Colorado Transportation Commission
Schedule & Agenda
August 16, 2023

Transportation Commission Workshops
Wednesday, August 16, 2023

Time	Topic	Speaker
1 p.m.	Budget Workshop & Commissioner Roundtable on Budget Items	Jeff Sudmeier and Bethany Nicholas
1:30 p.m.	NFRMPO GHG Transportation Report	Becky Karasko, Suzette Mallette, Darius Pakbaz
2 p.m.	New Fuels Impact Enterprise Workshop	Craig Hurst and Darius Pakbaz
2:30 p.m.	Consent Agenda Review	Herman Stockinger and others
2:40 p.m.	Adjournment	None

Transportation Commission Meeting –
Wednesday, August 16, 2023

Time	Topic	Speaker
2:45 p.m.	Call to Order, Roll Call – Swear in New Commissioners?	Herman Stockinger
2:50 p.m.	Public Comments	Various
2:55 p.m.	Comments of the Chair and Individual Commissioners	Commissioners
3:10 p.m.	Executive Director's Management Report	Shoshana Lew
3:15 p.m.	Chief Engineer's Report	Keith Stefanik
3:20 p.m.	FHWA Division Administrator Report	John Cater
3:25 p.m.	STAC Report	Vincent Rogalski
3:30 p.m.	Act on Consent Agenda: Proposed Resolution #1: Approve the Regular Meeting Minutes of July 19, 2023 Proposed Resolution #2: IGA Approval >$750,000 Proposed Resolution #3: Abandonment: US 6 North Frontage Road, Lakewood Proposed Resolution #4: Access easement: I-25 and CO 119 mobility hub Proposed Resolution #5: Disposal: Parcel 8-EX Sterling, CO	 Herman Stockinger Lauren Cabot Jessica Myklebust Heather Paddock Heather Paddock
3:35 p.m.	Discuss and Act on Proposed Resolution #6: Budget Supplement of FY 2023	Jeff Sudmeier and Bethany Nicholas
3:40 p.m.	Discuss and Act on Proposed Resolution #7: NFRMPO GHG Transportation Report Acceptance	Becky Karasko, Suzette Mallette, Darius Pakbaz

3:45 p.m.	Recognition	None
3:50 p.m.	Other Matters	None
3:55 p.m.	Adjournment	None

Bridge and Tunnel Enterprise Board of Directors Meeting Will Resume in September

The Fuels Impact Enterprise Board of Directors meeting will begin immediately following the adjournment of the Transportation Commission Meeting. Estimated Start Time: 4 p.m.

Fuels Impact Enterprise Board of Directors Meeting

Wednesday, August 16, 2023

Time	Topic	Speaker
4 p.m.	Call to Order and Roll Call	Herman Stockinger
4:05 p.m.	Discuss and Act on Proposed Resolution #FE1: Adoption of New Fee Structure	Darius Pakbaz
4:10 p.m.	Adjournment	None

Information Only

- Project Budget/Expenditure Memo (Jeff Sudmeier)
- State Infrastructure Bank Memo (Jeff Sudmeier)
- August 2023 TC Grants Memo (Hannah Reed)
- 2023 Rail Abandonments and the Potential for Rail Acquisitions Report to TLRC (SB 37 Report) (Kay Kelly and David Singer)

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COLORADO
Department of Transportation
Division of Accounting and Finance

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: JEFF SUDMEIER, CHIEF FINANCIAL OFFICER
BETHANY NICHOLAS, BUDGET DIRECTOR
DATE: AUGUST 16, 2023
SUBJECT: SECOND BUDGET SUPPLEMENT - FY 2023-2024

Region 2

$7,081,016- 10 Year Plan - I-25 Paving and Mobility - Fillmore to Garden of the Gods Improvements
- Bids for this project came in 22% higher than originally budgeted. Region staff has determined that the unit prices are reasonable considering the current economic climate. Funding is being sourced from a variety of programs including Permanent Water Quality, FASTER Safety, Bridge Construction and the 10 Year Plan. The use of $2.1M of Cost Escalation Funds and $2.5M of Permanent Water Quality has been approved by the Executive Management Team (EMT) and staff, respectively, based on Policy Directive (PD) 703.0. The remaining $7.08M requires Transportation Commission approval per PD 703.0 and is detailed as follows:

- $781,016 - Bridge Construction
- $1,000,000 - FASTER Safety
- $5,300,000 – Transfer from 10 Year Plan Project #2759 - Safety and Operational Improvements Exit 135 South Academy to Exit 138 Circle/Lake to #0016 -I-25- Fillmore to Garden of the Gods

I-25 Fillmore to Garden of Gods
Budget Components by Phase, Funding Program, Fiscal Year

			Funding Request					
Phase of Work	Funding Program	Original Budget	Previous Adjustments	Current Request	Total Adjustments	Total Adjustment	Revised Budget	Expended To-Date
Right of Way	*Strategic Projects*	$35,405	$0	$0	$0		$35,405	$35,405
	Total Design	**$35,405**	**$0**	**$0**	**$0**	**0%**	**$35,405**	**$35,405**
Design	*Strategic Projects*	$3,609,515	$0	$0	$0		$3,609,515	$3,366,305
	ITS Infrastructure	$300,000	$0	$0	$0		$300,000	$58,277
	Total Design	**$3,909,515**	**$0**	**$0**	**$0**	**0%**	**$3,909,515**	**$3,424,582**
Construction	*Strategic Projects*	$39,355,080	$0	$5,300,000	$5,300,000		$44,655,080	$0
	Perm. Water Quality	$150,000	$0	$2,552,864	$2,552,864		$2,702,864	$0
	Surface Treatment	$6,165,320	$0	$0	$0		$6,165,320	$0
	Cost Escalation	$3,000,000	$0	$2,108,875	$2,108,875		$5,108,875	$0
	FASTER Safety	$4,329,600	$0	$1,000,000	$1,000,000		$5,329,600	$0
	Bridge Construction	$0	$0	$781,016	$781,016		$781,016	$0
	Total Construction	**$53,000,000**	**$0**	**$11,742,755**	**$11,742,755**	**22%**	**$64,742,755**	**$0**
	Total Project	**$56,944,920**	**$0**	**$11,742,755**	**$11,742,755**	**21%**	**$68,687,675**	**$3,459,987**

See attached memo for more information.
Per Policy Directive 703.0 increases above $500k and above 25% of the original budget requires Transportation Commission approval AND per Policy Directive 703.0 transfers across the 10 Year Plan requires TC Approval.

Transportation Commission Contingency Reserve Fund Reconciliation
Second Supplement FY 2024 Budget

Transaction Date	Transaction Description	Amount	Balance	Reference Document
June-23	*Balance 12S23*		**$22,301,756**	
July-23	*Balance 1S24*		**$20,201,756**	
	Project Savings Returned to ST	$15,010		1000319229
August-23	*Pending Balance 2S24*		**$20,216,766**	

Cost Escalation Fund Reconciliation
Second Supplement FY 2024 Budget

Transaction Date	Transaction Description	Amount	Balance	Reference Document
June-23	*Balance 12S23*		**$20,555,987**	
July-23	*Balance 1S24*		**$20,555,987**	
	Region 2 I-25 Fillmore to Garden of the Gods	-$2,108,875		Pending
August-23	*Pending Balance 2S24*		**$18,447,112**	

Transportation Commission Program Reserve Fund Reconciliation
Second Supplement FY 2024 Budget

Transaction Date	Transaction Description	Amount	Balance	Reference Document
June-23	*Balance 12S23*		**$14,774,236**	
July-23	*Balance 1S24*		**$10,774,236**	
	Impaired Driving HB23-1102	-$1,500,000		1000319063
	Reimbursement of advance to OJT	$80,273		1000319046
August-23	*Pending Balance 2S24*		**$9,354,509**	

Transportation Commission Maintenance Reserve Reconciliation
Second Supplement FY 2024 Budget

Transaction Date	Transaction Description	Amount	Balance	Reference Document
June-23	*Balance 12S23*		**$0**	
July-23	*Balance 1S24*		**$12,000,000**	
	No Pending Requests			
August-23	*Pending Balance 2S24*		**$12,000,000**	

FY 2023-2024 Contingency Reserve Fund Balance Projection		
July TC Contingency Balance (Emergencies)	$20,201,784	
Pending Requests:		
Project Savings Returned to ST	$15,010	
Pending August TC Contingency Reserve Balance	$20,216,794	
Projected Outflow:	Low Estimate	High Estimate
No Pending Outflows	$0	$0
Projected Inflow:	Low Estimate	High Estimate
I-70 Glenwood Canyon Slides Remaining Repayments	$0	$3,000,000
Region 4 Project Savings	$0	$3,000,000
Projected FY 2022-2023 YE Contingency Balance	$20,216,794	$26,216,794
TCCRF Surplus (Deficit) to Reach $25M Balance July 1, 2023	***($4,783,206)***	***$1,216,794***

FY 2023-2024 Program Reserve Fund Balance Projection		
July TC Program Reserve Balance	$10,774,236	
Pending Requests:		
Impaired Driving HB23-1102	($1,500,000)	
Reimbursement of advance to OJT	$80,273	
Pending August TC Program Reserve Fund Balance	$9,354,509	
Projected Outflow:	Low Estimate	High Estimate
No Pending Requests	$0	$0
Projected Inflow:	Low Estimate	High Estimate
No Pending Requests	$0	$0
Projected FY 2022-2023 YE Program Reserve Balance	$9,354,509	$9,354,509

FY 2023-2024 Cost Escalation Pool	
July Cost Escalation Pool Balance	$20,555,986.53
EMT Approved Requests:	
Region 2 I-25 Fillmore to Garden of the Gods	($2,108,875.47)
Pending August TC Program Reserve Fund Balance	$18,447,111.06

FY 2023-2024 Maintenance Reserve Fund Balance Projection	
July TC Maintenance Reserve Balance	$12,000,000
EMT Approved Requests:	
No Pending Requests	
Pending August TC Maintenance Reserve Fund Balance	$12,000,000

COLORADO
Department of Transportation
Region 2

REGION TRANSPORTATION DIRECTOR
5615 Wills Boulevard
Pueblo, CO 81008

DATE: August 16, 2023

TO: Colorado Transportation Commission
FROM: Shane Ferguson, Region 2 Transportation Director
SUBJECT: Budget Adjustment Request for Previously Approved SB 267 Project – I-25 Fillmore to Garden of the Gods Operational Improvements

Purpose

The purpose of this memorandum is to request approval from the Transportation Commission for a construction project budget increase of $11,742,755 (22%) to one of the previously approved 10 Year Strategic Plan (Plan ID 0016) Senate Bill 267 projects: I-25 Paving and Mobility - Fillmore to Garden of the Gods Improvements. The project had bid opening on 7/27/2023.

Action

Per Policy Directive 703.0, Transportation Commission approval is needed for requests of greater than or equal to 15% and greater than or equal to $500,000 above the approved amount. As such, the Transportation Commission is being asked to approve this funding request so that CDOT can award the project to the low bidder.

Background

This project consists of pavement, mobility and safety improvements to I-25 from exits 145 and 146, including constructing continuous auxiliary lanes in both directions, bridge reconstruction at Ellston Street, expansion joint and other repairs at the Garden of the Gods Road structure, resurfacing, cross slope correction/reconstruction, drainage and water quality improvements to meet permit and add resiliency, ITS infrastructure replacements, and ramp metering modifications. This project was advertised on June 15, and bids opened on July 27, 2023. CDOT Region 2 has opted to pursue funding to award the winning lowest bid.

Details

The total construction phase budget available for the project is $53,000,000. The bid results require a total C Phase budget of $64,742,755 to Award – an increase in the C Phase of $11,742,755 (22%). In reviewing the bids, it was determined that the unit prices are reasonable considering the current economic climate.

Bids for advertisement of the project opened on July 27, 2023 were as follows:

The advertisement engineer estimate: $39,500,000
The advertisement low bid: $49,068,138.24 (24% over advertisement estimate)
Three other bids ranged from $57 million to $60 million

A thorough review of all Region funds and other funding opportunities has been undertaken to develop initial funds available to add to the project. The following identifies the proposed funding in order to Award the project.

Add PWQ25 funds:	$ 2,552,863.70
Add CBP24 funds:	$ 781,016.30
Add FSA25 funds:	$ 1,000,000.00
Add CEF24 funds (TC Contingency funds remaining of original ~$6M for Region 2):	$ 2,108,875.00
	$ 0.00
Subtotal of Available funds:	$ 6,442,755.00

The following 10 Year Strategic Plan modifications are recommended to allow for full funding of the project. These changes can be implemented such that they should not affect the schedule of the 2548 US 24 East Widening, will keep the same total funding for I-25 within the PPACG MPO, and can be adequately managed within the scope of the 2759 I-25 10 year plan project. Highlights below reflect the proposed and requested new/changed planning numbers.

	Proj Type	Total Proj $	Total Strategic $	Funds 19-22	Funds 23-26	Funds 27+	Plan Proj ID
I-25 Paving and Mobility – Fillmore to Garden of the Gods	H	$68.7 M	$48.3 M	$43 M	$5.3 M		0016
Safety and Operational Improvements Exit 135 South Academy to Exit 138 Circle/Lake	H	$43.4 M	$21.8 M			$21.8 M	2759
US 24 East Widening	H	$50 M	$50 M		$44.7 M	$5.3 M	2548
New 10 Year Strategic plan totals for these 3 projects			$120.1 M	$43 M	$50 M	$27.1 M	
Previous 10 Year Strategic plan totals for these 3 projects NO CHANGE			$120.1 M	$43 M	$50 M	$27.1 M	

Subtotal of amended 10 year plan funds available for project:	$ 5,300,000.00
Total of Available and amended 10 year plan funds:	$ 11,742,755.00

Options

Staff has identified two options for consideration:

1. Approve the budget adjustment for the project as outlined above. **(Staff recommendation)**
2. Reject Award and re-advertise the project.

Next Steps

1. Transportation Commission approves Budget Supplement including those budget adjustments requiring Transportation Commission approval.
2. Pending Transportation Commission approval, CDOT will work with PPACG to make the administrative movements to fund and award the project.

Attachments

N/A

North Front Range Metropolitan Planning Organization

July 14, 2023

Herman Stockinger, Secretary of the Transportation Commission
Colorado Department of Transportation

Re: Submission of the Greenhouse Gas (GHG) Transportation Report for the North Front Range Metropolitan Planning Organization (NFRMPO) 2050 Regional Transportation Plan (RTP)

Mr. Stockinger,

This letter provides official documentation of the NFRMPO's completion and submission of the Draft GHG Transportation Report to the Transportation Commission on the 2050 Regional Transportation Plan (RTP) as required in Section 8.02.5.1 of the Transportation Commission's GHG Rule. Submission of this document also meets the compliance requirements in Section 8.05.

This letter serves as official documentation stating the NFRMPO's compliance with the GHG Rule as required in Section 8.02.6 of the Transportation Commission's GHG Rule has been met. The NFRMPO has worked closely with CDOT in the development and review of the GHG modeling work and documentation.

Please do not hesitate to contact us with any questions or concerns. We look forward to presenting this information to the full Transportation Commission at their August 16, 2023 Workshop.

Sincerely,

Suzette Mallette
Executive Director

CC: Commissioner Scott James, Chair, North Front Range Metropolitan Planning Organization
Kathleen Bracke, Transportation Commissioner Region 5
Darius Pakbaz, Colorado Department of Transportation
Theresa Takushi, Colorado Department of Transportation
Garry Kauffman, Colorado Department of Public Health and Environment—Air Pollution Control Division
Clay Clark, Colorado Department of Public Health and Environment—Air Pollution Control Division
Dale Wells, Colorado Department of Public Health and Environment—Air Pollution Control Division
Rick Coffin, Colorado Department of Public Health and Environment—Air Pollution Control Division
Becky Karasko, North Front Range Metropolitan Planning Organization

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Fort Collins, Colorado 80521
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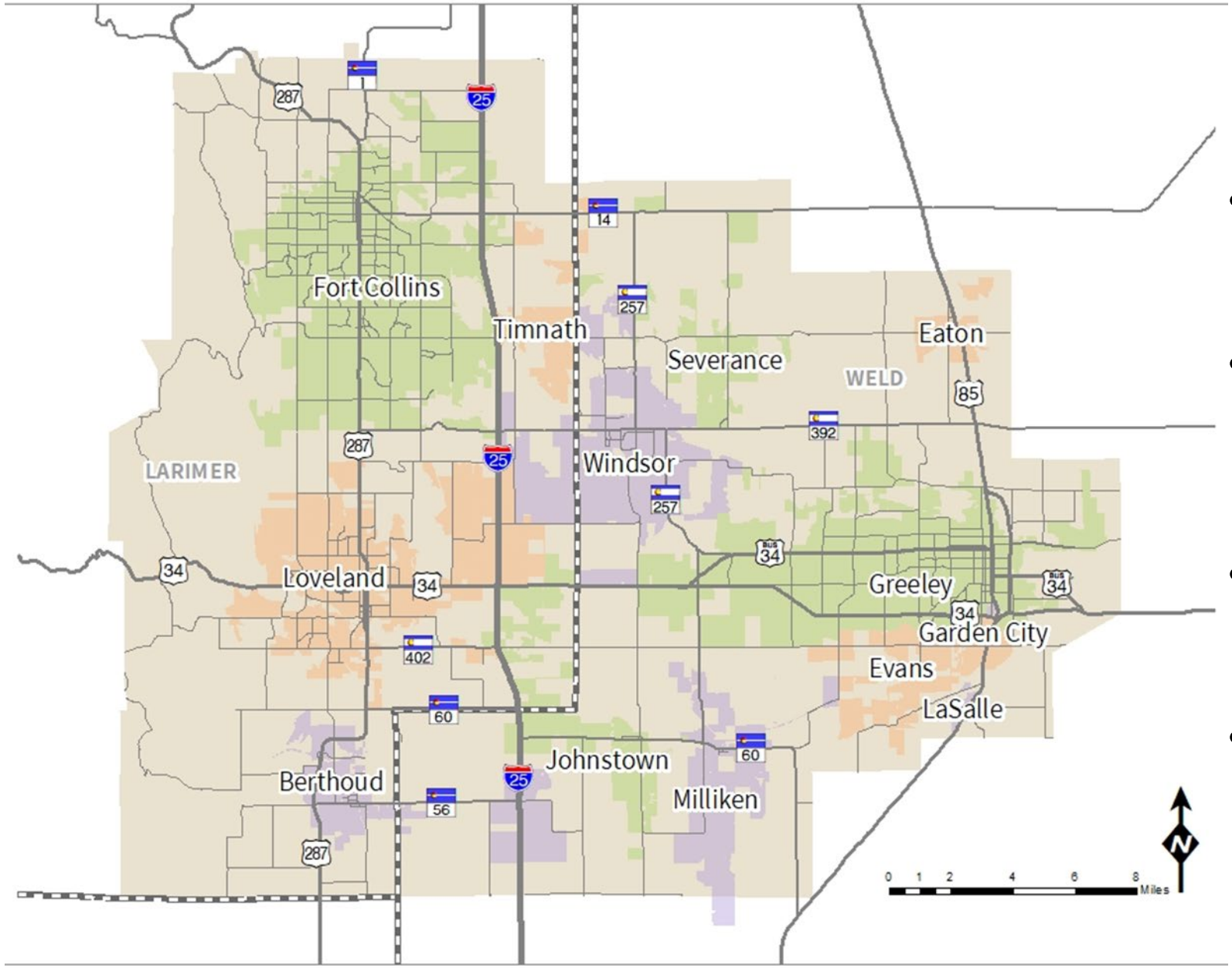
NFRMPO GHG Transportation Report

Colorado Transportation Commission Workshop

North Front Range Metropolitan Planning Organization

August 16, 2023

NFRMPO Region



- Formed in 1988 and expanded to current boundary in 2007
- Federally designated Transportation Management Area (TMA)
- Covers 675 square miles, with over 535,000 residents
- Funded through federal, state, and local government sources

2050 Regional Transportation Plan (RTP)

North Front Range Metropolitan Planning Organization

What is the NFRMPO's 2050 RTP?

The *2050 RTP* provides a long-range vision for the North Front Range regional transportation system and guides the implementation of multimodal transportation improvements, policies, and programs in the region.

The *2050 RTP* is a fiscally constrained corridor-based plan, rather than a project-based plan, which allows for greater flexibility in meeting future needs and considers all modes.

2050 Regional Transportation Plan (RTP)

How does the GHG Rule impact the NFRMPO's 2050 RTP?

The GHG Rule requires the NFRMPO to review the projects and travel model outputs within the *2050 RTP*.

Since the *2050 RTP* is a fiscally constrained corridor-based plan, rather than a project-based plan, this allowed for greater flexibility in the program of corridor-based projects within the RTP's out-years (2030, 2040, and 2050) to achieve the GHG reductions while still maintaining the federally-required fiscal constraint.

Progress Since Baseline Plan Adoption

North Front Range Metropolitan Planning Organization

- 2019 MMOF Call for Projects
- 2021 CMAQ, STBG, and TA Call for Projects
- 2022 MMOF Call for Projects
- COLT Route Expansion Plan
- Regional Mobility Hubs (I-25/US34, I-25/CO56, and US34 in Greeley)
- TMO Incubator Creation in NFRMPO Region
- Increase in Bustang North Line frequency
- Increase in Work from Home rates
- New State and Federal legislation with additional funding for multimodal transportation in the future
- Adoption of LinkNoCo corridors for investment

2050 RTP and GHG Reduction Strategies

North Front Range Metropolitan Planning Organization

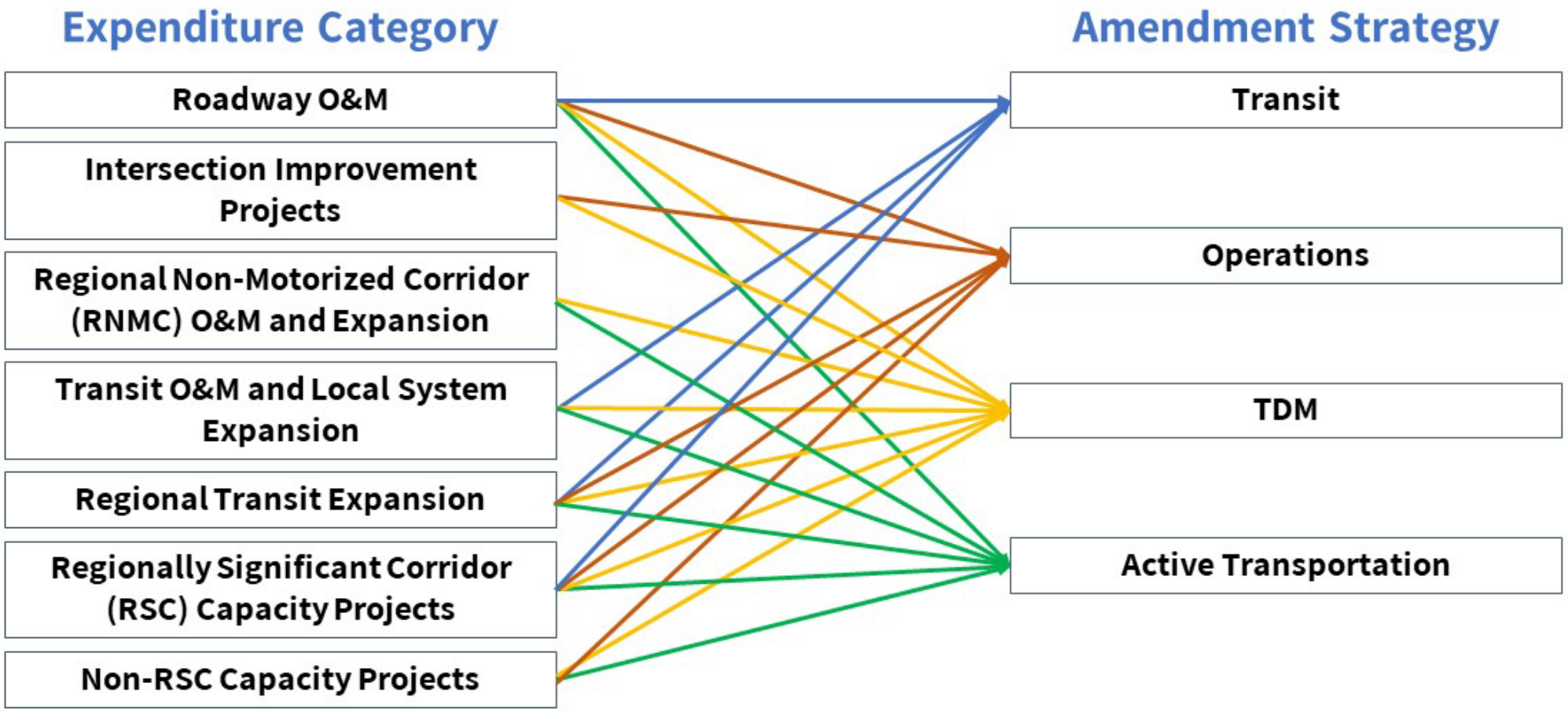


Table 2: Modeled Improvements and Funding Sources		
Category	**Improvement**	**Funding Source**
Transit	• Updated transit network to match local plans and efforts • Acknowledgment of additional funding opportunities • LinkNoCo recommendations	CDOT 10-Year Plan, FTA, MMOF
TDM	• TDM program based on local plans and efforts • Impact of Council setting aside TMO funding • Increase in work from home in all compliance years	MMOF, IIJA
Operations	• Arterial signal timing improvements by 2030 and additional signal timing improvements through 2050	CDOT 10-Year Plan, IIJA, Local funds
Active Transportation	• Expansion of the local bicycle and pedestrian network by 2030 and increasing to 2050 • Completion of Regional Active Transportation Corridors (RATCs) by 2045	IIJA, MMOF, Local Funds

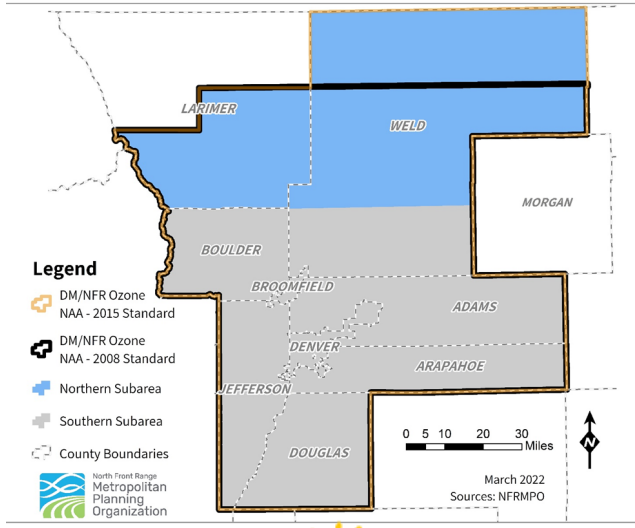
Baseline Plan/2050 RTP Comparison

Table 5: NFRMPO Modeling Summary, Comparison of Baseline to Updated Plan				
	2026	2030	2040	2050
Person Trip Mode Share (Percentage Point difference)				
Single occupancy in auto	-2.0%	-5.0%	-5.5%	-5.5%
Shared ride in auto	-0.8%	-2.6%	-2.8%	-2.8%
Walk	0.5%	2.7%	2.7%	2.7%
Bicycle	2.2%	3.8%	1.0%	1.0%
Transit	0.1%	0.2%	0.0%	0.2%
Other non-vehicle	-2.0%	-5.0%	-5.5%	-5.5%
Vehicle and Transit Data – Typical Weekday (Percent change)				
Vehicle Miles Traveled	0.0%	-4.5%	-7.1%	-7.1%
VMT per capita	0.3%	-4.5%	-7.1%	-7.1%
Average vehicle speed (mph)	0.3%	2.7%	4.4%	5.2%
Average vehicle trip length (mi)	1.5%	-1.4%	0.0%	0.0%
Vehicle Hours Traveled (VHT)	-0.3%	-7.0%	-11.1%	-11.7%
Transit trips (linked)	5.1%	15.5%	13.4%	15.9%

NFRMPO and Air Quality

North Front Range Metropolitan Planning Organization

- **NFRMPO is the lead planning agency for Carbon Monoxide (CO) within the North Front Range and is responsible for conducting conformity determinations for all NAAQS pollutants for which the region is not in attainment.**



- **NFRMPO staff conducts outreach in member communities during the Ozone Season to promote air quality and ways the public can help contribute to better air quality.**

SIMPLE STEPS BETTER AIR

Ozone Action Alert

- **Partners with the RAQC on Air Quality outreach in the NFRMPO region, including Mow Down Pollution events and funding calls.**

- **NFRMPO provides air quality alerts on the homepage to ensure public awareness.**

VANGO VANPOOL SERVICES

NFRMPO GHG Emissions Analysis

North Front Range Metropolitan Planning Organization

Table 1: GHG Emissions Results, Million Metric Tons (MMT) per Year					
	2025*	2027*	2030	2040	2050
Baseline Plan: 2045 RTP	1.55	1.52	1.40	1.01	0.64
Updated Plan: 2050 RTP	1.47	1.45	1.28	0.90	0.56
Reduction	**0.12**	**0.07**	**0.12**	**0.11**	**0.08**
Required GHG Reduction Level	0.04	0.06	0.12	0.11	0.07
Pass/Fail	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**

*All values for 2025 and 2027 are interpolated.
Note: Some numbers in this chart may not add correctly due to rounding.

