	401	1,310	339
CDOT/Non-MPO	14,693	2,140	15,888	4,281	17,767	5,022	19,647	6,193
Total VMT	58,771	8,563	63,551	17,126	71,069	20,405	78,587	24,388

*Assumes GHG and VMT targets apply to all MPOs and CDOT on the same timeframe.

8.02 Process for Determining Compliance

8.02.1 Analysis Requirements When Adopting or Amending an Applicable Planning Document - Each MPO and CDOT shall conduct a GHG emissions and a net VMT analysis using MPO Models or the Statewide Travel Model, and the Approved Air Quality Model, to estimate total CO2e emissions and net VMT. Such analysis shall include the existing transportation network and implementation of Regionally Significant Projects.

8.02.1.1 The emissions analysis must estimate total CO2e emissions in million metric tons (MMT) for each year in Table 1 and compare these emissions to the Baseline specified in Table 1. ~~This provision shall not apply to MPO TIP amendments.~~

8.02.1.2 The net VMT analysis will estimate the expected net VMT that would result from the Regionally Significant Projects in the applicable planning document as compared to the reductions required in net VMT in the chart above.

8.02.2 Agreements on Modeling Assumptions and Execution of Modeling Requirements. Prior to the adoption of the next RTP for any MPO, CDOT, CDPHE, and each MPO shall enter into an Intergovernmental Agreement which outlines CDOT, CDPHE, and MPO responsibilities for development and execution of MPO Models or the Statewide Travel Model, and Approved Air Quality Model.

8.02.2.1 The Induced Travel Elasticity for roadway capacity projects shall be set at 1.0 for freeways and 0.75 for arterials.

8.02.2.2 MPOs will agree to participate in measuring actual VMT on regionally significant projects to assess the accuracy of the models used in

predicting VMT.

8.02.2.3 Regionally Significant Projects will be run through an equity analysis that examines cumulative health impacts to the surrounding communities. Parties to the intergovernmental agreement will commit that no Regionally Significant Project will cause adverse environmental or public health impacts to a Disproportionately or Additionally Impacted Community that is already experiencing degraded environmental conditions relative to the state population.

8.02.2.4 Parties to the intergovernmental agreement will commit that no Regionally Significant Project will add more than 1 mile of new or added lanes.

8.02.2.5 Every five years the parties will reassess and improve the models based on how well they have performed against past Induced Travel and GHG emissions data. Third-party experts will be invited to evaluate the modeling and share those findings publicly.

8.02.2.6 The Parties will work to develop calculators to accurately estimate the GHG and VMT impacts of individual projects, on both a total and per capita level, including the smaller projects on the GHG Mitigation Menu.

8.02.2.7 By January 1, 2023, CDOT and MPOs are required to use a consistent Activity-Based Model.

8.02.3 By April 1, 2022, CDOT shall establish an ongoing administrative process, through a public process, for selecting, measuring, confirming, and verifying GHG Mitigation Measures, so that CDOT and MPOs can incorporate one or more into each of their plans in order to reach the Regional GHG and VMT Planning Reduction Levels in Table 1 and Table 2. Such a process shall include, but not be limited to, determining the relative and absolute impacts of GHG Mitigation Measures, measuring and prioritizing localized impacts to communities and Disproportionately Impacted Communities and Additionally Impacted Communities in particular. The scoring of competing projects shall be public and transparent. The mitigation credit awarded to a specific solution shall consider both aggregate and community impact and benefit.

8.02.4 Timing for Determining Compliance

8.02.4.1 By October 1, 2022, CDOT shall update their 10-Year Plan and DRCOG and NFRMPO shall update their RTPs pursuant to § 43-4-1103, C.R.S. and meet the reduction levels in Table 1 and Table 2 or the requirements pursuant to § 43-4-1103, C.R.S and restrictions on funds.

8.02.4.2 After October 1, 2022

8.02.4.2.1 CDOT must for each Applicable Planning Document, meet either the reduction levels within Table 1 and in Table 2 for Non-MPO areas or the requirements as set forth in Rule 8.05.

