



CDOT's GHG Mitigation Action Plan (MAP) Annual Status Report
2023 Update
Submitted March 30, 2023

Executive Summary

Background

Following the submission of a GHG Transportation Report, if the report contains a Mitigation Action Plan, CDOT (and the MPOs) are required to submit an annual status update. This will be reported annually by April 1 and include information regarding the status of each GHG Mitigation Measure to the Transportation Commission. In order to abide by this, CDOT (and the MPOs) must follow specific reporting guidelines for each listed measure as outlined in the Rule (8.02.7) and Policy Directive 1610 (Section VI.D.1).

The Mitigation Action Plan is an annual requirement of compliance for both the GHG Reduction Planning Standard (the Rule) and the Policy Directive 1610; both of which list the same requirements for reporting on mitigation measures. Each measure in the MAP requires an implementation timeline, detailing when a project will commence, when it will be completed, and any other important dates associated. For each update of the MAP, measures must be reported upon with each project's current status to evaluate where each stands in their implementation. Measures that are in progress or have been completed must also show quantification of the benefit, or the impact, of each project. Finally, if a measure has been delayed, canceled, or substituted, the update must describe how this happened. Furthermore, if that measure was to benefit a Disproportionately Impacted Community, it must be described as to how an equivalent benefit may be achieved. Per PD 1610 (Section VI.D.1), "If an agency fails to implement or find a substitute for a delayed or canceled GHG Mitigation Measure, the Commission will need to consider whether an Applicable Planning Document is in compliance, as per subsection 8.02.6.4 of the Rule. The Commission shall consider failure to submit reports and any analysis therein in subsequent review of future plans presented for consideration".



Each mitigation project will be reported upon with information regarding the following:

Component	Description
Measure Description	Summary of the project scope and timeline.
Timing	Suggested timeline of the project's specifics.
GHG Reductions	The amount of proposed greenhouse gas emissions that will be reduced due to the completion of the project, for each compliance year that applies.
Co-benefits	Benefits of a project outside of GHG emissions; including transportation improvements and reductions of other air pollutants.
Current Status	Where the project stands as of this update; in terms of progress, implementation, and the current emissions reductions that are being accounted for.
Variables/ Concerns	Any factor that could inhibit the success of a project. These could be factors that inhibit a project's implementation, or factors that inhibit a project's intended ability to reduce greenhouse gas emissions.
Benefits to Disproportionately Impacted Communities	Description of if and how a project has the ability to benefit communities with analysis through



	the Transportation Equity Scorecard tool.
Measure Origin and History	How the project plan came to fruition and its path to implementation.
Funding/ Resources/ Partnerships	Description of the parties involved in making the project possible.
Other Info As Needed	Any additional details that may be important to a project's implementation.

The Mitigation Action Plan is a tool for CDOT and the MPOs to reach GHG compliance outside of modeling alone. This allows transportation projects to be accounted for as to their ability to reduce GHG emissions. Updating this on a yearly basis ensures that mitigation measures are effective in working towards each organization's GHG compliance.



Annual Status Update

As of this update, CDOT cannot reach compliance levels beyond 2025 by solely modeling the projects in the current version of the 10 Year Plan. Therefore, GHG emissions through mitigation measures will aid in reaching compliance levels for 2030, 2040, and 2050. This report will provide updated information for each of the mitigation measures that had been established in the creation of the MAP. The completion of these projects is accounted for in the projected result of meeting emissions reduction compliance for 2030, 2040, and 2050. The projects included in the MAP can be expanded upon in future years to further reduce emissions. However, the goal of this report is to provide a status update on the projects already in the process of implementation.

As of this update, the majority of the mitigation measures have made varying degrees of progress; with a couple having been already completed. Given that this update is within the first year of the MAP, only limited progress within the mitigations can be expected. However, a number of these projects have still made significant steps towards completion.

Of the four Transportation Demand Management (TDM) projects, 2 have been fully implemented; with another likely to be completed in the coming months. The transit projects included in this update have also made significant advancements since they started last year. Since the end of 2021, rural transit has especially made substantial progress towards recovery of pre-pandemic services. Local transit lines have even exceeded 2019 levels by almost 50%. Through the revival of existing lines, as well as the introduction of new services, rural transit recovery has resulted in significant success so far. As for the built environment and electrification of transit vehicles, these projects have yet to be active; however, substantial progress has been made in preparation for implementation. Likewise, the operational improvements included are all within the pre-construction phase, with each likely to break ground in the near future.

As of this update, four of the GHG Mitigation Measures have sufficient detail to conduct an equity benefits analysis: the City of Aspen's Micro Transit and Bike Share Pilot Expansion, the Summit County Trailhead Shuttle Pilot Expansion, Bustang Service Expansion, and Roundabouts in the Updated 10 Year Plan. This equity benefits analysis was conducted as per the requirements of the GHG Planning Standard. At this time, the analysis does not include a burdens analysis component. Guidance on analyzing project and program effects which may burden communities requires thoughtful involvement of impacted communities. This guidance is being developed as part of the development of the GHG Mitigation Measure Equity Standards, per the requirements of Policy Directive 1610.



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The Transportation Commission will receive this report annually, and the next update will be prepared and reported no later than April 1, 2024. The projects currently included in this report will be updated annually, as well as new projects that may be eligible to be used for mitigations will be included as well. By that time, it is expected that further progress will be made towards completing the mitigation projects listed in this update.



COLORADO
Department of Transportation

GHG Mitigation Action Plan Annual Status Report 2023 Update



Table of Contents

1. Table A1- 1.1 - Summary table of GHG Emissions Analysis and the Mitigation Action Plans (MAPs)
2. Mitigation Action Plans:
 - Transportation Demand Management (TDM)**
 - *Table A1-2.1 - CDOT Strategic TDM Grant Program: Creation of the Glenwood Springs Transportation Management Association
 - *Table A1-2.2 - CDOT Strategic TDM Grant Program: I-70 Coalition
 - *Table A1-2.3 - CDOT Strategic TDM Grant Program: City of Aspen, Micro Transit and Bike Share Pilot Expansion
 - *Table A1-2.4 - CDOT Strategic TDM Grant Program: Summit County, Trailhead Shuttle Pilot Expansion

Transit

- *Table A1-3.1 - Bustang Service Expansion
- Table A1-3.2 - Rural Transit Service Recovery

Built Environment

- Table A1-4.1 - CDOT Multimodal Investments and Internal Policies to Encourage High-Density Rezonings

Medium Duty - Heavy Duty Electrification

- Table A1-5.1 - Zero Emission Transit Buses Awarded in Non-MPO Areas

Operational Improvements

- *Table A1-6.1 - Roundabouts in the Updated 10 Year Plan



Table A1-1.1 Summary table of GHG Emissions Analysis and the Mitigation Action Plans (MAPs)

Table A1-1.1 shows how CDOT is using mitigation measures to reach emissions reduction targets for each 2030, 2040, and 2050 compliance year. According to Section 8.02.6.3 of the rule, “If GHG Mitigation Measures are needed to count toward the GHG Reduction Levels in Table 1, the MPO or CDOT may submit a Mitigation Action Plan that identifies GHG Mitigation Measures, if any, needed to meet the GHG Reduction Levels within Table 1”. Considering that CDOT is able to reach compliance with 2025 emission reduction levels through modeling alone, accounting for reductions through mitigation measures is not needed for this year. Therefore, 2025 is not used as a target year to evaluate CDOT’s mitigation measures. In 2030, 2040, and 2050, CDOT achieves compliance through the combination of modeling and GHG mitigation measures. The Reductions achieved through GHG Mitigations are presented individually in the Tables A1-2.1- A1-6.1.