NFRMPO GHG Transportation Report Timeline

North Front Range Metropolitan Planning Organization

Coordination between CDOT, CDPHE, DRCOG, NFRMPO

Task	Date
Travel Demand Model Update	January/February 2023
Multimodal Data Requests Completed	
Model runs	Winter 2023
MOVES runs	Spring 2023
2050 RTP and GHG Transportation Report Finalization	Summer 2022-Summer 2023
30 Day Public Comment Period on 2050 RTP Update & GHG Transportation Report	July-August 2023
TAC and Council Discussions	June-August 2023
TC Workshop/Meeting Adoption	August 2023
NFRMPO Council Adoption	September 7, 2023

NFRMPO GHG Contacts

Becky Karasko, AICP
Transportation Planning Director
bkarasko@nfrmpo.org

Alex Gordon, PTP
Transportation Planner III
agordon@nfrmpo.org

https://nfrmpo.org/air-quality/ghg

NFRMPO GHG Transportation Report

Determining Compliance with the GHG Transportation Planning Standard

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for the

North Front Range Metropolitan Planning Area

2050 Regional Transportation Plan

And

FY2024-2027 Transportation Improvement Program

The North Front Range Metropolitan Planning Organization
419 Canyon Avenue, Suite 300 Fort Collins, CO 80521

Preparation of this report has been financed in part through grants from the Federal Highway Administration, Federal Transit Administration, Colorado Department of Health and the Environment, and local government contributions.

June 20, 2023

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North Front Range Metropolitan Planning Organization

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LIST OF ACRONYMS

APCD – Air Pollution Control Division

BRT – Bus Rapid Transit

BY – Base Year

CCR – Code of Colorado Regulations

CDOT – Colorado Department of Transportation

CDPHE – Colorado Department of Public Health and Environment

CCR – Code of Colorado Regulations

CFR – Code of Federal Regulations

COLT – City of Loveland Transit

CSU – Colorado State University

DRCOG – Denver Regional Council of Governments

EPA – Environmental Protection Agency

FHWA – Federal Highway Administration

GET – Greeley-Evans Transit

GHG – Greenhouse Gas

HHTS – Household Travel Survey

IACT – State Interagency Consultation Team

IGA – Intergovernmental Agreement

LUAM – Land Use Allocation Model

MAP – Mitigation Action Plan

MMT – Million Metric Tons

MOVES3 – MOtor Vehicle Emission Simulator model

MPA – Metropolitan Planning Area

MPO – Metropolitan Planning Organization

NFRMPO – North Front Range Metropolitan Planning Organization

NFRT&AQPC – North Front Range Transportation and Air Quality Planning Council

OBTS – On-Board Transit Survey

PD – Policy Directive

PIP – Public Involvement Plan

PMT – Person Miles Traveled

RTDM – Regional Travel Demand Model

RTE – Regional Transit Element

RTP – Regional Transportation Plan

SIP – State Implementation Plan

SDO – State Demography Office

TAZ – Traffic Analysis Zone

TC – Transportation Commission

TDM – Transportation Demand Management

TIP – Transportation Improvement Program

TMA – Transportation Management Area

UNC – University of Northern Colorado

VHT – Vehicle Hours Traveled

VMT – Vehicle Miles Traveled

Purpose

This report demonstrates the 2050 Regional Transportation Plan (RTP) and the FY2024-2027 Transportation Improvement Program (TIP) complies with Colorado's greenhouse gas (GHG) Transportation Planning Standard ("GHG Planning Standard") specified in the Code of Colorado Regulations (2 CCR 601-22).

The demonstration is based on analysis of all trips conducted using the NFRMPO's 2019 Base Year (BY) Regional Travel Demand Model (RTDM) and the Environmental Protection Agency's (EPA's) Motor Vehicle Emission Simulator (MOVES3) air quality model. The NFRMPO is not relying on GHG Mitigation Measures to demonstrate compliance with the GHG Planning Standard, and as such, this report does not include a Mitigation Action Plan (MAP).

The North Front Range Transportation and Air Quality Planning Council (NFRT&AQPC) will entertain adoption of this GHG Transportation Report at their regular monthly meeting on July 6, 2023. Subsequently, the NFRT&AQPC will entertain adoption of the 2050 RTP, FY2024-2027 TIP, and the ozone and carbon monoxide (CO) air quality conformity determination at their regular monthly meeting on September 7, 2023.

Background

In 2021, *Senate Bill (SB) 21-260: Sustainability of the Transportation System* was enacted in Colorado. The bill, which created new sources of funding for transportation, also required the Colorado Transportation Commission (TC) to adopt implementing guidelines and procedures for addressing GHG emissions in transportation planning. In December 2021, the TC adopted revisions to the statewide transportation planning rules to incorporate a new GHG Planning Standard to address the GHG requirements in SB21-260.

The GHG Planning Standard requires the Colorado Department of Transportation (CDOT) and the Metropolitan Planning Organizations (MPOs) in Colorado to determine the amount of GHG emissions from transportation projects included in transportation plans and take steps to reduce GHG emissions relative to estimated emissions resulting from Baseline Plans. Baseline Plans are those plans in place at the time the GHG Planning Standard became effective on January 30, 2022.

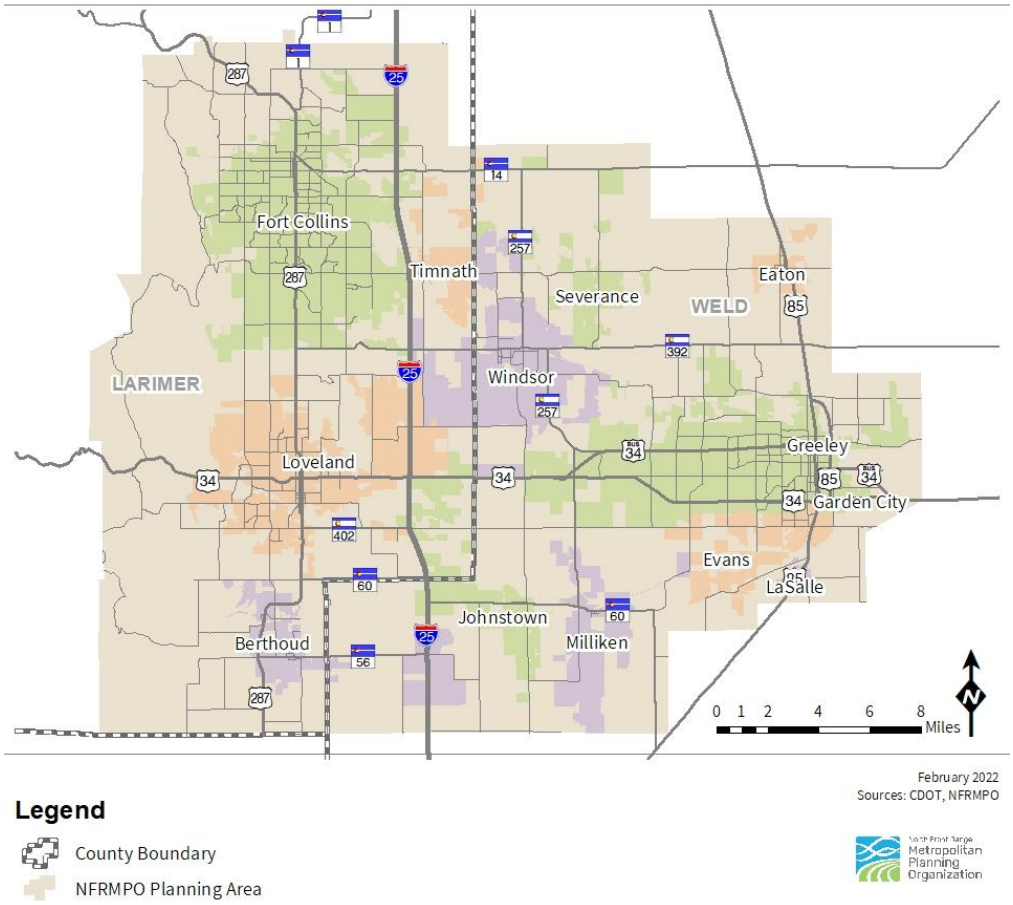
The NFRMPO is the MPO for the Fort Collins Transportation Management Area (TMA), which includes Berthoud, Fort Collins, Loveland, and portions of Johnstown, Timnath, and Windsor, and the Greeley Urban Area, which includes Greeley, Evans, and LaSalle. The NFRMPO has 15 local government members, including 13 municipalities and portions of Larimer and Weld counties. The NFRMPO Planning Boundary is shown in **Figure 1**.

The Baseline Plan for the NFRMPO is the 2045 RTP, which was adopted by the NFRT&AQPC on September 5, 2019 and was in effect as of January 30, 2022. For this GHG Transportation Report, the 2045 RTP will be referred to as the Baseline Plan and the 2050 RTP will be referred to as the Updated Plan. The FY2024-2027 TIP, which is consistent with the 2050 RTP, is assessed as part of the analysis for the Updated Plan.

An Intergovernmental Agreement (IGA) between the Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment (CDPHE), CDOT, and the NFRMPO was signed and executed on May 30, 2023 and is included in ***Appendix A***. The IGA identifies the roles and responsibilities of each agency for model execution and address modeling assumptions for compliance demonstrations for the GHG Planning Standard.

The NFRMPO is also responsible for determining conformity with the State Implementation Plan (SIP) for ozone and carbon monoxide per the federally prescribed transportation conformity process for nonattainment areas. The conformity determination for the 2050 RTP and the FY2024-2027 TIP, which demonstrates conformity with the SIP, will be available for review at: https://nfrmpo.org/public-comment/.

Figure 1: NFRMPO Planning Area



Greenhouse Gas (GHG) Emissions Analysis

For this report, GHG analysis is required in five compliance years: 2025, 2027, 2030, 2040, and 2050. The 2027 compliance year is required because it is the last year of the TIP, while the other four years are explicitly identified as required compliance years in the GHG Planning Standard.

Annual GHG emissions for the Baseline Plan and Updated Plan are shown in **Table 1** for each compliance year. The "Reduction" row of **Table 1** displays the amount of reduced GHG emissions in million metric tons (MMT) for each compliance year and reflects the difference between the Baseline Plan and the Updated Plan. **Table 1** also shows the GHG Reduction Levels established for the NFRMPO in the GHG Planning Standard for each compliance year, with the value for 2027 interpolated.

As shown in **Table 1**, the 2050 RTP and FY2024-2027 meet or exceed the required GHG Reduction Levels in each of the five compliance years, demonstrating compliance with the GHG Planning Standard.

Table 1: GHG Emissions Results, Million Metric Tons (MMT) per Year					
	2025*	**2027***	**2030**	**2040**	**2050**
Baseline Plan: 2045 RTP	1.55	1.52	1.40	1.01	0.64
Updated Plan: 2050 RTP	1.47	1.45	1.28	0.90	0.56
Reduction	**0.12**	**0.07**	**0.12**	**0.11**	**0.08**
Required GHG Reduction Level	0.04	0.06	0.12	0.11	0.07
Pass/Fail	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
*All values for 2025 and 2027 are interpolated. Note: Some numbers in this chart may not add correctly due to rounding.					

The following sections provide details of the Baseline Plan and Updated Plan as well as modeling summaries for the NFRMPO's GHG emissions analysis.

Baseline Plan Description

The GHG analysis of the Baseline Plan includes the roadway, transit, and non-motorized facility improvements identified in the 2045 RTP as modeled using the 2019 BY RTDM.

The 2045 RTP identified the major capacity projects, including regionally significant roadway and transit capacity expansion, that are fiscally constrained and planned for the region through 2045. Each of these major capacity projects is identified in the maps and tables included in *Chapter 3, Section 5* of the 2045 RTP. Projects are assigned to one of four staging periods based on anticipated year of completion, including 2020, 2021-2030, 2031-2040, and 2041-2045.

Transit projects are explicitly identified in the 2045 RTP only if they are regional transit projects between jurisdictions, if they are on fixed guideways, and/or if they serve at least 3,000 riders per day. There are five fiscally constrained transit capacity projects included in the Plan, which includes the routes recommended for investment in the NFRMPO's 2045 Regional Transit Element (2045 RTE). In addition to the major transit projects, the fiscally constrained plan of the 2045 RTP includes commitments to local transit system expansion planned as of 2019, as specified in the 2019 Transfort Transit Master Plan and the 2017 Greeley Evans Transit 5-10 Year Strategic Plan, and these local system expansions are included in the modeling of the Baseline Plan. The City of Loveland Transit (COLT) system did not have any planned expansion at the time the 2045 RTP was developed and therefore the 2045 RTP did not assume any expansion of the COLT system.

For non-motorized facility investment, the 2045 RTP includes the buildout of the 12 Regional Non-Motorized Corridors (RNMC) identified in the NFRMPO's 2016 Non-Motorized Plan. The 2045 RTP does not include any commitments for the expansion of the local non-motorized system.

Updated Plan Description

The GHG analysis of the Updated Plan includes the roadway, transit, and non-motorized facility improvements, along with other GHG-reducing strategies, identified in the 2050 RTP as modeled using the 2019 BY RTDM. The updated project list for the 2050 RTP is included in the 2050 RTP and is based on feedback and guidance from NFRMPO communities.

The 2050 RTP relies on four categories of strategies for achieving GHG Reductions. **Table 2** describes improvements based on categories and funding sources. How these projects are incorporated into the modeling is explained throughout this document. Additional detail on these strategies is also available in the 2050 RTP.

Table 2: Modeled Improvements and Funding Sources

Category	Improvement	Funding Source
Transit	• Updated transit network to match local plans and efforts • Acknowledgment of additional funding opportunities • LinkNoCo recommendations	CDOT 10-Year Plan, FTA, MMOF
TDM	• TDM program based on local plans and efforts • Impact of Council setting aside TMO funding • Increase in work from home in all compliance years	MMOF, IIJA
Operations	• Arterial signal timing improvements by 2030 and additional signal timing improvements through 2050	CDOT 10-Year Plan, IIJA, Local funds
Active Transportation	• Expansion of the local bicycle and pedestrian network by 2030 and increasing to 2050 • Completion of Regional Active Transportation Corridors (RATCs) by 2045	IIJA, MMOF, Local Funds

Modeling Summary

Key inputs and outputs from the travel model runs for four of the compliance years for the Baseline Plan and the Updated Plan are provided in **Tables 3 and 4**. The **Tables** identify demographic data and travel forecasts for the NFRMPO region, which is a subset of a larger modeling area represented in the NFRMPO's 2019 BY RTDM. The forecasted demographic data is from the NFRMPO 2019 BY Land Use Allocation Model (LUAM), which allocates households and jobs forecasted for the entire modeling area by the Colorado State Demography Office (SDO) to smaller geographies throughout the region. The same land use dataset was used to model the Baseline Plan and the Updated Plan, which means all differences in the emissions results are

due to changes in transportation strategies instead of also reflecting any changes in land use planning or population forecasts.

The NFRMPO 2019 BY RTDM forecasts travel demand for a typical weekday when school is in session. The vehicle and transit data shown in the **Tables** is for a typical weekday. To account for lower traffic volumes on weekends and most holidays, a factor of 338 is used to convert daily VMT forecasts from the travel model into annual estimates used in the GHG emissions analysis. Additional detail on the NFRMPO 2019 BY RTDM is available in ***Appendix B***.

NFRMPO staff evaluated each GHG strategy for reasonableness, appropriateness, and fundability through existing and expected funding sources. It is important to note this report estimates total GHG emissions for the Updated Plan instead of attempting to identify the GHG emissions reductions from each strategy. This is because the effect of each strategy is nonadditive in the model, as they are in real life: implementing two or more strategies may create a larger impact than the sum of impact from each constituent strategy due to synergies, or it may create a reduced impact compared to the sum of each constituent strategy due to overlaps in how the strategies are reducing GHG.

Compared to the Baseline Plan, the Updated Plan has a large increase in walk trips and bike trips and a moderate increase in transit trips. Better connectivity and accessibility on the bicycle and pedestrian network and better frequency and more regional transit service account for the increases. In addition, congestion is expected to grow into the future because of the population and job growth, making walking, bicycling, and transit more attractive than they otherwise would.

Based on training provided by CDPHE, NFRMPO staff ran a version of MOVES. After completing an RTDM model run, NFRMPO staff exported that run's network shapefile to update for county designation and more accurate segment lengths. During shapefile processing, staff confirmed county designation by checking if each network link's centroid was located in the correct county. After confirming the county designation, staff added a new field to the shapefile named cntyMiles and calculated the geometry to get the network length in miles. After completing these steps, staff exported the network shapefile to link to the corresponding Microsoft Access database. Once the text file was linked, staff adjusted the "speedMOVESvmt" or "speedMOVESvmt2030" query so that it referred to the new .txt file. Once done, NFRMPO staff ran the query and exported the results to corresponding Excel documents for post-processing if needed.

Public Participation

The 2019 Public Involvement Plan (PIP) guides the NFRMPO's public participation activities for all plans and programs. The NFRMPO will hold a 30-day public comment period on the 2050 RTP and this GHG Transportation Report in July 2023. A 30-day public comment period for the associated ozone and CO conformity determination will be open in August. The documents will be available on the NFRMPO website at https://nfrmpo.org/public-comment/ and at the NFRMPO Office as a hard copy.

The NFRT&AQPC will entertain adoption of the 2050 RTP, this GHG Transportation Report, and the conformity determination at their regular monthly meeting on September 7, 2023. All public comments submitted during the public comment period will be presented and the public is encouraged to attend. Minutes of the NFRMPO Planning Council's meeting will be available on the NFRMPO website at https://nfrmpo.org/meeting-materials/.

Table 3: NFRMPO Modeling Summary, Baseline Plan				
	2026	2030	2040	2050
Socioeconomic Data				
Population	578,923	628,062	738,762	834,360
Households	229,263	250,964	296,698	343,158
Employment	272,192	287,249	327,024	361,508
Lane Miles by Roadway Type				
Interstate	150	150	158	158
Expressway	207	207	207	207
Principal Arterial	680	704	759	759
Minor Arterial	776	785	839	849
Collector	1,234	1,245	1,273	1,275
Ramp	18	18	18	18
Frontage Road	46	48	48	48
Centroid Connector	1,349	1,348	1,347	1,347
Total Lane Miles	**4,460**	**4,505**	**4,649**	**4,661**
Person Trip Mode Share				
Single occupancy in auto	48.1%	48.5%	48.9%	49.1%
Shared ride in auto	38.1%	38.5%	38.6%	38.8%
Walk	9.1%	8.5%	8.2%	8.0%
Bicycle	4.1%	3.8%	3.6%	3.5%
Transit	0.6%	0.6%	0.7%	0.6%
Other non-vehicle *	0.0%	0.0%	0.0%	0.0%
Total Daily Trips	***2,722,863***	***2,997,134***	***3,464,354***	***3,885,123***
Vehicle and Transit Data – Typical Weekday				
Vehicle Miles Traveled (VMT)	12,895,810	14,463,906	17,247,089	19,498,069
VMT per capita	22.8	23.0	23.4	23.4
Average vehicle speed (mph)	37.6	36.6	34.7	33.1
Average vehicle trip length (mi)	6.7	6.9	7	7.1
Vehicle Hours Traveled (VHT)	342,573	395,715	496,478	589,434
Transit trips (linked)	18,573	19,532	23,618	25,280

Source: *NFRMPO 2019 Regional Travel Demand Model*, *2019 Land Use Allocation Model*
** Other non-vehicle includes the Reduced Drive Alone trips using the TDM tool, which was not used for the Baseline Plan.*

Table 4: NFRMPO Modeling Summary, Updated Plan				
	2026	**2030**	**2040**	**2050**
Socioeconomic Data				
Population	578,923	628,062	738,762	834,360
Households	228,263	254,173	299,111	347,089
Employment	272,192	291,939	331,713	367,686
Lane Miles by Roadway Type				
Interstate	157	158	158	158
Expressway	207	207	207	207
Principal Arterial	666	701	745	745
Minor Arterial	796	825	872	894
Collector	1,242	1,246	1,273	1,273
Ramp	18	18	18	18
Frontage Road	46	46	46	46
Centroid Connector	1,370	1,371	1,368	1,368
Total Lane Miles	***4,502***	***4,572***	***4,687***	***4,709***
Person Trip Mode Share				
Single occupancy in auto	46.1%	43.5%	43.4%	43.6%
Shared ride in auto	37.3%	35.9%	35.8%	36.0%
Walk	9.6%	11.2%	10.9%	10.7%
Bicycle	6.3%	7.6%	4.6%	4.5%
Transit	0.7%	0.8%	0.7%	0.8%
Other non-vehicle	0.0%	1.0%	4.5%	4.5%
Total Daily Trips	***2,721,598***	***2,997,443***	***3,464,552***	***3,885,563***
Vehicle and Transit Data – Typical Weekday				
Vehicle Miles Traveled (VMT)	12,893,007	13,811,560	16,014,778	18,108,408
VMT per capita	22.27	21.99	21.68	21.70
Average vehicle speed (mph)	37.76	37.54	36.28	34.81
Average vehicle trip length (mi)	6.8	6.8	7	7.1
Vehicle Hours Traveled (VHT)	341,417	367,901	441,404	520,176
Transit trips (linked)	19,529	22,566	26,788	29,289

Source: NFRMPO 2019 Regional Travel Demand Model, 2019 Land Use Allocation Model
* Other non-vehicle includes the Reduced Drive Alone trips using the TDM tool.

Impact

Based on the commitment to GHG strategies identified in the 2050 RTP, the NFRMPO region expects to see a decrease in overall trips taken and miles driven, increase in active transportation and transit usage, and a decrease in VMT. **Table 5** shows the overall impacts comparing the *2045 RTP Baseline* and *2050 RTP*. An overall explanation for the increase in non-single occupant vehicle (SOV) trips is a compounding of strategies that ramp up with each modeling year.

- **Active Transportation** – Speeds and bicycle/walking attractiveness were increased in the RTDM to represent better connectivity, safer facilities and crossings, adding bicycle lanes and additional protections, and the introduction of more regional e-bike and e-scooter options. These changes made active transportation modes more attractive for shorter and medium-length trips. Currently many of these bicycle and pedestrian options are available in Fort Collins and in pockets across the region, but it is expected these strategies will expand throughout the region in the future.

    - **Model impact**: Person-trip mode share for walking and bicycling shows a significant increase in 2026 and 2030, and moderate increases in 2040 and 2050.
    - **Context**: The California Air Resource Board found that increasing bicycle lanes on city streets led to a small increase in the percent of individuals commuting by bicycle and a reduction in the percent of individuals commuting by driving. NFRMPO staff extrapolated increases in bicycle network connectivity, safety, and accessibility.

- **TDM** – Investments in TDM will reduce the number of commuting trips taken by SOVs and will translate into fewer overall trips. TDM strategies like telework, carpooling, transit subsidies, and vanpooling redistribute trips across the transportation system. The 2045 RTP was adopted prior to the COVID-19 pandemic, so expected trend changes in teleworking are represented in the 2050 RTP. Existing vanpooling rates are already incorporated into the RTDM, but the NFRMPO's TDM Action Plan and efforts by the City of Fort Collins and Colorado State University (CSU) will increase the impact of TDM strategies in the region. Additionally, the NFRMPO Planning Council has set aside funding to create more Transportation Management Organizations in Northern Colorado, starting in FY2024. In addition, more communities around the region are identifying the need for investments in TDM in their Transportation Master Plans. The effectiveness of TDM strategies is expected to increase each year as more communities implement TDM programs.

    - **Model impact**: The NFRMPO anticipates no major impacts from a TDM program in 2026, but an evolving program in place by 2030 and evolving by 2050.
    - **Context**: According to the US Department of Transportation and the California Air Pollution Control Officers Association, investments in TDM programs can result in a five percent reduction in SOV mode share and a four to six percent reduction in VMT. The NFRMPO chose to be conservative in the impacts of a TDM program but expects a program to grow in success over time.

- **Operations** – Fuel-burning vehicles emit GHG emissions when operating, so strategies that reduce the operation time of vehicles will also reduce GHG emissions. Operations strategies include reducing congestion and reducing delays at traffic signals or other

obstacles. The impact of operations strategies is accounted for in the modeling by considering both vehicle miles traveled and vehicle speed by time of day.

  - **Model impact**: Traffic signal and operational improvements result in a reduction in hours of vehicle delay in the Updated Plan as compared with the Baseline Plan. The reductions in delay increase over time, as do the reductions in VHT.

  - **Context**: Research by the California Air Resource Board shows that traffic signal coordination can reduce GHG emissions between one and 10 percent without accounting for induced demand.

- **Transit** – Since the 2019 adoption of the 2045 RTP, the NFRMPO held multiple Calls for Projects and new legislation has been passed at the State and federal levels. New funding for Bustang and local transit has been identified which will support the increases in transit service in future years. In addition, CDOT and Greeley have invested in mobility hubs, which will grow in usefulness over time.

  - **Model impact**: The number of transit trips are higher in the Updated Plan compared to the Baseline Plan, with the greatest difference in 2050. Despite these notable increases in transit trips, mode share for transit trips remains about the same (0.6 percent to 0.8 percent) in both the Updated Plan and Baseline Plan. The increase in transit trips reduce VMT, VMT per capita, and VHT.

  - **Context**: The Federal Transit Administration estimates that a quarter-full bus emits 33 percent less GHG emissions per passenger mile than the average SOV. At-capacity buses can reduce emissions up to 82 percent compared to SOV on a per-passenger-mile basis.

Table 5: NFRMPO Modeling Summary, Comparison of Baseline to Updated Plan

	2026	2030	2040	2050
Person Trip Mode Share (Percentage Point difference)				
Single occupancy in auto	-2.0%	-5.0%	-5.5%	-5.5%
Shared ride in auto	-0.8%	-2.6%	-2.8%	-2.8%
Walk	0.5%	2.7%	2.7%	2.7%
Bicycle	2.2%	3.8%	1.0%	1.0%
Transit	0.1%	0.2%	0.0%	0.2%
Other non-vehicle	-2.0%	-5.0%	-5.5%	-5.5%
Vehicle and Transit Data – Typical Weekday (Percent change)				
Vehicle Miles Traveled	0.0%	-4.5%	-7.1%	-7.1%
VMT per capita	0.3%	-4.5%	-7.1%	-7.1%
Average vehicle speed (mph)	0.3%	2.7%	4.4%	5.2%
Average vehicle trip length (mi)	1.5%	-1.4%	0.0%	0.0%
Vehicle Hours Traveled (VHT)	-0.3%	-7.0%	-11.1%	-11.7%
Transit trips (linked)	5.1%	15.5%	13.4%	15.9%

Appendix A: GHG Modeling Assumptions and Model Execution Intergovernmental Agreement (2023)

INTERGOVERNMENTAL AGREEMENT BETWEEN THE COLORADO DEPARTMENT OF TRANSPORTATION, COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT, AND THE NORTH FRONT RANGE TRANSPORTATION & AIR QUALITY PLANNING COUNCIL REGARDING THE EXECUTION OF MPO TRAVEL DEMAND MODEL AND MOVES EMISSIONS MODEL

5/30/2023

THIS AGREEMENT is made effective and entered into this ___ day of _____, 2023, by and between the North Front Range Transportation & Air Quality Planning Council, also known as the North Front Range Metropolitan Planning Organization (NFRMPO), the Colorado Department of Transportation (CDOT), and the Colorado Department of Public Health & Environment (CDPHE).

I. APPLICABILITY

This intergovernmental agreement (IGA) applies to the continuing, cooperative, and comprehensive transportation planning and emissions modeling processes required to be carried out pursuant to 2 CCR 601-22, the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions, as implemented by CDOT and the state's Metropolitan Planning Organizations (MPOs) in order to meet state transportation planning requirements and ensure progress towards reducing greenhouse gas (GHG) emissions from the transportation sector.

II. DEFINITIONS

All defined terms provided in 2 CCR 601-22 have the same definition in this Intergovernmental Agreement.

"Modeling Requirements to Estimate Greenhouse Gas Emissions" - a living document summarizing the most appropriate model structure and design standards for modeling GHG emissions and the transportation system as it relates to the requirements of 2 CCR 601-22. This document is developed and periodically updated through the Statewide Modeling Coordination Group.