8.02.4.2.2 MPOs must meet either the corresponding reduction levels within Table 1 and in Table 2 for each Applicable Planning Document, or the relevant MPO and CDOT each must meet the requirements as set forth in Rule 8.05.

8.02.5 Demonstrating Compliance. At least thirty (30) days prior to adoption of any Applicable Planning Document, CDOT for Non-MPO areas and the MPOs for their areas shall provide to the Commission a GHG Transportation Report containing the following information:

8.02.5.1 GHG emissions and VMT analysis demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels

in MMT of CO2e for each compliance year in Table 1 and net VMT for each compliance year in Table 2 or that the requirements in Rules 8.02.5.1.1 or 8.02.5.1.2., as applicable, have been met.

8.02.5.1.1 In non-MPO areas or for MPOs that are not in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the Department utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in those areas on projects that reduce GHG emissions and reduce VMT.

8.02.5.1.2 In MPO areas that are in receipt of federal suballocations pursuant to the CMAQ and/or STBG programs, the MPO utilizes those funds on projects or approved GHG Mitigation Measures that reduce GHG emissions, and CDOT utilizes 10-Year Plan funds anticipated to be expended on Regionally Significant Projects in that MPO area, on projects that reduce GHG emissions and reduce VMT.

8.02.5.2 Identification and documentation of the MPO Model or the Statewide Travel Model and the Approved Air Quality Model used to determine GHG emissions in MMT of CO2e and net VMT.

8.02.5.2.1 The technical methodology must be found to yield accurate estimates of GHG emissions and VMT.

8.02.5.2.2 The data or documentation provided to support the estimates of GHG emissions and VMT must be sufficient for AQCC and CDOT to review.

8.02.5.2.3 To improve transparency, the GHG Transportation Report will include:

- Changes in population.
- Changes in regional population-weighted density.
- Share of housing and employment with ½ mile of high-frequency transit.
- Share of low-income households, Disproportionately Impacted Communities, and Additionally Impacted Communities with access to high-quality transit, biking, and walking infrastructure.
- Total number of housing units and employment density for each local government.

8.02.5.3 A Mitigation Action Plan that identifies GHG Mitigation Measures needed to meet the reduction levels for each compliance year within Table 1 and Table 2 shall include:

8.02.5.3.1 The anticipated start and completion date of each measure.

8.01.2.1.1 An estimate~~, where feasible,~~ of the GHG emissions reductions in MMT of CO2e and the anticipated net VMT reductions achieved by any GHG Mitigation Measures.

8.02.5.3.2 Quantification of specific co-benefits including reduction of co-pollutants (PM2.5, NOx, etc.) as well as travel impacts (changes to per capita VMT within the project area, pedestrian/bike use, transit ridership numbers, etc. as applicable).

8.02.5.3.3 At least 40% of funds allocated to projects that

benefit Disproportionately Impacted Communities and Additionally Impacted Communities, and a ~~D~~description of those benefits.

8.02.5.3.4 Records of input received during the public comment process for development of the Mitigation Action Plan and responses to input received.

8.02.6 Reporting on Compliance- Annually by April 1, CDOT and MPOs must provide a status report to the Commission on an approved form with the following items for each GHG Mitigation Measure identified in their most recent GHG Transportation Report:

8.02.6.1 The implementation timeline;

8.02.6.2 The current status;

8.02.6.3 For measures that are in progress or completed, quantification of the benefit or impact of such measures; and

8.01.2.2 For measures that are ~~delayed, cancelled, or~~ substituted, an explanation of why that decision was made and the public input received on the substitution decision.