	2025	2030	2040	2050
Table 1 Reduction Target (MMT)	0.12	0.36	0.30	0.17
Reductions achieved through Modeling	0.30	0.21	0.06	0.04
Reductions achieved through GHG Mitigations	n/a	0.156	0.249	0.135
Total Reductions achieved	0.30	0.366	0.309	0.175
Compliance Result	Met	Met	Met	Met



Table A1-2.1 Transportation Demand Management (TDM) Grant: Creation of the Glenwood Springs Transportation Management Association

Component	Description of information to be submitted with application.			
Measure Description	Creation of the <i>Glenwood Springs Transportation Management Association</i> (GSTMA) through CDOT funding, will develop new localized transportation demand management strategies. By 2030, the Association will have dedicated resources to communicate travel options, engage with local employers to implement TDM strategies, advocate for TDM principles in local developments and land use regulations, have established incentives for participation, as well as have created a methodology for tracking performance.			
Timing	<ul style="list-style-type: none"> • Anticipated Start Date: August 2022 • Completion Date: Ongoing program, current CDOT grant period and funding due to end 03/30/2024. 			
GHG Reductions	2030: 1,157 Metric Tons			
	Mitigation Project Type	Metric (per 1,000 covered employees)	Points per Metric in 2030	Total
	Commute Trip Reduction Program - Voluntary	13	89	1,157
Co-benefits				
	VMT change per 1,000 covered employees	1,000 covered employees	Total	
	317,500	13	4,127,500	



	Pollutants Avoided	Estimated Kg avoided annually (2030)
	CO	9,373
	NOx	257
	PM 2.5	27
	SO2	7
	VOCs	195
Current Status	As of early 2023, no progress has been made in the development of the GSTMA. However, there is currently \$64,000 allocated for the development of this program.	
Variables/ Concerns	None	
Benefits to Disproportionately Impacted Communities	The creation of the GSTMA is a programmatic approach to GHG reductions, rather than project specific, and thus cannot currently be analyzed through the Transportation Equity Scorecard tool. It is worth noting that Glenwood Springs has several census blocks that meet the definition of a Disproportionately Impacted Community. TDM programs reduce GHG emissions typically through various strategies that reduce VMT, thus one can expect a decrease in co-pollutants in the area due to the GSTMA. Estimated co-pollutant reductions are reported in the co-benefits section.	
Measure Origin and History	CDOT's Strategic Transportation Demand Management (TDM) Grant Program was developed by the Office of Innovative Mobility to support communities and organizations as they expand, enhancing existing trip-reduction initiatives and develop new innovations that are capable of meeting Colorado's evolving transportation challenges. The three funding opportunities within the Strategic TDM Grant Program represent a multi-faceted approach	



	<p>to advancing the capacities and practice of TDM statewide:</p> <ol style="list-style-type: none"> 1. The Transportation Management Organization (TMO) Support Grants are designed to supplement existing TDM programming and allow established TDM leaders to expand their reach and impact; 2. The TMO Seed Funding Grants facilitate the creation of new TMOs in currently un-represented areas of the state and add new perspectives to the TDM conversation that have the potential to increase TDM success in non-urban areas; 3. And the TDM Innovation Grants support projects that incentivize innovative ideas to help TDM reach new audiences, address current TDM gaps, and scale up existing best practices to expand their impact. <p>Using the grant money from the TMO Seed Funding program, the GSTMA will be designed and implemented to address the unique traffic and transit concerns of the area. Glenwood Springs was identified as an area of high need for dedicated TDM programming by both the 2019 Statewide TDM Plan and the MOVE study conducted by the City of Glenwood Springs and RFTA in 2020. As a regional hub for employment, recreation, and tourism at the junction of I-70 and the CO-82 corridor through the Roaring Fork Valley, CDOT identified significant potential for trip and emissions reductions. The creation of a permanent framework and advocate for local and regional coordination around transportation issues, and TDM specifically, would aid in this effort.</p>
<p>Funding/ Resources/ Partnerships</p>	<p>Through CDOT’s TDM Grant Program, the GSTMA has received an initial \$60,000 to support the development of the program. The award of Seed Funding grants is pursued by CDOT in line with a long-term strategy for creating capacities and representatives across Colorado for TDM consistency with an increasingly coordinated approach. In this vein, CDOT has already begun to lay foundations for a long-term partnership with the City of Glenwood Springs and the GSTMA; through the creation of a practitioner network and cross-regional mentorship programs. As the GSTMA matures, the organization will become eligible for continuing TMO Support funding designed to advance TDM priorities and to serve as a basis for ongoing partnership in regional and statewide emissions-reductions efforts.</p>
<p>Other Info As Needed</p>	<p>N/A</p>



Table A1-2.2 TDM Grant: I-70 Coalition Public Awareness Campaign & Research Effort

Component	Description of information to be submitted with application.											
Measure Description	A research effort into I-70 travelers' behaviors, the effectiveness of existing travel alternatives and marketing efforts, and the identification of new opportunities in order to calibrate the messaging, medium, and approach of a redesigned trip-reduction marketing campaign. The campaign aims to drive travelers to non-single occupancy vehicle (SOV) travel modes, to encourage more efficient travel behaviors (e.g. off-peak travel and travel to higher-capacity destinations along the road network), and to promote existing resources and tools designed to convert audiences into routine users of alternative travel modes.											
Timing	<ul style="list-style-type: none"> ● Start Date: October 2021. ● Milestones: February 2022 (launch) ● Completion Date: July 2022 (end of CDOT grant period). 											
GHG Reductions	<p>2030: 120 Metric Tons</p> <table border="1" data-bbox="478 899 1902 1097"> <thead> <tr> <th data-bbox="478 899 835 997">Mitigation Project Type</th> <th data-bbox="835 899 1192 997">Metric (per program \$1,000)</th> <th data-bbox="1192 899 1549 997">Points per Metric in 2030</th> <th data-bbox="1549 899 1902 997">Total</th> </tr> </thead> <tbody> <tr> <td data-bbox="478 997 835 1097">Trip Reduction - Marketing</td> <td data-bbox="835 997 1192 1097">60</td> <td data-bbox="1192 997 1549 1097">2</td> <td data-bbox="1549 997 1902 1097">120</td> </tr> </tbody> </table>				Mitigation Project Type	Metric (per program \$1,000)	Points per Metric in 2030	Total	Trip Reduction - Marketing	60	2	120
Mitigation Project Type	Metric (per program \$1,000)	Points per Metric in 2030	Total									
Trip Reduction - Marketing	60	2	120									
Co-benefits	<table border="1" data-bbox="478 1195 1902 1357"> <thead> <tr> <th data-bbox="478 1195 953 1292">Annual VMT reduced per program \$1,000</th> <th data-bbox="953 1195 1430 1292">Program \$1,000</th> <th data-bbox="1430 1195 1902 1292">Total</th> </tr> </thead> <tbody> <tr> <td data-bbox="478 1292 953 1357">7</td> <td data-bbox="953 1292 1430 1357">60</td> <td data-bbox="1430 1292 1902 1357">420</td> </tr> </tbody> </table>				Annual VMT reduced per program \$1,000	Program \$1,000	Total	7	60	420		
Annual VMT reduced per program \$1,000	Program \$1,000	Total										
7	60	420										



	Pollutants Avoided	Estimated Kg avoided annually (2030)
	CO	954
	NOx	24
	PM 2.5	3
	SO2	0.6
	VOCs	18
Current Status	<p>As of 2023, this program has been completely launched and implemented. All \$60,000 grant funding has been allocated.</p> <p>2030 GHG Reductions: 120 Metric Tons</p>	
Variables/ Concerns	None	
Benefits to Disproportionately Impacted Communities	This mitigation is a programmatic approach to GHG reductions, rather than project specific, and thus cannot currently be analyzed through the Transportation Equity Scorecard tool.	
Measure Origin and History	CDOT's Strategic Transportation Demand Management (TDM) Grant Program was developed by the Office of Innovative Mobility to support communities and organizations as they expand and enhance existing trip-reduction initiatives and develop new and innovative projects and programs that are capable of meeting Colorado's evolving transportation challenges.	



