Appendix C2.

Air Quality

C2. Air Quality Technical Report

June 2023
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Acronyms and Abbreviations

Term	Definition
$\mu g/m^3$	Micrograms per cubic meter
AADT	Average annual daily traffic
ADT	Average daily traffic
APCD	Air Pollution Control Division
APEN	Air Pollutant Emissions Notice
AQCC	Air Quality Control Commission
CAA	Clean Air Act
CCR	Code of Colorado Regulations
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations

Term	Definition
CH_4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
County	Adams County
CRS	Colorado Revised Statute
DMNFR	Denver Metro-North Front Range
DRCOG	Denver Regional Council of Governments
EA	Environmental Assessment
EIA	Energy Information Administration
EPA	U.S. Environmental Protection Agency
FDCP	Fugitive Dust Control Plan
FHWA	Federal Highway Administration
FR	Federal Register
FTA	Federal Transit Administration
GHG	Greenhouse gas
HAPs	hazardous air pollutants
IPCC	International Panel on Climate Change
IRIS	Integrated Risk Information System
MOVES	Motor Vehicle Emission Simulator
mph	Miles per hour
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics

Term	Definition
MVEB	Motor Vehicle Emissions Budget
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxide
O_3	Ozone
PM	Particulate matter
PM_{10}	Particulate matter less than 10 microns in diameter
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
ppb	Parts per billion
ppm	Parts per million
RAQC	Regional Air Quality Council
RTP	Regional Transportation Plan
SB	Senate Bill
SIP	State Implementation Plan
SO_2	Sulfur dioxide
TIP	Transportation Improvement Program
USC	United States Code
VMT	Vehicle miles traveled
VOC	Volatile Organic Compounds

Introductory Information

This air quality technical report supports the Environmental Assessment (EA) for the improvements to the Vasquez Boulevard corridor between 58th Avenue and 64th Avenue within the limits of the City of Commerce City in Adams County. The Vasquez Boulevard project (Project) would improve the intersections of Vasquez Boulevard/60th and Vasquez Boulevard/62nd Avenue and make improvements to the local street network and multimodal facilities in the vicinity of these intersections. This analysis was performed to assess the potential air quality impacts from the project. The overall analysis evaluates conformity of the project with the Clean Air Act (CAA) and its amendments (i.e., project-level transportation conformity) for areas designated as non-attainment and/or attainment/maintenance areas for pollutants which National Ambient Air Quality Standards (NAAQS) have been established (i.e., criteria pollutants) under 40 CFR part 93. This analysis also addresses applicability of evaluating mobile source air toxic pollutants (MSATs) and greenhouse gas (GHG) emissions as part of National Environmental Policy Act (NEPA) and Colorado Department of Transportation (CDOT) requirements. It is prepared in accordance with CDOT's NEPA Manual (CDOT, 2020), and CDOT's Air Quality Project-Level Analysis Guidance (AQ-PLAG) (CDOT, 2019). Interagency consultation was not conducted for this project.

The following project information can be found in **Attachment A Project Information:**

- Introduction and Background
- Project Study Area
- Purpose and Need
- Proposed Action Description

Applicable Legislation, Rules and Guidance

CDOT conducts air quality evaluations for its projects for various reasons, including:

- To fulfill requirements of the Clean Air Act (CAA) and amendments, including the Transportation Conformity Rule (40 Code of Federal Regulations [CFR] 93 Subpart A – This subpart provides structure for states to comply with section 176(c) of the CAA).
- To comply with NEPA and CDOT's environmental stewardship guide, which ensures the statewide transportation system is constructed and maintained in an environmentally responsible, sustainable and compliant manner.

NEPA and its implementing regulations (40 CFR 1500) mandate that transportation decisions involving a federal nexus or federal funds adhere to the NEPA regulations. NEPA requires that federal agencies use a systematic, interdisciplinary approach to decision-making when federal actions may affect the quality of the human environment.

Air quality is primarily regulated under the 1970 CAA (Title 42 United States Code [USC] Chapter 85) and amendments from 1977 and 1990. The purpose of the CAA is to protect and enhance air quality to promote public health, welfare and the productive capacity of the nation. Three types of pollutants are associated with transportation projects: criteria pollutants, MSATs and GHGs.

As of July 1, 2022, CDOT must comply with Colorado Revised Statute (CRS) 43-1-128 which requires the department and metropolitan planning organizations (MPOs) to implement procedures and guidelines to take additional steps to account for the greenhouse gas and vehicle miles traveled (VMT) impacts of capacity-expanding projects and/or projects identified as "regionally significant." The Proposed Action is neither a capacity-expanding project nor does it meet the definition of a "regionally significant" project. Thus, CRS 43-1-128 is not applicable to this project.

National Ambient Air Quality Standards – Criteria Pollutants

The U.S. Environmental Protection Agency (EPA) has established allowable ambient concentration limits (or NAAQS) for six criteria pollutants: carbon monoxide (CO), ground-level ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter (PM) (less than 10 microns in diameter [PM_{10}] and less than 2.5 microns in diameter [$PM_{2.5}$]) and lead (Pb). The NAAQS establishes both health-based (i.e., primary) concentration limits and public welfare (i.e., secondary) concentration limits. **Table 1** lists the NAAQS for each of the criteria pollutants. The criteria pollutants directly emitted from on-road mobile sources (i.e., motor vehicles) are those related to fuel combustion, vehicle breaking, and tires moving on the roadway surface. Ozone is a criteria pollutant that is formed in the lower atmosphere from a reaction between sunlight (i.e., ultraviolet radiation), volatile organic compounds (VOCs), and various oxides of nitrogen (NO_X). Vehicles are a source of both VOCs and NO_X.

Table 1: National Ambient Air Quality Standards

Pollutant	Standard Type	Averaging Time	Standard	Form
Carbon Monoxide (CO)	Primary	8 hours	9.0 ppm	Not to be exceeded more than once per year
		1 hour	35 ppm	
Lead (Pb)	Primary and Secondary	Rolling 3-month average	0.15 µg/m^3 [1]	Not to be exceeded
Nitrogen Dioxide (NO_2)	Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentration, averaged over 3 years
	Primary and Secondary	Annual	53 ppb[2]	Annual mean
Ozone (O_3)	Primary and Secondary	8 hours	70 ppb[3]	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Fine Particulate Matter ($PM_{2.5}$)	Primary	Annual	12.0 µg/m^3	Annual mean, averaged over 3 years
	Secondary	Annual	15.0 µg/m^3	
	Primary and Secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
Coarse Particulate Matter (PM_{10})	Primary and Secondary	24 hours	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)	Primary	1 hour	75 ppb [4]	99th percentile of 1-hour daily maximum concentration, averaged over 3 years
	Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

ppm: parts per million; ppb: parts per billion; µg/m3: micrograms per cubic meter

Source: EPA, https://www.epa.gov/criteria-air-pollutants/naaqs-table. 2022

[1] In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have

not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.

[2] The level of the annual NO2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

[3] Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) ozone standards additionally remain in effect in some areas. Revocation of the previous (2008) ozone standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current (2015) standards.

[4] The previous SO2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet one year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO2 standards or is not meeting the requirements of a State Implementation Plan (SIP) call under the previous SO2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of a State's Plan to demonstrate attainment of the required NAAQS.

The EPA requires each state to establish a network of ambient air quality monitors to show that levels of criteria pollutants meet the NAAQS. Monitors are sited according to EPA guidance and requirements. Areas that, because of topography, meteorology and/or climate, are frequently affected by the same air mass (or Airsheds) that are, based on ambient air quality monitoring data, found to be out of compliance with the NAAQS presented in **Table 1** are designated nonattainment areas by the EPA. Airsheds where monitoring data for a given pollutant doesn't exist are designated by the EPA as "unclassified" areas and treated as if they are in attainment of the NAAQS.