8.03 GHG Mitigation Measures. When assessing compliance with the GHG and VMT Reduction Levels, CDOT and MPOs shall have the opportunity to utilize approved GHG Mitigation Measures as set forth in Rules 8.02.3 and 8.02.5.3 to offset emissions, reduce VMT, and demonstrate progress toward compliance. Illustrative examples of GHG Mitigation Measures include, but are not limited to:

8.0.3.1 The addition of transit resources in a manner that can displace VMT.

8.03.2 Improving pedestrian and bike access, particularly in areas that allow individuals to reduce multiple daily trips.

8.03.3 Encouraging local adoption of more effective forms of vertical development and zoning plans that integrate mixed use in a way that links and rewards transportation project investments with the city making these changes.

8.03.4 Improving first-and-final mile access to transit stops and stations that make transit resources safer and more usable by consumers.

8.03.5 Improving the safety and efficiency of crosswalks for pedestrians, bicyclists, and other non-motorized vehicles, including to advance compliance with the ADA.

8.03.6 Adopting locally driven changes to parking policies and physical configuration that encourage more walking and transit trips.

8.03.7 Incorporating medium/heavy duty vehicle electric charging and hydrogen refueling infrastructure -- as well as upgrading commensurate grid improvements -- into the design of key freight routes to accelerate truck electrification.

8.03.8 Establishing policies for clean construction that result in scalable improvements as a result of factors like lower emission materials, recycling of materials, and lower truck emissions during construction.

8.03.9 Adoption of transportation demand management practices that reduce VMT.

8.04 Air Pollution Control Division (APCD) Confirmation and Verification

8.04.1 At least forty-five (45) days prior to adoption of any Applicable Planning Document,

CDOT for Non-MPO areas and the MPOs for their areas shall provide to APCD for review and verification of the technical data contained in the draft GHG Transportation Report required per Rule 8.02.5. If APCD has not provided written verification within thirty (30) days, the document shall be considered acceptable.

8.04.2 At least thirty (30) days prior to adoption or amendment of policies per Rule 8.02.3, CDOT shall provide APCD the opportunity to review and comment. If APCD has not provided written comment within forty-five (45) days, the document shall be considered acceptable.

8.05 Enforcement. The Commission shall review all GHG Transportation Reports to determine whether the applicable reduction targets in Table 1 and Table 2 have been met, ~~and~~ the sufficiency of any GHG Mitigation Measures needed for compliance, and adverse environmental or public health impacts to Disproportionately and Additionally Impacted Communities are avoided.

8.05.1 If the Commission determines the requirements of Rule 8.02.5 have been met, the Commission shall, by resolution, accept the GHG Transportation Report.

8.05.2 If the Commission determines, by resolution, the requirements of Rule 8.02.5 have not been met, the Commission shall restrict the use of funds pursuant to Rules 8.02.5.1.1 or 8.02.5.1.2, as applicable, to projects and approved GHG Mitigation Measures that reduce GHG and VMT. Prior to the enforcement of such restriction, an MPO, CDOT or a TPR in a non- MPO area, may, within thirty (30) days of Commission action~~, issue one or both of the following opportunities to seek a waiver or to~~ ask for reconsideration accompanied by an opportunity to submit additional information:

8.05.2.1 ~~Request a waiver from the Commission imposing restrictions on specific projects not expected to reduce GHG emissions. The Commission may waive the restrictions on specific projects on the following basis:~~

~~8.01.1.1.1 The GHG Transportation Report reflected significant effort and priority placed, in total, on projects and GHG Mitigation Measures that reduce GHG emissions; and~~

~~8.01.1.1.2 In no case shall a waiver be granted if such waiver results in a substantial increase in GHG emissions when compared to the required reduction levels in this Rule.~~

8.05.2.2 Request reconsideration of a non-compliance determination by the Commission and provide written explanation of how the requirements of Rule 8.02.5 have been met.

8.05.2.3 The Commission shall act, by resolution, on a ~~waiver or~~ reconsideration request within thirty (30) days of receipt of the ~~waiver or~~ reconsideration request or at the next regularly scheduled Commission Meeting, whichever is later. If no action is taken within this time period, the ~~waiver or~~ reconsideration request shall be deemed to be denied.