"Statewide Modeling Coordination Group (SMCG)" - composed of travel and air pollutant modeling professionals designated by the State Interagency Consultation Team (IACT), with representatives from all the state's MPOs, CDOT, and the APCD.

III. PURPOSE

This IGA is established to define the roles and responsibilities of the Air Pollution Control Division of the CDPHE (APCD), the Division of Transportation Development of

CDOT, and NFRMPO (hereafter referred to as "parties") related to the development and execution of NFRMPO's MPO Model and the MOVES Model to address the requirements of the GHG Planning Standard in 2 CCR 601-22. Further, this IGA ensures coordination between all parties in carrying out these responsibilities and sets common and shared standards, assumptions, and verification procedures for GHG analysis.

IV. COORDINATION AND COMMUNICATION

Staff from each party will work in partnership to ensure the successful implementation of 2 CCR 601-22 - Rules Governing Statewide Transportation Planning Process ("GHG Planning Rules"). Staff will communicate frequently and make every attempt to resolve differences at the lowest staff level possible and in a timely manner.

Each party will provide one or more representatives to serve on the following committees established by CDOT.

- The State Interagency Consultation Team (IACT), and
- The Statewide Modeling Coordination Group (SMCG).

The IACT works collaboratively and consults appropriately to approve modifications to Regionally Significant definitions, address classification of projects as Regionally Significant, review modeling assumptions and address other issues raised by the parties.

The SMCG works collaboratively to discuss, advise, and agree on analysis approaches and the inputs, content, and timing of work products and outputs related to travel demand modeling, MOVES modeling, and the interrelationships between these tools. The SMCG will make every attempt to resolve technical issues among the parties and to do so in a timeframe that does not delay submission of NFRMPO's GHG Transportation Report. Disagreements among the SMCG will be elevated to the IACT.

It is expected that all parties will actively participate in the IACT and the SMCG along with any other groups as determined by the IACT.

Any protracted disagreements between parties shall be elevated to the Executive Director of each party.

V. ANALYSIS, DOCUMENTATION, REVIEW & VERIFICATION RESPONSIBILITIES

NFRMPO RESPONSIBILITIES - two (2) areas of responsibility are identified:

1-Modeling and Analysis

1. Notify CDOT's Director of Transportation Development and APCD's Director via email when initiating a transportation planning process that requires a GHG analysis under the GHG Planning Rules to ensure early coordination on MOVES analysis and other relevant technical issues. Such coordination will include developing a milestone schedule identifying an anticipated timeline and the type and format of data and reporting information to be shared between the NFRMPO, APCD, and CDOT.
2. Conduct travel modeling for the NFRMPO MPO area. Develop and report results of NFRMPO's Travel Demand Model and the MOVES Model to the standard described in the "*Modeling Requirements to Estimate Greenhouse Gas Emissions"* document. Operate these models as described in each submitted NFRMPO GHG Transportation Report.
3. Ensure that results contained within the GHG Transportation Report submitted to APCD and CDOT are complete and comprehensive enough to allow for review and verification.

2-Documentation

1. Prepare the GHG Transportation Report in compliance with the requirements of 2 CCR 601-22, 8.02.6. Per the requirements of section 8.04.1, the GHG Transportation Report constitutes the technical data supporting NFRMPO's compliance demonstration. The GHG Transportation Report will also include, if applicable, a GHG Mitigation Action Plan.
2. Prepare a calibration and validation report per the requirements of 2 CCR 601-22, 8.02.2.1. This report may be included in the GHG Transportation Report.
3. Document any substantial changes or modifications made to the technical data provided by APCD, for review during the APCD verification process.
4. When appropriate, provide documentation as described in Section VI of this Agreement.

APCD RESPONSIBILITIES - two (2) areas of responsibility are identified:

1-Modeling and Documentation

1. Prepare, and provide to the SMCG and NFRMPO's Transportation Planning Division Director, documentation of the MOVES modeling process, assumptions and inputs utilized by APCD for the NFRMPO MPO area, for inclusion in the GHG Transportation Report. Unless otherwise agreed to by the parties to this Intergovernmental Agreement, this modeling process and documentation will be

considered final for the duration of a given compliance period which begins when a GHG analysis is initiated as determined through SMCG consultation and concludes when the Transportation Commission has approved a NFRMPO GHG Report for a plan update or amendment.

2. Provide NFRMPO with GHG emission factor outputs from the MOVES model and any necessary tools for GHG emissions analysis for each of the required compliance years. Changes to GHG emission methodology that become available after a GHG emission analysis is initiated will only be used if agreed to by the parties to this Intergovernmental Agreement.

2-Review and Verification

1. Perform an overall review of the technical data provided in the draft GHG Transportation Report for obvious calculation errors, and/or results that appear inaccurate, unreasonable, inconsistent, or unsubstantiated; and assess the methods used to estimate future emissions projections.
2. Provide timely feedback via a letter or email to NFRMPO's Transportation Planning Division Director on the submitted draft GHG Transportation Report recognizing that Reports will be considered acceptable if no written comments are received by NFRMPO within 30 days of submission. APCD will notify NFRMPO as early as possible of any potential issues to allow time for consultation and consideration of adjustments.

CDOT RESPONSIBILITIES - two (2) areas of responsibility are identified:

1-SMCG and IACT Coordination and Management

1. Convene, organize, and provide non-financial support to the IACT. Schedule a minimum of (3) meetings per year, with additional meetings as needed.
2. Convene, organize, and provide non-financial support to the SMCG. Schedule a minimum of (3) meetings per year, with additional meetings as needed, to evaluate the state of modeling throughout the duration of the rule and cooperatively review at least annually, the need for specific updates to the "*Modeling Requirements to Estimate Greenhouse Gas Emissions*".
3. Ensure that the *"Modeling Requirements to Estimate Greenhouse Gas Emissions"* document is updated to reflect new information and decisions made by the SMCG and that all changes receive concurrence from the SMCG before finalizing. Serve as document custodian and ensure all parties have access to the most recent version.
4. As a member of the SMCG, CDOT will provide technical support and advice on modeling issues as needed, including defining assumptions regarding zero

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emission vehicles by vehicle class and staging year to be used in the MOVES model.

2-GHG Transportation Reports - Facilitation and Review

1. Ensure timely exchanges of the tools, data inputs and outputs, and documentation between parties to this IGA.
2. Facilitate coordination of parties during the review process by helping to schedule meetings as needed and provide technical assistance as needed.
3. Support the Transportation Commission's review of each submitted GHG Transportation Report and prepare filing of all necessary information.

VI. RELIANCE ON PREVIOUS GHG EMISSIONS ANALYSIS

Applicable planning documents, as defined in 2 CCR 601-22, may rely on the previous GHG emissions analysis if the criteria listed below can be demonstrated. This demonstration must be described in writing and presented to the IACT and SMCG for their concurrence.

1. The new applicable planning document contains all projects which must be completed in the document's covered timeframe to achieve the transportation system defined by the applicable planning document for which the previous GHG emissions analysis was conducted;
2. The scope of each project in the new applicable planning document is not significantly different from that described in the previous applicable planning document; and
3. The previous GHG emissions analysis and Mitigation Action Plan, if any, demonstrates compliance with all applicable GHG Reduction Levels required in 2 CCR 601-22.

VII. AMENDMENT, TERMINATION, AND SUPERSESSION OF AGREEMENT

This IGA will be reviewed at least every four (4) years from its effective date. It may be amended, whenever deemed appropriate, by written agreement of all parties.

Any party to this IGA may terminate it by a 60-day written notice to the other parties. If this occurs, the parties agree to consult further to determine whether the issues can be resolved, and the agreement re-implemented in an amended form.

THE COLORADO DEPARTMENT OF TRANSPORTATION

DocuSigned by:
By: Darius Pakbaz
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Name: Darius Pakbaz

Title: Director, Division of Transportation Development

Date: 5/30/2023

THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

DocuSigned by:
By:
63436B5866C649D...

Name: Michael Ogletree

Title: APCD Director

Date: 5/26/2023

THE NORTH FRONT RANGE TRANSPORTATION & AIR QUALITY PLANNING COUNCIL

DocuSigned by:
By: Suzette Mallette
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Name: Suzette Mallette

Title: Executive Director

Date: 5/30/2023

Appendix B: NFRMPO 2019 Base Year Regional Travel Demand Model Description

Introduction

The NFRMPO 2019 Base Year (BY) Regional Travel Demand Model (RTDM) is a four-step travel model incorporating trip generation, trip distribution, mode choice, and trip assignment. The model was developed in 2023 and replaces the 2015 BY RTDM developed in 2019. Major improvements to the 2019 BY RTDM compared to the 2015 BY RTDM include updated traffic counts, land use data, and various modeling improvements. The NFRMPO's GHG emissions analysis for the 2050 RTP uses the NFRMPO 2019 BY RTDM version 6.00 in TransCAD Version 9.0, build 32840.

This document provides an overview of the 2019 BY RTDM. More detailed information on the modeling process, inputs, and procedures are available in the forthcoming *North Front Range Regional Travel Demand Model 2019 Base Year: Technical Report*. The Technical Report reflects the model as it was developed in 2023.

The remainder of this document is organized into the following sections:

- Model area and Forecast Years
- Demographic Development Estimation
- Roadway and Transit Systems
- The Four-Step Model
- Speed Feedback
- GHG Strategy Methodologies
- Induced Demand
- Model Calibration
- Model Validation

Model Area and Forecast Years

To enable modeling for ozone analysis, the RTDM covers additional portions of Larimer and Weld counties not within the NFRMPO boundary. The expanded area of the model, along with portions of the unexpanded modeling area that are outside of the NFRMPO Metropolitan Planning Area (MPA), are not included in the GHG analysis as the GHG Planning Standard applies to the MPA for the NFRMPO.

The model uses a traffic analysis zone (TAZ) structure developed based on existing land use and roadway conditions, future land use, and staff comments from member governments. Within the NFRMPO region, the RTDM has 1123 zones. The RTDM has a base year of 2019 and forecast years of 2026, 2030, 2040, and 2050.

Demographic Development Estimation

Socio-economic data provides the foundation for trip-making in the RTDM. Employment data is prepared for basic, retail, medical, and service employment types. Population and household data are developed using a population synthesizer. The population synthesizer generates a record for each person living in the model area, having information such as the person's worker status, student status, and age. Each person is associated with a household record. Household records include information such as household size, household income, and number of autos.

Employment data is used in the RTDM primarily as generators of trip attractions. Person and household data is used in the RTDM primarily as a generator of trip productions. The NFRMPO develops and maintains a Census Block-based land use allocation model (LUAM) which

distributes total households and employment at the Block level in the base year and forecast years using a location-choice model. The land use model for the 2019 BY RTDM is the 2019 BY LUAM. Additional information on the 2010 BY LUAM is available in the forthcoming "NFRMPO 2019 Land Use Allocation Model: Technical Documentation". The model uses forecasted growth in employment and households from the Colorado State Demography Office (SDO).

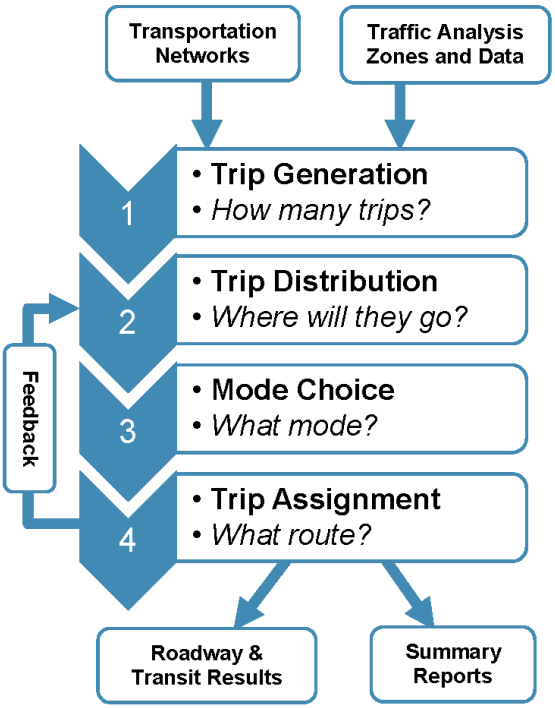
Roadway and Transit Systems

Roadway and transit networks contain basic input information for use in the model and represents real-world conditions to the greatest extent possible. The roadway network contains over 8,100 links within the MPO boundary defined according to facility type, area type, speeds, capacities, etc. The roadway network is used to distribute trips and route transit and automobile trips. The roadway network was prepared based on data from the NFRMPO and from scheduling/phasing of projects in the Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP). The NFRMPO also collaborated with local jurisdictions as necessary to verify construction and opening dates. The model contains base year, interim year, and forecast year transit route systems based on information provided by Transfort, City of Loveland Transit (COLT), Greeley Evans Transit (GET), and CDOT. Transit networks are categorized into local, express, and Bus Rapid Transit (BRT) service.

The Four-Step Model

The four steps of the 2019 BY RTDM are illustrated in **Figure B-1**. Key inputs to the travel model include the roadway and transit system networks and TAZ-level data including population and jobs. Each step of the travel model answers a different question; see sections below for detail on each step. Key outputs of the travel model include roadway volume and speed by time of day, transit boardings by route, and trip share by mode.

Figure B-1. The Four-Step Travel Model



Trip Generation

The trip generation module estimates trip productions and attractions based on zonal attributes (e.g. population, households, income, employment, etc.). Productions and attractions are generated for each TAZ and balanced by trip purpose at the regional level. Person trip productions are generated using a disaggregate choice model estimated from the 2010 household travel survey. This model distinguishes between workers who commute and those who do not commute because they are either working from home or taking the day off. Truck trips and trip attractions are generated using a regression model. The unexpanded model includes the following trip purposes:

- ***Home-Based Work (HBW)***: Commute trips between home and work.
- ***Home-Based University (HBU)***: Trips between home and university locations (e.g., CSU, UNC) for school related purposes by people not employed by the university.
- ***Home-Based Shop (HBS)***: Trips between home and retail locations for the purpose of shopping.
- ***Home-Based School (HBSc)***: Trips between home and K-12 school locations for students in these schools.
- ***Home-Based Other (HBO)***: All other trips with one end at home.
- ***Work-Based Other (WBO)***: Work-related trips without an end at home.
- ***Other-Based Other (OBO)***: Trips with neither an end at home nor a work-related purpose.
- ***Medium Truck (MTRK)***: Medium-heavy truck trips (FHWA Vehicle classes 5-7).
- ***Heavy Truck (HTRK)***: Heavy truck trips (FHWA Vehicle classes 8-13).

Some TAZs have unique land uses and generate a significantly different number of trips in comparison to the model's estimation. For these locations, special generator values are applied in the model to define the number of trips produced and attracted to the locations. The main Colorado State University (CSU) campus in Fort Collins and the University of Northern Colorado (UNC) campus in Greeley are the two University special generators used in the NFRMPO model area. Additionally, Rocky Mountain National Park is treated as a special generator in the expanded model area.

The model represents two types of external travel. Through trips are represented by the externa-external (EE) trip purpose. Trips with one end inside the modeling area and another outside of the modeling area are referred to as Internal-External/External-Internal (IE/EI) trips. These trips are included in the primary model trip purposes described previously. At external stations, the number of IE/EI trips by purpose is based on traffic count data. Distributions of both EE and IE/EI trips have been calibrated based on analysis of LOCUS location-based services (LBS) data. Growth in external travel is based on analysis of the Colorado Statewide Travel Model.

Trip Distribution

Trip distribution is the process used to apportion person trip productions and attractions from the trip generation model among all zone pairs by trip purpose. The resulting trip table matrix contains both intrazonal trips (trips that do not leave the zone) on the diagonal and interzonal trips in all other zone interchange cells. The NFRMPO model uses a destination choice model for most trip purposes and a standard gravity model for HBU and HBSc trip purposes. The trip distribution model is validated to average trip lengths and trip length frequency distributions observed in the HHTS and developed from LOCUS LBS data.

Mode Choice

The RTDM uses a nested logit model to determine travel modes. The first step in the mode analysis process is the split among primary modes: auto, transit, and non-motorized. The second step provides a choice between drive alone and shared ride 2 and shared ride 3+. The next model provides a choice between walk and drive access to transit, followed by a choice between walk or drive access and then local, express, and BRT. The drive access mode only considers express and BRT transit, as on-board data shows that drive access to local transit is minimal in the region. Lastly, the model provides a choice between walk and bike.

Trip Assignment/Time-of-Day Analysis

The traffic assignment module loads vehicle trips onto the roadway network to estimate link-specific traffic volumes. This is done for three time periods which cover the entire day: the PM peak period, AM peak period, and off-peak. Each of these trip tables is further segmented into peak and shoulder periods, for a total of eight time periods: AM peak, one AM shoulder hour, midday peak period, PM peak, three PM shoulder hours, and an off-peak period representing the remainder of the day. These eight vehicle trip tables are assigned to the roadway network using a capacity constrained equilibrium assignment procedure. The resulting traffic volumes from the four assignments are summed to estimate a 24-hour volume for each link in the network. The mid-day and off-peak periods can be further divided into hourly volumes using percentages identified in the RTDM Technical Report.

Speed Feedback

A speed feedback loop is incorporated into the modeling process to ensure consistency of speeds. This corrects a fundamental problem with travel demand models when estimated speeds used in the trip distribution process are not the same as those which result from the traffic

assignment/speed estimation process.

GHG Strategy Methodologies

Transportation Demand Management (TDM)

To reflect the TDM program being developed by the NFRMPO along with other TDM programs across the region, the RTDM was updated to account for a reduction in drive alone trips within specific areas using the NFRMPO's TDM processor. Reduction factors are applied to specific trip purposes based on anticipated effects of the TDM efforts, with reductions varying spatially and over time. Drive alone trips reduced through the TDM processor are assumed to be replaced by locally specific tele-travel (regional increases in work from home shares are addressed directly in trip generation), non-motorized travel, transit, or rideshare; however, the RTDM does not assign a specific mode to the reduced drive alone trips. This is shown in **Figure B-2, Table B-1**. The reduced drive alone trips are identified as "other non-vehicle" trips in the model summary tables included in the GHG Transportation Report.

Figure B-2. TDM in the Model

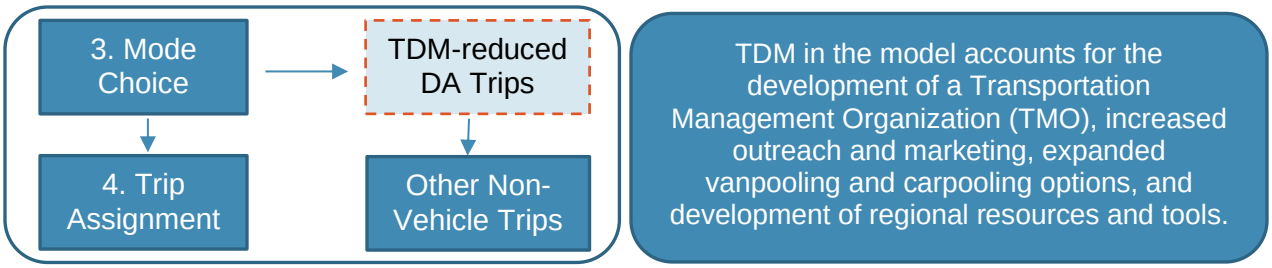


Table B-1: TDM Improvements and Funding Sources		
Category	**Improvement**	**Funding Source**
TDM	Transportation Management Organization (TMO) to conduct business outreach and develop resources	MMOF, CDOT 10-Year Plan, CDOT, IIJA
TDM	Expansion of RideNoCo program for trip planning, ridesharing, and vanpooling	MMOF, FTA, CDOT, IIJA
TDM	Schoolpooling and Regional Safe Routes to School programming	MMOF, CDOT 10-Year Plan, IIJA, Local Funds
TDM	Marketing and promotion of expanded transit, bicycle, and pedestrian options	MMOF, IIJA

Due to the time needed to establish the NFRMPO's TDM program, the 2025 compliance year for the Updated Plan does not account for any benefits of the TDM program. **Table B-2** and **Table B-3** display the reduction factors assumed for 2030, 2040, and 2050 in the Updated Plan. Model runs for the Baseline Plan do not account for TDM programs. Best practice for TDM programs assumes a 5 percent reduction in SOV trips and a 4 to 6 percent reduction in VMT. NFRMPO staff considered a conversative estimate for this report.

Table B-3. TDM Reduction Factor by Location and Trip Purpose, 2040 and 2050 (moderate)					
Location	**Home Based Work and Work Based Trips**	**Home Based Shopping/ Other Trips**	**Trips to School**	**Trips to Universities**	**All Other Trips**
Fort Collins	3%	2%	3.5%	5.5%	1.5%
Greeley, Loveland, Windsor	1.5%	1.5%	3%	5%	1.5%
Remaining NFRMPO Areas	0.5%	0.5%	3%	5%	1.5%

Bicycle and Pedestrian Improvements

To account for the expansion of the bicycle and pedestrian network that is forecasted to occur over the lifetime of the RTP, along with the increasing availability of e-bikes and scooters, the RTDM was updated by increasing the average speed of walk trips and bicycle trips and reducing the alternative specific constant of bicycle and pedestrian trips for most trip purposes.

While the RTDM includes a bicycle network, there are three reasons for not reflecting bicycle improvements through the model network. First, the location of bicycle facility improvements through 2050 is not known. Second, extensive bicycle network improvements that reduce level of traffic stress on a regional scale are significantly different than the bicycle facilities included in the calibrated base year model. Finally, expansion of the modeled bicycle network would not account for new technologies such as e-bikes and scooters.

To equate improvements in bicycle and pedestrian infrastructure, the walk and bicycle speed assumptions were updated. The NFRMPO considered a 33 percent increase in speed to be representative of improvements to connectivity and accessibility. Modeling completed for the Baseline Plan and the 2025 compliance year for the Updated Plan use the unadjusted values shown in **Table B-4**. The 2025 compliance year in the Updated Plan uses unadjusted values due to the time needed to implement expansions to the bicycle and pedestrian network. Modeling completed for 2030 and beyond for the Updated Plan use the adjusted values shown in that table.

Table B-6 converts the Bicycle and Pedestrian Alternative Specific Constants (ASCs) developed by Cambridge Systematics from **Table B-5** into equivalent minutes of In-Vehicle Travel Time (IVTT). In essence, the model assumes a penalty for choosing an alternative mode of transportation based on attractiveness for trip types. Expected improvements to the bicycle and pedestrian network could reduce barriers to making these options more attractive for people to use. The NFRMPO asserted a 25 percent reduction to ASCs for all trips except HBSc, which already had a positive constant. The results were tested and showed a 1.0 percentage point increase in non-motorized trips in 2050 between the Baseline Plan and Updated Plan, which was deemed reasonable based on expected investments in network connectivity, accessibility, and improvement projects. These investments include safer bicycle lanes, better connectivity and protection, more marketing, improved wayfinding, and better bicycle parking, among other improvements.

Table B-4. Walk and Bicycle Speed Assumptions		
	Unadjusted Values	Adjusted Values
Walk Speed	3 mph	4 mph
Bicycle Speed	12 mph	17 mph

Table B-5. Bicycle and Pedestrian Alternative Specific Constants				
Trip Purpose	Unadjusted Values		Adjusted Values	
	Bicycle	Pedestrian	Bicycle	Pedestrian
HBW	-0.336566	-0.560631	-0.25242	-0.42047
HBU	-0.853826	-0.546834	-0.64037	-0.41013
HBS	-1.452584	-0.467941	-1.08944	-0.35096
HBO	-0.311467	0.925648	-0.2336	0.694236
HBSc	0.366699	1.299213	0.366699	1.299213
WBO	-1.586597	-0.332458	-1.18995	-0.24934
OBO	-1.888487	-0.072737	-1.41637	-0.05455
LBO	-1	-1	-0.75	-0.75

Table B-6. Bicycle and Pedestrian Alternative Specific Constants, Equivalent Minutes of In-Vehicle Travel Time (IVTT)				
Trip Purpose	Unadjusted Values		Adjusted Values	
	Bicycle	Pedestrian	Bicycle	Pedestrian
HBW	13.46	22.43	10.1	16.82
HBU	34.15	21.87	25.61	16.41
HBS	58.1	18.72	43.58	14.04
HBO	12.46	-37.03	9.34	-27.77
HBSc	-14.67	-51.97	-14.67	-51.97
WBO	63.46	13.3	47.6	9.97
OBO	75.54	2.91	56.65	2.18
LBO	40	40	30	30

Work From Home

The RTDM makes assumptions about the rate of workers not commuting on a specific day. This non-commute share reflects the rate of telework along with the workers at self-employed small home businesses; those regularly working from home offices; and a share of workers not working on a typical day due to absenteeism, part time work, and alternative schedules such as weekend work or three 12 hour shifts a week.

For the base year, the work from home rate is assumed to be 11 percent based on analysis of the HHTS and coordination with CODT and DRCOG. Under a standard future condition without increased work from home, the rate is assumed to stay at 11 percent. With the Updated Plan, a higher share of work from home is anticipated. The model assumptions for the Updated Plan include slightly more than doubling the work from home rate from 11 percent to 25 percent.

As of July 2022, the NFRMPO, Fort Collins, and CSU are developing TDM Plans, which will address investments in TDM resources, strategies, and programming throughout the region. These Plans will build on shifts during the COVID-19 pandemic, which increased telework policies and strategies. In addition, CDOT has developed new funding to invest in TDM strategies, including creating WFH policies.

Analysis of HHTS data shows that reductions in commute trips are linked to an increase in the amount of home-based shopping (HBS), home-based other (HBO), and other-based other (OBO) trips as workers make additional trips in place of their commute trips. The disaggregate trip generation model estimated using the 2010 HHTS accounts for the increase in other trip types resulting from decreased commute trips through interaction between the trip generation models for each trip purpose. For the Baseline Plan, the work from home share remains at 11 percent.

Improved Transit Service, Mobility Hubs, Transit Signal Priority, and Real-Time Transit Information

Modeling conducted for the Updated Plan includes additional transit service, mobility hubs, transit stations, and park-n-rides as identified in the Updated Plan. Transit service and improved park-n-rides were incorporated directly into the model. In addition to these improvements, two adjustments were made to modeling conducted for the Updated Plan to reflect transit signal priority for certain transit routes and the availability of real-time transit service information.

The Transit Speed/Congested Speed Factor reflects the travel speed of the transit route relative to the congested speed of traffic. Without transit signal priority and given the need to make stops along the route, the default assumption in the RTDM is a factor of 0.5, which means transit service operates at half the speed of traffic. The adjusted value is used for routes planned to have transit signal priority in future compliance years, starting in 2040.

The model's unadjusted transfer penalty factor of 3.5 minutes reflects the uncertainty of making a transfer between transit routes and is used in the Baseline Plan and 2025 compliance year. Modeling conducted for the Updated Plan for 2030 and beyond uses the adjusted transfer penalty factor of 0.0 which reflects the increased certainty provided to transit users through real-time transit service information.

Table B-7 identifies the unadjusted and adjusted transit assumptions for transit speeds and the transfer penalty.

Table B-7. Unadjusted and Adjusted Transit Assumptions

Assumption	Unadjusted Value	Adjusted Value
Transit Speed/Congested Speed Factor	0.5	1.0
Transfer Penalty	3.5	0.0

Arterial Signal Timing Improvements

To account for planned improvements to arterial signal timing identified in the Updated Plan, the RTDM was adjusted to reflect reduced delay along major corridors with traffic signals and increased demand due to improvements in speed, as shown in **Table B-8**. The arterial signal timing adjustments are applied in 2030 and beyond based on the forecasted number of traffic signals adjusted, the forecasted volume on major corridors, and delay reduction and induced travel elasticity factors identified in CDOT's Policy Directive (PD) 1610: Greenhouse Gas Mitigation Measures. Specifically, PD 1610 identifies the following factors for arterial signal timing improvements:

- Hours of delay reduction per vehicle per mile: 0.006
- Induced travel elasticity (defined as percent change in VMT with respect to percent change in travel time): -0.3

Table B-8. Arterial Signal Timing Assumptions, Updated Plan

	2030	2040	2050
Number of Signals	126	126	126
Average Forecasted Volume Before Signal Timing	20,002	24,693	29,352
Delay Reduction (Hours)	45,555	56,019	66,589
Average Forecasted Volume After Induced Travel Adjustment	20,722	25,582	30,409

Induced Demand

Induced demand is the increase in the overall amount of travel such as person-miles traveled (PMT) or VMT in response to improvements in transportation capacity/level of service. There are five possible elements of induced demand:

1. **Route shifts:** Travelers choosing a different route, which changes volumes on particular facilities and has the potential to slightly increase or decrease overall VMT.
2. **Mode shifts:** Travelers choosing a different mode, which changes overall VMT but does not significantly change PMT.
3. **Destination shifts:** Travelers choosing to visit different destinations or choosing to live further or closer to their frequent destinations.
4. **Additional trips:** Travelers choosing to make a trip they would otherwise forgo.
5. **New development:** In the long term, transportation capacity can influence the location of new development, which may affect overall VMT.