Nonattainment areas are required to develop plans that document existing conditions in the airshed and develop measures to bring the area back into compliance with the NAAQS. These plans are referred to as State Implementation Plans (SIPs) and are pollutant specific. SIPs establish specific rules for a given nonattainment area and provide motor vehicle emissions budgets (MVEB) for pollutant emissions from transportation sources (i.e., highway and transit vehicle use and emissions). They also may include specific measures needed to reduce or limit emissions from transportation sources, referred to as transportation control measures.

Once a nonattainment area has the monitoring data to show it meets the NAAQS, it can submit a new plan to the EPA demonstrating how it plans to maintain the NAAQS. These plans are SIPs but referred to as "maintenance plans." Areas with an EPA approved maintenance plan are commonly referred to as "maintenance areas." Maintenance area designations last for approximately 20 years of being in maintenance of a given NAAQS.

Transportation Conformity Rule

The Transportation Conformity Rule, promulgated through the CAA amendments of 1990, is a mechanism through which transportation projects are evaluated for air quality impacts in nonattainment and maintenance areas (40 CFR Part 93). For the purposes of transportation conformity, nonattainment and maintenance areas are treated the same. The transportation conformity process demonstrates that proposed/planned transportation projects will conform to the area's SIP/Maintenance Plans, and it is conducted at two levels: at the regional level and at the project-level.

Regional conformity is the process of demonstrating how the planned and funded (i.e., programmed) transportation system supports plans for attaining the NAAQS in nonattainment and maintenance areas. Regional conformity demonstrations in areas with a population of over 50,000 are conducted by metropolitan planning organizations and are based on emission analyses of Regional Transportation Plans (RTPs) and Transportation Improvement Programs (TIPs). RTPs and TIPs include all the anticipated transportation projects for a given region. RTPs list planned transportation projects over a period of at least 20 years, while TIPs list the funded projects for a 4- or 5-year period. Regional emissions analyses are conducted for the RTPs and TIPs in nonattainment and maintenance areas and typically use regional travel demand models to forecast on-road vehicle activity and EPA emission models (i.e., MOVES3) to estimate pollutant emissions in the airshed. Future emissions estimates are compared to EPA-approved motor vehicle emissions budgets in SIPs/Maintenance Plans or to the No Action (or No Build) condition when motor vehicle emissions budgets do not exist, or if a budget has not been found adequate and approved by the EPA.

Conformity is demonstrated when a metropolitan planning organization (MPO) shows that implementation of the RTP and/or TIP would not exceed SIP motor vehicle emissions budgets or that the Build Condition would not produce pollutant emissions in excess of the No Build condition in the analysis years established by the RTP and TIP. The conformity demonstration must be approved by Federal Highway Administration (FHWA). Once approved, it is referred to as a "conformity determination" as it has been determined that the RTP and/or TIP are in conformity with applicable SIPs/Maintenance Plans for achieving the goals of the CAA. Thus, if the design concept, scope and "open-to-traffic" schedule of a proposed transportation project are the same as described in a conforming RTP and TIP, then the proposed project meets regional conformity requirements.

Besides being listed in a conforming RTP or TIP, project-level conformity demonstrates that the project complies with any specific transportation control measures in the applicable SIP(s). Additional quantitative analyses, known as hot-spot analyses, may also be required for projects located in CO and PM_{10}/$PM_{2.5}$ nonattainment or maintenance areas to show the project would not cause or contribute to an exceedance of the NAAQS.

Mobile Source Air Toxics (MSATS)

The CAA Amendments of 1990 mandated the EPA to regulate 188 air toxics, also known as HAPs. As a result, the EPA assessed the compounds being emitted from mobile sources of pollution in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 HAPs that are part of U.S. EPA's Integrated Risk Information System (IRIS) (https://www.epa.gov/iris). These pollutants are of particular concern because they are known or suspected to cause cancer or other serious health effects. Out of the 93 identified pollutants, the EPA identified nine priority MSATs given their noteworthy contributions to national and regional-scale cancer risk drivers as determined by the EPA's 2011 National Air Toxics Assessment. The nine priority MSATs are: benzene, acetaldehyde, formaldehyde, acrolein, 1,3-butadiene, diesel exhaust (particulate matter and organic gases), naphthalene, polycyclic organic matter, and ethylbenzene. FHWA also considers these nine pollutants to be priority MSATs for NEPA purposes.

FHWA revised their MSAT guidance in January 2023 for determining when and how to address MSAT impacts in the NEPA process for transportation projects (FHWA, 2023). FHWA still identifies three levels of analysis:

- Category 1: No analysis for exempt projects or projects with no potential for meaningful MSAT effects;
- Category 2: Qualitative analysis for projects with low potential MSAT effects; and
- Category 3: Quantitative analysis for projects with higher potential MSAT effects and meaningful differences in MSAT emissions among project alternatives.

Category 1 Projects generally include those that:

- Qualify as a categorical exclusion under 23 CFR 771.117,
- Qualify as exempt under the CAA conformity rule under 40 CFR 93.126, or
- Are not exempt but have no meaningful impacts on traffic volumes or vehicle mix.

Category 2 projects are those that serve to improve highway, transit, or freight operations or movement without adding substantial new capacity or creating a facility that is likely to substantially increase emissions. Examples of these types of projects are:

- Minor roadway/highway widening projects
- New interchanges
- Replacing a signalized intersection on a surface street
- Projects where design year traffic is projected to be less than 140,000 to 150,000 AADT (annual average daily traffic) in the design year.

For Category 2 projects, a qualitative assessment of emission projections is conducted.

Qualitative assessments consider the expected effect of the project on traffic volumes, vehicle mix, or routing of traffic and the associated changes in MSAT for the project alternatives, including No-Action, based on VMT, vehicle mix and speed. Because the emission effects of these projects typically are low, no appreciable difference in overall MSAT emissions among the various alternatives is anticipated.

Category 3 projects are ones in proximity to populated areas that:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, involving a significant number of diesel vehicles for new projects or accommodating with a significant increase in the number of diesel vehicles for expansion projects; or
- Create new capacity or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000 vehicles per day or greater by the design year.

Air toxics analysis continues to evolve as an area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes remain limited as a result of lifetime MSAT exposure. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

The health impacts of MSAT pollutants in urban areas continue to be studied by the EPA and FHWA. The analysis provided in this report conforms to the current MSAT guidance provided by both EPA and FHWA for NEPA purposes.

Climate Change And Greenhouse Gases (GHG)

Human activity is changing the earth's climate by causing the buildup of heat-trapping greenhouse gas emissions through the burning of fossil fuels and other human activities. Carbon dioxide (CO_2) is the largest component of human-produced emissions; other prominent emissions include methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons. These emissions are different from criteria air pollutants since their effects in the atmosphere are global rather than local, and also since they remain in the atmosphere for decades to centuries.

The EPA and the National Highway Traffic Safety Administration (NHTSA) issued the first corporate fuel economy (I) standards in 2010, requiring cars and light-duty vehicles to achieve certain fuel economy targets by 2016, with the intention of gradually increasing the targets and the range of vehicles to which they would apply. Additionally, NEPA Part 4332 requires federal agencies to assess the environmental effects of their proposed actions prior to deciding on the action or project.

On December 16, 2021, the Colorado Transportation Commission approved a new standard to reduce GHG emissions from the transportation sector, improve air quality, reduce pollution and provide more travel options. This new standard, known as the GHG Transportation Planning Standard, is one of several transportation strategies identified in the state's GHG Pollution Reduction Roadmap and is a key requirement established in the 2021 state transportation funding bill (SB260). The standard builds on the state's effort to rapidly deploy electric vehicles by encouraging a future transportation system that improves transit, biking and walking options. It also establishes GHG emission reduction level baselines given four analysis years: 2025, 2030, 2040 and 2050. For the Denver region, baseline GHG values are established based on the defined transportation investments and planning assumptions identified in the RTP (DRCOG, 2022).