8.05.3 Notwithstanding any other provision of this Rule, CDOT, DRCOG and NFRMPO must meet the requirements of § 43-4-1103, C.R.S.

8.06 Reporting. Beginning July 1, 2025, and every 5 years thereafter, the Executive Director on behalf of CDOT shall prepare and make public a comprehensive report on the statewide GHG and VMT reduction accomplishments achieved by this rule. The report shall contain, without limitation, the following information:

8.06.1 Whether the state is meeting GHG emission and VMT reductions required by Rule 8.02.5 statewide, for each TPR, and for each MPO.

8.06.1.1 If the report indicates that statewide VMT and GHG reductions required by Rule 8.02.5 are not projected to be met under existing rules, CDOT shall develop and propose additional requirements to the Commission, no later than December 31 of the same year, to be adopted no later than March 31 of the following year, which must be designed to make up the difference between VMT and GHG reductions achieved and the VMT and GHG reductions necessary to comply with Rule 8.02.5.

8.06.2 The number and a description of projects affecting Disproportionately Impacted Communities and Additionally Impacted Communities and the net effect on VMT and GHG emissions of those projects.

8.06.3 A review of the mapping tools and any updates required by the analysis required by 8.03.2.4.

9.00 Materials Incorporated by Reference

9.01 The Rules are intended to be consistent with and not be a replacement for the federal transportation planning requirements in Rule 9.01.1 and federal funding programs in Rules 9.01.2 and 9.01.3, which are incorporated into the Rules by this reference, and do not include any later amendments.

9.01.1 Fixing America's Surface Transportation Act or the "FAST Act"), 23 U.S.C. §§ 134, 135 and 150, Pub. L. No. 114-94, signed into law on December 4, 2015, and its accompanying regulations, where applicable, contained in 23 C.F.R.Part 450, including Subparts A, B and C in effect as of November 29, 2017, and 25 C.F.R. § 170 in effect as of November 7, 2016.

9.01.2 Congestion Mitigation and Air Quality Improvement (CMAQ) Program, 23 U.S.C. § 149, in effect as of March 23, 2018.

9.01.3 Surface Transportation Block Grant (STBG) Program, 23 U.S.C. § 133, in effect as of December 4, 2015.

9.02 Also incorporated by reference are the following federal laws and regulations and do not include any later amendments:

9.02.1 Americans with Disabilities Act (ADA), 42 U.S.C. § 12101, *et. seq*., in effect as of January 1, 2009.

9.02.2 Clean Air Act (CCA), 42 U.S.C. §§ 7407-7410, and 7505a, in effect as of November 15, 1990.

9.02.2 Transportation Conformity Regulations, 40 C.F.R. § 93.101, in effect as November 24,1993.

9.03 Also incorporated by reference are the following documents, standards, and models and do not include any later amendments:

9.03.1 Greenhouse Gas Pollution Reduction Roadmap by the Colorado Energy Office and released on January 14, 2021.

9.03.2 MOVES3 Motor Vehicle Emissions Model for SIPs and Transportation Conformity released by the U.S. Environmental Protection Agency, in effect as of January 7, 2021.

9.04 All referenced laws and regulations are available for copying or public inspection during regular business hours from the Office of Policy and Government Relations, Colorado Department of Transportation, 2829 W. Howard Pl., Denver, Colorado 80204.