	<p>The three funding opportunities within the Strategic TDM Grant Program represent a multi-pronged approach to advancing the capacities and practice of TDM statewide:</p> <ol style="list-style-type: none"> 1. The Transportation Management Organization (TMO) Support Grants are designed to supplement existing TDM programming and allow established TDM leaders to expand their reach and impact; 2. The TMO Seed Funding Grants facilitate the creation of new TMOs in currently un-represented areas of the state and add new perspectives to the TDM conversation that have the potential to increase TDM success in non-urban areas; 3. And the TDM Innovation Grants support projects that incentivize innovative ideas to help TDM reach new audiences, address current TDM gaps, and scale up existing best practices to expand their impact. <p>Using the grant money from the TMO Support program, the I-70 Coalition sought to address the increasing share of recreational trips along the I-70 Corridor by better calibrating program and message interventions, designed to influence the behaviors of recreational travelers, through market research and by creating a structure for a long-term marketing campaign informed by their findings.</p>
<p>Funding/ Resources/ Partnerships</p>	<p>Through CDOT’s TDM Grant Program, the I-70 coalition has received an initial \$60,000 to support the development and advertisement of the program.</p>
<p>Other Info As Needed</p>	<p>N/A</p>



Table A1-2.3 TDM Grant: City of Aspen, Micro Transit and Bike Share Pilot Expansion

Component	Description of information to be submitted with application.				
Measure Description	The expansion of an existing micro transit service program, demonstrating new, on-demand service models and approaches to users requesting services. The program will also include the installation of permanent e-bike share infrastructure and the purchase of additional shared e-bikes for the existing fleet. By 2030, the program anticipates adding more than 46 e-bikes and incorporating successful micro-transit models demonstrated within the pilot into long-term transit programming within the city.				
Timing	<ul style="list-style-type: none"> • Anticipated Start Date: July 2022 • Completion Date: March 2023 (end of CDOT grant period). 				
GHG Reductions	2030: 7 Metric Tons				
	Mitigation Project Type	Metric (per 100 bikes)	Points per Metric in 2030	Total	
	Bikeshare Program	0.46	15	7	
Co-benefits	Annual VMT reduced per bike		Number of bikes		Total
	531		46		54,426
	Pollutants Avoided			Estimated Kg avoided annually (2030)	
	CO			56	



COLORADO
Department of Transportation

	<table border="1"> <tr> <td>NOx</td> <td>2</td> </tr> <tr> <td>PM 2.5</td> <td>0.1</td> </tr> <tr> <td>SO2</td> <td>0.05</td> </tr> <tr> <td>VOCs</td> <td>1</td> </tr> </table>	NOx	2	PM 2.5	0.1	SO2	0.05	VOCs	1
NOx	2								
PM 2.5	0.1								
SO2	0.05								
VOCs	1								
Current Status	As of early 2023, this program is 89% complete. 2030 GHG Reductions: 6 Metric Tons								
Variables/ Concerns	None								
Benefits to Disproportionately Impacted Communities	This project gets an equity benefits score of 11, using the Transportation Equity Scorecard Tool. The project serves two census block groups which meet the definition of a DI Community. These two census blocks groups are housing burdened, with at least 41.94 and 40.25% of residents in the census blocks qualifying as being housing-cost burdened. This project improves access to education, employment, community services, health care, healthy food, increases community livability, decreases the share of household income consumed by transportation and housing, provides access to affordable housing units, and increases the availability of affordable transportation options. Users of the bikeshare program can use the bikes for up to 30 minutes without cost.								
Measure Origin and History	CDOT’s Strategic Transportation Demand Management (TDM) Grant Program was developed by the Office of Innovative Mobility to support communities and organizations as they expand, enhancing existing trip-reduction initiatives and develop new innovations that are capable of meeting Colorado’s evolving transportation challenges. The three funding opportunities within the Strategic TDM Grant Program represent a multi-faceted approach to advancing the capacities and practice of TDM statewide:								



	<ol style="list-style-type: none"> 1. The Transportation Management Organization (TMO) Support Grants are designed to supplement existing TDM programming and allow established TDM leaders to expand their reach and impact; 2. The TMO Seed Funding Grants facilitate the creation of new TMOs in currently un-represented areas of the state and add new perspectives to the TDM conversation that have the potential to increase TDM success in non-urban areas; 3. And the TDM Innovation Grants support projects that incentivize innovative ideas to help TDM reach new audiences, address current TDM gaps, and scale up existing best practices to expand their impact. <p>Using the grant money from the TDM Innovation program, the City of Aspen seeks to expand and introduce new service models to its existing microtransit programming – and to expand its shared micromobility fleet in response to growing congestion, parking management issues, as well as mobility and access concerns identified in recent planning and outreach efforts.</p>
Funding/ Resources/ Partnerships	Through CDOT’s TDM Grant Program, the City of Aspen has received an initial \$50,000 to support the pilot of the new, on-demand micro transit model and the expansion of its bikeshare program.
Other Info As Needed	N/A



Table A1-2.4 TDM Grant: Summit County, Trailhead Shuttle Pilot Expansion

Component	Description of information to be submitted with application.														
Measure Description	The expansion of a pilot program initially launched for Quandry Peak and McCullough Gulch, which will operate daily shuttle service to the highly trafficked trailheads in Summit County while reducing congestion in the region; serving as a foundation for additional demand and parking management strategies.														
Timing	<ul style="list-style-type: none"> • Anticipated Start Date: May 2022 • Completion Date: March 2023 (end of CDOT grant period). 														
GHG Reductions	<p>2030: 102 Metric Tons</p> <p>The GHG reductions for this strategy were calculated using the user-input method for new transit service that is included as part of PD 1610. The following inputs were used:</p> <table border="1" data-bbox="478 865 1892 1344"> <thead> <tr> <th data-bbox="478 865 1184 928">Variables</th> <th data-bbox="1184 865 1892 928">2025</th> </tr> </thead> <tbody> <tr> <td data-bbox="478 928 1184 992">Planned new annual vehicle revenue miles</td> <td data-bbox="1184 928 1892 992">30,480</td> </tr> <tr> <td data-bbox="478 992 1184 1055">Anticipated new ridership</td> <td data-bbox="1184 992 1892 1055">21,000</td> </tr> <tr> <td data-bbox="478 1055 1184 1151">Anticipated share of new riders who previously drove</td> <td data-bbox="1184 1055 1892 1151">90%</td> </tr> <tr> <td data-bbox="478 1151 1184 1214">Average unlinked trip length of new riders</td> <td data-bbox="1184 1151 1892 1214">18</td> </tr> <tr> <td data-bbox="478 1214 1184 1278">Transit vehicle size</td> <td data-bbox="1184 1214 1892 1278">15-20' van</td> </tr> <tr> <td data-bbox="478 1278 1184 1344">Transit vehicle technology</td> <td data-bbox="1184 1278 1892 1344">Fleet average</td> </tr> </tbody> </table>	Variables	2025	Planned new annual vehicle revenue miles	30,480	Anticipated new ridership	21,000	Anticipated share of new riders who previously drove	90%	Average unlinked trip length of new riders	18	Transit vehicle size	15-20' van	Transit vehicle technology	Fleet average
Variables	2025														
Planned new annual vehicle revenue miles	30,480														
Anticipated new ridership	21,000														
Anticipated share of new riders who previously drove	90%														
Average unlinked trip length of new riders	18														
Transit vehicle size	15-20' van														
Transit vehicle technology	Fleet average														