Another type of change that may occur as a result of increases in transportation capacity is shifts in the time of day trips are made. This change does not significantly increase the amount of PMT or VMT, but it can impact congested speeds.

The 2019 BY RTDM addresses three of the five elements of induced demand:

- The traffic assignment model is sensitive to travel time and capacity and assigns higher volumes to improved facilities.

- The mode choice model is sensitive to level of service by mode and allocates travel demand to improved modes.
- The trip distribution model is sensitive to travel impedance and adjusts destinations in response to new capacity.

The trip generation model of the 2019 BY RTDM includes limited consideration of destination accessibility, but model estimation exercises did not uncover a significant relationship between accessibility and trip generation rates. Therefore, the model does not forecast significant changes in trip generation resulting from transportation system improvements. Lastly, the 2019 BY RTDM does not directly address the new development element of induced demand, as changes to forecast year land use patterns related to transportation improvements would require additional updates to the land use allocation model as well as coordination with local jurisdictions. Future updates to the NFRMPO's RTDM will continue to explore data sources and potential model improvements related to these two elements of induced demand.

Model Calibration

The 2019 BY RTDM was calibrated using data from the *2010 NFRMPO Household Survey,* LOCUS LBS data, and the *NFRMPO On-Board Transit Survey*, 2009 (OBTS). The household survey was used to develop the trip generation model and auto occupancy rates. The household survey combined with LOCUS LBS data was used to develop trip length frequency distributions and average trip lengths by purpose and time of day. The OBTS was used in combination with the household survey and 2019 transit boarding counts to produce mode share targets. Additional detail on model calibration is available in Section 12 of the forthcoming RTDM Technical Report.

Model Validation

Validation involves testing the RTDM's predictive capabilities. Validation tests include quantifying the model's ability to replicate observed conditions and performing sensitivity tests.

The base year validation effort was conducted by comparing model results to observed traffic count data representative of 2019 (collected between 2017 and 2019). Transit ridership was validated to boarding counts on the transit systems in the region at the system level. The overall sum of model volumes is within two percent of the traffic counts on the same links. Model volume totals by facility type are within ten percent of the sum of traffic counts for arterials and freeways and within 15 percent for collectors. The overall percent root mean square error (percent RMSE) is 41.5 percent. Additional detail on model validation is available in Section 12 of the forthcoming RTDM Technical Report.

Table B-9 shows validation data for the NFRMPO's 2019 BY RTDM to use as a comparison to data shown in the GHG Transportation Report.

Table B-9: NFRMPO Modeling Summary, Validation	
	2019
Socioeconomic Data	
Household Population	549,037
Households	210,824
Employment	240,483
Person Trip Mode Share	
Single occupancy in auto	49.7%
Shared ride in auto	37.8%
Walk	8.2%
Bicycle	3.7%
Transit	0.50%
Other non-vehicle	0.0%
Total Daily Trips	***2,759,292***
Vehicle and Transit Data – Typical Weekday	
Vehicle Miles Traveled (VMT)	15,139,122
VMT per capita	27.6
Average vehicle speed (mph)	41.2
Average vehicle trip length (mi)	6.6
Vehicle Hours Traveled (VHT)	367,546
Transit trips (linked)	13,976

Appendix C: MOVES3 Model Description

Overview

This Appendix summarizes the methodology used to calculate greenhouse gas (GHG) emissions for the NFRMPO area, using emission rates from EPA's MOtor Vehicle Emission Simulator (MOVES).

MOVES is a state-of-the-science emissions modeling system that estimates air pollution emissions for criteria air pollutants, greenhouse gases and air toxics. MOVES estimates emissions from on-road vehicles such as cars, trucks and buses, accounting for the phase-in of federal emissions standards, vehicle and equipment activity, fuels, temperatures, humidity, and emission control activities such as inspection and maintenance (I/M) programs.

In Colorado, the Air Pollution Control Division (APCD), a branch of the Colorado Department of Health and Environment (CDPHE), develops the locally defined inputs to MOVES, which is run to establish over 47,000 unique emission rates for each combination of month, hour, road type, speed bin, and vehicle type. These rates are multiplied by distances, total vehicle volumes, volumes per time period, and speeds per time period outputs from the NFRMPO's Regional Travel Demand Model a relational database, resulting in a GHG emissions inventory of surface transportation.

To develop baseline and compliance GHG emission inventories for the state's GHG rule, APCD staff created versions of these relational databases for each compliance year (2025, 2030, 2040, and 2050) and provided them to NFRMPO. NFRMPO staff and others subject to this initial deadline were trained by APCD staff on the methodology to perform the GHG emissions analysis on February 23, 2022, and, per agreement, NFRMPO staff is authorized to perform the GHG emissions analysis for compliance with the rule. In the event of an update to the MOVES relational database, APCD staff will inform NFRMPO staff. Every time there is an update to the MOVES relational database including to the input assumptions, NFRMPO staff will be notified and retrained as necessary to continue being able to perform the required GHG emissions analysis.

The MOVES documentation which follows was developed by CDOT's consultant Felsburg Holt & Ullevig (FHU) in January 2022 and modified where appropriate by NFRMPO staff. It describes the inputs and methodology used to create the MOVES relational databases.

MOVES3 Run Specifications

The run specification (RunSpec) parameters outlined below were used to calculate GHG emission rates with MOVES. They are consistent with APCD's process to calculate GHG emissions.

The four modeled years 2025, 2030, 2040, and 2050 used the same run specifications except for where specified (e.g., the year being modeled). Each of the four modeled years has six related run specifications to separate the emission rates by vehicle type, as described in the On-road Vehicles section.

Scale

The "Scale" parameters define the model type (on-road or non-road), domain/scale, and calculation type.

Model Type

On-road was the model type selected. This estimates emissions from motorcycles, cars, buses, and trucks that operate on roads.

Non-road/off-network emissions were not included. These emissions are from equipment used in applications such as recreation, construction, lawn and garden, agriculture, mining, etc. and are outside of the scope of this analysis.

Domain/Scale

MOVES allows users to analyze mobile emissions at various scales: National, County, and Project. While the County scale is necessary to meet statutory and regulatory requirements for SIPs and transportation conformity, either the County or National scale can be used for GHG inventories. EPA recommends using the County scale for GHG analysis. The County scale allows the user to enter county-specific data through the County Data Manager. Providing local data significantly improves the precision of the modeling results (EPA 2016).

The County scale was used.

Calculation Type

MOVES has two calculation types - Inventory (total emissions in units of mass) or Emissions Rates (emissions per unit of distance for running emissions or per vehicle for starts and hoteling emissions) in a look-up table format must be post-processed to produce an inventory. Either may be used to develop emissions estimates for GHGs (EPA 2016).

The Emission Rates calculation type was used.

Time Span

The "Time Span" parameters define the years, months, days, and hours that emissions are calculated.

When Emission Rates is chosen, users may choose to approach the selection of options in the Time Spans Panel differently than when running MOVES in Inventory mode. For example, when modeling running emission rates, instead of entering a diurnal temperature profile for 24 hours, users can enter a range of 24 temperatures in increments that represent the temperatures over a period of time. By selecting more than one month and using a different set of incremental

temperatures for each month, users could create a table of running emission rates by all the possible temperatures over an entire season or year (EPA 2016).

When using Emission Rates instead of Inventory, the time aggregation level is automatically set to Hour and no other selections are available. Pre-aggregating time does not make sense when using Emission Rates and would produce emission rates that are not meaningful (EPA 2016). However, the year, month, and day must still be specified and will affect the emission rates calculated.

The time span parameters specified below were also used because the travel demand model outputs represent an annual average weekday.

Years

The County scale in MOVES allows only a single calendar year in a RunSpec. Users who want to model multiple calendar years using the County scale will need to create multiple RunSpecs, with local data specific to each calendar year, and run MOVES multiple times (*EPA 2016*).

The years used were 2025, 2030, 2040, and 2050. Emission rates for each of these years were calculated separately. This accounts for information such as a changing age distribution of vehicles and their corresponding fuel efficiency.

Months

MOVES allows users to calculate emissions for any or all months of the year. If the user has selected the Emission Rates option, the Month can be used to input groups of temperatures as a shortcut for generating rate tables for use in creating inventories for large geographic areas (*EPA 2016*).

The months used were January and July to match the process described by APCD. These represent winter and summer months and generally the extremes in annual weather conditions. This accounts for changes in fuel efficiency between warm and cold temperatures throughout the year. The arithmetic averages of emission rates from January and July were used for the final emissions inventory.

Days

Weekdays and weekend days can be modeled separately in MOVES. MOVES provides the option of supplying different speed and VMT information for weekdays and weekend days to allow the calculation of separate emissions estimates by type of day (*EPA 2016*).

The days used were weekdays to match the travel demand model output data. These represented the emission rates for an average weekday. The results were escalated later to approximate a full year.

Hours

The hours used were all 24 hours of the day (i.e., clock hours of 1 AM, 2 AM, 3 AM, etc.). These represent the emission rates for individual hours of a day. This accounts for changes in fuel efficiency between warm and cold temperatures throughout the day.

Geographic Bounds

The “Geographic Bounds” parameter defines the county(s) used. For a county-scale run, only one county can be selected per RunSpec. The county used was Adams County, Colorado. The county defines input parameters such as the meteorology data used to estimate emission rates.

On-road Vehicles

MOVES describes vehicles by a combination of vehicle characteristics (e.g., passenger car, passenger truck, light commercial truck, etc.) and the fuel that the vehicle is capable of using (gasoline, diesel, etc.). The [Panel] is used to specify the vehicle types included in the MOVES run (*EPA 2016*).

The “On-road Vehicles” parameter defines the source types (i.e., vehicle types) and their fuels (gasoline, diesel, electricity, etc.). All combinations of vehicle types and fuels available in MOVES3 were used to calculate the emission rates. APCD’s process, which was being followed, assigns travel demand model mileage based on a modified HPMS category. To calculate aggregate emission rates for each HPMS category (i.e., merging all the relevant source types and fuel types), each of the six HPMS categories used a separate RunSpec. It is important to note that APCD’s modified HPMS category does not match the MOVES HPMS types for source types 21, 31, and 32.

When this methodology document refers to HPMS categories, it is generally referring to APCD’s HPMS categories. The figure below illustrates the HPMS categories.

	A	B	C	D	E
1	sourceTyp	sourceTypeName	HPMSVtypeID	HPMSVtypeName	**HPMS from APCD**
2	11	Motorcycle	10	Motorcycles	**10**
3	21	Passenger Car	25	Light Duty Vehicles	**20**
4	31	Passenger Truck	25	Light Duty Vehicles	**30**
5	32	Light Commercial Truck	25	Light Duty Vehicles	**30**
6	41	Other Buses	40	Buses	**40**
7	42	Transit Bus	40	Buses	**40**
8	43	School Bus	40	Buses	**40**
9	51	Refuse Truck	50	Single Unit Trucks	**50**
10	52	Single Unit Short-haul Truck	50	Single Unit Trucks	**50**
11	53	Single Unit Long-haul Truck	50	Single Unit Trucks	**50**
12	54	Motor Home	50	Single Unit Trucks	**50**
13	61	Combination Short-haul Truck	60	Combination Trucks	**60**
14	62	Combination Long-haul Truck	60	Combination Trucks	**60**

Road Type

The Road Type Panel is used to define the types of roads that are included in the run. MOVES defines five different road types as shown in ***Table 3-1***. Generally, all road types should be selected including Off-Network. Selection of road types in the Road Type Panel determines the road types that will be included in the MOVES run results (*EPA 2016*).

Table 3-1: MOVES Road Types

Roadtypeid	Road type	Description
1	Off-Network	Locations where the predominant activity is vehicle starts, parking and idling (parking lots, truck stops, rest areas, freight or bus terminals)
2	Rural Restricted Access	Rural highways that can be accessed only by an on-ramp
3	Rural Unrestricted Access	All other rural roads (arterials, connectors, and local streets)
4	Urban Restricted Access	Urban highways that can be accessed only by an on-ramp
5	Urban Unrestricted Access	All other urban roads (arterials, connectors, and local streets)

All road types available in MOVES3 were used.

Pollutants and Processes

The Pollutants and Processes Panel allows users to select from various pollutants, types of energy consumption, and associated processes of interest. In MOVES, a pollutant refers to particular types of pollutants or precursors of a pollutant but also includes energy consumption choices. Processes refer to the mechanism by which emissions are released, such as running exhaust or start exhaust. Users should select all relevant processes associated with a particular pollutant to account for all emissions of that pollutant. Generally, for this project, that includes running emissions.

The CO2 Equivalent pollutant is the sum of the global warming potential of other greenhouse gases expressed as a unit of CO2 (*EPA 2016*) and CO2 Equivalents (CO2e) is the pollutant of interest for these GHG calculations. MOVES requires several other prerequisite pollutants for CO2e; however, only the emission rates for CO2e were needed for this project.

Units

Users are free to choose any of the mass unit selection options but should generally choose a unit whose magnitude is appropriate for the parameters of the RunSpec (EPA 2016).

The units used for models were grams for mass, joules for energy, and miles for distance.

Activity

MOVES allows the user to select multiple activity output options (e.g., distance traveled, population, etc.). For Emission Rate calculations, distance and population are reported automatically, but the values in the output are intermediate steps in the rate calculation and do not represent the true activity (*EPA 2016*).

When calculating emission rates (as opposed to emission inventories), MOVES selects the activities hoteling hours, population, and starts without the option of changing them.

Output Emissions Detail

This panel allows the user to select the amount of detail provided in the output database. Certain selections on this panel are made by the MOVES software and cannot be changed, based on

selections made on earlier panels. The more boxes checked on this panel, the more detail and segregation provided in the MOVES output database. More detail generally is not helpful for this process so no optional selections should be checked on this panel. For example, if Source Use Type were selected on this panel, emission rates for each of the MOVES vehicle Source Use Type categories would be reported in the output database, which would defeat the purpose of performing MOVES calculations based on consolidated HPMS category.

No optional aggregation selections were made on this panel. Source type detail was captured via the six HPMS RunSpecs for each year modeled, as described in the On-road Vehicles section. Since multiple source types were used for HPMS 30, 40, 50, and 60, emission rates were aggregated for into HPMS categories. That is, emission rates for MOVES source types 31 and 32 were aggregated into the HPMS 30 RunSpec, etc.

Input Database/County Data Manager

After completing the RunSpec, the next step is to supply MOVES with data to create an input database that is the basis for the emission rate calculations. When using the County scale, the County Data Manager (CDM) is used to create an input database and populate it with local data. Modelers can either rely on MOVES default information or local data that the user inputs, as is appropriate for the goals of the MOVES modeling. The data contained in the MOVES default database are typically not the most current or best available for any specific county. Therefore, with the exception of fuels, EPA recommends using local data for MOVES for GHG analyses when available to improve the accuracy of GHG emissions estimates. However, the MOVES default data (county level) may be the only or best source of that data readily available. Also consider that data consistency may be more important than data perfection for some GHG analyses. At a minimum, EPA strongly encourages the use of local VMT and vehicle population data. EPA believes these inputs have the greatest impact on the quality of results. However, if local data are not available, MOVES default data may be useful for some inputs without affecting the quality of the results (*EPA 2016*).

In Emissions Rates mode, a full gamut of input data must be provided, described below, for MOVES to run. Some of these inputs actually do not affect the ultimate emission rates (they would affect inventory mode output) but reasonable inputs in the CDM should be used for general data integrity. As a general rule, users should input accurate activity for the scenario being modeled regardless of whether MOVES is being used in Inventory or Emissions Rates mode (*EPA 2016*).

The “Create Input Database” parameters define the region-specific inputs such as distributions of road types, vehicle age distributions, and meteorology data. The parameters specified in RunSpecs pre-populate the input database with default data for some of the parameters. However, region-specific data should be used when available and not all parameters have default data.

One comprehensive input database was created for each year modeled. Each of the six HPMS RunSpecs for that year used that single input database and were saved to a single output database. The input data were entered with the MOVES County Data Manager window, as specified below.

Age Distribution

A typical vehicle fleet includes a mix of vehicles of different ages, referred to as Age Distribution in MOVES. MOVES covers a 31 year range of vehicle ages, with vehicles 30 years and older grouped together. MOVES allows the user to specify the fraction of vehicles in each of 30 vehicle ages for each of the 13 source types in the model. For estimating on-road GHG emissions, EPA

recommends and encourages states to develop age distributions that are applicable to the area being analyzed (*EPA 2016*).

APCD has developed a vehicle age distribution for the DRCOG area, and it was used for each year modeled.

Average Speed Distribution

This input is more important for Inventory than Emission Rates. Vehicle power, speed, and acceleration have a significant effect on vehicle emissions, including GHG emissions. MOVES models those emission effects by assigning activity to specific drive cycles. The Average Speed Distribution Importer in MOVES calls for a speed distribution in VHT in 16 speed bins, by each road type, source type, and hour of the day included in the analysis. EPA urges users to develop the most detailed local speed information that is reasonable to obtain. However, EPA acknowledges that average speed distribution information may not be available at the level of detail that MOVES needs (*EPA 2016*).

The Emission Rates option in MOVES will produce a table of emission rates by road type for each speed bin. Total running emissions are then quantified outside of MOVES by multiplying the emission rates by the VMT for each source type in each vehicle speed category. Users should supply an appropriate speed distribution to produce the necessary emission rates (*EPA 2016*).

APCD uses MOVES default data for all years in emission rate mode for their GHG models. This was used for each year modeled. Since emission rates were calculated (as opposed to emission inventories), the average speed distribution used in MOVES will not change the emission rates calculated. The speeds are accounted for in the travel demand model data.

Fuel

Entering this input data into MOVES involves four tables – called FuelFormulation, FuelSupply, FuelUsageFraction, and AVFT (alternative vehicle fuels and technology) – that interact to define the fuels used in the area being modeled.

- The FuelSupply Table identifies the fuel formulations used in a region (the regionCounty Table defines which specific counties are included in these regions) and each formulation's respective market share;
- The FuelFormulation Table defines the properties (such as RVP, sulfur level, ethanol volume, etc.) of each fuel;
- The FuelUsageFraction Table defines the frequency at which E-85 capable (flex fuel) vehicles use E-85 vs. conventional gasoline; and
- The AVFT Table is used to specify the fraction (other than the default included in the sampleVehiclePopulation Table) of fuel types capable of being used (such as flex fuel vehicles) by model year and source type.

In general, users should review/use the default fuel formulation and fuel supply data provided in MOVES, with important exceptions noted below. EPA strongly recommends using the default fuel properties for a region unless a full local fuel property study exists.

The GHG effects of changes in the fuel mix used by vehicles can be modeled in MOVES. AVFT can be used to change the fraction of future vehicles using gasoline, diesel, CNG and electricity. These changes will be reflected in MOVES GHG emission rates.

The FuelUsageFraction Table allows the user to change the frequency at which E-85 capable vehicles use E-85 fuel vs. conventional fuel, when appropriate. MOVES contains default estimates of E-85 fuel usage for each county in the U.S. In most cases, users should rely on the default information.

The AVFT Table allows users to modify the fraction of vehicles using different fuels and technologies in each model year. In other words, the Fuel Tab allows users to define the split between diesel, gasoline, ethanol, CNG, and electricity, for each vehicle type and model year. For transit buses, the default table assumes that gasoline, diesel, and CNG buses are present in the fleet for most model years. If the user has information about the fuel used by the transit bus fleet in the county modeled, the user should be sure it is reflected in the AVFT Table (*EPA 2016*). ****NOTE: This tab is critically important in GHG calculations. This is where electric vehicle percentages, etc. are defined.****

APCD uses MOVES default data for fuel supply, fuel formulation, and fuel usage fraction for all years in their GHG models. For AVFT, APCD uses custom inputs that includes electric vehicles for all years. These were used for each year modeled.

Meteorology

Ambient temperature and relative humidity data are important inputs for estimating on-road GHG emissions with MOVES. Ambient temperature and relative humidity are important for estimating GHG emissions from motor vehicles as these affect air conditioner use. MOVES requires a temperature (in degrees Fahrenheit) and relative humidity (in terms of a percentage, on a scale from 0 to 100) for each hour selected in the RunSpec. EPA recommends that users input the average daily temperature profile for each month if they are modeling all 12 months. Temperature assumptions used for estimating on-road GHG emissions should be based on the latest available information. The MOVES database includes default monthly temperature and humidity data for every county in the country. These default data are based on average monthly temperatures for each county from the National Climatic Data Center for the period from 2001 to 2011. These national defaults can be used for a GHG inventory, or more recent data can be used (*EPA 2016*).

If the Emission Rate calculation type is chosen in the RunSpec, users can enter a different temperature and humidity for each hour of the day to create an emission rate table that varies by temperature for running emissions processes. Emission rates for all running processes that vary by temperature can be post-processed outside of MOVES to calculate emissions for any mix of temperatures that can occur during a day. This creates the potential to create a lookup table of emission rates by temperature for the range of temperatures that can occur over a longer period of time such as a month or year from a single MOVES run (*EPA 2016*).

MOVES default meteorology data was used for all years. The county used was Adams County, Colorado for the months of January and July. Emission rates were post-processed to average winter and summer emission rates.

Road Type Distribution

MOVES does not have default data for this input, so it must be developed. The fraction of VMT by road type varies from area to area and can have a significant effect on GHG emissions from on-road mobile sources. EPA expects states to develop and use their own specific estimates of VMT by road type (*EPA 2016*).

If the Emission Rates option is used, MOVES will automatically produce a table of running emission rates by road type. Running emissions would then be quantified outside of MOVES by

multiplying the emission rates by the VMT on each road type for each source type in each speed bin. In that case, data entered using the Road Type Distribution Importer is still required but is not used by MOVES to calculate the rate. However, road type distribution inputs are important for Emission Rates runs involving non-running processes, because they are used by MOVES to calculate the relative amounts of running and non-running activity, which in turn affects the rates for the non-running processes (*EPA 2016*).

APCD uses a custom road type distribution for all years in their GHG models. This was used for each year modeled. Since emission rates were calculated (as opposed to emission inventories), the road type distribution used in MOVES will not change the emission rates calculated. The road types are accounted for in the travel demand model.

Source Type Population

MOVES does not have default data for this input, so it must be developed. APCD uses a custom source type distribution for all years in their GHG models. These data were used for each year modeled. The source type populations used in MOVES will not change the emission rates calculated. However, source population data are still needed as inputs for an emission rates MOVES run.

Vehicle Type VMT

MOVES does not have default data for this input, so it must be developed. EPA believes VMT inputs have the greatest impact on the results of a state or local GHG or energy consumption analysis. Regardless of calculation type, MOVES requires VMT as an input. MOVES can accommodate whatever VMT data is available: annual or average daily VMT, by HPMS class or MOVES source type. Therefore, there are four possible ways to enter VMT, allowing users the flexibility to enter VMT data in whatever form they have. EPA recommends that the same approach be used in any analysis that compares two or more cases (e.g., the base year and a future year) in a GHG analysis (*EPA 2016*).

The Output Emission Detail panel determines the detail with which MOVES will produce emission rates for running emissions, such as by source type and/or road type in terms of grams per mile. Total emissions are quantified outside of MOVES by multiplying the emission rates by the VMT for each source type and road type. However, users will still need to enter data using the Vehicle Type VMT Importer that reflects the VMT in the total area where the lookup table results will be applied. This is necessary because MOVES uses the relationship between source type population and VMT to determine the relative amount of time vehicles spend parked vs. running (*EPA 2016*).

APCD uses HPMS as the source type and annual as the time span for their GHG models. This was used for each year modeled. Since emission rates were calculated (as opposed to emission inventories), the VMT used in MOVES will not change the emission rates calculated. The VMT values are in the travel demand model data. However, VMT data are still needed as inputs for an emissions rate MOVES run.

Inspection/ Maintenance Program

Because the DRCOG area is an ozone nonattainment area, an inspection and maintenance (I/M) program applies. I/M program inputs should are used for SIP and conformity analyses and are generally available as defaults within MOVES.

APCD uses inputs into MOVES to represent the I/M program in the DRCOG area. This was used for each year modeled.

Others

APCD assumes MOVES default values for the starts, hoteling, idle, retrofit data, and generic tabs. This was left as is for each modeled year.

MOVES Rate per Distance Table

The critical table in the output database with the calculated emission rates was the "rateperdistance" table. It contained emission rates for each combination of month, hour, pollutant, road type, speed bin, and vehicle type as specified in the RunSpec. The MOVESScenarioID field was the mechanism used by FHU to identify the HPMS source type.

The table was filtered to include only CO2e (i.e., pollutant ID 98) emission rates and exported to a comma- separated value (CSV) file. Because the table included emission rates for both January and July and MOVES speed bins are not discrete speeds in miles per hour, post-processing of the emission rates was required to calculate emission inventories.

Processed Emission Rates

APCD provided several Access databases with calculation tools for processing the MOVES and travel demand model data. These Access databases are the basis for the post-MOVES data processing. The instructions contained below provide a narrative of what occurs, but these actions are already built into the Access databases.

The MOVES rate per distance output table needed to be manipulated to produce emission rates that could be related to the calculated vehicle speeds for road links in the travel demand model data. The emission rates for January and July needed to be averaged to create composite emission rates. The emission rates for the 16 speed bins (which cover 5 MPH ranges) in MOVES were linearly interpolated to provide emission rates for every mile per hour speed from 1 to 75, which is how speed data are presented in the travel demand model data.

The resulting table includes a total of 43,776 unique emission rates. That is, an emission rate for each combination of:

- MOVES Road Types 2-5
- HPMS Types 10/20/30/40/50/60
- Hours 1-24
- Speeds 1-75

Processing Annual Average Emission Rates

For each year/rate per distance table (i.e., this process must be repeated for 2025, 2030, 2040, and 2050):

- Filter to include only CO2e (pollutant ID 98) emission rates
- There were unique emission rates for each combination of:
  - Road type
  - HPMS type
  - Speed Bin
  - Hour
  - Month

- To get the average emission rates per year, each combination of road type, HPMS type, average speed bin, and hour were summed and divided by two (to average the corresponding emission rates for January and July)
- Seasonally averaged emission rate = (Winter Rate + Summer Rate)/2

Interpolating Emission Rates from Speed Bin to Integer Speeds

After seasonally averaging the emission rates, these rates were used to interpolate (linearly) between speed bins to get an emission of rate for every mile per hour for the speeds of 1 to 75 miles per hour. In general, the process used was:

- For adjacent speed bins, subtract the lower bin number emission rate from the higher bin number emission rate and divide by five to calculate a per mile per hour change in the emission rate (*NOTE: emission rates generally decrease with increased speed*)
- Add the appropriate emission rate change to the lower bin avgBinSpeed value to interpolate each mile per hour emission rate between the avgBinSpeed values
- For reference, the table below illustrates the MOVES speed bins
- Example for interpolating emission rate of 11 mph:
  - Speed per mph = 11 mph
  - Speed of Lower Speed Bin = 10 mph
  - Number of Speeds per Speed Bin = 5 (= 2.5 for speed bin 1; = 5 for all other speed bins)
  - ER of Lower Speed Bin = 4055 g/m (dummy data)
  - ER of Upper Speed Bin = 3421 g/m (dummy data)
  - 4055 + (3421 – 4055) * (11 – 10)/5 = 3928

avgSpeedBinID	avgBinSpeed	avgSpeedBinDesc
1	2.5	speed < 2.5mph
2	5	2.5mph <= speed < 7.5mph
3	10	7.5mph <= speed < 12.5mph
4	15	12.5mph <= speed < 17.5mph
5	20	17.5mph <= speed <22.5mph
6	25	22.5mph <= speed < 27.5mph
7	30	27.5mph <= speed < 32.5mph
8	35	32.5mph <= speed < 37.5mph
9	40	37.5mph <= speed < 42.5mph
10	45	42.5mph <= speed < 47.5mph
11	50	47.5mph <= speed < 52.5mph
12	55	52.5mph <= speed < 57.5mph
13	60	57.5mph <= speed < 62.5mph
14	65	62.5mph <= speed < 67.5mph
15	70	67.5mph <= speed < 72.5mph
16	75	72.5mph <= speed

Processed Travel Demand Model

The travel demand model data are exported as a table, each record representing a traffic link attributed with distances, total volumes, volumes per time period, and speeds per time period. This data is imported into the MOVES relational database and associated with the appropriate MOVES emission rates, as described below.

The resulting table includes aggregated VMT for each combination of:

- MOVES Road Types 2-5
- HPMS Types 10/20/30/40/50/60
- Hours 1-24
- Speeds 2.5-75

This process provides respective county names for each link to aggregate VMT by geography/region.

Attribute Travel Demand Model with County Name

The first step was to attribute each link with the county name. The county information was necessary because it was used later in the process to filter VMT (and thus, on-road emissions inventory) by geography/region (e.g., MPO or non-MPO traffic). Performing this step later in the process would require significant modifications to the process.