9.05 Copies of the referenced federal laws and regulations, planning documents, and models.

9.05.1 Copies of the referenced United States Code (U.S.C.) may be obtained from the following address:

Office of the Law Revision Counsel
U.S. House of Representatives
H2-308 Ford House Office Building
Washington, DC 20515
(202) 226-2411
https://uscode.house.gov/browse.xhtml

9.05.2 Copies of the referenced Code of Federal Regulations (C.F.R.) may be obtained from the following address:

U.S. Government Publishing Office
732 North Capitol State, N.W.
Washington, DC 20401
(866) 512-1800
https://www.govinfo.gov/

9.1.5.3 Copies of the Greenhouse Gas Pollution Reduction Roadmap (Roadmap) may be obtained from the following address:

Colorado Energy Office
1600 Broadway, Suite 1960
Denver, CO 80202
(303) 866-2100
energyoffice.colorado.gov

9.1.5.4 To download MOVES3 released by the U.S. Environmental Protection Agency may be obtained from the following address:

U.S. Environmental Protection Agency
The Office of Transportation and Air Quality
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
(734) 214–4574 or (202) 566-0495
mobile@epa.gov
https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

10.00 Declaratory Orders

10.01 The Commission may, at their discretion, entertain petitions for declaratory orders pursuant to § 24-4-105(11), C.R.S.

Editor's Notes

History

Entire rule eff. 12/15/2012.
Section SB&P eff. 05/30/2013.
Entire rule eff. 09/14/2018.

Annotations

Rules 1.22, 1.25, 1.42, 2.03.1 – 2.03.1.4, 4.01, 4.02.1 – 4.02.3, 4.02.5.9, 4.04.2.2, 4.04.2.4, 4.06.1.7, 6.01.2, 7.01, 7.03 – 7.04 (adopted 10/18/2012) were not extended by Senate Bill 13-079 and

therefore expired 05/15/2013.

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

REGIONAL AIR QUALITY COUNCIL PUBLIC COMMENTS REGARDING PROPOSED REVISED RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS (2 CCR 601-22)

1 message

[redacted] Mon, Oct 18, 2021 at 10 38 AM
To: "dot_rules@state.co.us" <dot_rules@state.co.us>
Cc: [redacted]

Plea e find the attached public comment from the Regional Air Quality Council to the Colorado Tran portation Commission regarding the proposed greenhouse gas pollution reduction standards for transportation planning as proposed by the Colorado Department of Transportation.

Thank you.

[redacted]

In an effort to help mitigate the spread of COVID-19, I may be working remotely. During this time email will be the best way to reach me Thank you

RAQC
REGIONAL AIR QUALITY COUNCIL

Climate 2021 CDOT GHG Rule Public Comment to TC Oct pdf
586K

REGIONAL AIR QUALITY COUNCIL

October 18, 2021

Colorado Transportation Commission
CDOT Headquarters
2829 W. Howard Place
Denver, CO 80204
dot_rules@state.co.us

REGARDING PROPOSED REVISED RULES GOVERNING STATEWIDE TRANSPORTATION PLANNING PROCESS AND TRANSPORTATION PLANNING REGIONS (2 CCR 601-22)

The Regional Air Quality Council (RAQC) encourages the Transportation Commission (Commission) to adopt greenhouse gas (GHG) pollution reduction standards for transportation planning as proposed by the Colorado Department of Transportation (CDOT). While there may be administrative and technical changes made to the proposal as the Commission considers public comment and deliberates, the RAQC supports the establishment of GHG emission reduction standards which require CDOT itself and Metropolitan Planning Organizations to ensure future transportation project emissions are in compliance with GHG reduction targets.

The RAQC serves as the lead agency for air quality planning for the Denver Metro/North Front Range ozone nonattainment area and has a vested interest in initiatives that will both reduce GHG emissions and assist the region attaining and maintaining the National Ambient Air Quality Standards for ozone. The proposal, if adopted and implemented as envisioned by CDOT, will establish GHG pollution reduction planning levels for transportation that will drive innovative and sustainable development, as well as transportation management approaches beyond what projected vehicle technology innovation can achieve on its own. This will ensure that fewer GHG's and air pollutants that contribute to the region's high ozone levels are emitted when compared to a transportation future without such regulatory standards.

As the Commission considers the proposal's adoption and future implementation, the RAQC again expresses its support for this regulatory initiative that quantitatively reduces emissions. The RAQC also encourages the Commission and CDOT to prioritize the funding of transit and other multi-modal initiatives that will assist affected regions of the State in their efforts towards achieving compliance with the regulatory requirements.