Co-benefits	<p>VMT reduction in 2030: 421,200 miles. VMT reduction of this strategy was also calculated using the user-input method for new transit service.</p>	
	Pollutants Avoided	Estimated Kg avoided annually (2030)
	CO	930
	NOx	25
	PM 2.5	3
	SO2	0.7
	VOCs	19.9
Current Status	<p>As of 2023, this expansion is fully complete and operational. All \$50,000 of grant funding has been allocated. 2030 GHG Reductions: 102 Metric Tons</p>	
Variables/ Concerns	None	
Benefits to Disproportionately Impacted Communities	<p>This project gets an equity benefits score of 3, using the Transportation Equity Scorecard Tool. The project serves a census block group which meets the definition of a DI Community, with 59.75% of residents being housing-cost burdened. This project improves access to community services, improves livability through design and the reduction of pollutants, and improves transit service in the area.</p>	
Measure Origin and History	<p>Summit County, alongside local partners, launched a pilot parking reservation and shuttle program in 2021 to help address public safety issues in the area, due to significant increases in visitation to Quandary Peak and McCullough Gulch over the past several years. Illegally parked vehicles block emergency access on</p>	



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	roadways and limit resident’s ability to access or feel safe in their own neighborhoods. The parking reservation system and shuttle service alleviates these pressures while making it easier for hikers to safely and legally access trailheads.
Funding/ Resources/ Partnerships	Through CDOT’s TDM Grant Program, Summit County has received an initial \$50,000 to support the expansion of its trailhead shuttle program and to explore complementary demand management strategies.
Other Info As Needed	N/A



Table A1-3.1: Bustang Service Expansion

Component	Description of information to be submitted with application.																								
Measure Description	Implement enhanced levels of service on I-70 and I-25 that will allow Bustang to serve more people and provide increased flexibility to residents and visitors of Colorado. Over the next three years, service on the I-25 North/South corridor, Fort Collins to Denver and Colorado Springs to Denver, will increase by 100% on weekdays and 200% on weekends. Service along I-70 West, Grand Junction to Denver, will increase by approximately 250%. A comprehensive media campaign will be developed to increase public awareness of Bustang’s existence and expansion.																								
Timing	The expansion will occur in three phases, with the first phase scheduled to be implemented in the fall of 2022. The set of expansions will occur in late fall/early winter 2023, and the final third expansion will occur in the fall/winter of 2024.																								
GHG Reductions	<p>2030: 9,414 Metric Tons 2040: 4,707 Metric Tons 2050: 4,707 Metric Tons</p> <table border="1" data-bbox="480 967 1881 1385"> <thead> <tr> <th data-bbox="480 967 659 1154">Project (New/increased fixed-route transit service - intercity - fleet average)</th> <th data-bbox="659 967 833 1154">Metric (per 1,000 new VRM)</th> <th data-bbox="833 967 1005 1154">Points per Metric in 2030</th> <th data-bbox="1005 967 1180 1154">Points per Metric in 2040</th> <th data-bbox="1180 967 1354 1154">Points per Metric in 2050</th> <th data-bbox="1354 967 1528 1154">Total Emissions Reduction 2030</th> <th data-bbox="1528 967 1703 1154">Total Emissions Reduction 2040</th> <th data-bbox="1703 967 1881 1154">Total Emissions Reduction 2050</th> </tr> </thead> <tbody> <tr> <td data-bbox="480 1154 659 1287">North Line Bustang Expansion</td> <td data-bbox="659 1154 833 1287">2</td> <td data-bbox="833 1154 1005 1287">2</td> <td data-bbox="1005 1154 1180 1287">1</td> <td data-bbox="1180 1154 1354 1287">1</td> <td data-bbox="1354 1154 1528 1287">4</td> <td data-bbox="1528 1154 1703 1287">2</td> <td data-bbox="1703 1154 1881 1287">2</td> </tr> <tr> <td data-bbox="480 1287 659 1385">South Line (DUS)</td> <td data-bbox="659 1287 833 1385">12</td> <td data-bbox="833 1287 1005 1385">2</td> <td data-bbox="1005 1287 1180 1385">1</td> <td data-bbox="1180 1287 1354 1385">1</td> <td data-bbox="1354 1287 1528 1385">24</td> <td data-bbox="1528 1287 1703 1385">12</td> <td data-bbox="1703 1287 1881 1385">12</td> </tr> </tbody> </table>	Project (New/increased fixed-route transit service - intercity - fleet average)	Metric (per 1,000 new VRM)	Points per Metric in 2030	Points per Metric in 2040	Points per Metric in 2050	Total Emissions Reduction 2030	Total Emissions Reduction 2040	Total Emissions Reduction 2050	North Line Bustang Expansion	2	2	1	1	4	2	2	South Line (DUS)	12	2	1	1	24	12	12
Project (New/increased fixed-route transit service - intercity - fleet average)	Metric (per 1,000 new VRM)	Points per Metric in 2030	Points per Metric in 2040	Points per Metric in 2050	Total Emissions Reduction 2030	Total Emissions Reduction 2040	Total Emissions Reduction 2050																		
North Line Bustang Expansion	2	2	1	1	4	2	2																		
South Line (DUS)	12	2	1	1	24	12	12																		



	Bustang Expansion							
	West Line Bustang Expansion	3,929	2	1	1	7,858	3,929	3,929
	Outrider Routes	764	2	1	1	1,528	764	764
	Total Points					9,414	4,707	4,707
<p>CDOT is taking credit for the new bus vehicle revenue miles (VRM) that occur only within the non-MPO areas, as some of the new VRM occurs within the boundaries of the state's five MPOs.</p>								
Co-benefits	<p>Expanded Bustang service results in about 170 additional Bustang riders each weekday (Compliance versus Baseline), or about 51,000 more riders annually (2030). The connections created by the Bustang network can result in local operators seeing additional ridership, while their service levels are constant. That is, the 170 additional Bustang riders above may also be making additional rides on local systems at either end of their journey.</p>							
	Annual VMT reduced per 1,000 new VRM		New 1,000 VRM			Total VMT reduced/year		
	9,200		4,707			43,304,400		
Pollutants Avoided		Estimated Kg avoided annually (2030)		Estimated Kg avoided annually (2040)		Estimated Kg avoided annually (2050)		