The provisions of the GHG Pollution Reduction Planning Standard require CDOT and the state's five MPOs to create RTPs and TIPs that provide more travel choices, resulting in reduced GHG emissions. GHG emissions goals will be set for each MPO/region and all projects that meet the MPO's definition of "regionally significant" must be included in the GHG analysis. If a MPO/region can't meet the GHG emissions goals, it can choose one or more state-approved measures to meet the goals if needed. If a MPO/region still can't meet its GHG emissions goals even after applying the state-approved measures, the Colorado Transportation Commission can designate that specific funding streams for an MPO/region be spent on efforts to reduce GHG emissions. Waivers for certain projects can be issued despite their potential impact on GHG emissions, such as those needed for safety reasons (CDOT, 2021).

In March 2020, CDOT issued standard language to be included in air quality technical reports related to GHG analyses as part of its NEPA Manual **(Appendix F)**. The standard language is intended to meet NEPA documentation requirements for transportation projects.

On January 9, 2023, the Council on Environmental Quality (CEQ) issued interim guidance to assist agencies in analyzing GHG and climate change effects of their proposed actions under the NEPA. This guidance facilitates compliance with existing NEPA requirements, improving the efficiency and consistency of reviews of proposed Federal actions for agencies, decision makers, project proponents and the public (CEQ 2023).

Permits

The construction phase of this Project would generate criteria pollutant, MSAT and GHG emissions, which will temporarily affect air quality conditions during construction. The Colorado Department of Public Health and Environment (CDPHE) – Air Pollution Control Division (APCD) requires emissions sources submit an Air Pollutant Emission Notice (APEN). In some cases, APENs and air permits are not required due to estimated air emissions below reporting thresholds (CDPHE, 2023). There are several different types of APENs, but land development APENs and construction or general permits are the most common types needed

for CDOT roadway projects. The contractor typically determines which APENs are required, and works with APCD to determine if permits are required for the project.

Land development projects greater or equal to 25 contiguous acres and/or six months in duration typically require APENs and may require an air permit. Emissions are not predicted for land development APENs, which is different from most APENs. Thus, the typical ton-per-year APEN and permit thresholds do not apply to land development projects. The APEN form includes detailed information on the Fugitive Dust Control Plan (FDCP). A permit, if required, will specify the type of dust control measures that were included on the FDCP. If a land development APEN and permit are not needed, operators must use appropriate control measures to minimize the release of fugitive dust from the site.

Demolition of any structures or bridges requires a demolition permit be obtained from the CDPHE - APCD prior to demolishing a bridge or structure. Please note that the demolition permit could come with other requirements, so the construction schedule should allow for the time needed to obtain the permit and fulfill any potential requirements. Depending upon the location, city and/or county permits may also need to be obtained prior to demolition.

Affected Environment

The existing conditions of the project area are provided below, with an emphasis on the air quality aspects that would be impacted by the Action and No Action alternatives.

General Project Setting

The Project is located within Commerce City, approximately 2.5 miles northeast of the City of Denver, which is part of DRCOG's planning area in Adams County. Adams County is part of the Denver-Boulder CO Maintenance Area, the Denver Metro PM_{10} Maintenance Area, and the Denver Metro North Front Range (DMNFR) Ozone Nonattainment Area. Land uses in the study area are primarily commercial and industrial types with some residential neighborhoods located east of Parkway Drive, between 62nd Avenue and 60th Avenue. Both the Union Pacific and BNSF Railroads run through the study area, crossing over Vasquez Boulevard between 69th Avenue and 64th Avenue.

Vasquez Boulevard is a divided principal arterial roadway that primarily has three travel lanes in each travel direction (i.e., north/south) with dedicated left and right turn lanes at major intersections. It provides direct access to Interstate 270 (I-270) via a cloverleaf-style interchange directly south of the study area and has a posted speed limit of 45 miles per hour (mph).

There are two frontage roads that parallel Vasquez Boulevard and provide the primary access to adjected land uses: Dexter Street and Dahlia Street. Both Dexter Street and Dahlia Street carry a low volume of traffic and provide one travel lane in each direction. Dahlia Street is east of Vasquez Boulevard, approximately 0.25 miles long, ending at 60th Avenue, with a

posted speed limit of 35 mph. Dexter Street is west of Vasquez Boulevard, approximately 0.54 miles long, ending at 63rd Avenue, with a posted speed limit of 35 mph.

60th Avenue is a minor arterial/collector with primarily one travel lane in each direction (i.e., east/west) and center left-turn pockets/lanes accessing adjacent developments. It has a posted speed limit of 35 mph and provides the only access to the industrial developments to the west of Vasquez Boulevard.

62nd Avenue is a collector with one lane of travel in each direction (i.e., east/west) and a posted speed limit of 35 mph. It currently ends at northbound Vasquez Boulevard, requiring southbound traffic to travel northbound on Vasquez Boulevard for approximately one quarter of a mile (0.25 miles) before accessing southbound Vasquez Boulevard at 64th Avenue.

Developments near the project (i.e., within 500 feet of the Proposed Action) are predominantly commercial and industrial, with some residential developments located at varying distances from the project area **(Figure 2)**.

The DRCOG is the designated MPO for the Project area and is responsible for developing RTPs, TIPs, and regional emissions analyses for the Denver region. The CDPHE - APCD is responsible for the state's compliance with the CAA. Additionally, Colorado has established the Regional Air Quality Council (RAQC) responsible for air quality planning in the nine-county Denver Metro/North Front Range (DMNFR) Ozone nonattainment area.

Regional NAAQS Status

The Denver Metro Area has a history of NAAQS violations for the 8-hour CO NAAQS, the 24-hour PM_{10} NAAQS, and the 8-hour ozone (O_3) NAAQS. Currently, the Project area is part of the Denver/Boulder/Greeley/Ft. Collins/Loveland Ozone Nonattainment Area, the Denver/Boulder CO Maintenance Area, and the Denver Metro PM_{10} Maintenance Area and attainment/unclassified for $PM_{2.5}$, SO_2, NO_2, and lead. **Table 1** lists the NAAQS and units of measure. **Table 2** provides NAAQS status of CO, PM_{10}, and ozone in the Project area (RAQC, 2021).

Table 2: Status of Applicable Nonattainment/Maintenance Areas

Pollutant	Area Designation	Current SIP	Status	Additional Information
Carbon Monoxide (CO)	Maintenance	N/A	N/A	20-year Maintenance period has ended and no transportation control measures required.
Coarse Particulate Matter (PM_{10})	Maintenance	2005 PM_{10} Maintenance Plan Revision	Approved by EPA in November 2007	20-year Maintenance period has ended but transportation control measures remain in place.
Ozone (O3)	Nonattainment (Severe, 2008 8hr - 0.075 ppm Standard)	Serious State Implementation Plan for the Denver Metro and North Front Range Nonattainment Area	Parts approved by EPA in November 2022[1]	On March 22, 2021, the State submitted the *Serious Area State Implementation Plan for the 2008 Ozone NAAQS* to the EPA. On October 7, 2022, the EPA published the official reclassification of the DMNFR area from a "serious" to a "severe" nonattainment area for the 2008 ozone standard (Federal Register FR-2022-20460). The effective date of this rule was November 7, 2022. The attainment date under this designation is July 20, 2027.
Ozone (O3)	Nonattainment (Moderate, 2015 8hr- 70 ppb Standard)	N/A	Parts approved by EPA in May 2022[2]	On October 7, 2022, the EPA published the official reclassification of the DMNFR area from a "marginal" to a "moderate" nonattainment area for the 2015 ozone standard (Federal Register FR-2022-20460). The effective date of this rule was November 7, 2022. The attainment date under this designation is August 3, 2024.

ppm: parts per million; ppb: parts per billion

[1] Parts of the Serious SIP were approved by the EPA in August 2018 and May 2022. A SIP under the serious classification was approved by the Air Quality Control Commission (AQCC) in December 2020; parts of it were approved by EPA in March 2021, November 2021, and November 2022. The next SIP submittal, for the severe classification, is not yet due.
[2]Parts of the marginal SIP were approved by the EPA in May 2022, although the EPA dashboard incorrectly lists June 2022. The draft SIP for a moderate classification will go to the AQCC for approval in December 2022.

Source: Summary of State Implementation Plans; RAQC, 2021 and FR, 2022.