Respectfully

[redacted]

[redacted]

STATE OF COLORADO

Rules - CDOT, DOT_ <dot_rules@state.co.us>

NRDC Activist Public Comments: CO Transportation Rule

1 message

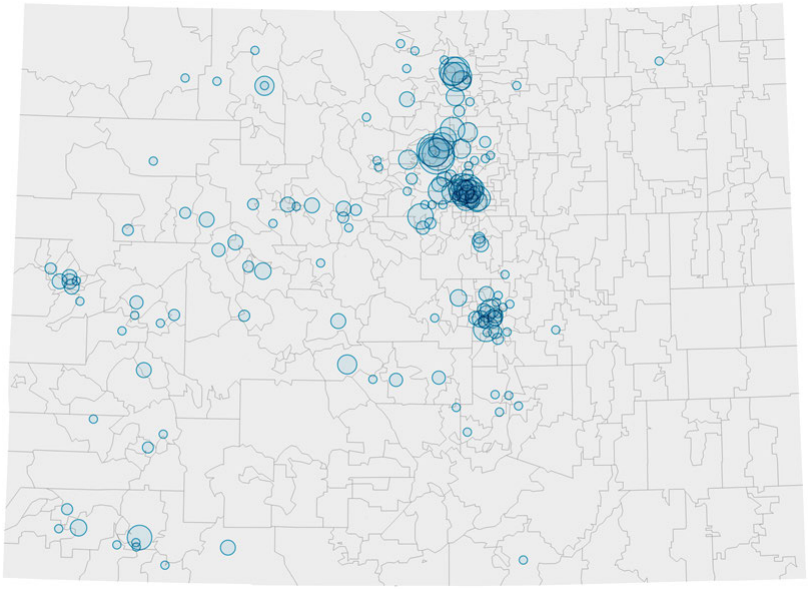
[redacted] Mon, Oct 18, 2021 at 11:34 AM

To: "dot_rules@state.co.us" <dot_rules@state.co.us>

Dear Colorado Department of Transportation,

Please accept these 1,090 public comments (attached) from activists and members of the Natural Resources Defense Council (NRDC) in support of a stronger greenhouse gas reduction rule to reduce emissions and clean up our air.

Here's a breakdown of where the comments were submitted across the state:



Coloradans are feeling the impacts of climate change firsthand. And transportation is the biggest source of climate-busting carbon pollution in Colorado — and passenger cars and commercial trucks are a leading cause of the state's poor air quality.

Colorado must meet the urgency of the moment and invest in changes TODAY that will protect all Coloradans, advance environmental justice, and provide a more livable climate and environment for generations to come.

Specially, we're calling on the Colorado Department of Transportation to ensure this new rule:

* Requires regional transportation plans to cut emissions to meet Colorado's climate goals

* Requires investments in climate-friendly transportation and mobility options like electric vehicles, passenger rail trains, buses, bike-sharing programs, and safe walking and biking paths, that support healthy communities while cutting air pollution and traffic

[redacted]

* Ensures that these new investments happen in low-income communities and communities of color that often live near freeways, ports, and freight-hubs and disproportionately feel the impacts of pollution

* Is developed in coordinate with communities most impacted by the burdens of pollution

* Stops the widening of freeways which just adds more cars to the road and pollution into the air

* Can be enforced to ensure these emissions reductions aren't just lost in the complicated planning processes of local transportation districts.

Imagine if instead of investing in gridlocked roads and highways, we expanded clean and affordable transit options that made walking, biking, and public transit as easy and convenient as driving.

Thank you for helping turn this vision into a reality. We're counting on you to put in place a bold and equitable transportation rule that tackles the climate crisis and protects communities.

Thanks so much,

[redacted]

2 attachments

NRDC Cover Letter CO Transportation Rule.docx
265K

NRDC Activist Comments on CO Transportation Rule.csv
2325K

[redacted]