	CO	96,348	43,823	15,118
	NOx	945	448	159
	PM 2.5	240	248	208
	SO2	73	47	21
	VOCs	1946	1,198	559
Current Status	As of the beginning of November 2022, Phase 1 is currently underway. Services along I-70 have expanded by 15%, as well as services along Northern I-25 and Southern I-25 have each expanded 30% respectively. As of this update (March 2023), the I-70 line operates 4 daily round trips; 3 between Denver and Grand Junction and 1 between Denver and Glenwood Springs. For both Northern and Southern I-25 services, each runs 8 daily round trips on weekdays and 2 daily round trips on weekends.			
Variables/ Concerns	There are a few constraints inhibiting the Bustang expansion. Firstly, the need for new vehicles, as well as the need to replace outdated vehicles, serves as a limiting factor for service expansion. Furthermore, driver availability is proving to be a limiting constraint as well. Within Bustang, there is a current focus on maintaining consistency of services, rather than expanding beyond the resource availability. Given these constraints, the implementation of Phase 1 and beyond is subject to change; both in terms of scale and timeframe.			
Benefits to Disproportionately Impacted Communities	The West Line, South Line, and North Line Bustang expansions each receive an equity benefits score of 12, using the Transportation Equity Scorecard Tool. Each of these projects serves a high concentration of census blocks that meet the definition of a DI Community, with many census blocks meeting more than one qualifying criteria (e.g., a census block that is both greater than 40% people of color and low income). Each of these projects improve access to education, community services, health care, and affordable housing. These projects also improve livability through design through reduction of pollutants and			



	improves transit access and service in the I-70 and I-25 corridor.
Measure Origin and History	<p>CDOT launched Bustang service in the I-25 and I-70 corridors in 2015, providing much needed transit to and from the communities along these routes. In 2018, Bustang Outrider services were launched across the state, bringing rural connections to the Bustang I-70 and I-25 services. In March 2020, the COVID-19 pandemic shut down Bustang services, but were reinstated in January of 2021. System-wide ridership is currently at 75% pre-COVID levels of service, and the West Line along I-70 was at 136% of pre-pandemic ridership as of March 2022.</p> <p>CDOT is planning to expand Bustang for a three-year period, aiming to attract additional travelers into a transit option on our busiest interstate corridors. This expansion, made possible by new funding from the state legislature, includes new, enhanced service on I-70 and I-25 that will allow Bustang to serve more people and provide increased flexibility for existing riders.</p>
Funding/ Resources/ Partnerships	The passage of SB-180 gave \$30 million in direct funding for the expansion of Bustang service throughout the 3-year pilot program. Further, the dedication of the State’s portion of the MMOF funds to State Transit Operations and Maintenance ensures that existing Bustang services, the operation and maintenance of the State’s mobility hubs, and the future expansions of the Bustang Family of services can continue as an integral part of Colorado’s transportation system. Additionally, within the 10-Year Plan, CDOT has committed nearly \$120 million in Bustang investments with mobility hubs and bus purchases.
Other Info As Needed	<p>Route expansion details.</p> <p>I-25 North (Fort Collins to Denver)</p> <ul style="list-style-type: none"> - Phase 1: Increasing from 6 daily round trips on weekdays to 8 daily round trips - Phase 2: 10 daily round trips on weekdays and going from 2 daily round trips on weekends to 4 daily round trips - Phase 3: 12-13 daily round trips weekdays, 6 daily round trips weekends <p>I-25 South (Colorado Springs to Denver)</p> <ul style="list-style-type: none"> - Phase 1: Increasing from 6 daily round trips on weekdays to 8 daily round trips - Phase 2: 10 daily round trips on weekdays and increasing from 2 daily round trips on weekends to 4



	<ul style="list-style-type: none">daily round trips- Phase 3: 12-13 daily round trips on weekdays to 6 daily round trips on weekends <p>I-70 west (Grand Junction to Denver)</p> <ul style="list-style-type: none">- Phase 1: Increasing from 2 daily round trips to 4 daily round trips- Phase 2: 9-10 daily round trips between Grand Junction and Denver- Phase 3: 13-15 daily round trips between Grand Junction and Denver <p>Phase 1: Proposed for Fall 2022 Phase 2: Planned for Late 2023 Phase 3: Planned for Late 2024</p>
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Table A1-3.2: Rural Transit Service Recovery following the COVID-19 pandemic

Component	Description of information to be submitted with application.
Measure Description	Following the COVID-19 pandemic, traffic in many parts of the state returned to pre-pandemic levels; while transit ridership and service remained low. Through state and federal funds, CDOT aims to return the intercity, local, and demand response service levels of the state’s rural transit agency to pre-COVID levels by 2030 or earlier.
Timing	This recovery will occur, effective immediately, and is expected to achieve pre-COVID levels by 2030 or earlier.
GHG Reductions	Local rural transit lines (metric tons) 2030: 1,680 2040: 1,260 2050: 588 Intercity rural transit lines (metric tons) 2030: 4,600 2040: 2,300 2050: 2,300 Demand response transit service (metric tons) 2030: 354 2040: 295 2050: 118



COLORADO
Department of Transportation

	Mitigation Project Type	Metric (per 1,000 new VRH for local, per 1,000 new VRM for intercity)	Points per Metric in 2030	Points per Metric in 2040	Points per Metric in 2050	Total Emissions Reduction 2030	Total Emissions Reduction 2040	Total Emissions Reduction 2050
	New/ increased fixed-route transit service	84	20	15	7	1,680	1,260	588
	New/ increased fixed-route transit service - intercity	2,300	2	1	1	4,600	2,300	2,300
	New/ increased demand-response bus service	59	6	5	2	354	295	118
Co-benefits	<i>Intercity</i>							
	Annual VMT reduced per 1,000 new VRM			New 1,000 VRM		Total VMT reduced/year		
	9,060			2,300		21,157,905		



<i>Local</i>			
Annual VMT reduced per 1,000 new VRH	New 1,000 VRH		Total VMH reduced/year
89,700	84		7,534,800
<i>Demand response</i>			
Annual VMT reduced per 1,000 new VRH	New 1,000 VRH		Total VMH reduced/year
11,884	59		1,687,509
<i>New/increased fixed-route transit service - intercity</i>			
Pollutants Avoided	2030 (Estimated kg)	2040 (Estimated kg)	2050 (Estimated kg)
CO	47,079	21,412	7,386
NOx	462	219	78
PM 2.5	117	121	102
SO2	36	23	10
VOCs	951	586	273



New/increased fixed-route transit service - local

Pollutants Avoided	2030 (Estimated kg)	2040 (Estimated kg)	2050 (Estimated kg)
CO	16,143	7,625	2,630
NOx	-	78	28
PM 2.5	21	43	36
SO2	12	8	4
VOCs	276	208.53	97.26

New/increased demand response bus

Pollutants Avoided	2030 (Estimated kg)	2040 (Estimated kg)	2050 (Estimated kg)
CO	3,418	1,706	588
NOx	91	17	6
PM 2.5	9	9	8
SO2	3	2	1
VOCs	80	47	22



<p>Current Status</p>	<p>As of the end of 2021, some lines have exceeded service compared to pre-pandemic levels, as well as some additional lines are being accounted for which were not included in the original rural transit baseline. In total, 2021 service levels show only a 9.69% reduction compared to 2019 levels. Local routes have actually exceeded pre-pandemic service levels by 49%. Demand response lines show a 59.44% reduction compared to 2019, and intercity lines show a 27.32% service reduction.</p> <p>As of the end of 2021, the GHG Reductions accounted for are as follows (in Metric Tons):</p> <p>Local rural transit lines 2030: 2,503 2040: 1,878 2050: 876</p> <p>Intercity rural transit lines 2030: 3,343 2040: 1,672 2050: 1,672</p> <p>Demand response transit service 2030: 143 2040: 119 2050: 48</p>
<p>Variables/ Concerns</p>	<p>Due to some service lines being ineligible for accounting, they had to be omitted; which slightly altered the original baseline for both the intercity and demand response lines.</p> <p>Vehicle Revenue Miles for 2021 show only a 4.37% reduction compared to 2019 and Total Vehicle Revenue Hours for 2021 show only a 2.59% reduction; including the surplus. However, the metrics used do not take into account the measurement of unlinked passenger trips, which has not rebounded in the same way. While the service levels have seemed to rebound quite significantly, the measure of 2021 unlinked</p>