NAAQS Pollutant Monitoring Data Summary

The CDPHE – APCD conducts ambient air quality monitoring for the State of Colorado. The closest monitoring sites to the Project are the Adams County Building (TCH) - Birch Street $PM_{10}/PM_{2.5}$ monitoring location (7275 Birch Street, AQS# 08 001 0010), approximately one mile northwest of the Project and the Welby CO, NO_2, and O_3 monitoring location, approximately two miles northwest of the Project (3174 E. 78th Avenue, AQS# 08 001 3001). **Table 3** provides the most recent three-years of data from the Welby monitoring location (CDPHE, 2020-2022). This location is representative of the Project's ambient air quality due to its proximity to the Project area and the number of years it has been in operation. CO and ozone monitoring began at this location in 1973 and PM10 monitoring began in 1990. Additionally, this site is population oriented for a neighborhood scale.

Table 3: Recent NAAQS Pollutant Monitoring Data - Welby

Pollutant	Averaging Time	2022 Concentration	2021 Concentration	2020 Concentration	Design Value[1]
CO	8-hr	1.5 ppm (1st Max)	1.2 ppm (1st Max)	1.4 ppm (1st Max)	1.4 ppm
	1-Hr	2.0 ppm (1st Max)	1.9 ppm (1st Max)	1.8 ppm (1st Max)	1.9 ppm
PM_{10}	24-hr	96 µg/m^3 (Max.)	111 µg/m^3 (Max.)	90 µg/m^3 (Max.)	99 µg/m^3
	Annual	38.7 µg/m^3 (Average)	34.8 µg/m^3 (Average)	30.7 µg/m^3 (Average)	34.7 µg/m^3
Ozone (O_3)	8-hr	82 ppb (1st Max)	86 ppb (1st Max)	66 ppb (1st Max)	72 ppb

[1] Source: EPA Air Quality Design Values (https://www.epa.gov/air-trends/air-quality-design-values#dvtool). The design value for CO is reported as the first-highest annual maximum one-hour and eight-hour concentrations. The PM10 pollutant design value is calculated as the average of the three years' 24-hour maximum per the form of the NAAQS for 24-hour PM_{10}. The design value for ozone is reported as the annual fourth-highest daily maximum eight-hour concentration, averaged over three years.

CO Monitoring Data Summary

The Denver Metro area has been in maintenance of the 8-hour CO NAAQS for over the past 20 years. Over the past three years, the Welby location had an average maximum 8-hour CO concentration of 1.4 ppm. This is well below the NAAQS of 9.0 ppm.

Ozone (O_3) Monitoring Data Summary

The DMNFR nonattainment area has not been able to demonstrate compliance with either the 2008 eight-hour ozone NAAQS or the 2015 eight-hour ozone NAAQS. The Welby location has a design value of 72ppb, which exceeds the 2015 eight-hour NAAQS of 70 ppb but is less than the 2008 eight-hour NAAQS.

PM_{10} Monitoring Data Summary

The Denver Metro area has been in maintenance of the 24-hour PM_{10} NAAQS for over the past 20 years. Over the past three years, the Welby location had an average 24-hour maximum PM_{10} concentration of 99 $\mu g/m^3$. Each of the maximum 24-hour concentrations are below the NAAQS of 150 $\mu g/m^3$.

Transportation Conformity

The project is in the Denver Metro/North Front Range Ozone Nonattainment Area for the 2008 and 2015 ozone NAAQS, the Denver-Boulder CO Maintenance Area, and the Denver Metro PM_{10} maintenance area. Because the project is in at least one nonattainment or maintenance area, transportation conformity requirements apply. The following criteria pollutants were evaluated under the transportation conformity rule: CO, PM_{10} and ozone (through the precursor pollutants NO_X and VOC).

Carbon Monoxide (CO) Conformity Determination

The Project is located within the Denver-Boulder CO Maintenance Area. The EPA has not yet redesignated this maintenance area to being in attainment with the CO NAAQS. However, as of January 15, 2022, projects in the maintenance area no longer need to comply with conformity for CO. The area has been in maintenance for over 20 years. As a result, project-level conformity analyses for CO are no longer required for transportation projects located in the Denver-Boulder CO maintenance area under 40 CFR 93.109.

Particulate Matter (PM) Conformity Determination

While the Project is located within the Denver Metro PM_{10} Maintenance Area, the area has been in maintenance for over 20 years. Thus, as of October 17, 2022, conformity no longer applies to projects in the PM_{10} maintenance area despite the fact the EPA has not yet redesignated the maintenance area to attainment with the PM_{10} NAAQS. Because the project is located in a $PM_{2.5}$ attainment area, PM "hot spot" analyses are not required. Consultation with the MPO, EPA, FHWA and FTA is not applicable because conformity requirements no longer apply.

Ozone (O_3) Conformity Determination

Project-level (i.e., hot-spot) conformity analyses do not apply to O_3 per 40 CFR 93 as O_3 is not directly emitted from emissions sources. Instead, its precursor pollutants are "cooked" to form O_3, which causes exceedances of the NAAQS at locations removed from where VOC and NO_X are emitted. As a result, O_3 conformity is determined at the regional level, using a regional emissions analysis based on models containing the latest planning assumptions. This Project is listed in the MPOs, which for this project is the Denver Regional Council of Governments' (or DRCOG's) 2022-2025 TIP (TIP ID 2018-009) and DRCOG's 2050 Metro Vision RTP (CDOT Project – Vasquez Boulevard). All regionally significant projects must be modeled; in addition, some other TIP projects are modeled. This project was included in DRCOG's regional model even though it's not regionally significant since it included adding a new travel lane. Regional conformity was demonstrated for both the TIP and RTP using the "budget test" for the approved MVEBs contained in the Moderate Area State Implementation Plan for the 2008 Ozone NAAQS (DRCOG, 2022). The Project design concept and scope, as described in the NEPA document, are not significantly different from that described in the TIP.

Conformity Analysis Summary

Conformity requirements for the Denver/Boulder CO Maintenance Area and the Denver Metro PM_{10} Maintenance Area no longer apply. Therefore, the Proposed Action meets the conformity rule requirements under 40 CFR Part 93 and a hot-spot analysis is not required, nor is interagency consultation.

Conformity requirements for the DMNFR ozone nonattainment area do apply. However, there are no hot-spot requirements for projects in ozone nonattainment areas. Instead, project-level conformity is determined through regional conformity with the MPO's RTP (DRCOG, 2023) and TIP (DRCOG, 2021). This project is in DRCOG's 2022-2025 TIP (TIP ID 2018-009) and DRCOG's 2050 Metro Vision RTP (CDOT Project – Vasquez Boulevard). Both the RTP and the TIP have been found to conform with applicable motor vehicle emissions budgets. As

mentioned above, the Project design concept and scope, as described in the NEPA document, are not significantly different from that described in the TIP and would not interfere with the implementation of any transportation control measures. Therefore, the Proposed Action meets the conformity rule.

Criteria Pollutant Analysis

An analysis of criteria pollutant emissions is not required for this project as it does not meet the definition of a regionally significant project, the NEPA document proposed is an EA, and traffic volumes for the Action and No Action are forecast to be the same. However, for NEPA purposes, a discussion of the project's criteria pollutant impacts are provided below.

No Action Emissions

The No Action would leave Vasquez Boulevard as it currently is configured and would not provide substantial improvements beyond typical current maintenance activities. . Congestion would continue to increase in the study area, increasing travel delay and fuel use.

However, emissions of CO, ozone precursors (VOC and NO_X) are forecast to decrease in the project area when compared to existing conditions due to improvements in federal fuel efficiency standards and vehicle fleet improvements; newer, cleaner vehicles replacing older, higher-emitting vehicles. PM_{10} and $PM_{2.5}$ emissions will increase in the future, despite reductions in tailpipe emissions, as these pollutants are primarily caused by VMT due to fugitive road dust, tire wear and break wear. Thus, as the number of vehicles traveling in the County increases, so too do the emissions of PM_{10} and $PM_{2.5}$ from on-road mobile sources.