Access Database

The travel demand model CSV file from the step above was imported into an Access database. The remaining post-processing steps were performed in this Access database, as described below.

Speeds

The travel demand model speeds were in floating decimal format and rounded to the nearest integer. Speeds less than 2.75 mph were rounded to 2.5 mph. This was because emission rates for speeds of 2.5 mph or less were the same, as described in the **Processed Emission Rates** section.

Time Periods

The travel demand model provides aggregated data for 10 blocks of time for a day, not hour by hour—see the "name" column below. The data for these travel demand model periods were recategorized/interpolated into data for discrete clock hours 1-24 based on methodology from APCD.

The PeriodHour24 table below was used to split the travel demand model data for different time periods (AM1, PM2, OP1, etc.) into 24 clock hour time periods. VMT was calculated for each combination of integer speed (2.5 – 75mph), interstate (yes or no), road functional class (1-8), rural (yes or no), periodCog (1-10), and county.

The periodCog 1-10 were related to hours 1-24 as shown in the “hour” column. That provided a VMT per clock hour for each combination of speed and functional class. This was used to relate the VMT to fractions of VMT by HPMS per functional class and hour.

The cVMT was divided by the number of “periods” corresponding with each clock hour to calculate the VMT.

PeriodHour24

Interval	periodCog	name	hour	hrsT	periods
11:00 PM - 6:30AM	7	Op1.bin	1	7.5	7
11:00 PM - 6:30AM	7	Op1.bin	2	7.5	7
11:00 PM - 6:30AM	7	Op1.bin	3	7.5	7
11:00 PM - 6:30AM	7	Op1.bin	4	7.5	7
11:00 PM - 6:30AM	7	Op1.bin	5	7.5	7
11:00 PM - 6:30AM	7	Op1.bin	6	15	7
6:30-7:00 AM	1	Am1.bin	7	1	1
7:00-8:00 AM	2	Am2.bin	8	1	1
8:00-9:00 AM	3	Am3.bin	9	1	1
9:00 AM - 11:30 AM	8	Op2.bin	10	2.5	2.5
9:00 AM - 11:30 AM	8	Op2.bin	11	2.5	2.5
	9	Op3.bin	12	3.5	7
	8	Op2.bin	12	2.5	5
11:30 AM - 3:00 PM	9	Op3.bin	13	3.5	3.5
	9	Op3.bin	14	3.5	3.5
	9	Op3.bin	15	3.5	3.5
3:00-5:00 PM	4	Pm1.bin	16	2	2
3:00-5:00 PM	4	Pm1.bin	17	2	2
5:00-6:00 PM	5	Pm2.bin	18	1	1
6:00-7:00 PM	6	Pm3.bin	19	1	1
7:00-11:00 PM	10	Op4.bin	20	4	4
7:00-11:00 PM	10	Op4.bin	21	4	4
7:00-11:00 PM	10	Op4.bin	22	4	4
7:00-11:00 PM	10	Op4.bin	23	4	4
11:00 PM - 6:30AM	7	Op1.bin	24	7.5	7

Fraction of VMT by HPMS

Once VMT was calculated for each road functional class and clock hour, the fractions of VMT by HPMS for each corresponding functional class and clock hour were applied. This calculated the VMT for HPMS 10-60. The fractions used were from APCD and were consistent with their methodology.

FractionsByHourHPMSnaaT

NAA?	Weld?	Rural?	FC	Hr	10f	20f	30f	40f	50f	60f
-1	W	R	1	1	1.124943752812236E-03	0.442984079764564	0.408981870287873	8.24958752062397E-04	3.60606876834793E-03	0.14247807867434
-1	W	R	1	2	6.503251625812291E-04	0.418107821883677	0.388118179039889	1.40070035017509E-03	5.57032759041272E-03	0.186152645973265
-1	W	R	1	3	1.19074620095526E-03	0.402448608970853	0.376594285267901	1.9278748015423E-03	8.86488378110699E-03	0.208973600977645
-1	W	R	1	4	1.88772529102432E-03	0.400795540811441	0.375296865809669	3.5956672209987E-03	8.74568726325532E-03	0.209678513603612
-1	W	R	1	5	1.276008437280 28E-03	0.438002933384539	0.406922735865401	8.59352621025494E-04	5.91653137282429E-03	0.14702243831893
-1	W	R	1	6	9.868920491927 73E-04	0.462978652961131	0.429325812630245	1.88521686320158E-03	5.20852159466524E-03	9.96149039015637E-02
-1	W	R	1	7	8.564776317977 71E-04	0.47063947538398	0.437825973989187	1.19740562115417E-03	7.50554404406707E-03	8.19751233298142E-02

Road Types

The travel demand model used roadway functional classes that were recategorized to MOVES road types. That allowed the road types from the travel demand model to be related to the emission rates.

RTt

DRCOG Facil	FHWA facility type	rural?	FHWA	Urban	MOVESrt	fhwaRT	fcCode	Intestate
1	Principal Arterial - Interstate	-1	R	R	2	1	1	1
1	Principal Arterial - Interstate	-1	R	R	2	1	1	0
1	Principal Arterial - Interstate	0	N	U	4	11	1	0
1	Principal Arterial - Interstate	0	N	U	4	11	1	1
2	Principal Arterial - Other	-1	N	R	3	2	2	0
2	Principal Arterial - Other Freeways or Expressway	0	N	U	4	12	2	0
3	Principal Arterial - Other	-1	N	R	3	2	3	0
3	Principal Arterial - Other	0	N	U	5	14	3	0
4	Minor Arterial	-1	N	R	3	6	4	0
4	Minor Arterial	0	N	U	5	16	4	0
5	Major Collector	-1	N	R	3	7	5	0
5	Collector	0	N	U	5	17	5	0
6	Principal Arterial	-1	R	R	2	1	1	0
6	Principal Arterial	0	N	U	4	11	1	0
8	Local System	-1	N	R	3	9	7	0
8	Local System	0	N	U	5	19	7	0

Filter by Geography/Region

The statewide GHG inventory was filtered to contain VMT for all counties in Colorado, except for the nine county region in the ozone non-attainment area. The nine counties excluded were Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, **Larimer, and Weld**. The statewide results were subdivided further into Pikes Peak area and the rest of the state.

Emissions Inventory

The processed emission rates table and the processed VMT table were related by road type, HPMS type, hour, and speed. This relate was used to multiply the emission rate (g/mi) by the VMT (mi) to get a total in grams of CO2e for an average weekday. The formula used was:

- CO2e (g/day) = SUM(Emission Rate (g/mi) * VMT (mi))
- CO2e (MMt/day) = CO2e (g/day) * 1 (MMt) / 1e+12 (g)

- CO2e (MMt/year) = CO2e (MMt/day) * 338 (travel demand model weekdays/calendar year)

The calculated emissions inventory was for on-road emissions. Non-road emissions were not included in this calculation.

References

EPA. 2016. *Using MOVES for Estimating State and Local Inventories of On-road Greenhouse Gas Emissions and Energy Consumption.* June.
https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100OW0B.pdf

Appendix D: Resolution 2023-12 North Front Range Transportation & Air Quality Planning Council (NFRT&AQPC) Adoption

North Front Range Metropolitan Planning Organization

RESOLUTION NO. 2023-12
OF THE NORTH FRONT RANGE TRANSPORTATION & AIR QUALITY PLANNING COUNCIL
ADOPTING THE NFRMPO GREENHOUSE GAS (GHG) TRANSPORTATION REPORT

WHEREAS, 23 CFR §450.324 requires development through continuing, cooperative, and comprehensive ("3C") multimodal transportation planning process of a fiscally constrained Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP) for Metropolitan Planning Organizations (MPOs); and

WHEREAS, pursuant to the legislation above, the North Front Range Transportation & Air Quality Planning Council (NFRT & AQPC) was designated by the Governor of the State of Colorado as the MPO responsible for carrying out the transportation planning process, and for developing and amending the RTP; and

WHEREAS, Colorado Senate Bill 21-260 specified implementing relevant measures pursuant to § 25-7-105, C.R.S.; reducing GHG emissions to help achieve statewide GHG pollution reduction targets established in House Bill 19-1261 (now codified in § 25-7-102(2)(g) and 105(1)(e), C.R.S.); and considering the role of land use in the transportation planning process; and

WHEREAS, the NFRMPO will provide the GHG Transportation Report containing a GHG emissions analysis, to the Transportation Commission at least 30 days prior to adoption by the Planning Council of the 2050 RTP in accordance with the Planning Rules demonstrating 2050 RTP is in compliance with the GHG Reduction Levels in Table 1 of the Planning Rules; and

WHEREAS, under Rule 8.05 of the Planning Rules, the Transportation Commission, within 30 days of receipt of the GHG Transportation Report or at the next regularly scheduled Transportation Commission meeting, whichever is later, shall determine whether the applicable GHG Reduction Levels in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance; and

WHEREAS, the Transportation Commission will review the NFRMPO's GHG Transportation report on August 16, 2023 to determine compliance of the concluded the NFRMPO's GHG Transportation Report with the Planning Rules;

NOW, THEREFORE, BE IT RESOLVED THAT the North Front Range Transportation & Air Quality Planning Council adopts the NFRMPO Greenhouse Gas (GHG) Transportation Report, for the 2050 RTP.

Passed and adopted at the regular meeting of the North Front Range Transportation & Air Quality Planning Council held this 6th day of July 2023.

Scott K. James
Scott K. James (Jul 7, 2023 07:36 MDT)
Scott James, Chair

ATTEST:

Suzette Mallette
Suzette Mallette (Jul 7, 2023 09:58 MDT)
Suzette Mallette, Executive Director

TOP

Appendix E: APCD Verification

Appendix F: Colorado Transportation Commission Resolution

COLORADO
Department of Transportation
Division of Transportation Development

Freight Mobility & Safety Branch
2829 W. Howard Place, 4th Floor
Denver, CO 80204-2305

MEMORANDUM

TO: FUELS IMPACT ENTERPRISE BOARD OF DIRECTORS
FROM: DARIUS PAKBAZ, DIRECTOR, DIVISION OF TRANSPORTATION DEVELOPMENT
CRAIG HURST, DTD FREIGHT MOBILITY & SAFETY MANAGER
ERICA DENNEY - DTD FREIGHT PROGRAM PLANNER
DATE: 16 AUGUST 2023
SUBJECT: ESTABLISHMENT OF THE FUELS IMPACT ENTERPRISE AND ADOPTION OF FUELS IMPACT REDUCTION FEE LEVEL

Purpose

The purpose of this memorandum is to provide an overview of the Fuels Impact Enterprise, newly established under Senate Bill 23-280 - *Hazardous Material Mitigation* to the Enterprise Board of Directors. Additionally, the Enterprise is required, by statute, to impose a Fuels Impact Reduction Fee and report the fee amount approved by the Board of Directors to the Department of Revenue no later than September 1, 2023.

Action

Staff is recommending the Board of Directors approve an amount of six thousand one hundred twenty-five millionths of a dollar ($0.006125) per gallon, complying with C.R.S. 43-4-1505 (1)(b).

Background

Senate Bill 23-280, signed into law on June 6, 2023, established the Fuels Impact Enterprise within the Colorado Department of Transportation. This enterprise is tasked with improving the transportation of fuel and motor vehicle emissions. To allow the enterprise to accomplish this business purpose and fully exercise its powers and duties, the enterprise may:

- Impose a fuels impact reduction fee as authorized by C.R.S. 43-4-1505 (1)
- Issue grants as authorized by the fuels impact reduction grants program created in section 43-4-1506; and
- Issue revenue bonds payable from fuels impact reduction fee revenue and other available money of the enterprise.

To carry out its duties and its business enterprise, the enterprise must impose a fuels impact reduction fee per gallon, beginning on September 1, 2023, to be paid by licensed fuel excise tax distributors within Colorado and licensed fuel distributors who ship products from outside of Colorado to a point within Colorado. This fee cannot be more than six thousand one hundred twenty-five millionths of a dollar ($0.006125) per gallon of fuel products delivered for sale or use in Colorado.

The enterprise will be tasked to administer the fuels impact reduction grant program, to provide grants to certain critically impacted communities, governments and transportation corridors for the improvement of hazardous mitigation corridors and to support local and state government projects related to emergency responses, environmental mitigation, or projects related to transportation fuel within the state. C.R.S. 43-4-1506 (2) requires the distribution of the first $10 million of funds from the grant program to the following:

- $6,400,000 to Adams County (64%)
- $2,000,000 to the City of Aurora (20%)
- $1,300,000 to El Paso County (13%)
- $240,000 to Mesa County (2.4%)
- $60,000 to Otero County (0.6%)

Additionally, the enterprise can distribute up to five million dollars ($5 million) from the fund, after the transfers outlined above and after providing for administrative expenses of the enterprise, to commercial freight corridors, support state government projects related to emergency responses, environmental mitigation, or support projects related to the transportation of fuel within the state on routes necessary for the transportation of hazardous materials.

If the fund balance of the cash fund for the enterprise exceeds $15 million, the fuels impact reduction fee will not be collected.

Finally, as defined in 43-4-1503 (1)(b), the Colorado Transportation Commission shall also serve as the Fuels Impact Enterprise Board of Directors and the enterprise will end its existence on January 1, 2030 and defined in C.R.S. 43-4-1507.

Next Steps

Staff will present for consideration by the Enterprise Board of Directors proposed Articles of Organization of the enterprise and Bylaws for the Fuels Impact Enterprise Board of Directors in September 2023. In October 2023, staff will present a fiscal year 2024 budget for the enterprise for consideration by the Enterprise Board of Directors.

Attachments

Attachment A - Fuels Impact Enterprise Overview Presentation
Proposed Resolution FE 1 - Approval to impose a fuels impact fee per SB23-280 requirements

COLORADO
Department of Transportation

Fuels Impact Enterprise

Overview and Fuels Impact Mitigation Fee

Darius Pakbaz - DTD Director
Craig Hurst - DTD Freight Mobility & Safety Branch Manager

SB 23-280
Hazardous Materials Mitigation

- Signed into law on June 6, 2023
- Established the Fuels Impact Enterprise
- Imposed the Fuels Impact Reduction Fee and Grant Program
- Extends the fee schedule of the Petroleum Storage Tank Fund ($25 per tank truckload) until September 1, 2023.
- Additional Petroleum Regulations to be carried out by the Department of Labor and Employment (CDLE)

Fuels Impact Enterprise
General Overview

Officially Created on August 8, 2023; expires on January 1, 2030

Business Purpose: **Improve the Transportation of Fuel and Monitor Vehicle Emissions**

Enterprise Governance: The Colorado Transportation Commission shall serve as the Fuels Impact Enterprise Board of Directors

Enterprise Powers:

- Impose a fuel impact reduction fee
- Issue grants authorized by the fuels impact reduction grant program
- Issue bonds payable from fuels impact reduction fee revenue and other available money of the enterprise.
- Provide services set forth in C.R.S. 43-4-1506
- Other powers as implied by statute.

Fuels Impact Reduction Fee

As detailed in C.R.S. 43-4-1503, the Fuels Impact Enterprise Board is required to set the fuels impact reduction fee by September 1, 2023.

This fee will be paid by licensed fuel excise tax distributors within Colorado and licensed fuel distributors who ships products from outside of Colorado to a point within Colorado.

The fee will not be collected if the fuels impact cash fund exceeds **$15 million dollars.**

The fee can be set by the Enterprise Board of Directors up to **six thousand one hundred twenty-five millionths of a dollar ($0.006125) per gallon** of fuel products delivered for sale or use in Colorado.

It is staff recommendation that the fuels impact fee be set at $0.006125 to ensure that the enterprise has the best opportunity to deliver the full grant funding amount and fulfil its business purpose.

Fuels Impact Reduction Grant Program
C.R.S. 43-4-1506

Fuels Impact Reduction Grant Program
$15 million

First "Allocation"
$10 million
Allocation to Specific Local Governments

Second "Allocation"
$5 million
Enterprise Administration

The Enterprise will be tasked with administration of the Fuel Impact Reduction Grant Program, to provide grants to certain impacted communities, governments, and transportation corridors for the improvement of hazardous mitigation corridors and to support local and state products related to emergency responses, environmental mitigation, or projects related to transportation fuel within the state.

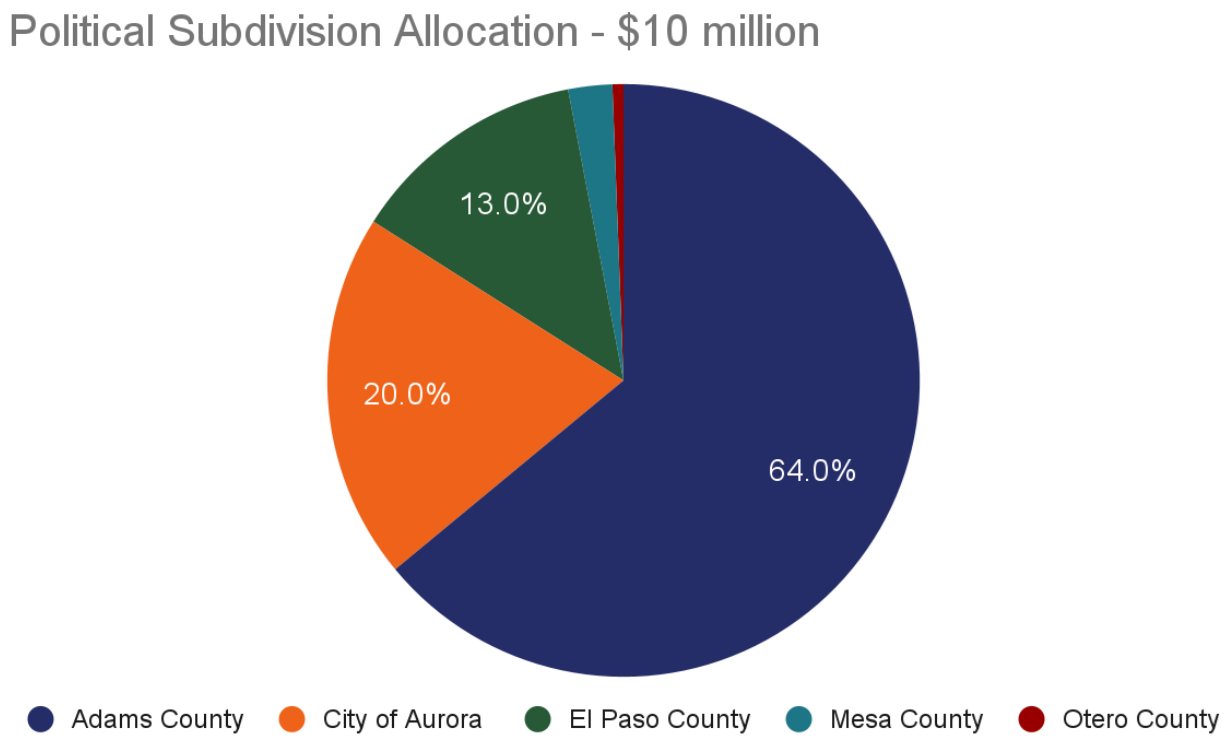
Fuels Impact Reduction Grant Program
Political Subdivision Allocation - $10 million

The first allocation of funds, as required by statute, are to the following political subdivisions for the improvement of hazardous mitigation corridors in the state prioritizing uses related to safety and environmental impacts

- Adams County - $6,400,000 - 64%
- City of Aurora - $2,000,000 - 20%
- El Paso County - $1,300,000 - 13%
- Mesa County - $240,000 - 2.4%
- Otero County - $60,000 - 0.6%

If the enterprise is unable to distribute $10 million, funds will be distributed in proportion described above.

If a political subdivision is unable to accept these funds, unacceptable amounts will be distributed to the other political subdivisions on a proportionate basis.



Fuels Impact Reduction Grant Program
FI Enterprise Administered Funds

The enterprise can allocate $5 million dollars from the fuels impact cash fund after the initial transfers to political subdivisions, and after providing for administrative expenses for the enterprise for the following:

- Commercial Freight Corridors;
- State government projects related to emergency responses;
- State government projects related to environmental mitigation; or
- Support projects related to the transportation of fuel within the state on routes necessary for the transportation of hazardous materials.

COLORADO
Department of Transportation

Next Steps & Questions?

- Requesting adoption of the fee level of the fuels impact reduction fee of $0.006125 per gallon at this months Fuels Impact Enterprise Board of Directors.

- Presentation of Articles of Organization for the Enterprise and Bylaws for the Enterprise Board of Directors in September 2023.

- Presentation of the enterprise fiscal year 2024 budget to the Board of Directors in October 2023.

DRAFT Transportation Commission (TC) Meeting Notes

Workshops and Regular Meeting

Wednesday, July 19, 2023

Transportation Commission Workshops

July 19, 2023 Transportation Commission Meeting Recording

Call to Order, Roll Call

Nine Commissioners were present: Gary Beedy (TC Chair), Lisa Tormoen Hickey, Karen Stuart, Kathleen Bracke, Eula Adams, Yessica Holguin, Terry Hart, Mark Garcia, Barbara Vasquez, and Kathy Hall.

Budget Workshop (Jeff Sudmeier and Bethany Nicholas), Recording Timestamp 00:00:30

Purpose and Action: Review the first budget amendment to the FY '23-'24 budget in accordance with Policy Directive (PD) 703.0, which took effect on July 1st. Review of the first budget supplement to the FY 23-24 budget.

Action: The Division of Accounting and Finance (DAF) is requesting the Transportation Commission (TC) to review and adopt the first budget amendment to the FY 2023-24 Annual Budget, which consists of three items that require TC approval.
The first budget amendment:

1. Reallocates $1.5 million from the Commission Reserve Funds line (Line 73) to the Safety Education line (Line 75) for high visibility enforcement per HB23-1102.
2. adds $0.5 million to the 10 Year Plan Projects - Capital Mobility line (Line 19) for projects funded by the Colorado Wildlife Safe Passages Fund per SB23-214.
3. Adds $5.0 million to the Rail Program line (Line 47) to maximize utilization and implementation of federal infrastructure funding per SB23-283.

Action Budget Supplement TC review and adoption of the first budget supplement of the FY 2023-24 Annual Budget as follows:
Region 3
$2,100,000 – TC Contingency Reserve – CO133 Bear Creek Culvert Failure – Additional funding is requested from the TC Contingency Reserve in order to address the failure of 72" corrugated metal pipe (CMP) type culvert on Highway 133 Mile Marker 16.2 This request is in addition to previously approved $4 million. Per Policy Directive 703.0 use of Contingency Reserve funds requires Transportation Commission approval.

Region 5
$250,000 – TC Contingency Reserve – Reallocate savings from Monarch Pass Culvert to CO 17 – Reprioritize savings from the Monarch Pass Culvert to two CO 17 culvert failures that occurred this spring. This is a net $0 impact to the TC Reserve because the funding is savings.

TOP

Discussion:

- No major questions or issues were raised by the TC associated with the proposed elements of the budget amendment and the budget supplement.

CDOT Overview of GHG Planning Rule and DRCOG CHG Transportation Report (Darius Pakbaz and Theresa Takushi),Recording Timestamp 00:22:35

Purpose and Action: Give an overview of the proposed FY 2024-2027 Transportation Improvement Program and a walk through of the GHG Rule components that apply to TIPs as an applicable document under the provisions of the Greenhouse Gas Reduction rule.

Discussion:

- The process for TIPs and project selection at DRCOG starts with their Metro Vision Plan, which moves to their "Metro Vision Regional Transportation Plan" and "Fiscally Constrained Regional Transportation Plan", and ends up in their Transportation Improvement Program.
- The Greenhouse Gas Reduction rule made regions go back over their 2050 Regional Transportation Plan and make the changes necessary to satisfy the rule.
- The framework to meet GHG reduction levels included 6 steps: Adopt programmatic investments, make major project changes, review additional programmatic investments, make near term land use adjustments, make adjustments to telework, identify mitigation measures.
- DRCOG allocates funds in 2 ways, Regional Share (compete regionally) and subregional share (compete sub regionally).
- For DRCOGs FY 2024-2027 TIP, there were four calls for projects which were then split into two TIP documents: FY 2022-2025 and FY 2024-2027. This was done between January 2022 - April 2023.
    - Federal funding through Infrastructure Investment and Jobs Act (IIJA)
    - State funding through Multimodal Transportation and Mitigation Options Fund (MMOF)
- Over $413 million was included in the DRCOG FY 2024-2027 TIP
    - funding was allocated 14% Road, 23% Transit, and 62% Active Transportation
    - Number of projects by percent share 15% Transit, 37% Active Transportation, and 48% Roads
- The FY 2024-2027 TIP is set to accomplish: $495 million in transportation investments (DRCOG), $2.2 billion in transportation investments (all sources). 64% of the projects are located in or near an urban center. 73% of projects are on the DRCOG High-injury network resulting in 51 fewer fatal crashes and 302 fewer serious injury crashes. Over 70% of the projects have some Complete Street element embedded in them. 190 Intersections will be improved for better operations for all modes. Over 80% of the projects will improve connections to transit.
- An IGA was entered into by CDOT, CDPHE, and DRCOG as required by 8.02.2.
    - 1. The new applicable planning document contains all projects which must be completed in the document's covered timeframe to achieve the transportation system as defined by the applicable planning document for which the previous GHG emissions analysis was conducted;
    - 2. The scope of each project in the new applicable planning document is not significantly different from that described in the previous applicable planning document; and
    - 3. The previous GHG emissions analysis and Mitigation Action Plan, if any, demonstrates compliance with all applicable GHG Reduction Levels required in 2 CCR 601-22.
- The TC were pleased with the report and accepted it submittal.

Region 2 Update (Shane Ferguson), Recording Timestamp 00:54:16

Purpose and Action: To provide the TC with an update of CDOT Region 2 accomplishments, and ongoing projects.

TOP

Discussion:

- Military Access, Mobility & Safety Improvement (MAMSIP) Project CO 94 and Charter Oak improvements are complete, with South Academy Blvd widening, and improvements occurring on I-25 from South Academy to Sante Fe Avenue.
- US 285/CO 9 project- Fairplay, Park County, bridge replacement, adding turn lanes, extending acceleration lanes, improving drainage, pedestrian sidewalks, and 88 improvements along corridors.
- US 50/I-25 Interchange reconstruction project in the Pueblo area.
- Rural service treatment projects include:
    - CO 96 is part of Trans-America cycling trail, pavement resurfacing, and is anticipated to be completed in this fall.
    - US 160 from Kim to Pritchett- scheduled to finish in summer 2024.
- Colorado Springs I-25 Ramp Improvements.
- Region 2 Bridge Bundle Design Build Project.
- Region 2 Wildlife Mitigation Efforts.

Policy Directive 14 - 2022 Annual Scorecard (William Johnson and Darius Pakbaz), Recording Timestamp 01:11:43

Purpose and Action: To report on progress made towards achieving Policy Directive 14.0 (PD-14) performance objectives. Review progress towards achieving the PD-14 performance objectives during calendar year 2022 in preparation for the annual budget setting process.

Discussion:

- Annually, staff provides a PD-14 scorecard to the TC to review progress towards achieving objectives. Additionally, scorecard review provides an opportunity for the TC to consider refining objectives and targets of PD-14. Staff develops a scorecard to review the performance of PD-14 objectives annually to measure the success and progress of those initiatives, identify strategies for continuous improvement, and to inform investment decisions.
- There are 3 areas CDOT will be focusing on to help meet PD-14 objectives and goal areas, Safety, Asset Management, and Mobility.
- Takeaways from the PD-14 2022 Results:
    - Steady rise in traffic-related serious injuries and fatalities since 2018 and accelerated beginning in 2020.
    - Interstate Drivability Life has decreased eight percentage points since 2020, but it remains above the target of 80%.
    - Bridges in Good Condition have been declining for the past decade, falling below the target for the first time in 2021.
    - Most assets are near or meeting their goal with an exception of buildings, rest areas and tunnels.
    - Reliability and VMT have almost returned to pre-pandemic levels.
    - Bustang ridership is continuing to recover.
- Concerns were raised by Commissioners due to the increase in fatalities on the road, specifically those users that are extremely vulnerable (Pedestrians, Cyclists). Hope that more is being done by CDOT to ensure safer roads for all moving forward.
- Others raised concerns about the increase in VMT travel, when we are trying to reduce our GHG emissions.

TOP

Update on TPR Boundary Study (Herman Stockinger and Jamie Grim), Recording Timestamp 01:54:32

Purpose and Action: To provide an overview of the TPR Boundary Analysis provision in HB23-1101 and the work done to date.