COLORADO
 Department of Transportation

	<p>passenger trips is still 30.67% below 2019 levels. While it makes sense that services would rebound before passenger levels do, it will be important to assess whether passenger levels are able to be revived in 2022 or 2023. If not, the metrics for accounting progress for Rural Transit Mitigation may have to be reassessed.</p>
<p>Benefits to Disproportionately Impacted Communities</p>	<p>Rural transit recovery is a programmatic approach to GHG reductions, rather than project specific, and thus cannot currently be analyzed through the Transportation Equity Scorecard tool. It is worth noting that many of Colorado’s rural communities are made of census block groups that meet the definition of a DI Communities. Qualitatively, we can assume that this project will provide benefits to these communities in the form of increased access to opportunity, reduction in harmful pollutants, and increased mobility.</p>
<p>Measure Origin and History</p>	<p>The following rural transit agencies saw decreases in transit service operations due to the COVID-19 pandemic. These agencies also receive state and federal funding:</p> <ul style="list-style-type: none"> - Bent County Transit, The Lift (City of Winter Park), ECO Transit (Eagle County), Gunnison Valley RTA, Mountain Express, Northeast Colorado Association of Local Governments (NECALG), RFTA, San Miguel Authority for Regional Transportation (SMART), SRDA, Southern Colorado Community Action Agency (SoCoCAA, based in Ignacio), Steamboat Springs Transit (SST), Summit Stage, Black Hawk & Central City Tramway, Cripple Creek Transit, Durango Transit, Ride Glenwood Springs, La Junta, Envida, East Central Council of Local Governments, All Points Transit (Montrose), Prowers County, Summit Stage, Teller County, Canon City, Avon Transit, Mountain Village, Snowmass Village, Galloping Goose, Via Mobility Services, Wet Mountain Valley Rotary, Dolores County, South Central COG, and Montezuma County.
<p>Funding/ Resources/ Partnerships</p>	<p>Rural transit agencies operations are funded primarily through FTA formula funds for rural areas (FTA 5311 and FTA 5310), and local funding sources. Rural capital projects are funded through FASTER, SB228, SB267, FTA 5304, 5310, 5311, and 5339 funds.</p>
<p>Other Info As Needed</p>	<p>N/A</p>



Table A1-4.1: Built Environment

Component	Description of information to be submitted with application.				
Measure Description	The parameters for this mitigation measure are set by PD 1610:				
	Mitigation Measure	Metric	2030 Points/ Metric	2040 Points/ Metric	2050 Points/ Metric
	Increase Residential Density	Per acre rezoned from <10 units/acre to at least 15-25 units/acre meeting "smart growth" criteria	22	13	6
	Increase Job Density	Per acre rezoned from <0.5 FAR to at least 1.0 FAR meeting "smart growth" criteria	18	11	5
	Mixed-use Transit-Oriented Development (higher intensity)	Per acre of area rezoned for mixed-use TOD accommodating at least 25 residential units/acre and 150 jobs/acre, within 1/2 mile of fixed-guideway transit station	49	28	13
	Mixed-use Transit-Oriented Development (moderate intensity)	Per acre of area rezoned for mixed-use TOD accommodating at least 15 residential units/acre and 100 jobs/acre, within 1/2 mile of high-frequency bus transit or fixed-guideway station	40	23	11
In order to be eligible, per PD 1610, a rezoning must meet a requirement for "smart growth". For the purposes of "Residential Density" rezonings, smart growth will be defined as infill growth within existing					



	<p>municipal boundaries. For the TOD categories, rezonings must be within ½ mile of an eligible transit station.</p> <p>It is important to note that these rezonings are wholly within the authority of the local government. Land use is an area where CDOT has no authority. Any rezonings that occur will be voluntary, and responsive to local policy, market, and demographic factors. Where local governments do have this vision, CDOT can be responsive, as it always has been, by providing infrastructure. CDOT's 10-Year Plan includes numerous strategic investments that are intended to complete the multimodal networks in partnership with local investments. These investments will create synergies that will not only increase the attractiveness of multimodal options, but provide the infrastructure necessary for successful high-density development in downtowns, neighborhood centers, and Transit-Oriented Developments (TODs). These investments include:</p> <ul style="list-style-type: none"> • development of a network of Mobility Hubs (particularly along I-70 Bustang routes) • transit investments in Bustang, Pegasus, Outrider, and regional transit agency partners • first-last mile ped/bike connections through 10-year Plan projects • grant programs that build multimodal infrastructure (Revitalizing Main Streets, MMOF, etc) <p>In order to track the rezonings that occur within communities where a CDOT multimodal project has assisted with making this more feasible, each year, CDOT will review zoning maps (which are public documents typically posted online) to identify any changes that have occurred within the "assistance areas" (defined below). CDOT will measure the acreage of these rezonings, and calculate the corresponding GHG reductions per the 1610 PD.</p>
<p>Timing</p>	<p>The investment changes will occur through a phased approach as set forth below. It is important to note that the planning for both rezonings (by local governments) and investments (by CDOT) take several years, and that the influence of CDOT's investments on rezonings was instigated with the adoption of the 2022 10-Year Plan. CDOT will calculate points annually on that basis, with 2022 as a starting point. The timing of construction of various improvements will be approximately as follows:</p>



COLORADO

Department of Transportation

	<p>Start date - 2022; Completion date - 2050</p> <ul style="list-style-type: none"> • Investments in mobility hubs along I-70 and I-25. • Implement grant programs such as RMS to connect multimodal projects to dense housing. • Bustang, Outrider and Pegasus Expansion <p>Annually:</p> <ul style="list-style-type: none"> • Track rezoning in municipalities to track targets identified in table below • Adjust above policies and investment strategies as needed • Continue to be responsive to local entities on connecting transportation investments to housing programs and initiatives 																														
GHG Reductions	<p>2030: 136,720 Metric Tons 2040: 231,095 Metric Tons 2050: 122,940 Metric Tons</p> <p>2030 Mitigations</p> <table border="1" data-bbox="514 893 1894 1344"> <thead> <tr> <th>Mitigation Measure</th> <th>2030 Points/Metric</th> <th>Metric: acres of rezoning (goal)</th> <th>2030 total points</th> <th>total "assistance area" (acres) per type of rezoning for 43 largest non-MPO communities</th> <th>% of "assistance area" - projection for rezonings (acres)*</th> </tr> </thead> <tbody> <tr> <td>High-density Residential</td> <td>22</td> <td>3,585</td> <td>78,870</td> <td>143,379 (this equals average size of RRC municipal boundary)</td> <td>2.5%</td> </tr> <tr> <td>High density TOD</td> <td>49</td> <td>650</td> <td>31,850</td> <td>21,740 (this equals size of ½ mile of TOD)</td> <td>3.00%</td> </tr> <tr> <td>Medium density TOD</td> <td>40</td> <td>650</td> <td>26,000</td> <td>21,740 (this equals size of ½ mile of TOD)</td> <td>3.00%</td> </tr> <tr> <td colspan="2">TOTAL</td> <td>4,885</td> <td>136,720</td> <td></td> <td></td> </tr> </tbody> </table>	Mitigation Measure	2030 Points/Metric	Metric: acres of rezoning (goal)	2030 total points	total "assistance area" (acres) per type of rezoning for 43 largest non-MPO communities	% of "assistance area" - projection for rezonings (acres)*	High-density Residential	22	3,585	78,870	143,379 (this equals average size of RRC municipal boundary)	2.5%	High density TOD	49	650	31,850	21,740 (this equals size of ½ mile of TOD)	3.00%	Medium density TOD	40	650	26,000	21,740 (this equals size of ½ mile of TOD)	3.00%	TOTAL		4,885	136,720		
Mitigation Measure	2030 Points/Metric	Metric: acres of rezoning (goal)	2030 total points	total "assistance area" (acres) per type of rezoning for 43 largest non-MPO communities	% of "assistance area" - projection for rezonings (acres)*																										
High-density Residential	22	3,585	78,870	143,379 (this equals average size of RRC municipal boundary)	2.5%																										
High density TOD	49	650	31,850	21,740 (this equals size of ½ mile of TOD)	3.00%																										
Medium density TOD	40	650	26,000	21,740 (this equals size of ½ mile of TOD)	3.00%																										
TOTAL		4,885	136,720																												