Proposed Action Impacts

The Proposed Action includes improvements at the Vasquez Boulevard/60th Avenue and Vasquez Boulevard/62nd Avenue intersections, as well as the local street network that are intended to reduce congestion, improve access and improve safety in the study area. When compared to the No Action, VMT in the study area for the Proposed Action would remain the same in 2040. However, reductions in vehicle delay would reduce travel times and vehicle idling times, reducing fuel consumption and, therefore, reduce emissions of CO and ozone precursor pollutants (VOC and NO_X). Emissions of PM_{10} and $PM_{2.5}$ would be the same for the Proposed Action as the No Action. Improved facilities for pedestrians and bicyclists would also potentially reduce the number of short, locally based vehicle trips in the study area, further reducing emissions when compared to the No Action.

MSATs Analysis

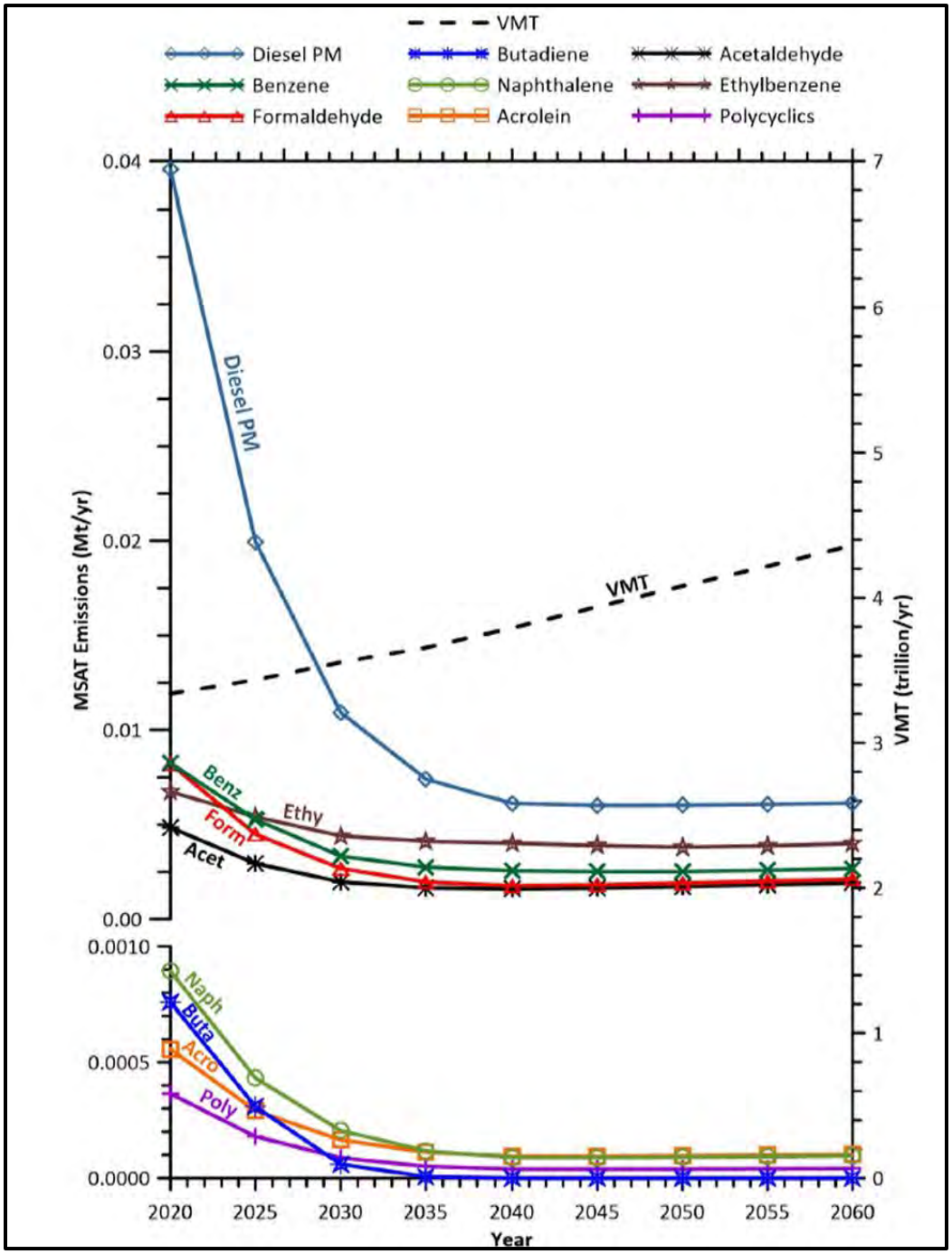
The purpose of this Project is to improve safety, optimize operations and improve multimodal connectivity along the Vasquez Boulevard corridor from 58th Avenue to 64th Avenue by implementing turn restrictions at the Vasquez Boulevard/60th Avenue Intersection, constructing new local access connections to Clermont Street and constructing a new traffic signal at Vasquez Boulevard/62nd Avenue to accommodate the newly restricted movements at Vasquez Boulevard/60th Avenue. This project would reduce delay and improve travel times through the area, reducing fuel usage and minimally reducing criteria pollutant emissions in the study area.

The Proposed Action is considered a FHWA's Category 2 Project, as it is a minor roadway widening and intersection improvement project that would not add substantial new capacity or creating a facility that is likely to substantially increase emissions. VMT and vehicle fleet mix are not anticipated to change between the No Action and Action and has not been linked with any special MSAT concerns. Additionally, the Proposed Action would result in a future AADT of less than 60,000 vehicle per day, well below the 140,000 to 150,000 AADT threshold used to identify Category 3 Projects.

Emissions of MSATs are forecast to decrease significantly over the next several decades in the project area when compared to existing conditions due to improvements in federal fuel and engine efficiency standards and vehicle fleet improvements; newer, cleaner vehicles replacing older, higher-emitting vehicles.

Figure 1 shows the national MSAT trends estimated using EPA's MOVES3 model. It forecasts a combined reduction of 76% in the total annual emissions rate for the priority MSATs from 2020 to 2060 while VMT are projected to increase by over 31% (FHWA, 2023). This will both reduce the background level of MSATs in the project area and reduce MSAT emissions associated with the Proposed Action.