Discussion:

- By November 30, 2023 The Department must complete a study and report of the Consistency and Transparency of the Transportation Planning Process Across the TPRs; The boundaries of the Transportation Planning Regions (TPRs); Membership of the State Transportation Advisory Committee (STAC); and Membership of the Special Interim Transit And Rail Advisory Committee (TRAC) are to be evaluated.
- The amendment protects rural Colorado's transportation interests by mandating that the number of rural TPRs can not be reduced.
- There has been a survey designed to collect quantitative data about knowledge and understanding TPR processes and their role in transportation planning.
- Staff continues to make maps that reflect all of the statutory requirements.
- Staff will be conducting five virtual meetings that will be focused on each CDOT Region in the state. Virtual meetings will be scheduled for the end of July and early August timeframe.
- Next steps are to continue to gather and evaluate data, meet with stakeholders, conduct Region meetings, distribute TPR surveys, and begin to develop recommendations in the fall following the first round of summer public meetings.
- A discussion followed regarding the representation of TRAC on STAC and vice versa. Vince Rogalski is the STAC member on TRAC. Commissioner Beedy was also on the TRAC during his tenure on the STAC.

Transportation Commission Meeting

1. Call to Order, Roll Call, Recording Timestamp 02;34:56

Eight Commissioners were present: Commissioner Gary Beedy (TC Chair), Lisa Tormoen Hickey, Karen Stuart, Kathleen Bracke, Eula Adams, Yessica Holguin, Terry Hart, Commissioner Kathy Hall,
and Barbara Vasquez was excused.

2. Public Comments Recording Timestamp 02:35:31

- None.

3. Comments of the Chair and Individual Commissioners, Recording Timestamp 02:35:39

- Commissioner Holguin - Attended NAAPME meeting, recognized Herman for his award.
- Commissioners Stuart and Garica had no comments.
- Commissioner Hart noted that the CDOT staff presentations were appreciated and had nothing else to report.
- Commissioner Bracke - Region 4 hosted the last of 4P meetings; attended the NFRMPO meeting. At this meeting they received an update from CDOT Division of Transit and Rail (DTR) on transit opportunities; a state demographer presentation on population growth and economic projections was received. Noted a key phrase of "Housing is where the jobs sleep at

TOP

night". Acknowledged CDOT and Colorado State Patrol (CSP) for their work on transportation safety.

- Commissioner Adams noted his thanks to CDOT staff for helping and for the opportunity to participate in the Rodeo event. He was impressed by the trophies built by the team in Aurora. Looking forward to the tour of the Aurora facility. Cautioned travelers to behave safely on the roads, and if traveling by air to be patient.
- Commissioner Hall traveled to the wildlife project ribbon cutting ceremony in her district. A high-tech wildlife crossing on CO 13 with two more going in later along the same corridor. Tremendous amount of elk crashes and snow caused elk to look for food along the highways. Construction is occurring along CO 13 to I-70 to I-80. The chip and seal project up to Wyoming is a wonderful project. Recognized the RTDs who served in Region 3. Thanked Commission members and staff for their work to educate and support her.
- Commissioner Hickey attended the CFRTPR meeting last week. It was informative, covered ongoing MMOF and other construction projects.
- Commission Chair Beedy observed the need to continue to address poor pavement areas; and started the wheat harvest two weeks late due to the cool and wet spring.

4. Executive Director's Report (Sally Chafee), Recording Timestamp 02:46:00

- Northern I-25 legislators sat down with CDOT to have a discussion, including Heather Paddock, in Region 4.
- Meetings at the Capitol on rail safety are occurring.
- Region 3 is putting to use the dollars the TC authorized for Berthoud Pass. Mid July to August this area will be under heavy construction.
- RAISE grants awarded and announced. Colorado received $72 million. SH 119 received $25M, Region 1 6th and Wadsworth received funds, Colorado Springs Mobility Hub, and Delta and Fort Collins received grant funds.
- The (MEGA) MPDG project call opened.
- Comment from Commissioner Stuart requested TC be kept up to date with events during the legislative session.
- New DTR Director Paul Deroscher, has background from RTD eas announced. Will be starting on July 31,2023.

5. Chief Engineer's Report (Keith Stefanik) Recording Timestamp 02:52:47

- Lots of construction is occurring on the roads with a record year for capital expenditures. Thanked the Regions who deliver these projects. Lots of work at night is occurring also. The next BID cycle is to start for construction year 2024. ThistTakes a team effort, and Chief Engineer Stefanik wanted to say thank you and to stay safe. Recognized the maintenance staff at CDOT working on the roadways.
- Commissioner Hall was very happy to see the construction happening across the state. Excited for Vail Pass and Central 70 and the other important projects underway.
- Commissioner Garcia echoed Commissioner Hall's comments regarding all the projects being constructed.
- Chief Stefanik noted that USDOT grants compounds on our delivery system at CDOT. Wanted to recognize the teams working on administering these projects as well.

TOP

6. Colorado Transportation Investment Office (CTIO) Director's Report (Piper Darlington), Recording Timestamp 02:58:35

- Central 70 - tolling commenced. Traffic in express toll lanes (ETL) has been good. Folks are using ETL and seeing lots of interest with folks signing up for membership for ETLs in Colorado.
- ETL safety enforcement went live in June. Real fines vs. warning only, will be activated in two days from now. Thanked Matt Inzeo, and John Lorme for their help to get the word out.
- CTIO Fiscal year end is now. Interagency Agreements are usually fee for service to conduct project development activities.
- Working with CDOT on maintenance sharing; CDOT operations team and CTIO operations team are coordinating.
- Conducting and producing a safety report.
- The Innovative Financing TIFIA Loan is close to closing.

7. Statewide Transportation Advisory Committee (STAC) Report (Vincent Rogalski) Recording Timestamp 03:04:01

- The HB 23-1101 TPR Boundary Study update was covered by Jamie and was similar to the presentation provided at the last STAC meeting.
- IGA and Bylaws - many members didn't know much about these documents - this TPR Boundary Study process will get TPRs back in sync. This is a critically important item to review.
- Congress is negotiating on Rail Safety, and there maybe funds for Front Range Rail.
- Colorado submitted 23 RAISE grants and awards were announced. Application process is an obstacle to some smaller local communities.
- Program Distribution is an initiation that needs to take place prior to the next Statewide Transportation Plan - the next plan is the 2050 Statewide Transportation Plan (SWP). The TAP formula was discussed and the STAC approved recommending existing formula to the TC. Had a facilitator moderate the discussion, Sheryl Trent, to lead the discussion. Next program focus is the Regional Priority Program (RPP) formula.
- Aeronautics report and update was provided. The same presentation given to TC previously.
- A NHTSA Region 8 representative came to the STAC to talk about the grants for 405C for enhancing safety and tips on how to apply for those grants.
- Region 2 was the featured Region at STAC, with same presentation provided to TC today.
- STAC meetings - August and September - will be in person at DRCOG. October will be in person at CDOT HQ.
- The next STAC meeting is scheduled for August 3rd at DRCOG at 1001 17th Street on the floor below the main lobby.

8. Act on Consent Agenda (Herman Stockinger), Recording Timestamp 03:13:14

A Motion by Commissioner Bracke to approve, and seconded by Commissioner Holguin, passed unanimously.

- Proposed Resolution #1: Approve the Regular Meeting Minutes of June 15, 2023
- Proposed Resolution #2: IGA Approval >$750,000
- Proposed Resolution #3: Disposal: Realigned Portion of CR 13, Elbert Co.
- Proposed Resolution #4: Fiscal Year 2024 Maintenance Projects $150K-$250K

A Motion by Commissioner Bracke to approve, and seconded by Commissioner Holguin, passed unanimously.

TOP

9. Discuss and Act on Proposed Resolution #5: 1st Budget Supplement of FY 2024 (Jeff Sudmeier) Recording Timestamp 03:14:18

A Motion by Commissioner Hall to approve, and seconded by Commissioner Garcia, passed unanimously.

- $2.1M Contingency Reserve funding for CO 133 Bear Creek culvert Failure
- $250K project savings to two culvert failure projects - a reallocation of project funds.

10. Discuss and Act on Proposed Discuss and Act on Resolution #6: 1st Budget Amendment of FY 2024 (Jeff Sudmeier), Recording Timestamp 03:16:26

A Motion by Commissioner Hart to approve, and seconded by Commissioner Stuart passed unanimously.

- Three amendments based on the changes that occurred during the 2023 Legislative Session. See purpose and action above under workshops for more information.

11. Discuss and Act on Proposed Resolution #7:Acceptance of DRCOG GHG Report (Darius Pakbaz), Recording Timestamp 03:19:00

A Motion by Commissioner Stuart to approve, and seconded by Commissioner Holguin, passed unanimously.

12. Recognitions, Recording Timestamp 03:20:06

- Commissioner Kathy Hall was recognized for her service on the TC.

13. Adjournment - Approximately 4:00 pm

TOP

COLORADO
Department of Transportation
Office of the Chief Engineer

Engineering Contracts
2829 W. Howard Place, Ste. 339
Denver, CO 80204-2305

Memorandum

TO: **Transportation Commission**

FROM: **Lauren Cabot**

DATE: **Auigust 3, 2023**

SUBJECT: **Intergovernmental Agreements over $750,000.00**

Purpose Compliance with CRS §43-1-110(4) which requires intergovernmental agreements involving more than $750,000 must have approval of the Commission to become effective. In order stay in compliance with Colorado laws, approval is being sought for all intergovernmental agencies agreements over $750,000 going forward.

Action CDOT seeks Commission approval for all IGAs contracts identified in the attached IGA Approved Projects List each of which are greater than $750,000. CDOT seeks to have this approval extend to all contributing agencies, all contracts, amendments and option letters that stem from the original project except where there are substantial changes to the project and/or funding of the project.

Background CRS §43-1-110(4) was enacted in 1991 giving the Chief Engineer the authority to negotiate with local governmental entities for intergovernmental agreements conditional on agreements over $750,000 are only effective with the approval of the commission.

Most contracts entered into with intergovernmental agencies involve pass through funds from the federal government often with matching local funds and infrequently state money. Currently, CDOT seeks to comply with the Colorado Revised Statutes and develop a process to streamline the process.

Next Steps Commision approval of the projects identified on the IGA Project List including all documents necessary to further these projects except where there are substanial changes to the project and/or funding which will need reapproval. Additionally, CDOT will present to the Commission on the Consent Agenda every month listing all of the known projects identifying the region, owner of the project, project number, total cost of the project, including a breakdown of the funding source and a brief description of the project for their approval. CDOT will also present any IGA Contracts which have already been executed if there has been any substantial changes to the project and/or funding.

Attachments IGA Approved Project List

TOP

COLORADO
Department of Transportation
Office of the Chief Engineer

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: KEITH STEFANIK, P.E. CHIEF ENGINEER
DATE: AUGUST 16, 2023
SUBJECT: ABANDONMENT US 6 NORTH FRONTAGE ROAD ELDRIDGE ST. TO ALKIRE ST., MM 276.85 TO MM 277.34

Purpose

CDOT Region 1 is proposing an abandonment of approximately 0.49 miles of the U.S. 6 North Frontage Road from Eldridge St. to Alkire St. to the City of Lakewood for control and maintenance.

Action

CDOT Region 1 is requesting a resolution approving the abandonment of approximately 0.49 miles of the U.S. 6 North Frontage Road from Eldridge St. to Alkire St. to the City of Lakewood for control and maintenance.

Background

Region 1 and the City of Lakewood have negotiated an IGA for CDOT to abandon a portion of the US 6 North Frontage Road to the City for local control and maintenance. CDOT will pay Lakewood $485,259 to assume responsibility for the subject property, which is no longer needed for State Highway transportation purposes. Abandoning the property to the City of Lakewood will relieve CDOT of the ongoing burden of maintenance.

This transfer will occur in three parts, due to upcoming restraints on the City's capacity to review and approve new items. The item before the Transportation Commission this month represents the first part of the abandonment request. Pending approval of this declaration of abandonment, the City of Lakewood and CDOT will move forward with signing the IGA, and the abandonment requests for the remaining property will be presented to the Transportation Commission in September. If any part fails to receive approval from the Transportation Commission or the City of Lakewood, then CDOT and the City will not proceed with the relinquishment as contemplated in the IGA

Colorado Revised Statute 43-2-106 (1)(a) provides that the Transportation Commission may determine that a State Highway, or portion thereof, no longer functions as a state highway, and with the agreement of each affected county or municipality, the state highway, or portion thereof, can be abandoned to the affected county or municipality. The Code of Federal Regulations 23.620.203(c)(3) allows CDOT to relinquish portions of unneeded frontage roads.

Next Steps

Subject to the concurrence to proceed with devolution by the Transportation Commission, CDOT and the City of Lakewood will proceed with signing the IGA. The remaining portions of the abandonment will be presented to the Commission in September, and, if approved, CDOT will execute quitclaim deeds that will include a reversion provision stating that if the property that is the subject of the quitclaim deeds is not used for transportation purposes, title to such property will automatically revert back to CDOT.

2829 West Howard Place 5th Floor, Denver, CO 80204

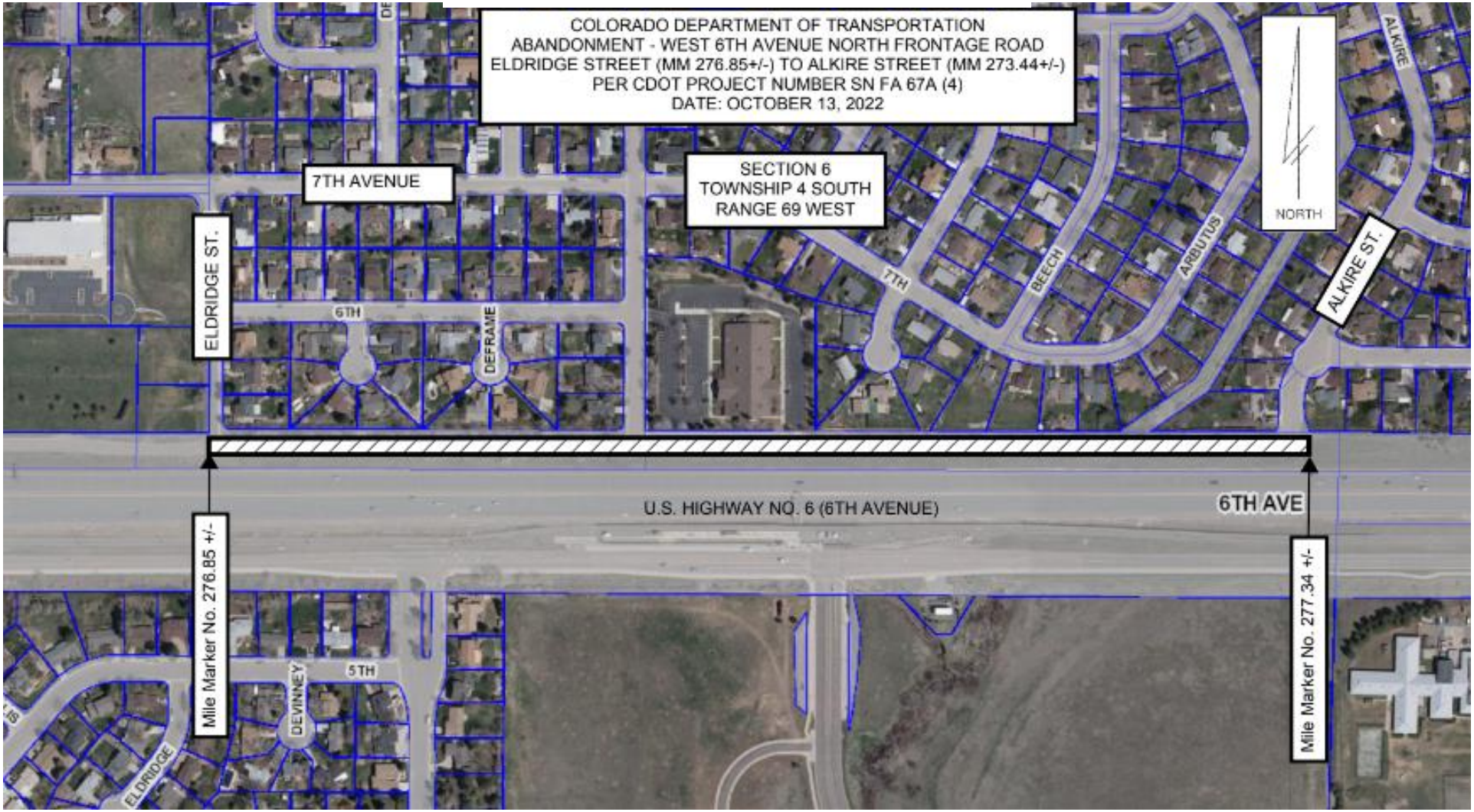
TOP

Attachments
Proposed Resolution
Exhibit Depicting the Parcels

2829 West Howard Place 5th Floor, Denver, CO 80204

TOP

Exhibit A


COLORADO DEPARTMENT OF TRANSPORTATION
ABANDONMENT - WEST 6TH AVENUE NORTH FRONTAGE ROAD
ELDRIDGE STREET (MM 276.85+/-) TO ALKIRE STREET (MM 273.44+/-)
PER CDOT PROJECT NUMBER SN FA 67A (4)
DATE: OCTOBER 13, 2022
SECTION 6
TOWNSHIP 4 SOUTH
RANGE 69 WEST
7TH AVENUE
ELDRIDGE ST.
6TH
DEFRAME
7TH
BEECH
ARBUTUS
ALKIRE
ALKIRE ST.
NORTH
U.S. HIGHWAY NO. 6 (6TH AVENUE)
6TH AVE
Mile Marker No. 276.85 +/-
Mile Marker No. 277.34 +/-
5TH
DEVINNEY
ELDRIDGE

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: KEITH STEFANIK, P.E. CHIEF ENGINEER
DATE: AUGUST 16, 2023
SUBJECT: ACCESS EASEMENT – I-25 AND CO 119 MOBILITY HUB

Purpose
To obtain Transportation Commission approval to grant THF Firestone Development, LLC access across CDOT's mobility hub located at the southeast corner of I-25 and CO 119 in Firestone, CO.

Action
CDOT Region 4 is requesting a resolution, in accordance with C.R.S. 24-82-202, approving the grant of an access easement to THF Firestone Development, LLC across CDOT's mobility hub located at the southeast corner of I-25 and CO 119 in Firestone, CO.

Background
In 2021, CDOT acquired a parcel from THF Firestone Development, LLC ("THF") at the southeast corner of I-25 and CO 119 in Firestone, CO as part of Project 2C0253-278, for the construction of a mobility hub. CDOT agreed, as part of the acquisition, to allow THF to retain a small "hold over" area with an advertising sign placed on it. At the time of the acquisition, CDOT agreed to provide a utility and access easement across the purchased property to allow THF to service the advertising sign; however, the design of the new mobility hub will prevent THF from using the current access and now requires the access portion of the easement to be relocated. The utility portion of the easement will remain unchanged. C.R.S. 24-82-202 requires approval of the Transportation Commission for CDOT to grant an easement.

Next Steps
Upon approval of the Transportation Commission, CDOT will execute an access easement in accordance with C.R.S. 24-82-202. The easement will be recorded in the records of the Weld County Clerk and Recorder

Attachments
Copy of the proposed access easement

2829 West Howard Place 5th Floor, Denver, CO 80204

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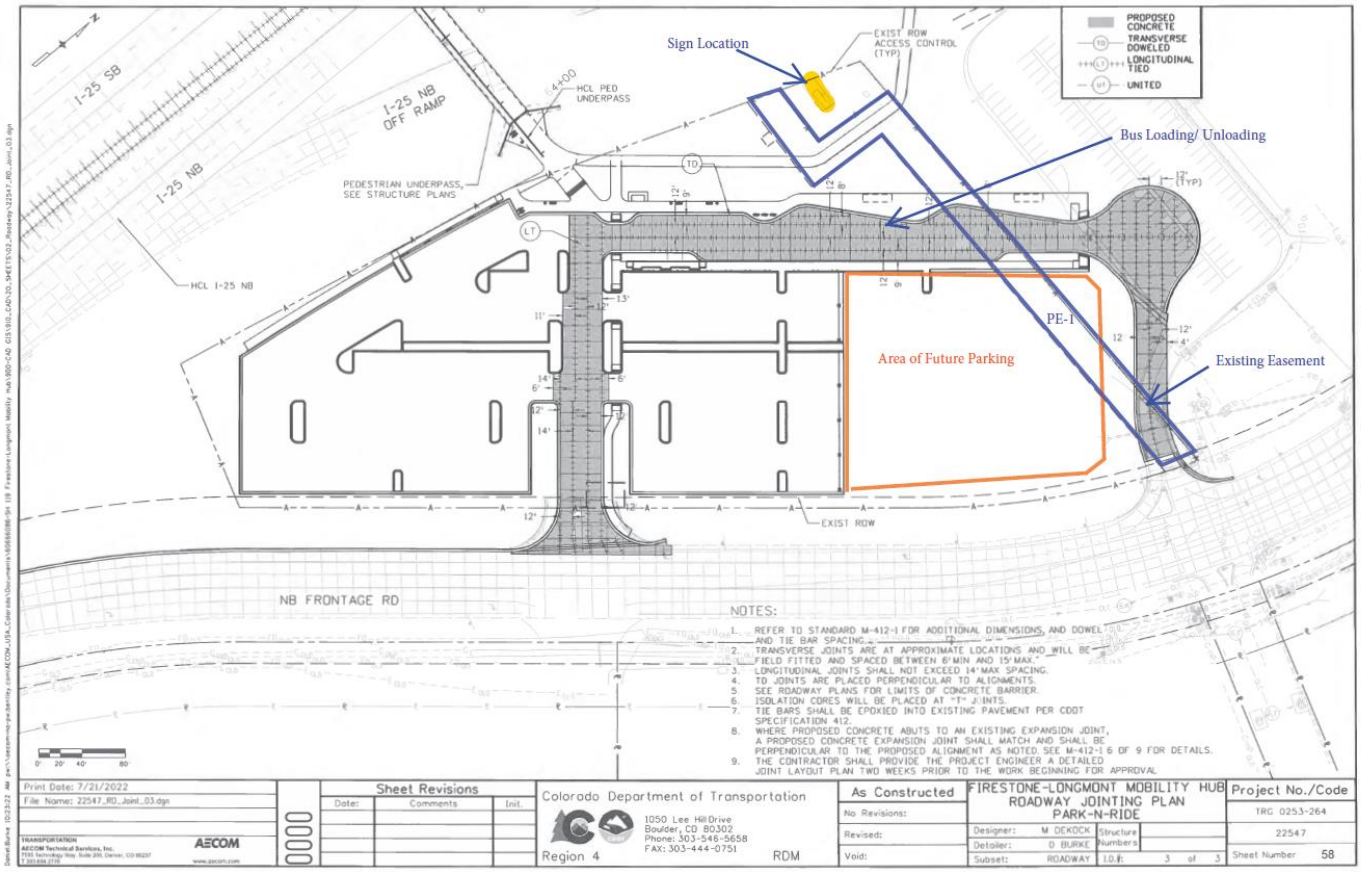
EXHIBIT A



FINAL OFFICE REVIEW - NOT FOR CONSTRUCTION

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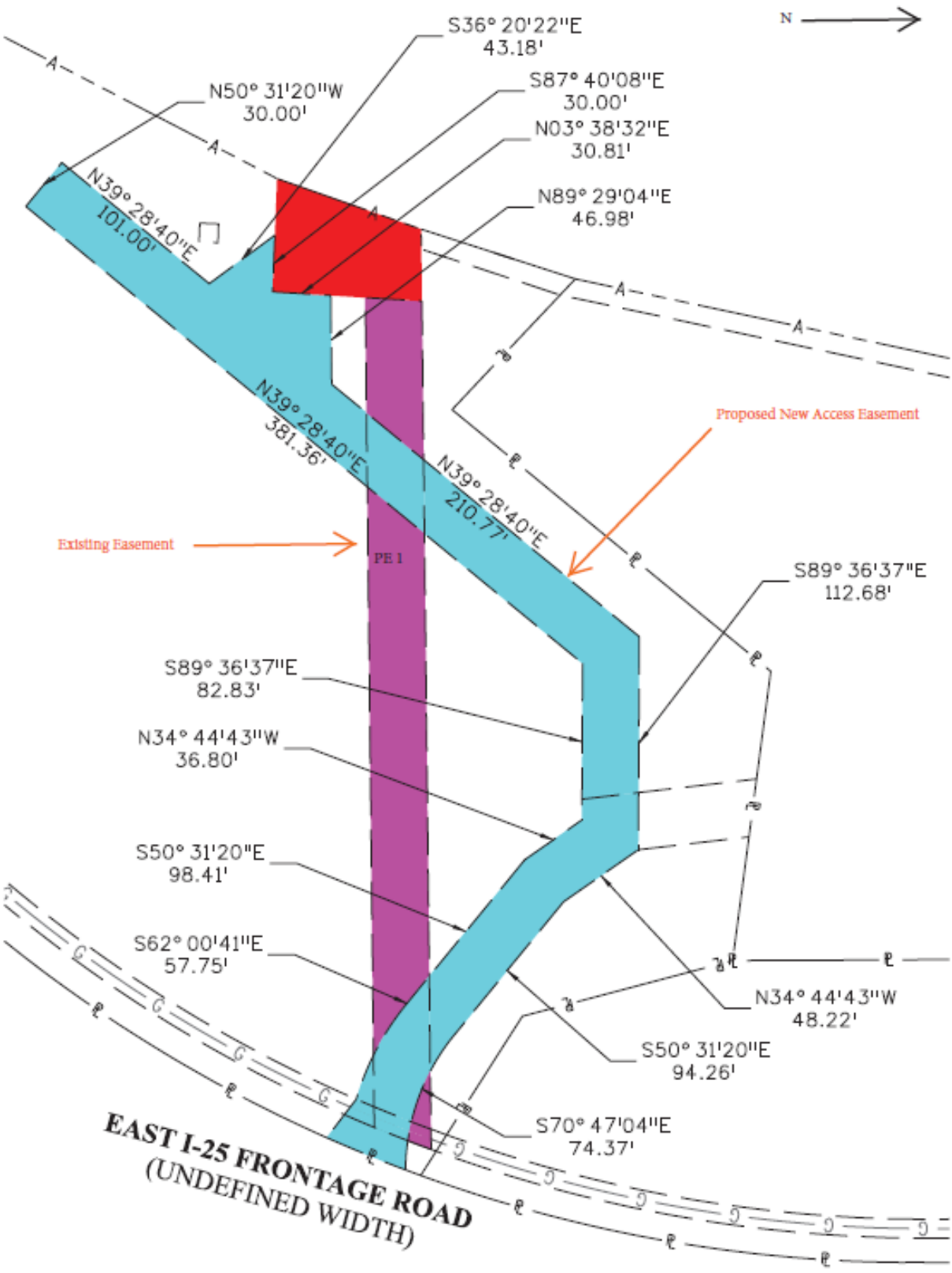
EXHIBIT B



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NON-EXCLUSIVE PERMANENT EASEMENT AGREEMENT

THIS NON-EXCLUSIVE PERMANENT EASEMENT AGREEMENT (this "Easement Agreement") is made as of this _____ day of _____, 2022, by the COLORADO DEPARTMENT of TRANSPORTATION, an agency of the State of Colorado ("Grantor" or "CDOT"), whose address is 2829 W. Howard Place, Denver, CO 80204 and THF FIRESTONE DEVELOPMENT, L.L.C., a Missouri Limited Liability Company the ("Grantee" or "THF") whose legal address is 2127 Innerbelt Business Center Drive, Suite 200, St. Louis, MO 63114. Each party to this Agreement may be referred to individually as "Party," and collectively as "Parties."

RECITALS

WHEREAS, CDOT is the fee owner of certain real property located in the County of Weld, State of Colorado, which is subject to a property interest retained by THF titled "Hold Over Area" which supports an advertising sign maintained by THF, all as more fully described in a Special Warranty Deed from THF to CDOT dated Dec. 14, 2021 and recorded Feb. 23, 2022 at Reception No. 4804774 of the Weld County real property records (the "Special Warranty Deed").

WHEREAS, THF also reserved to itself in the Special Warranty Deed an easement serving the "Hold Over Area" which provided THF with a utility and access easement for the purposes of constructing, reconstructing, operating, maintaining, inspecting, replacing, removing, repairing and upgrading the advertising sign on the property called "Hold Over Area" in the Special Warranty Deed.

WHEREAS, CDOT requires a change to THF's access to the "Hold Over Area" and needs to extend the utility easement to the frontage road and for these purposes is granting THF a Non-Exclusive Permanent Easement over parcels described in **Exhibits A and B** attached hereto for access to the "Hold Over Area" and is granting a Utility Access Extension over the parcel described in **Exhibit C** attached hereto.

WHEREAS, THF agrees to relocate and utilize the access to the "Hold Over Area" as described in **Exhibits A and B** and to abandon any rights of access in the easement it reserved in the Special Warranty Deed and instead use the easement it reserved in the Special Warranty Deed only for utilities.