*Targets for acres of rezonings were set based on a projection for a percentage of the "assistance area" that would be rezoned by local governments; where feasibility has been increased by CDOT investments. The "assistance area" is the area adjacent to a CDOT project where a new multimodal infrastructure project may make rezoning more feasible.

- For "**High-Density Residential**", the assistance area is defined as the **municipal boundary**. The total area of larger non-MPO municipalities (43 municipalities above 5,000 pop.) is 143,379 acres. Staff projects that 2% of land within municipal boundaries will be rezoned to "High Density Residential" by 2030, which equals 2,865 acres.
- For the two "**TOD**" categories, the assistance area is defined as **½ mile radius around the transit station**. The total size of this area in larger non-MPO municipalities (43 total above 5,000 pop.) equals 21,740 acres. Staff projects that 3% of land within the ½ mile radius will be rezoned to each "TOD" category by 2030; equaling 650 acres each.

In PD 1610, increasing residential density and mixed-used Transit-Oriented Development (TOD) of moderate and higher intensity have a lifetime of 30 years. The rezonings that occur between present day and 2030 will have GHG impacts until 2050, and beyond in some cases. The 2040 and 2050 GHG points for the rezonings that occur before 2030 are calculated below, as well as the 2050 points for the new rezonings which occur between 2030 and 2040.

	2040 Points/Metric	2050 Points/Metric	Metric: acres of rezoning (goal)	2040 total points carried forward from 2030	2050 points carried forward from 2030	2050 points carried forward from 2040
High-density Residential	13	6	3,585	46,605	21,510	21,600
High density jobs	N/A	N/A	N/A	N/A	N/A	25,000
High density TOD	28	13	650	18,200	8,450	15,600
Medium density TOD	23	11	650	14,950	7,150	12,100



TOTAL				79,755	37,110	74,300
To help achieve compliance with the 2040 and 2050 reduction levels, additional land use and built environment mitigations are needed after 2030.						
2040 targets	points per acre	acres of rezoning (goal)	total points	total assistance area (acres)	% of influence area - goal for rezonings (additional acres)	
High density Res	13	3,600	46,800	143,379	2.5%	
High density jobs	11	5,000	55,000	143,379	3.5%	
High density TOD	28	1,200	33,600	21,740	5.5%	
medium density TOD	23	1,100	25,300	21,740	5%	
TOTAL		10,900	160,700			
2050 targets	points per acre	acres of rezoning (goal)	total points	total assistance area (acres)	% of influence area - goal for rezonings (acres)	
High-density Res	6	360	2,160	143,379	0.25%	
High density jobs	5	360	1,800	143,379	0.25%	
High density TOD	13	225	2,925	21,740	1%	
medium density TOD	11	815	8,965	21,740	3.75%	
TOTAL		1,760	15,850			



Co-benefits	High-density rezonings						
	Annual VMT reduced per metric	2030 Metric (rezoned acres)	2040 Metric	2050 Metric	2030 Annual VMT Reduced	2040 Annual VMT Reduced	2050 Annual VMT Reduced
	77,800	3,585	7,185	7,545	278,913,000	558,993,000	587,001,000
	High density TOD						
	Annual VMT reduced per metric	2030 Metric (rezoned acres)	2040 Metric	2050 Metric	2030 Annual VMT Reduced	2040 Annual VMT Reduced	2050 Annual VMT Reduced
	174,706	650	1,850	2,075	113,558,900	323,206,100	362,514,950
	Medium density TOD						
	Annual VMT reduced per metric	2030 Metric (rezoned acres)	2040 Metric	2050 Metric	2030 Annual VMT Reduced	2040 Annual VMT Reduced	2050 Annual VMT Reduced
	109,269	650	1,750	2,565	71,024,850	191,220,750	280,274,985
	<i>Increase job density</i>						
Annual VMT reduced per metric	2040 Metric (rezoned acres)	2050 Metric	2040 Annual VMT Reduced	2050 Annual VMT Reduced			
64,525	5,000	5,360	322,625,000	345,854,000			



Pollutants Avoided	Estimated Kg avoided annually 2030 - High-density rezonings	Estimated Kg avoided annually 2030 - High-density TOD	Estimated Kg avoided annually 2030 - Medium-density TOD
CO	633,199	257,864	210,068
NOx	17,372	7,075	5,763
PM 2.5	1,810	737	601
SO2	493	201	164
VOCs	13,160	5,359	4,366

Pollutants Avoided	Estimated Kg avoided annually 2040 - High-density rezonings	Estimated Kg avoided annually 2040 - Increase job density	Estimated Kg avoided annually 2040 - High-density TOD	Estimated Kg avoided annually 2040 - Medium-density TOD
CO	565,563	326,574	327,079	252,051
NOx	2,883	3,337	3,342	2,575
PM 2.5	1,598	1,849	1,852	1,427
SO2	303	350	351	270



	VOCs	7,717	8,931	8,945	6,893
	Pollutants Avoided	Estimated Kg avoided annually 2050 - High-density rezonings	Estimated Kg avoided annually 2040 - Increase job density	Estimated Kg avoided annually 2050 - High-density TOD	Estimated Kg avoided annually 2050 - medium-density TOD
	CO	97,346	120,768	126,554	127,442
	NOx	1,025	1,272	1,333	1,342
	PM 2.5	1,338	1,660	1,739	1,752
	SO2	133	165	173	175
	VOCs	3,599	4,465	4,679	4,712
Current Status	As of November 2022, a baseline for all significant non-MPO communities has been established. From this point, these communities will be reassessed on a periodic basis to evaluate land use changes, and therefore, mitigation metrics.				
Variables/ Concerns	Zoning and subdivision regulations fall under the authority of local governments. Therefore, CDOT does not have the oversight to enforce any kind of regulation associated with land use. If communities chose to not pursue rezonings, this will equate to no increase in mitigation metrics.				