Figure 1: EPA Estimates of Future MSAT Emissions



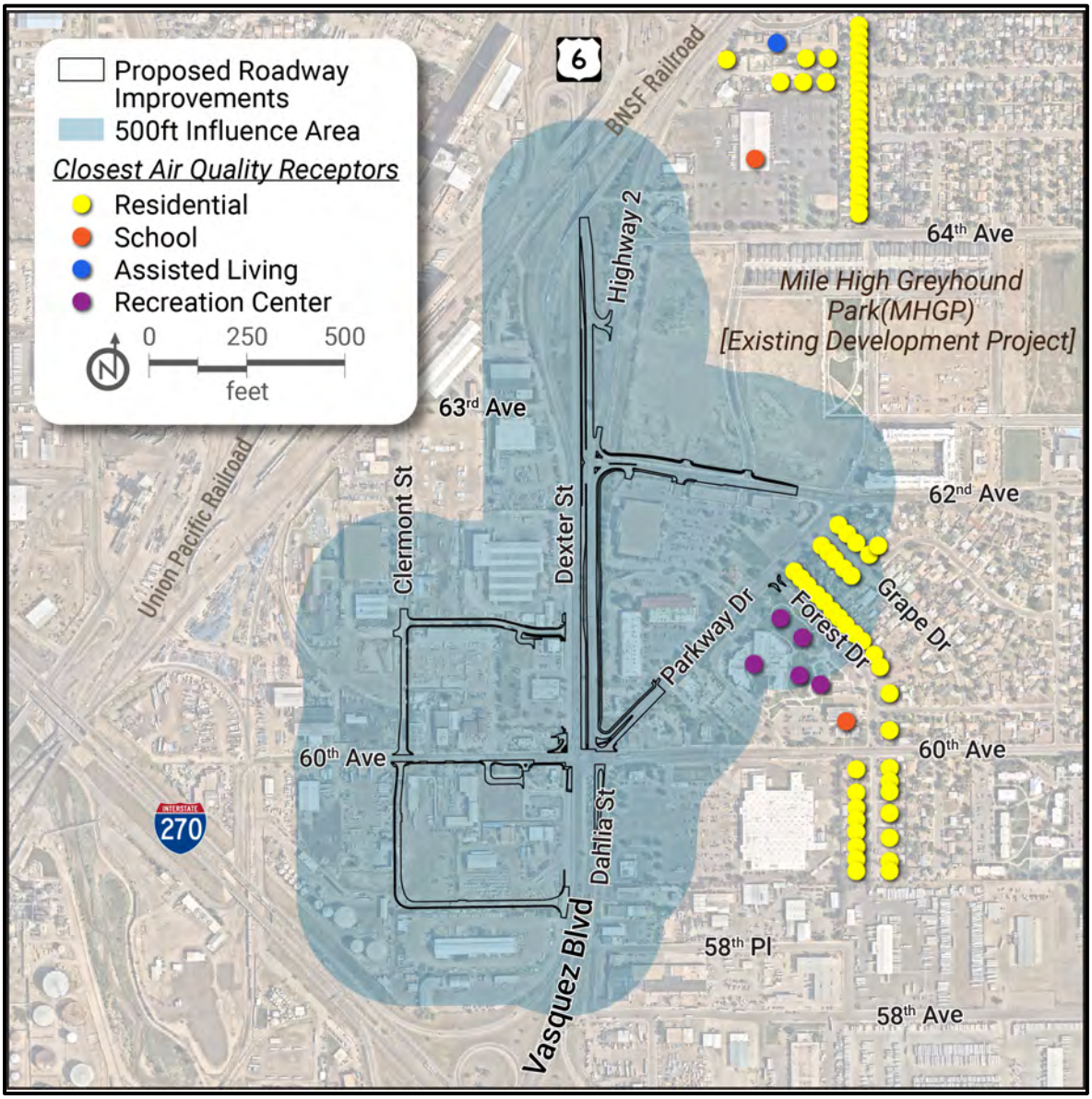
Source: FHWA. 2023

Figure 2 shows the project area and adjacent land uses. Individuals considered to be sensitive to air pollutants include children, the elderly and those with certain health conditions. Common locations where these individuals congregate or live, such as day care centers, schools, retirement homes, hospitals, or residences are identified in **Figure 2**. In general, the sensitive locations near the project include single-family homes and places where people may be recreating (i.e., the Eagle Pointe Recreation Center). Some specific sensitive locations near the Project include the following[1]:

- Ridgeview Post-Acute Rehabilitation Center, 5230 E 66th Way, Commerce City, CO 80022
- Hope World Impact Academy, 5155 E 64th Ave, Commerce City, CO 80022
- Adams County School District 14, 5291 E 60th Ave, Commerce City, CO 80022
- Eagle Pointe Recreation Center, 6060 Parkway Dr, Commerce City, CO 80022

[1] The list is not intended to be comprehensive but instead serve to demonstrate that there may be sensitive receptors in proximity to the Project.

Figure 2: Nearby Receptors



When compared to the No Action, VMT in the study area for the Proposed Action would remain the same in 2040. However, reductions in vehicle delay would reduce travel times and vehicle idling times, reducing fuel consumption and, therefore, reduce emissions of MSATs. Improved facilities for pedestrians and bicyclists would also reduce the number of short, locally based vehicle trips in the study area, further reducing emissions when compared to the No Action.

Incomplete or Unavailable Information For Project-Specific MSAT Health Impacts Analysis

From FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents (FHWA, 2023):

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSATs. The EPA is in the continual process of assessing human health effects, exposures and risks posed by air pollutants. They maintain IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, https://www.epa.gov/iris). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSATs, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are: cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, "[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk."

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the CAA to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than one in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than one in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

In conclusion, what we know about MSATs is still evolving. As the science progresses, FHWA will continue to revise and update its NEPA guidance. The FHWA is working with stakeholders, EPA, and others to better understand the strengths and weaknesses of developing future analysis tools and their applicability on the project-level documentation process.

GHG Emissions Analysis And Climate Change

GHG emissions from vehicles using roads are a function of distance traveled (expressed as VMT), vehicle speed and road grade. A major factor in mitigating increases in VMT is EPA's GHG emissions standards, implemented in concert with national fuel economy standards. The U.S. Energy Information Administration projects that vehicle energy efficiency (and thus, GHG emissions) on a per-mile basis will improve by 28% between 2012 and 2040 (EIA 2016). This improvement in vehicle emission rates is more than sufficient to offset the increase in VMT between 2020 and 2050.

DRCOG is required to comply with the GHG Pollution Reduction Planning Standard by establishing GHG emissions goals for all "regionally significant" projects in their region. As the 2050 Metro Vision RTP was being developed by DRCOG, the GHG Pollution Reduction Planning Standard was in the process of being adopted. However, DRCOG updated the 2050 Metro Vision RTP in September of 2022 to specifically address the requirements of the State's GHG transportation planning standard. DRCOG meets the State's GHG emission reduction requirements through a combination of several strategies and concepts including programmatic investment evaluation, changes in investment as needed and data collection. DRCOG's 2050 Metro Vision RTP complies with the State's GHG transportation planning standard as it meets or exceeds the required GHG reduction levels in each staging year. It is estimated that by implementing the 2050 Metro Vision RTP, the region will reduce GHG emissions by 37% per capita by 2050 when compared to 2020 levels. DRCOG, as part of the revised 2050 Metro Vision RTP, has established a GHG emissions reduction target of 60% from 2010 levels by 2040 (DRCOG 2022).

Regardless, the Proposed Action is anticipated to reduce vehicle delay and travel times through the study area, resulting in less fuel being consumed than compared to the No Action. This would result in a reduction in GHG emissions. Additionally, improving conditions for bicyclists and pedestrians will result in fewer vehicle trips being made in the study area, further reducing GHG emissions.

The following information (i.e., Standard Language) is provided in Appendix F of CDOT's NEPA Manual:

Human activity is changing the earth's climate by causing the buildup of heat-trapping greenhouse gas (GHG) emissions through the burning of fossil fuels and other human activities. Carbon dioxide (CO_2) is the largest component of human-produced emissions; other prominent emissions include methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons. These emissions are different from criteria air pollutants since their effects in the atmosphere are global rather than local and also since they remain in the atmosphere for decades to centuries, depending on the species.

GHG emissions have accumulated rapidly as the world has industrialized, with concentration of atmospheric CO_2 increasing from roughly 300 parts per million (ppm) in 1900 to over 400

ppm today. Over this timeframe, global average temperatures have increased by roughly 1.5 degrees Fahrenheit (1 degree Celsius), and the most rapid increases have occurred over the past 50 years. Scientists have warned that significant and potentially dangerous shifts in climate and weather are possible without substantial reductions in GHG emissions. They have commonly cited 2 degrees Celsius (1 degree Celsius beyond warming that has already occurred) as the total amount of warming the earth can tolerate without serious and potentially irreversible climate effects. For warming to be limited to this level, atmospheric concentrations of CO_2 would need to stabilize at a maximum of 450 ppm, requiring annual global emissions to be reduced 40 to 70 percent below 2010 levels by 2050 (IPCC, 2014).

State and national governments in many developed countries have set GHG emissions reduction targets of 80 percent below current levels by 2050, recognizing that post-industrial economies are primarily responsible for GHGs already in the atmosphere. As part of a 2014 bilateral agreement with China, the United States pledged to reduce GHG emissions 26 to 28 percent below 2005 levels by 2025; this emissions reduction pathway is intended to support economy-wide reductions of 80 percent or more by 2050 (The White House, 2014).

GHG emissions from vehicles using roads are a function of distance traveled (expressed as VMT), vehicle speed, and road grade. A major factor in mitigating increases in VMT is EPA's GHG emissions standards, implemented in concert with national fuel economy standards. The U.S. Energy Information Administration projects that vehicle energy efficiency (and thus, GHG emissions) on a per-mile basis will improve by 28 percent between 2012 and 2040 (EIA, 2016). This improvement in vehicle emissions rates is more than sufficient to offset the increase in VMT.