GRANT OF EASEMENT

NOW, THEREFORE, and in consideration of the covenants contained herein and other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby confessed and acknowledged, the Parties agree as follows:

1. The Recitals set forth above are incorporated into this Agreement by reference.

2. Non-Exclusive Easement.

a. Subject to the terms and conditions of this Agreement, and for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) and other good and valuable consideration, CDOT, by these presents, does hereby declare, establish and create for the benefit of THF a perpetual, non-exclusive easement (the (Easement") on, over, and across the parcels described in **Exhibits A and B** attached hereto for reasonable access, ingress, and egress reasonably necessary to the "Hold Over Area."

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b. The Easement is a non-exclusive easement. Except for the use and rights granted herein, CDOT shall continue to own the Easement in fee, and CDOT shall retain and enjoy the use of the Easement. Without limiting the foregoing, it is understood and agreed by THF that CDOT, together with its employees, agents, tenants, contractors, subcontractors, invitees, and visitors shall continue to utilize the Easement for purposes of vehicular and pedestrian ingress to, and egress from, CDOT's remaining property. In all instances, each Party shall use commercially reasonable efforts to minimize interference with the other Parties' use of the Easement. Notwithstanding the foregoing, THF acknowledges and agrees that (i) CDOT uses and shall continue

to use the Easement for its use and enjoyment of land owned, leased and subleased (as applicable) by CDOT (collectively, "Grantor's Use") and (ii) Grantor's Use shall not constitute unreasonable interference with THF's use of the Easement; and CDOT acknowledges and agrees that the THF's use of the Easement shall not constitute unreasonable interference with CDOT's use provided that such use is conducted in accordance with this Agreement.

3. CDOT shall keep and maintain any improvements installed on the Easement (the "Grantor Improvements") in good repair, order and condition, normal wear and tear excepted.

4. Restoration Work. After performing any activity which disturbs and/or alters the Easement, THF shall, at its sole cost and expense, in accordance with commercially reasonable standards, restore the Easement and the CDOT Improvements to substantially the same condition of said property and improvements prior to such activity.

5. Utility Access Extension.
CDOT grants THF a Utility Access Extension over the parcel described in **Exhibit C** attached hereto for purposes of extending the utility easement to the frontage road.

6. Miscellaneous.

a Easement to Run with Land. This Agreement, including the Easement and all other covenants, agreements, rights and obligations created hereby, shall run with the Easement , shall be binding on and inure to the benefit of all persons having or acquiring fee title to the Easement.

b. Successors and Assigns. This Agreement shall be binding on CDOT's and THF's respective successors and assigns.

c. Section Headings. The Section headings herein are inserted only for convenience and reference and shall in no way define, limit, or prescribe the scope or intent of any provisions of this Agreement.

d. Entire Agreement. This Agreement, together with the exhibits attached hereto, contains the entire agreement of the parties hereto with respect to the subject matter hereof and no prior written or oral agreement shall have any force or effect or be binding upon the parties hereto.

e. No Third-Party Beneficiaries. Nothing in this Agreement, expressed or implied, shall confer upon any person, other than the parties hereto and their successors and assigns, any rights or remedies under or by reason of this Agreement.

f. Severability. If any portion of this Agreement is declared by any court of competent jurisdiction to be void or unenforceable, such decision shall not affect the validity of any remaining portion of this Agreement, which shall remain in full force and effect. In addition, in lieu of such void or unenforceable provision, there shall automatically be added as part of this Agreement a provision similar in terms to such illegal, invalid or unenforceable provision so that the resulting reformed provision is legal, valid and enforceable.

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g. Governing Law. The terms and provisions of this Agreement shall be construed under and governed by the laws of the State of Colorado (to which all parties hereto consent to venue and jurisdiction). If any action or proceeding is brought concerning this Agreement, it shall be brought in, and the sole and exclusive venue of any such action shall be, a court of competent jurisdiction in Weld County. If any action or proceeding shall be brought in any forum in any other location, then it shall, to the fullest extent permitted by law, be stayed upon initiation of any action or proceeding concerning this Agreement in the foregoing forum.,

h. Amendment. This Agreement may not be amended or terminated except by a written instrument signed by the Parties or their successors and assigns.

i. Waivers. No provision of this Agreement shall be deemed waived except by a writing executed by the party against whom the waiver is sought to be enforced. No waiver of any provision of this Agreement shall be deemed a continuing waiver of such provision or deemed a waiver of any other provision of this Agreement.

j. Authority to Execute. Each person executing this Agreement represents and warrants that it is duly authorized to execute this Agreement by the party on whose behalf it is so executing. THF acknowledges that CDOT may execute this Agreement by an authorized representative.

k. Recordation. Either party may record this Agreement.

l. Construction. The parties hereto have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the parties and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

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THE PARTIES HERETO HAVE EXECUTED THIS AGREEMENT

Each person signing this Agreement represents and warrants that he or she is duly authorized to execute this
Agreement and to bind the Party authorizing his or her signature.

GRANTOR

STATE OF COLORADO
Colorado Department of Transportation

_____
For The Executive Director
Steve Harelson, PE
Chief Engineer

Date: _____

APPROVED
STATE OF COLORADO
Philip J. Weiser, Attorney General

_____
Kathy Young
First Assistant Attorney General

Date: _____

GRANTEE
THF Firestone Group LLC

_____
Max Gansline

Date:_____

APPROVED

STATE OF COLORADO
Department or Personnel & Administration
Real Estate Programs

_____
For the Executive Director
Cameron Kennedy
Interim Real Estate Programs Manager

Date: _____

Attest

_____
Andrea Miner
Chief Clerk Property Management

Date: _____

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EXHIBIT "A"

PROJECT NUMBER: TRG 0253-264
PARCEL NUMBER: “ACCESS SOUTH”
PROJECT CODE: 22547
DATE: Thursday, October 12, 2022
DESCRIPTION

A Permanent Easement “Access South” of the Department of Transportation, State of Colorado Project No. TRG 0253-264 containing 10,308.35 Sq. Ft. (0.237 Acres), more or less, in the Northwest 1/4 of Section 11, Township 2 North, Range 68 West, of the 6th Principal Meridian, in Weld County , Colorado, Permanent Easement being more particularly described as follows:

Commencing At The West Sixteenth Corner Of Said Section 11, As Monumented By A 2" Aluminum Cap Stamped "PLS 29430" Thence S26° 07 27" W, A Distance Of 630.56 to The Point Of Beginning A;

(Section A)

1. Thence S67°26'13"E, a distance of 65.21 feet;
2. Thence on the arc of a curve to the right, a radius of 780.85 feet, a central angle of 02°12'05", a distance of 30.00 feet, (a chord bearing S22°24'59"W, a distance of 30.00 feet);
3. Thence N67°26'13"W, a distance of 73.62 feet;
4. Thence N50°31'20"W, a distance of 37.86 feet;
5. Thence N89°29'04"E, a distance of 48.43 feet to The Point of Beginning A;

The above described Permanent Easement contains 2,674.536 sq. ft. (0.061 acres), more or less.

And Beginning At Point Of Beginning A; Thence N89°29'04"W, A Distance of 48.43 Feet; Thence N00°09'17"W, A Distance Of 246.66 Feet to The Point of Beginning B;

(Section B)

1. Thence S39°28'40"W, a distance of 107.50 feet;
2. Thence S45°24'40"W, a distance of 39.68 feet;
3. Thence S39°28'40"W, a distance of 65.89 feet;
4. Thence N50°31'20"W, a distance of 30.00 feet;
5. Thence N39°28'40"E, a distance of 56.33 feet;
6. Thence N07°21'21"W, a distance of 19.79 feet to a point on the South line of the “Hold Over Area” parcel of land as described in the records of Weld County at Rec. No. 4814315, Dated March 30, 2022;
7. Thence along said South line, S87°40'08"E, a distance of 12.65 feet;
8. Thence along the East line of said parcel, N03°38'32"E, a distance of 49.11 feet;
9. Thence leaving said parcel, N89°29'04"E, a distance of 48.56 feet;
10. Thence N39°28'40"E, a distance of 39.16 feet;
11. Thence N89°29'04"E, a distance of 39.16 feet The Point of Beginning B;

The above described Permanent Easement contains 7,633.82 sq. ft. (0.175 acres), more or less.
The Total Above Described Parcels Combined Contains 10,308.35 Sq. Ft. (0.237 Acres), More Or Less.

The purpose of the above-described Permanent Easement is for the access to private property.

Basis Of Bearings: Bearings Used In The Calculations Of Coordinates Are Based On A Grid Bearing Of N89°50'41”E Between The Northwest Corner Of Section 11, Being A No. 6 Rebar With 3 1/4" Aluminum

TOP

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: KEITH STEFANIK, P.E. CHIEF ENGINEER
DATE: AUGUST 16, 2023
SUBJECT: DISPOSAL OF PARCEL 8-EX, STERLING, CO

Purpose

CDOT Region 4 is proposing to dispose of parcel 8-EX, comprised of 11,380 sq. ft. (0.261 acres) of right of way that is no longer needed for transportation or maintenance purposes.

Action

CDOT Region 4 is requesting a resolution, in accordance with C.R.S. 43-1-210, approving the disposal of 11,380 sq. ft. (0.261 acres) of right of way that is no longer needed for transportation or maintenance purposes.

Background

In 2018, CDOT acquired several parcels at the northwest corner of CO 14 and Division Avenue in Sterling, CO, for Project FSA 0142-063. Among the parcels acquired were AP-35, RW-4, AP-3, RW-7A and RW-8. Parcels AP-35, RW-4, and large portions of AP-3, RW-7A, and RW-8 have been combined and renamed to parcel 8-EX, with small portions of AP-3, RW-7A and RW-8 retained to maintain adequate right of way in the area. The Town of Sterling desires to acquire parcel 8-EX for construction of a roadside beautification project consisting of a small park.

Next Steps

Upon approval of the Transportation Commission, CDOT will convey parcel 8-EX to the Town of Sterling for nominal value in accordance with 23 CFR 710.403. The conveyance deed will contain a clause that will revert the property to CDOT's ownership if the parcel ever ceases to be used for the purposes described above.

Attachments

Exhibits Depicting the Disposal Property

2829 West Howard Place 5th Floor, Denver, CO 80204

TOP

Colorado Department of Transportation

CDOT

10601 W. 10th Street
Greeley, CO 80634
Phone: 970-350-2161

Region 4 Right of Way IJN

Sheet Revisions		
Date	Description	Initials
7/11/18	ADD RW-7A, RW-8A	TAC
10/2/18	ADDED TE-12A	TWN
11/27/18	ADDED TE-4REV	TWN

Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

Scale 1"=50'

Right of Way Plans
Plan Sheet
Project Number: FSA 0142-063
Project Location: SH 14 "S" CURVE IN STERLING

Project Code	Last Mod. Date	Subset	Sheet No.
19664	7-11-2018	7.06 of 7.11	7.06

LINE TABLE		
LINE #	BEARING	DIST.
L50	N86° 53'10"E	33.64'
L51	S62° 12'56"E	34.36'
L52	N77° 26'51"W	65.57'
L53	N27° 53'41"E	76.39'
L54	N3° 44'38"W	44.73'
L55	N59° 22'43"E	44.93'
L56	N27° 53'41"E	66.01'
L57	S59° 22'43"W	83.74'
L58	N3° 44'38"W	38.65'
L59	S62° 6'19"E	27.40'
L60	S62° 6'19"E	23.40'
L61	S00° 00'00"W	13.7'
L62	N90° 00'00"W	46.63'
L63	S3° 44'38"E	28.94'
L64	N59° 22'43"E	56.48'
L65	S27° 53'41"W	27.05'
L67	N38° 15'33"E	25.00'
L68	N39° 27'23"E	25.00'
L69	N40° 56'33"E	25.00'
L70	N42° 28'03"E	25.00'
L71	N43° 59'33"E	25.00'
L72	N45° 30'53"E	25.00'

LINE TABLE		
LINE #	BEARING	DIST.
L73	N47° 02'23"E	25.00'
L74	N48° 28'54"E	11.16'
L75	N48° 28'54"E	11.18'
L76	N50° 01'35"E	21.59'
L77	N51° 19'53"E	21.30'
L78	N52° 16'53"E	25.00'
L79	N53° 51'13"E	25.00'
L80	N37° 09'43"E	94.18'
L81	S62° 06'19"E	29.50'
L81A	S59° 22'43"W	23.45'
L128	N59° 22'43"E	39.91'
L129	N28° 57'00"W	11.58'
L130	N61° 14'49"E	16.41'
L131	S27° 53'41"W	5.00'
L132	S62° 06'19"E	10.00'
L133	S62° 06'19"E	37.53'
L134	N27° 45'44"E	8.00'
L135	S62° 06'19"E	28.00'
L136	N27° 45'44"E	8.00'
L137	N27° 45'44"E	54.38'
L138	N38° 15'53"E	17.81'
L139	S27° 53'41"W	15.11'

AP-35 KAREN SSESSANGA
PO BOX 1521
STERLING, CO 80751

AP-3 JOHN MARES
104 N DIVISION AVE
STERLING, CO 80751

RW-2 KIRCHER HORNER LLC
PO BOX 1431
STERLING, CO 80751

RW-4 TE-4REV
JOHN MARES
104 N DIVISION AVE
STERLING, CO 80751

RW-10 TE-10A
PMHC LLC
409 CHESTNUT ST.
STERLING,CO 80751

RW-11
CITY OF STERLING
PO BOX 4000
STERLING, CO 80751

RW-12 TE-12 TE-12A
MILLENIUM LLC
2706 W COLFAX AVE
DENVER, CO 80204

RW-8A
CITY OF STERLING
PO BOX 4000
STERLING, CO 80751

RW-1 RW-7
CITY OF STERLING
PO BOX 4000
STERLING, CO 80751

TE-9 TE-9A
ALAN C HOAL TRUST
531 PAWNEE DR.
STERLING, CO 80751

TE-6
PFS INSURANCE GROUP LLC
4848 THOMPSON PKWY STE 200
JOHNSTOWN, CO 80534

TE-76
TROY E SCHOTT
133 N 4TH STREET
STERLING, CO 80751

BLOCK 33
K & S
ADDITION

BLOCK 23
K & S ADDITION

BLOCK 22
K & S ADDITION

LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8

N. 5TH STREET
N. 4TH STREET
N. DIVISION AVENUE
POPLAR ST.
STATE HIGHWAY 14

SE 1/4
SECTION 29
T 8 N, R 52 W

POB PARCEL A
S3° 01'16"E 159.92'
TO S1/4 S29

PARCEL 8ex

EXISTING RIGHT OF WAY

SOUTH LINE SE 1/4 SECTION 29

STERLING

Proposed Resolution #2

Authorizing CDOT to execute Intergovernmental Contracts, Amendments, and Option Letters over $750,000 of the projects specified below.

Approved by the Transportation Commission on August 17, 2023.

WHEREAS, pursuant to Colorado law at Section 43-1-110(4), C.R.S. the executive director or the chief engineer shall represent the department in negotiations with local governmental entities concerning intergovernmental agreements (IGAs) between the department and local governmental entities to implement the provisions of this article. No IGAs involving more than $750,000 shall become effective without the approval of the commission.

WHEREAS, CDOT seeks to have the commission approve IGAs contracts identified in the attached IGA Approved Projects list each of which are IGAs greater than $750,000.

WHEREAS, CDOT seeks to have this approval extend to all contributing agencies, all contracts, amendments and option letters that stem from the original project except where there are substantial changes to the project and/or funding of the project; and

WHEREAS, the Transportation Commission acknowledges that it has reviewed the IGA summary in the consent packet, which included all information necessary; and

WHEREAS the Transportation Commission has determined that the projects will serve the public interest and/or convenience of the traveling public and that the approval of the projects described in the report will serve the purpose(s) of the project; and

NOW THEREFORE BE IT RESOLVED, the Transportation Commission hereby declares that the public interest and/or convenience will be served by approving the contracts identified in the attached IGA Approved Projects list and CDOT is authorized to execute all documents necessary to further these projects except that substantial changes to the project and/or funding will need to reapproved.

Herman Stockinger, Secretary
Transportation Commission of Colorado

Date

TOP

August 2023- IGAs > $750,000

Region	Project Number(s)	Agency	Contract Value	Federal $ (FHWA &/or USDT funds)	State $	Local $	Description
R1	22285	Commerce City	$8,8000,000.00	$4,440,000.00	$2,400,000.00	$1,960,000.00	**Commerce City OLA - Widening 88th Avenue between I-76 to Highway 2. Total Funds $8,800,000.00**
	22217	Denver	$3,820,514.00	$3,438,463.00	$382,051.00	$0.00	**Denver OLA - Reconstruct 7 new traffic signals. Total Funds $3,820,514.00**
	25528	Denver	$1,782,000.00	$1,603,800.00	$0.00	$178,200.00	**Denver OLA - Safety Improvements for Intersections of Kalamath/6th Avenue and Kalamath/8th Avenue. Total Funds $1,782,000.00**
	25529	Denver	$966,000.00	$869,400.00	$0.00	$96,600.00	**Denver OLA - Safety Improvements for Intersection of 38th Avenue and Monaco Parkway. Total Funds $966,000.00**
	25530	Denver	$883,000.00	$794,700.00	$0.00	$88,300.00	**Denver OLA - Safety Improvements for Intersection of Quebec Street and 11th Avenue. Total Funds $883,000.00**
	25681	Denver	$1,221,480.00	$977,184.00	$0.00	$244,296.00	**Denver OLA - Denver Bluetooth Expansion of 114 Devices for Real Time Travel Monitoring. Total Funds $1,221,480.00**
	21006	Wheat Ridge	$58,320,000.00	$43,560,000.00	$5,800,000.00	$8,960,000.00	**Wheat Ridge AM3 – Wadsworth Boulevard Widening 35th Avenue to 48th Avenue. This Amendment 3 adds $5,000,000 in funding. Total Funds $58,200,000.00**

R2	24597	Colorado Springs	$4,822,777.00	$2,500,000.00	$2,045,000.00	$277,777.00	**Colorado Springs OLA - Intersection Improvements at Lake Avenue at State Highway 115 and Southgate Road. Total Funds $4,822,777.00**
R3	25375	Eagle County	$6,915,751.00	$5,000,000.00	$0.00	$1,915,751.00	**Eagle County OLA - Eagle Valley Eco Trails from Highway 6 MM 156.8 to MM 162.2. Total Funds $6,915,751.00**
	25376	Glenwood Springs	$1,500,000.00	$0.00	$750,000.00	$750,000.00	**Glenwood Springs OLA - Shared Use path Improvements Highway 6 * Highway24. Total Funds $1,500,000.00**
	25710	Grand Junction	$4,950,000.00	$2,300,000.00	$2,312,500.00	$337,500.00	**Grand Junction OLA - US 6 North Avenue Transit Improvements. Total Funds $4,950,000.00**
	MTCE	Grand Junction	$2,208,804.60	$$0.00	$0.00	$2,208,804.60	**Grand Junction MTCE - Traffic Maintenance for Town of Grand Junction. Total Funds $2,208,804.60**
	25377	Lake County	$933,333.00	$0.00	$700,000.00$	$233,333.00	**Lake County OLA - Multimodal Facilities around Leadville. Total Funds $933,333.00**
	25841	Silt	$1,130,000.00	$904,000.00	$0.00	$226,000.00	**Silt OLA - Silt I-70 Pedestrian/Bike Overpass. Total Funds $1,130,000.00**
	25368	Steamboat Springs	$2,477,358.00	$1,888,679.00	$0.00	$588,679.00	**Steamboat Springs OLA - Steamboat Springs West Trail Connection. Total Funds $2,477,358.00**
R4	25779	Firestone	$912,970.00	$730,376.00	$0.00	$182,594.00	**Firestone OLA - Weld County Road 20 Bridge. Total Funds $912,970.00**
	23630	Fort Collins	$6,352,500.00	$4,687,500.000	$250,000.00	$1,415,000.00	**Fort Collins AM2 - Laporte Avenue Improvements: Fishback to Sunset. This Amendment 2 increases funding by $3,225,000.00. Total Funds $6,352,500.00.**

	25328	Hudson	$2,011,000.00	$1,608,800.00	$0.00	$402,200.00	**Hudson OLA - Main Street Improvements. Total Funds $2,011,000.00**
	25013	Severance	$750,000.00	$0.00	$750,000.00	$0.00	**Severance AM1 - CO 392 & WCR 23 Signalization Project. This Amendment 1 increases funding by $125,000.00. Total Funds $750,000.00**
	23018	Turion Metro	$3,100,000.00	$0.00	$0.00	$3,100,000.00	**Turion Metro OLA - Revenue Contract with Turion on CDOT project. Total Funds $3,100,000.00**
	25044	Wellington	$3,476,822.00	$3,444,086.00	$0.00	$32,736.00	**Wellington OLA - Main Street Project. Total Funds $3,476,822.00**

Proposed Resolution #3
Disposal: Abandonment US 6 North Frontage Road, Eldridge St. to Alkire St., Lakewood

Approved by the Transportation Commission on August 16, 2023.

WHEREAS, CDOT owns 0.49 linear miles of roadway in the City of Lakewood, identified as U.S. Highway 6 North Frontage Road; and

WHEREAS, that portion of U.S. Highway 6 North Frontage Road is located between Eldridge St. (MM 276.85) to Alkire St. (377.34); and

WHEREAS, Region 1 has determined that abandoning this portion of roadway would be in the best interest of Colorado taxpayers;

WHEREAS, Region 1 has completed an environmental clearance (Categorical Exclusion, Form 128) as required for the devolution of state highways;

WHEREAS, Colorado Revised Statute 43-2-106 (1)(a) provides that the Transportation Commission may determine that a State Highway, or portion thereof, no longer functions as a state highway, and with the agreement of each affected county or municipality, the state highway, or portion thereof, can be abandoned to the affected county or municipality; and

WHEREAS, the Code of Federal Regulations 23.620.203(c)(3) allows CDOT to relinquish portions of unneeded frontage roads; and

WHEREAS, the governing body of the City of Lakewood shall adopt a resolution agreeing to the State's abandonment of the portion of U.S. Highway 6 North Frontage Road and agreeing that said roadway segment no longer serves the ongoing purposes of the State Highway system; committing the City of Lakewood to assume ownership of said highway segment in the "as is" condition;

WHEREAS, the Chief Engineer, the Department of Transportation, and the Executive Director are authorized pursuant to CRS 43-2-106, to make determinations regarding abandonment of State Highway(s) to affected county(ies) or municipality(ies);

WHEREAS, the Transportation Commission concurs with the Chief Engineer that this portion of U.S. Highway 6 North Frontage Road is no longer needed for State Highway purposes;

NOW THEREFORE BE IT RESOLVED, pursuant to the provisions of the CRS 43-2-106, the Department of Transportation be given authority to declare that portion of U.S. Highway 6 North Frontage Road abandoned, as shown in Exhibit A.

_____ _____

Herman Stockinger, Secretary
Transportation Commission of Colorado

Date

TOP

Proposed Resolution #4
I-25 and CO 119 Mobility Hub Access Easement, Firestone, CO

Approved by the Transportation Commission on August 16, 2023

WHEREAS, in 2021, CDOT acquired a parcel from THF Firestone Development, LLC ("THF") at the southeast corner of I-25 and CO 119 in Firestone, CO as part of Project C0253-278, for the construction of a mobility hub; and

WHEREAS, CDOT agreed, as part of the acquisition, to allow THF to retain a small "hold over" area with an advertising sign placed on it; and

WEREAS, at the time of the acquisition, CDOT agreed to provide a utility and access easement across the purchased property to allow THF to service the advertising sign; and

WEREAS, the design of the new mobility hub will prevent THF from using the current access and now requires the access portion of the easement to be relocated; and

WEREAS, the utility portion of the easement will remain unchanged; and

WHEREAS, C.R.S. 24-82-202 requires approval of the Transportation Commission before CDOT can grant an easement; and

WHEREAS, the Department of Transportation would like to grant the required access easement to THF Firestone Development, LLC.

NOW THEREFORE BE IT RESOLVED, pursuant to the provisions of the C.R.S 24-82-202 the Department of Transportation be given authority to grant an easement to THF Firestone Development, LLC for the purposes of accessing an advertising sign.

Herman Stockinger, Secretary
Transportation Commission of Colorado

Date

TOP

Proposed Resolution #5
Project #: FSA 0142-063, Disposal: Parcel # 8-EX, CO 14 and Division Ave., Sterling, CO

Approved by the Transportation Commission on August 16, 2023

WHEREAS, in 2018, CDOT acquired several parcels at the northwest corner of CO 14 and Division Avenue, in Sterling, CO, for Project FSA 0142-063, which included parcels AP-35, RW-4 AP-3, RW-7A and RW-8; and

WHEREAS, Parcels AP-35, RW-4, and large portions of AP-3, RW-7A and RW-8 have been combined and renamed to parcel 8-EX; and

WHEREAS, small portions of AP-3, RW-7A, and RW-8 are to be retained to maintain adequate right of way in the area; and

WHEREAS, parcel 8-EX consists of 11,380 sq. ft. (0.261 acres); and

WHEREAS, Region 4 has determined Parcel 8-EX is no longer needed for transportation or maintenance purposes; and

WHEREAS, the Town of Sterling desires to acquire parcel 8-EX for construction of a roadside beautification project consisting of a small park; and

WHEREAS, the Department of Transportation would like to dispose of Parcel 8-EX to the Town of Sterling for nominal value; and

WHEREAS, if the Town ever ceases to use the property for non-proprietary public purposes, the property will revert to CDOT's ownership; and

WHEREAS, pursuant to Colorado Revised Statutes (C.R.S) 43-1-210(5)(a)(I) The Department of Transportation is authorized, subject to approving resolution of the Transportation Commission, to dispose of any property or interest therein which is no longer needed for transportation purposes.

NOW THEREFORE BE IT RESOLVED, pursuant to the provisions of the C.R.S, 43-1-210(5) and 23 CFR 710.403 the Department of Transportation be given authority to declare Parcel 8-EX as excess property and convey the 11,380 sq. ft. (0.261 acres) of Right of Way that is no longer needed for transportation purposes for nominal value to the Town of Sterling.

Herman Stockinger, Secretary
Transportation Commission of Colorado

Date

TOP

Proposed Resolution #6

Approval and Adoption of the Second Supplement to the Fiscal Year 2023-2024 Budget for the Colorado Department of Transportation.

Approved by the Transportation Commission on August 16, 2023.

WHEREAS, the budget requests being presented to the Transportation Commission this month have been reviewed and were determined to meet the criteria outlined in Policy Directive 703.0, requiring approval by the Transportation Commission; and

WHEREAS, the project requests included in the Supplement and detailed below are consistent with the FY 2024 through FY 2027 STIP, and funds are available from existing program allocations, unless otherwise indicated.

Project Cost Increase

- I-25 Paving and Mobility – Fillmore to Garden of the Gods Improvements
  - $781,016 - Bridge Construction
  - $1,000,000 - FASTER Safety
  - $5,300,000 – Strategic Funding, see related action below

Request for 10 Year Plan Change

- Reduction to #2759 - Safety and Operational Impr. S. Academy to Circle/Lake $5,300,000
- Increase to #0016 - I-25- Fillmore to Garden of the Gods Improvements $5,300,000

NOW THEREFORE BE IT RESOLVED, after review and consideration, the Second Supplement to the Fiscal Year 2023-2024 Budget is approved by the Transportation Commission.

Herman Stockinger, Secretary
Transportation Commission of Colorado

Date

TOP

Proposed Resolution #7

Adoption of the Commission's determination that the NFRMPO GHG Transportation Report is sufficient and meets the reduction levels required in Rule 2 CCR 601-22 (Planning Rules).

Approved by the Transportation Commission on August 16, 2023.