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 Department of Transportation

Benefits to Disproportionately Impacted Communities	This mitigation is a programmatic approach to GHG reductions, rather than project specific, and thus cannot currently be analyzed through the Transportation Equity Scorecard tool.
Measure Origin and History	CDOT recognizes rezoning authority rests with local entities and recognizes that transportation facilities play a significant role in the feasibility of the built environment. In order to maximize the benefits associated with state transit and multimodal investments, CDOT has developed opportunities to support rezonings through infrastructure programs that provide multimodal investments. This process began in 2021 when CDOT initiated a series of new programs including the Revitalizing Main Streets and Safer Main Streets Programs; aiming to better link transportation investments to job and housing opportunities. Additionally, CDOT committed to record levels of investment in rural transit in 2022; through mobility hubs and expanded Bustang service.
Funding/ Resources/ Partnerships	Funding Sources: While the rezonings that will be used as a measure will not be directly funded by CDOT, SB21-260, SB22-180, and 10-Year Plan Strategic funds will be used to fund the transportation programs, projects, and grants that seek to encourage and support such built environment changes. Partnerships: Municipalities, Counties, and other state agencies such as DOLA and CEO.
Other Info As Needed	N/A



Table A1-5.1: Electric transit buses

Component	Description of information to be submitted with application.			
Measure Description	The replacement of diesel transit buses with electric transit buses in non-MPO areas.			
Timing	Between January 2020 and July 2022, 11 electric transit buses have become operational in Eagle County, Summit County, Estes Park, and Vail. Between present day and 2030, 15 additional electric transit buses will become operational.			
GHG Reductions	2030: 2125 Metric Tons			
	Mitigation Project Type	Metric (per new vehicle)	Points per Metric	Total
	Replace diesel transit buses with battery-electric buses	31	85	2,635
Co-benefits	Pollutants Avoided		Estimated Kg avoided annually (2030)	
	CO		3,420	
	NOx		3,656	
	PM 2.5		90	
	SO2		5	



	VOCs	246
Current Status	Since the previous update, no new electric transit vehicles are eligible for credit. However, a total of 15 vehicles are currently awarded or on-order; which should become operational in the coming years.	
Variables/ Concerns	While 8 new electric transit vehicles became operational since the previous update, they all operate within MPO areas - which exclude them for credit under the MAP. A total of 43 electric transit vehicles are currently on order or awarded state-wide. However, only 15 of these will be able to be credited in the MAP; due to operating outside MPO boundaries.	
Benefits to Disproportionately Impacted Communities	CDOT staff will need to collect additional data to provide an equity score for these diesel replacements. However, some of these transit agencies operate in census blocks that meet the definition of Disproportionately Impacted Community. The replacement of diesel transit buses reduce GHG emissions through the elimination of tailpipe emissions, thus one can expect a decrease in co-pollutants in the areas these transit vehicles operate. Estimated co-pollutant reductions are reported in the co-benefits section.	
Measure Origin and History	The CDOT Division of Transit & Rail (DTR) has helped to support the regular replacement of transit vehicles reaching the end of their service life with new transit vehicles (including hybrid and zero-emission models) for many years. In 2018, Colorado adopted its state Beneficiary Mitigation Plan (BMP) for the approximate \$68.7 million allocation of the national Volkswagen Diesel Emission Settlement, which dedicated \$30.6 million in the state's funding for the Settlement Program transit bus replacement grants. Settlement Program grants can fund up to 110% of the incremental cost of replacing an existing diesel vehicle with a zero-emission alternative. Since 2019, more than \$21 million of the original amount has been awarded. This funding compliments direct FTA grants for zero-emission vehicles, such as FTA 5339(b) ad 5339(c), and will be further supplemented by the new grant programs created by the Clean Transit Enterprise (CTE) in 2022 and beyond.	



COLORADO
 Department of Transportation

Funding/ Resources/ Partnerships	Current and future planned battery electric buses in non-MPO areas:				
	Location	Operational	Awarded	Procured/Bus Build	Funding
	Eagle County	3	2		Settlement Program, 5339(b), and 5339(c)
	Summit County	3	3	1	Settlement Program, 5339(a), and 5339(c)
	Avon	2			5339(c)
	Breckenridge	2	1		Settlement Program, 5339(c)
	Estes Park	1	1		5339(b) and 5339(c)
	Vail	4	2	6	Local funds, VW settlement, and 5339(c)
Other Info As Needed	n/a				



Table A1-6.1 - Roundabouts in the Updated 10 Year Plan

Component	Description of information to be submitted with application.																		
Measure Description	<p>The following roundabouts were updated in the 10 Year Plan, occurring entirely in Region 4:</p> <ul style="list-style-type: none"> • US 36 and Community Drive • CO 52/CR 59 Roundabout and Safety Improvements • CO 1 Safety Improvements 																		
Timing	<p>The three roundabouts are all prioritized for funding as indicated below:</p> <table border="1" data-bbox="474 699 1892 954"> <thead> <tr> <th data-bbox="474 699 1184 763">Project</th> <th data-bbox="1190 699 1892 763">Year Funded</th> </tr> </thead> <tbody> <tr> <td data-bbox="474 768 1184 831">US 36 and Community Drive roundabout</td> <td data-bbox="1190 768 1892 831">FY 23-26</td> </tr> <tr> <td data-bbox="474 836 1184 899">CO 52/CR 59 Roundabout and Safety Improvements</td> <td data-bbox="1190 836 1892 899">FY 23-26</td> </tr> <tr> <td data-bbox="474 904 1184 954">CO 1 Safety Improvements</td> <td data-bbox="1190 904 1892 954">FY 23-26</td> </tr> </tbody> </table>	Project	Year Funded	US 36 and Community Drive roundabout	FY 23-26	CO 52/CR 59 Roundabout and Safety Improvements	FY 23-26	CO 1 Safety Improvements	FY 23-26										
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Co-benefits	<p>Roundabouts do not typically provide reduced VMT benefits, rather their GHG savings come from the more efficient flow of traffic through an intersection.</p> <p>Calculating the co-pollution emission benefits of roundabouts is an area that will need further analysis, as the benefits would not be based on VMT reduction. It is likely that project level traffic simulation modeling would be a helpful tool to determine the co-pollutant reduction benefits of these projects.</p>												
Current Status	As of the beginning of 2023, all three of the roundabout projects are still within pre-construction stages.												
Variables/ Concerns	N/A												
Benefits to Disproportionately Impacted Communities	The planned improvements along CO 1 and US 36 and Community Drive do not occur within an Disproportionately Impacted Community, thus receiving a score of 0. The CO 52/CR 59 Roundabout and Safety Improvements project has an equity benefits score of 2. The project serves a census block group which meets the definition of a DI Community, with 40.96% of residents qualifying as low income. This project improves livability through improving air quality through the reduction of pollutants and improving safety in a non-high crash location.												
Measure Origin and History	While the safety and mobility benefits of roundabouts have been widely accepted in the transportation sector, CDOT began to explore how roundabouts have the potential to lower emissions while developing the GHG rule in 2021. Through extensive analysis, CDOT has established that in addition to the extensive set of safety and mobility benefits, roundabouts also go a long way towards reducing emissions. As such, CDOT has updated its 10 year plan to include more roundabouts for improved safety, mobility, and air quality.												



COLORADO
Department of Transportation

Funding/ Resources/ Partnerships	Project Name	Region	Total Project Cost	Strategic Funding Secured
	US 36 and Community Drive	Region 4	\$5 million	\$550,000
	CO 52/CR 59 Roundabout and Safety Improvements	Region 4	\$12 million	\$7,600,000
	CO 1 Safety Improvements	Region 4	\$6 million	\$4,000,000
Other Info As Needed	The statewide model is not currently able to differentiate roundabout traffic movements (merging, weaving, yielding) from those of more conventional at-grade intersections.			