Construction and subsequent maintenance of the selected project alternative would generate GHG emissions. Preparing the roadway corridor (for example, by earth-moving activities) would involve a considerable amount of energy consumption and resulting GHG emissions; manufacturing of the materials used in construction and fuel used by construction equipment would also contribute GHG emissions. Typically, construction emissions associated with a new road account for about five percent of the total 20-year lifetime emissions from the road, although this can vary widely with the extent of construction activity and the number of vehicles that use the road.

The addition of new road-miles to the roadway network in the project study area would also increase the energy and GHG emissions associated with maintaining those new road-miles in the future. The increase in maintenance needs as a result of adding new roadway infrastructure would be partially offset by the reduced need for maintenance on existing routes (because of lower total traffic and truck volumes on those routes).

Emissions From Project Construction

Construction of the Proposed Action would generate criteria pollutant, MSAT, and GHG emissions due to activities including earth-moving/excavation, materials handling and fuel

consumption. Minimization measures that would be employed to reduce particulate matter emissions associated with fugitive dust. These may include:

- Applying water or wetting agents to manage dust when appropriate.
- Usage of wind barriers and wind screens to minimize the spread of dust in areas where large amounts of materials are stored.
- Usage of a wheel wash station and/or large-diameter cobble apron at egress/ingress areas to minimize dirt being tracked onto public streets.
- Usage of vacuum-powered street sweepers to control dirt tracked onto public streets.
- Coverage of or wetting temporary excavated materials.
- Usage of a binding agent for long-term excavated materials.
- Apply best management practices to stockpiles.
- Cover loads on all trucks hauling dirt, sand, or other loose material.
- Sand sweeping as part of winter maintenance practices.
- Ensuring all applicable stormwater protocols are followed.

Additionally, requiring all construction vehicle engines to be properly tuned and maintained would reduce emissions from vehicle exhaust.

Mitigation

Project construction emissions increases are temporary in nature and anticipated to last two or three years. Contractors are required to perform all construction activities and operations in accordance with Colorado AQCC Regulation Numbers 1 (5 CCR 1001-3, Emission Control for Particulate Matter, Smoke, Carbon Monoxide, and Sulfur Oxides) and 3 (5 CCR 1001-5, Stationary Source Permitting and Air Pollutant Emission Notice Requirements) to ensure adequate control measures are in place. Measures needed to minimize dust and diesel emissions during construction have been identified in **Table 4.**

Cumulative and Indirect Effects

A **Cumulative Impacts and Indirect Effects Technical Report** was developed for the EA (**Appendix C 15).** The analysis conducted for this report was qualitative.

Cumulative impacts and indirect effects of the Proposed Action (TIP ID 2018-009 and RTP Project - CDOT Project/Vasquez Boulevard) are assessed at the regional level as part of the transportation planning process under FHWA and FTA's transportation planning regulations (23 CFR Part 450 Appendix A) and under 23 USC 168 (Section 168). Therefore, cumulative impacts and indirect effects of the Proposed Action are accounted for cumulatively in the regional emissions analysis/conformity demonstration associated with DRCOG's 2050 Metro Vision RTP and 2022-2025 TIP.

The cumulative impacts and indirect effects of the No Action scenario are not considered as part of the transportation planning process, and not included as part of the TIP or RTP.

Impacts and Mitigation Commitments

The Contractor shall submit any required Air Pollutant Emission Notice(s) (APEN) to the CDPHE Air Pollution Control Division, and the CDOT Region 1 Air Quality Specialists and CDOT Engineer, for concurrent review prior to the preconstruction meeting for the project. This will include the Fugitive Dust Control Plan required under the Land Development APEN form, which specifies the fugitive dust control measures that will be employed on the project. The Contractor shall be responsible for compliance with the Fugitive Dust Control Plan and the conditions of any required air permit (if applicable).

Conclusions

The Proposed Action is not a regionally significant project. Project-level transportation conformity requirements no longer apply to the CO and PM_{10} maintenance areas where the project is located and regional conformity requirements for ozone precursor pollutants have been met for the project.

The Proposed Action will not cause or contribute to any new localized NAAQS violations, increase the frequency or severity of any existing ozone violations, or delay timely attainment of the ozone NAAQS or any required interim emission reductions or other milestones in ozone nonattainment areas. Therefore, the project may proceed to construction as designed, and no direct project air quality mitigation is required. Mitigation requirements for construction emissions are addressed in this report, and in the General Notes section of the project plans and the CDOT Standard Specifications.

Reductions in MSAT and GHG emissions are anticipated when the Proposed Action is compared to existing conditions due to an increase in fuel efficiency standards and improvements to the regional vehicle fleet.

Table 4: Resource Impacts and Minimization and Mitigation Measures

Context			
The project is within 500 feet of residences and other receptors that are considered sensitive to air quality changes. Construction of the project would temporarily increase criteria pollutant emissions in the area.			
Impact Type	**No Action**	**Proposed Action**	**Measure**
Fugitive Dust Emissions from Project Construction	**Permanent Impacts:** None. **Temporary Impacts:** None – no construction would occur.	**Permanent Impacts:** None. **Temporary Impacts:** Construction activity will cause emissions of equipment, vehicle exhaust and dust from ground disturbances.	**Permanent:** None. **Temporary:** CDOT implements measures to minimize construction period air pollutant emissions. These include: • Apply water or wetting agents to manage dust when appropriate. • Usage of wind barriers and wind screens to minimize the spread of dust in areas where large amounts of materials are stored. • Usage of a wheel wash station and/or large-diameter cobble apron at egress/ingress areas to minimize dirt being tracked onto public streets. • Usage of vacuum-powered street sweepers to control dirt tracked onto public streets. • Coverage of or wetting temporary excavated materials. • Usage of a binding agent for long-term excavated materials. • Apply best management practices to stockpiles.

			• Cover loads on all trucks hauling dirt, sand, or other loose material. • Locate staging areas as far away as possible from residential areas.
Vehicle and Equipment Emissions from Construction	**Permanent Impacts:** None. **Temporary Impacts:** None – no construction would occur.	**Permanent Impacts:** None. **Temporary Impacts:** Construction activity will cause emissions of pollutants from equipment and vehicle exhaust.	**Permanent:** None. **Temporary:** Measures to reduce emissions from construction equipment should be included. Measures include: • Construction vehicle engines will be required to be properly tuned and maintained. • Limit unnecessary idling. • Operate construction equipment as far away as possible from residential areas. • Locate staging areas as far away as possible from residential areas. • Install engine pre-heater devices in construction equipment to eliminate any idling for cold weather. • Prohibit tampering with equipment to increase horsepower or defeat and emissions control device's effectiveness.

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Attachment A.

Project Information

Attachment A:

Project Information

June 2023

Project Number: NHPP 006A-06

Subaccount number: 22922

Introduction and Background

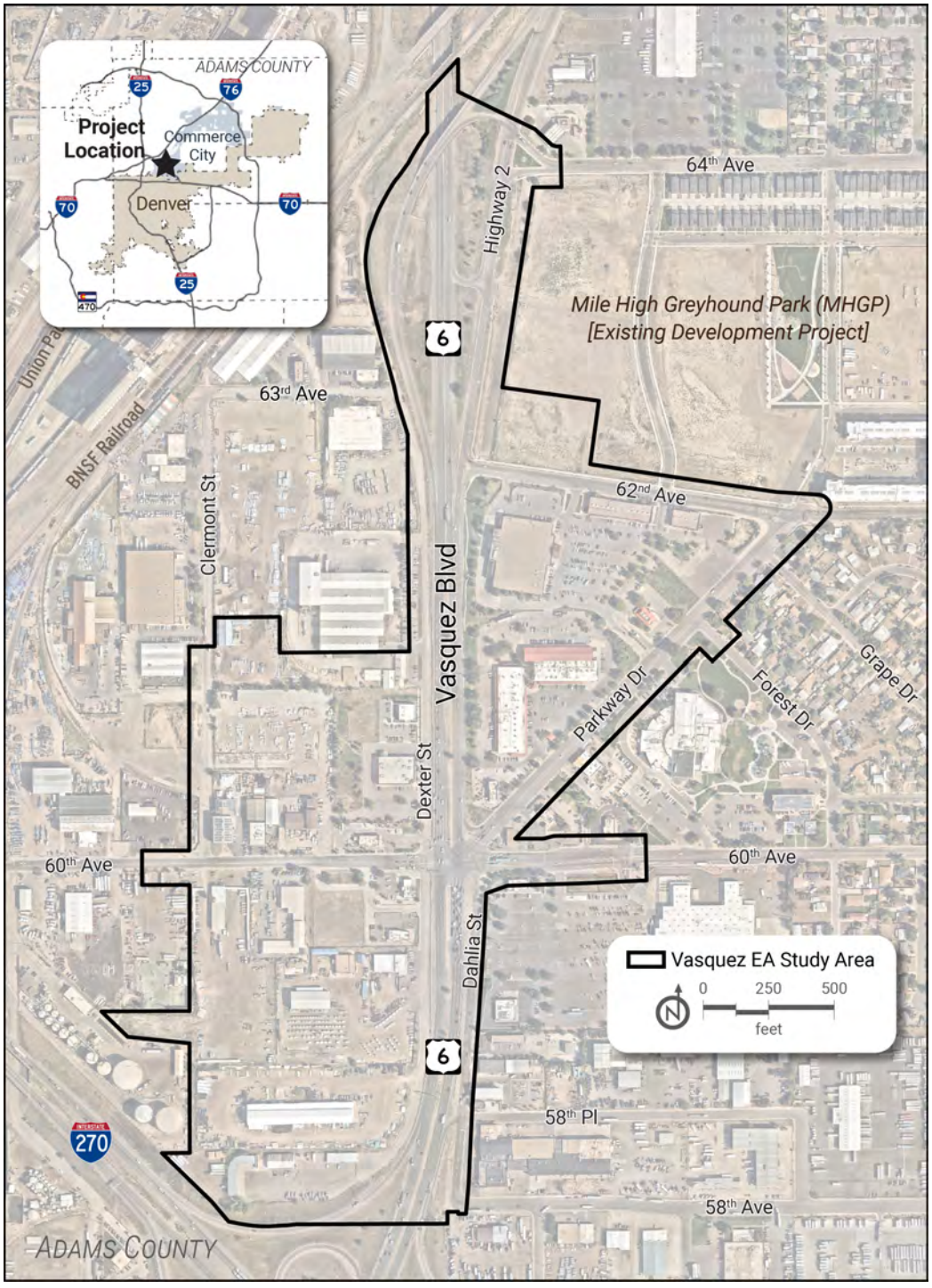
The Vasquez Boulevard (United States Route 6 [US 6]) I-270 to 64th Avenue project (Project) is located within the limits of the City of Commerce City (Commerce City) in Adams County. The Colorado Department of Transportation (CDOT), in cooperation with the Federal Highway Administration (FHWA) and local agencies including Adams County, the City of Commerce City, City and County of Denver, Denver Regional Council of Governments (DRCOG) and the Regional Transportation District (RTD), conducted a Planning and Environmental Linkages (PEL) study in 2018. The Vasquez Boulevard PEL study provided a framework for the implementation of transportation improvements along the corridor between 52nd Avenue and 64th Avenue and along I-270 for a ½-mile north and south of the I-270/Vasquez Boulevard interchange. The Project falls within the limits of the PEL study and is now following the NEPA process to prepare an Environmental Assessment to identify a preferred alternative based on the needs identified in the PEL.

The PEL study identified long-term transportation improvements and evaluated potential projects that could be implemented with available funding as near-term improvements. Potential near-term improvements were identified to improve operations, safety, and connectivity along Vasquez Boulevard, focusing on the Vasquez Boulevard/60th Avenue and Vasquez Boulevard/62nd Avenue intersections. Transportation Improvement Program (TIP) funding, state funding and other sources were obtained for this current Project to construct these near-term improvements along Vasquez Boulevard.

Study Area

The study area extends along Vasquez Boulevard from 58th Avenue (just north of the I-270 interchange) north to the BNSF Railroad bridge. West of Vasquez Boulevard, the study area extends to Clermont Street, between the on-ramp to I-270 and just north of 60th Avenue. East of Vasquez Boulevard, the study area includes Parkway Drive, 60th Avenue and 62nd Avenue. The study area also includes proposed drainage work to an existing water quality pond within the Mile High Greyhound Park (MHGP) property at the corner of 62nd Avenue and Highway 2. Some environmental resources evaluated for the NEPA process may have a slightly different study area depending on specific resource requirements.

Figure 1: Project Study Area



Purpose and Need

The purpose of the Vasquez Boulevard I-270 to 64th Avenue Project is to address the following needs:

- improve operations for vehicles and freight;
- improve safety;
- improve multimodal connections.

Proposed Action

The Proposed Action includes improvements at the Vasquez Boulevard/60th and Vasquez Boulevard/62nd intersections, as well as the local street network and multimodal facilities, as shown in Figure 2.

Vasquez Boulevard/60th Avenue

The Proposed Action includes the elements listed below for the Vasquez Boulevard/60th Avenue intersection:

- Only right turn movements to northbound Vasquez Boulevard from Parkway Drive. No access to other roads.
    - All inbound movements to Parkway Drive remain open as they exist now.
- All inbound movements from Vasquez Boulevard/60th to frontage roads remain as they exist now, but outbound movements are restricted.
    - Right turn only from southeast frontage road and all in movements allowed (all movements remain as they exist)
    - Right turn only from northwest frontage road and all in movements allowed (in movements remain as they exist)
    - No movement out from southwest frontage road and all in movements allowed (in movements remain as they exist)
- Two new local road connections to Clermont Street west of Vasquez Boulevard provide full access between frontage roads and 60th Avenue.
- Driveways on 60th Avenue, Parkway Drive and frontage roads remain as currently structures or have minor changes
- Restriping of existing crosswalks and new pedestrian refuges improve safety and accessibility of pedestrian infrastructure
- Corner curb bulb-outs would be added at the Parkway/Forest intersection as a deterrent to rivers who may think Forest Drive is an alternate route to 60th Avenue. The bulb-outs and crosswalk will provide visual indication of Forest Drive as a neighborhood street.

Vasquez Boulevard/62nd Avenue

The Proposed Action includes the elements listed below for the Vasquez Boulevard/62nd intersection:

- New traffic signal required at 62nd Avenue with the Vasquez Boulevard/60th Avenue intersection improvements to provide movements restricted from Parkway Drive to Vasquez Boulevard.
- Traffic signal provides full access to/from 62nd Avenue and Vasquez Boulevard/Highway 2.
- Southbound Highway 2 off ramp remains in existing configuration.
- Southbound traffic on Vasquez Boulevard and the Highway 2 off ramp have continuous green time without stopping at the signal for 62nd Avenue traffic.

Vasquez Boulevard Improvements

In addition to the improvements at the Vasquez Boulevard/60th Avenue and 62nd Avenue intersections, a portion of Vasquez Boulevard will be reconstructed. The southbound lanes of Vasquez Boulevard will remain as they currently exist (12-foot travel lanes; roadway width varies from 24-feet to 60-feet). Northbound Vasquez Boulevard will be widened a maximum of two feet between 60th Avenue and 62nd Avenue and a maximum of 20 feet north of 62nd Avenue, and the existing median will be modified to add left turn lanes into and out of the new 62nd Avenue intersection. A 10-foot detached multi-use path will be constructed along the eastern side of Vasquez Boulevard, between 60th Avenue and 62nd Avenue.

Local Road Connections

New local roadway connections west of Vasquez Boulevard are part of the Project to enhance the local circulation and pedestrian and bicyclist connectivity of the local street network. The new roadways are two-lane, two-way local roads with the potential for direct property driveway access as approved by Commerce City.

Figure 2: Proposed Action