WHEREAS, Senate Bill 21-260 directed the Transportation Commission of Colorado ("the Commission") to adopt procedures and guidelines requiring CDOT and MPOs to take additional steps in the planning process for regionally significant transportation projects to account for the impacts on the amount of statewide GHG pollution and statewide vehicle miles traveled that are expected to result from those projects; and

WHEREAS, Senate Bill 21-260 also specified implementing relevant measures pursuant to § 25-7-105, C.R.S.; reducing GHG emissions to help achieve statewide GHG pollution reduction targets established in House Bill 19-1261 (now codified in § 25-7-102(2)(g) and 105(1)(e), C.R.S.); and considering the role of land use in the transportation planning process; and

WHEREAS, Senate Bill 21-260 further required, under § 43-4-1103, that CDOT shall update their 10-Year Plan and the Denver Regional Council of Governments (DRCOG) and the North Front Range Metropolitan Planning Organization (NFRMPO) shall update their Regional Transportation Plans (RTP) and meet the reduction levels in Table 1 by October 1, 2022; and

WHEREAS, on December 16, 2021 the Commission adopted updated Planning Rules, which included greenhouse gas reduction levels for CDOT in non-MPO areas, DRCOG, and NFRMPO; and

WHEREAS, the Commission adopted Policy Directive No. 1610 on May 19, 2022, with minor amendments thereafter (as amended, the "Policy Directive") which guides implementation of the Planning Rules and use of GHG Mitigation Measures; and

WHEREAS, the Commission established the Agency Coordination Committee ("ACC") chaired by Commissioner Hickey to act as liaison for the Commission throughout the rulemaking and compliance process, and that group has met frequently with department staff during the current compliance effort; and

WHEREAS, NFRMPO is nearing completion of their 2050 RTP and the FY2024-2027 Transportation Improvement Program (TIP) and the Planning Rules require NFRMPO to provide to the Commission "at least 30 days prior to adoption" of their TIP or RTP a GHG Transportation Report (Report) containing a GHG emissions analysis, and if applicable, a GHG Mitigation Action Plan demonstrating that the Applicable Planning Document is in compliance with the GHG Reduction Levels in Table 1 of the Planning Rules; and

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WHEREAS, Under Rule 8.05 of the Planning Rules, the Commission, within thirty days of receipt of the GHG Transportation Report or at the next regularly scheduled Commission meeting, whichever is later, shall determine whether the applicable GHG Reduction Levels in Table 1 have been met and the sufficiency of any GHG Mitigation Measures needed for compliance."

WHEREAS, on July 14, 2023, the Commission received NFRMPO's Report reflecting the results of modeling of the updated Transportation Improvement Program and 2050 RTP for the NFRMPO area pursuant to the Rules and the Policy Directive; and

WHEREAS, the Report concludes that NFRMPO will achieve the required reduction levels under the Planning Rules; and

NOW THEREFORE BE IT RESOLVED, after review and consideration of the NFRMPO Report, the Commission finds the Report and NFRMPO to be in compliance with the Planning Rules and to have achieved the required reduction levels.

Herman Stockinger, Secretary Date
Transportation Commission of Colorado

TOP

Proposed Resolution #FIE1
Approval to impose a fuels impact reduction fee per SB 23-280 requirements

Approved by the Fuels Impact Enterprise Board of Directors on August 16, 2023.

WHEREAS, in 2023, the Colorado General Assembly created the Fuels Impact Enterprise in § 43-4-1501, C.R.S.; and

WHEREAS, the business purpose of the Fuels Impact Enterprise are to improve the transportation of fuel in the state and monitor vehicle emissions as specified in § 43-4-1503(2); and

WHEREAS, in furtherance of its business purpose, the Fuels Impact Enterprise is authorized to impose a fuels impact reduction fee at a rate reasonably calculated to defray the costs of as specified in § 43-4-1501(2)(c) and §43-4-1505(1); and

WHEREAS, the Fuels Impact Enterprise Board of Directors endorses the fuels impact reduction fee schedule established by the Colorado General Assembly in SB 23-280 and §43-4-1505(1), respectively, at $0.006125 per gallon of eligible fuel.

NOW THEREFORE BE IT RESOLVED, the Fuels Impact Enterprise Board of Directors hereby approves imposition of the fuels impact reduction fee as established in §43-4-1505(1).

_____ _____

Herman Stockinger
Secretary
Fuels Impact Enterprise Board of Directors

Date of Approval

TOP

COLORADO
Department of Transportation

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION

FROM: JEFF SUDMEIER, CDOT CHIEF FINANCIAL OFFICER

DATE: AUGUST 16, 2023

SUBJECT: MONTHLY CASH BALANCE UPDATE

Purpose

To provide an update on cash management, including forecasts of monthly revenues, expenditures, and cash balances in Fund 400, the State Highway Fund.

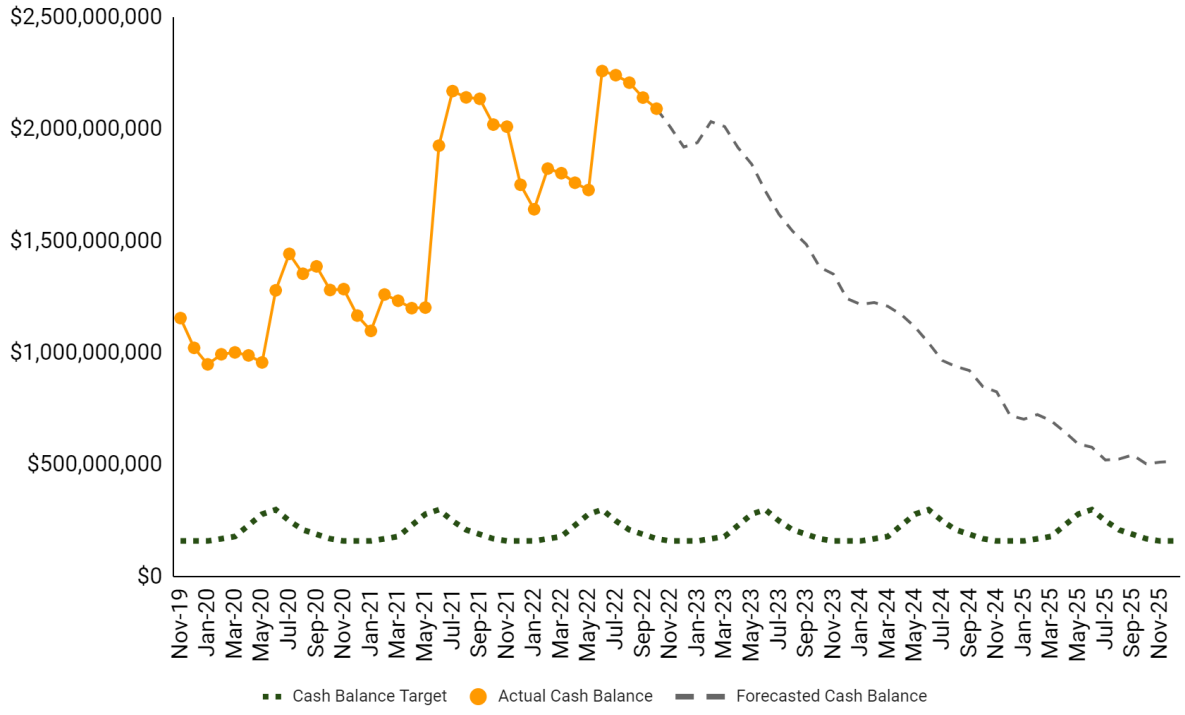
Action

No action is requested or required at this time.

Background

Figure 1 below depicts the forecast of the closing Fund 400 cash balance in each month, as compared to the targeted minimum cash balance for that month (gray shaded area). The targeted minimum cash balances reflect the Transportation Commission's directive (Policy Directive #703) to limit the risk of a cash overdraft at the end of a month to, at most, a probability of 1/1,000 (1 month of 1,000 months ending with a cash overdraft).

Figure 1 – Fund 400 Cash Forecast



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COLORADO
Department of Transportation

Summary

The actual closing cash balance for June 2023 was $1.72 billion; $1.42 billion above that month's minimum cash balance target of $300 million. June's cash balance includes $446.4 million in the State Highway Fund and $1.11 billion in the Senate Bill 267 trustee account. The actual cash balance for June 2023 was $17.3 million higher than forecasted. The variance in the forecast is primarily due to higher than expected federal reimbursements.

The large cash balance results from the additional revenues listed in the section below.

Cash Revenues

The cash balance forecast is limited to the State Highway Fund (Fund 400 and affiliated funds and trustee accounts), and does not include other statutory Funds including the Multimodal Mitigation and Transportation Options Fund and Funds associated with the following Enterprises:

- Colorado Transportation Investment Office
- Statewide Bridge and Tunnel Enterprise
- Clean Transit Enterprise
- Nonattainment Area Air Pollution Mitigation Enterprise

The State Highway Fund revenue forecast includes revenues from:

- **Highway Users Tax Fund** - This primarily includes Motor Fuel Taxes, Vehicle Registration Fees, Road Usage Fees, and Retail Delivery fees.
- **Miscellaneous State Highway Fund Revenue** - This revenue includes proceeds from the sale of state property, interest earned on the money in the cash fund, the issuance of oversize/overweight permits, and revenue from various smaller sources.
- **SB 17-267** - This bill directed the State Treasurer to execute lease-purchase agreements on existing state facilities to generate revenue for priority transportation projects. A summary of this revenue can be found in the table below.
- **Other Legislative Sources**- This includes revenue transferred from the General Fund to the State Highway Fund through legislation passed by the Colorado General Assembly. A summary of this revenue can be found in the table below.

Cash balances will be drawn down closer to the target balances over the course of fiscal years 2022, 2023, and 2024 as projects funded with SB 17-267 and other legislative sources progress through construction.

Legislative Initiatives	2019	2020	2021	2022	2023
SB 21-267	$424,154,455	$559,809,594	$620,559,397	$624,425,703	$0
SB 18-001	$346,500,000	$105,000,000	$0	$0	$0
SB 19-262	$0	$60,000,000	$0	$0	$0
SB 21-110	$0	$0	$30,000,000	$0	$0
SB 21-260	$0	$0	$182,160,000	$170,000,000	$6,748,728
SB 22-176	$0	$0	$0	$0	$6,500,000
SB 22-180	$0	$0	$0	$40,000,000	$0
SB 21-265	$0	$0	$0	$124,000,000	$0

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COLORADO
Department of Transportation

Cash Payments to Construction Contractors

The current forecast of payments to construction contractors under state contracts (grants paid out under inter-government agreements for construction are accounted for elsewhere in the expenditure forecast) from Fund 400 is shown in Figure 2 below.

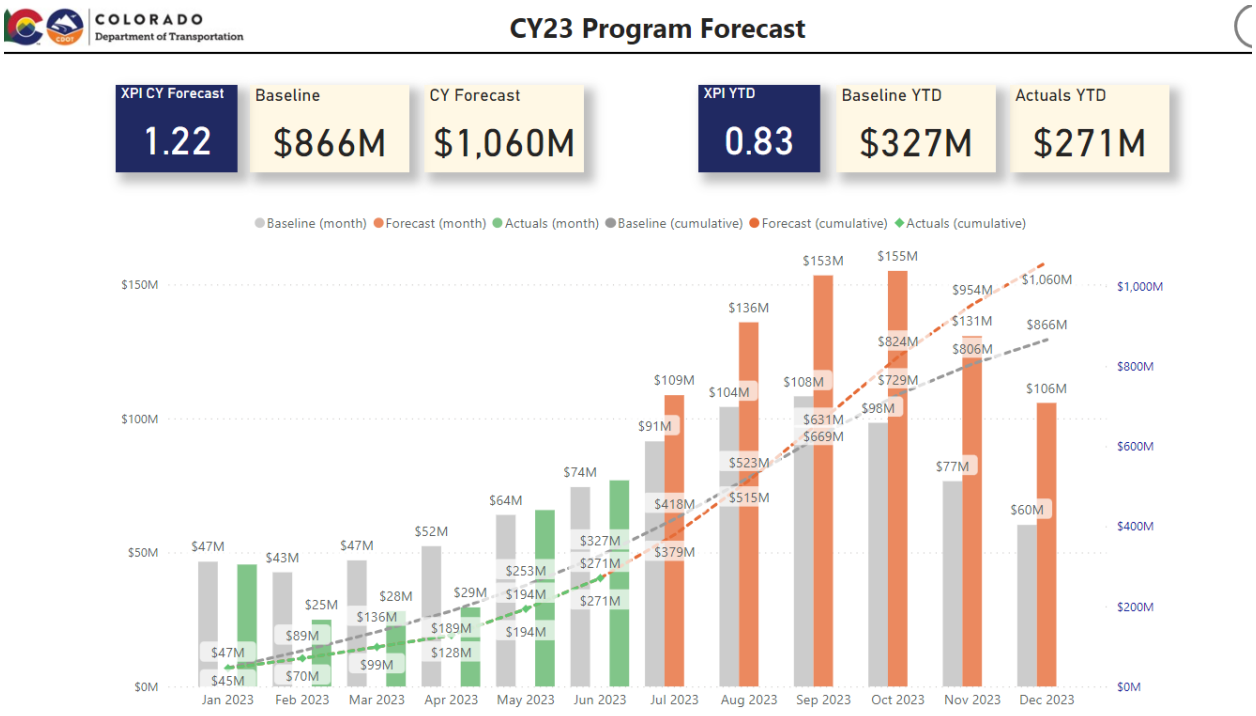
Figure 2 – Forecasted Payments - Existing and New Construction Contracts

$ millions	*CY 2017 (actual)*	*CY 2018 (actual)*	*CY 2019 (actual)*	*CY 2020 (actual)*	*CY 2021 (actual)*	*CY 2022 (actual)*	*CY 2023 (forecast)*	*CY 2024 (forecast)*
Expenditures	$642	$578	$669	$774	$615	$841	$869	$850*

**This is preliminary information based on the 10-Year Plan update which was considered by the Transportation Commission for approval in September 2022. This information will be updated as additional project schedule detail becomes available.*

Figure 3 details CY23 baseline and actual expenditures for the State Highway Fund (see Figure 2 above) as well as Bridge and Tunnel Enterprise. CDOT sets the CY baseline in January each year, using the best estimates, forecast, and schedule information available at the time.

Including Bridge Enterprise, June month end expenditures were corresponding to an Expenditure Performance Index (XPI) of 0.83 (actual expenditures vs. baseline). There were $1271M actual expenditures YTD vs. the baseline of $327M. The CY 23 baseline includes expenditures from 170 projects.



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COLORADO
Department of Transportation
Division of Accounting and Finance

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: JEFF SUDMEIER, CHIEF FINANCIAL OFFICER
DATE: AUGUST 16, 2023
SUBJECT: STATE INFRASTRUCTURE BANK ACTIVITY REPORT FOR FISCAL YEAR 2022-2023

Purpose
This memo summarizes information related to State Infrastructure Bank (SIB) activity for FY 2022-23.

Action
This is for information purposes only. No action is requested or required at this time.

Background:
The Colorado SIB is a revolving infrastructure investment fund that offers a range of loans to entities for use on highway construction projects and airport projects. The SIB Loan Program was enacted by the Colorado Legislature in 1998 and adopted by CDOT in 1999. This unique program helps fund transportation facilities through a low-interest revolving loan program.

The Division of Accounting and Finance (DAF) periodically prepares a financial summary of the Transportation Infrastructure Revolving Fund (Fund 715). OFMB presents the report to the Transportation Commission (TC) at their monthly meeting in August for the period ending June 30th of the previous State fiscal year, and as a mid-year review, in February for the period ending December 31st of the current State fiscal year.

Year End Summary
Assets:
As of June 30, 2023, the Colorado SIB had $39.5 million in total assets (see Table 1). Of the total assets, 83% percent ($32.9 million) was attributed to the Aeronautics account and 17% percent ($6.6 million) was attributed to the Highway account. The Transit and Rail accounts of the Colorado SIB have never been capitalized, nor have any loans been made from those accounts.

Table 1: Colorado SIB Assets Summary, As of June 30, 2023

Overview of Colorado SIB Assets As Of 06/30/2023			
Assets	**Aeronautics**	**Highways**	**Total**
Cash:			
Fund 715	$ 12,202,649	$ 3,916,956	$ 16,119,606
Authorized Federal Funds	$ -	$ -	$ -
Amount Available to Loan	**$ 12,202,649**	**$ 3,916,956**	**$ 16,119,606**
Accounts Receivable:			
Outstanding Loan Balances	$ 20,720,117	$ 2,720,232	$ 23,440,349
Accrued Interest	$ -	$ -	$ -
Total Accounts Receivable	**$ 20,720,117**	**$ 2,720,232**	**$ 23,440,349**
Total Assets	**$ 32,922,767**	**$ 6,637,188**	**$ 39,559,955**
Percent of Account/Fund Loaned	62.94%	40.98%	59.25%

As of June 30, 2023, there was a total of $16.1 million available to loan, of which $12.2 million was in the Aeronautics account and $3.9 million was in the Highway account.

Loans:
Currently, the Colorado SIB has nine outstanding loans totaling $23.4 million (see Table 2). Six* loans are from the Aeronautics account, totaling $20.7 million, and three* loans are from the Highway account totaling $2.7 million. There were no loans paid in full in the second half of FY 2022-23. As of June 30, 2023, all Colorado SIB loans were current.

Table 2: Colorado SIB Loan Summary, As of June 30, 2023

Colorado SIB Loans Summary As Of 06/30/2023								
	Original Loan	**Balance Due**	**Debt Service**	**Interest Rate**	**Original Loan Date**	**Next Payment Due Date**	**Termination Date**	**Contract No.**
Aeronautics Account:								
Colorado Springs	$ 5,500,000	$ 4,485,362	$ 612,296	1.99%	3/3/2021	3/3/2024	3/3/2031	AVNFY2021-001
Colorado Springs	$ 3,431,183	$ 1,474,855	$ 392,043	2.50%	5/26/2016	5/26/2024	5/26/2026	AVNFY2016-002
Colorado Springs	$ 7,500,000	$ 5,496,061	$ 890,483	3.25%	1/3/2020	1/3/2024	1/3/2030	AVNFY2020-001
Arapahoe County Airport Authority	$ 8,000,000	$ 4,246,613	$ 914,070	2.50%	6/1/2018	6/1/2024	6/1/2028	AVNFY2018-001
Rocky Mountain Metropolitan Airport	$ 2,015,000	$ 1,279,646	$ 236,219	3.00%	3/25/2019	3/25/2024	3/25/2029	AVNFY2019-001
Grand Junction Regional Airport	$ 3,737,580	$ 3,737,580	$ 438,158	3.00%	3/15/2023	3/15/2024	3/15/2033	AVNFY2023-001
Total:	**$ 30,183,763**	**$ 20,720,117**	**$ 3,483,270**					
Highway Account:								
Central City	$ 1,521,693	$ 496,568	$ 173,867	2.50%	7/17/2015	7/17/2023	7/17/2025	HWYFY2016-001
Park County	$ 566,500	$ 184,864	$ 64,728	2.50%	2/26/2016	2/26/2024	2/26/2026	HWYFY2016-002
Colorado Springs	$ 2,500,000	$ 2,038,801	$ 278,316	1.99%	3/3/2021	3/3/2024	3/3/2031	HWYFY2021-001
Total:	**$ 4,588,193**	**$ 2,720,232**	**$ 516,911**					
Grand Total:	**$ 34,771,956**	**$ 23,440,349**	**$ 4,000,181**					

Interest Rate:
The Interest Rate for loans from the CO SIB shall be established and adopted by the resolution of the Transportation Commission no later than June 30 of each year for loans applied during the ensuing months

of July; August; September; October; November; December. An Interest Rate shall be established and adopted by resolution of the Commission no later than December 31 of each year for loans originating during the ensuing months of January; February; March; April; May; June.

On June 15, 2023 the Transportation Commission approved an increase to three and a half percent (3.5%) to be effective for the first half of FY 2023-24. The table below provides a recent history of the interest rates approved by the Commission for the SIB program.

Table 3: State Infrastructure Bank Interest Rate History

Fiscal Year	Quarter	Rate
FY 2019-20	Q3/Q4	2.50%
FY 2020-21	Q1/Q2	2.00%
FY 2020-21	Q3/Q4	2.00%
FY 2021-22	Q1/Q2	2.00%
FY 2021-22	Q3/Q4	2.00%
FY 2022-23	Q1/Q2	3.00%
FY 2022-23	Q3/Q4	3.50%
FY 2023-24	Q1/Q2	3.50%

DAF continues to work with municipalities and the Division of Aeronautics to advertise the State Infrastructure Bank Program, including meeting with general use airports and presenting at the Colorado Airport Operators Association annual meeting.

Next Steps:
OFMB Staff will provide the Commission a mid-year review of FY 2023-24 SIB account activities in December 2023.

COLORADO
Department of Transportation
Office of Policy and Government Relations

MEMORANDUM

TO: COLORADO TRANSPORTATION COMMISSION
FROM: HANNAH L. REED, FEDERAL GRANTS COORDINATOR IN OPGR

DATE: AUGUST 16TH, 2023
SUBJECT: UPDATE TO TRANSPORTATION COMMISSION ON SUBMITTED, IN PROGRESS, AND FORTHCOMING GRANT APPLICATIONS TO IIJA DISCRETIONARY PROGRAMS

Purpose
To share progress on submitted applications, as well as current and future coordination of proposals to anticipated federal discretionary programs, primarily under the Infrastructure Investment Jobs Act (IIJA).

Action
Per PD 703.0, when the department intends to apply for grants with a match consisting of previously approved funding, no action is necessary by the Commission, but we provide the Commission with the projects we intend to pursue. If the match requires an additional commitment of funds not already approved by the Commission, or Bridge & Tunnel Enterprise (BTE), staff brings the projects to the Commission as an action item, with the additional funding being made contingent on a successful application and grant award.

As always, Commissioners and CDOT staff are encouraged to contact CDOT's in-house grant team with questions, comments, and suggestions.

Background and Details
For information on closed 2022 grant programs and awarded proposals, please refer to 2022 TC Grants Memos from December 2022 or prior.

The following discretionary grant programs have closed and all proposals have been reviewed:

1. NATIONAL SCENIC BYWAY PROGRAM (NSBP)
    - DTD Colorado Byways Team received 26 project proposals from local agencies statewide. Three eligible and competitive applications were submitted by CDOT:
        - Alpine Loop and Silver Thread Facilities, Safety, and Recreation Upgrades in Regions 3 & 5
            - **$640k AWARDED**
        - Scenic Highway of Legends Wayfinding and Interpretive Materials Implementation in Region 2
        - Mount Evans Collaborative Renaming, Re-signing, and Educational Emphasis in Region 1
2. STRENGTHENING MOBILITY and REVOLUTIONIZING TRANSPORTATION (SMART)
    - CDOT-led ATMA proposal with MN DOT, OK DOT, and WI DOT as subrecipients
        - **$1.89M AWARDED**
3. Enabling Middle Mile Broadband
    - CDOT submitted a $119M proposal to build 7 middle mile corridors across the state
4. RAILROAD CROSSING ELIMINATION (RCE)
    - A planning application to study the elimination of two at-grade highway-rail crossings on US 34 in Region 4
        - **$700k AWARDED**

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- CDOT also provided letters of support for two local applications in Fort Collins

5. FTA's ADVANCED DRIVER ASSISTANCE SYSTEMS (ADAS)
    - Install ADAS demonstrative technologies into three of CDOT's Bustang fleet
        - **$1.2M AWARDED**
6. RAISE 2023
    - The City of Lakewood and CDOT revised and resubmitted the 6th & Wadsworth Interchange Reconstruction proposal
        - **$20M AWARDED**
    - Boulder County and CDOT revised and resubmitted the CO 119 Diagonal Multimodal Improvements proposal
        - **$25M AWARDED**
    - Grand County and CDOT revised and resubmitted the US 40 Passing Lanes & Red Dirt Hill Safety Reconstruction proposal
    - Morgan and Weld Counties and CDOT revised and resubmitted the I-76 Phase IV Regional Improvements for Safety and Efficiency (RISE) proposal
    - La Plata County and CDOT revised and resubmitted the US 160 Safety and Mobility Improvements proposal
    - CDOT submitted an application for the preliminary phase of the I-70 Corridor Resiliency and Connectivity Improvements project
    - CDOT, with Summit County and Summit County Safe Passages, submitted an application for the I-70 East Vail Pass Wildlife Crossings project

The following discretionary grant programs have closed, but applications are still being reviewed:

1. CONSOLIDATED RAIL INFRASTRUCTURE & SAFETY IMPROVEMENTS (CRISI)
    - US 50/US 550 Reconfigured Intersection for Safety and Consolidation (RISC) in Region 3
    - According to the most current FRA Grants Calendar, these will be announced in Aug/Sept 2023
2. CORRIDOR IDENTIFICATION DEVELOPMENT PROGRAM (CIDP)
    - CDOT and FRPR-D co-sponsored an application for the Colorado Front Range Corridor
3. As in previous years, CASTA and FHU Consulting coordinated applications with local agencies for the 5339 discretionary grant programs (Low-No Emissions and Bus & Bus Facilities). CDOT then reviewed applications and submitted under its UEI and Grants.gov profile
    - Archuleta County Mountain Express Low-E Fleet and Bus Facility Project
    - Avon Transit Diesel Bus Replacement with GILLIG Electric Bus
    - Gunnison Valley RTA's City of Gunnison Multimodal Transit Center
    - Town of Telluride Galloping Goose ZEV Incremental Costs and Facility Upgrades
    - ECO Transit Battery Electric/Hybrid Bus Replacement and Expansion
    - ECO Transit Vehicle Storage Facility Electrification Project
    - RFTA - Ten Battery Electric Buses to Replace Diesel Buses
    - RFTA Regional Transit Center Phase 6 and Phase 8 Construction
    - ADA Bus for Wet Mountain Valley Rotary Transportation
    - Mountain Express Bus Storage, Maintenance, and Operations Facility
    - Breckenridge Free Ride: Diesel to Electric Bus Transition & Safety and Efficiency Improvements
    - SMART Vanpool Vehicle Replacement Project
    - Durango Transit Replacement Vehicles
    - Via Mobility Renewable Energy Microgrid for Enhanced Electric Transit Bus Charging
    - First Electric Bus & Charging Infrastructure Installation for the Town of Winter Park
4. WILDLIFE CROSSING PILOT PROGRAM (WCPP)
    - Douglas County and CDOT are revising the application for the Greenland Wildlife Overpass, as the final component of the I-25 Gap project in Region 1.
    - CDOT, with Summit County, is repackaging the I-70 East Vail Pass Wildlife Crossings project in Region 3.

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- CDOT is also preparing a US 160 “corridor initiative” application to include both Elmore’s East and East of Cortez crossings in Region 5.

IN PROGRESS
CDOT is actively pursuing the following discretionary grant program(s):

1. PROMOTING RESILIENT OPERATIONS for TRANSFORMATIVE, EFFICIENT and COST-SAVING TRANSPORTATION (PROTECT):
    - CDOT is preparing the CO West RESCUE Project scalable proposal to address resiliency in and around rural Western Colorado. The scope includes I-70 Glenwood Canyon, Blue Hill on Cottonwood Pass, US 40, and SH 9.
    - The City of Boulder and CDOT are collaborating on an application in Region 4 to replace two poor bridges and an undersized culvert on CO 7. The existing bridges experience recurring flooding/overtopping that restrict accessibility of the highway.
        - This project will likely also be eligible for the FY23 cycle of Bridge Investment Program (BIP).
2. MULTIMODAL PROJECT DISCRETIONARY GRANTS (MPDG): A multi-billion dollar “umbrella” program that contains Mega, INFRA, and Rural Surface Transportation.
    - CDOT, with local agency partners, is prepared to revise eligible applications from the FY22 cycle, utilizing USDOT advice and guidance from FY22 application debriefs:
        - US 50 Safety Highway Improvements for Freight and Travel in Region 2
        - I-76 Phase IV Reconstruction in Region 4
        - US 160 Safety & Mobility Improvements in Region 5
    - Other eligible priority projects include:
        - I-70 East Vail Pass Wildlife Crossings in Region 3
        - CO West RESCUE: Resiliency in Rural Western Colorado in Region 3
        - North I-25 Segment 5 in Region 4 with Weld County
3. RECONNECTING COMMUNITIES AND NEIGHBORHOODS (RCN)
    - Potential projects that CDOT will support
        - Idaho Springs Pedestrian Bridge over I-70
        - Trinidad East-West Reconnections under I-25 viaduct
        - DOTI Federal & Colfax Interchange Analysis

NEW & FORTHCOMING OPPORTUNITIES
The following discretionary programs are newly released or are expected to release in the near future. CDOT is interested in pursuing eligible and competitive projects or partnerships for each program:

1. BRIDGE INVESTMENT PROGRAM (BIP)
    - NOFO anticipated in August/September 2023
2. RAILROAD CROSSING ELIMINATION PROGRAM (RCE)
    - NOFO anticipated in August/September 2023
3. STRENGTHENING MOBILITY AND REVOLUTIONIZING TRANSPORTATION (SMART)
    - NOFO anticipated in August 2023
4. CONSOLIDATED RAIL INFRASTRUCTURE & SAFETY IMPROVEMENTS (CRISI)
    - NOFO anticipated in Fall 2023

CDOT DISCRETIONARY GRANT PROGRESS BY THE NUMBERS
Since the IIJA was signed into law in November 2021

- CDOT has applied for ~$966.8M across 12 programs
    - Including CDOT and Local partner co-applications: ~$1.17B across 16 programs
    - We have been awarded ~$221.74M…so far!

Next Steps
WCPP applications are due August 1st, 2023
PROTECT applications are due August 18th, 2023
MPDG applications are due August 21st, 2023
RCN applications are due September 28th, 2023

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COLORADO
Department of Transportation
Division of Transit & Rail
2829 W. Howard Place 4th Floor
Denver, CO 80204

TO: Transportation Commission
FROM: Kay Kelly, Director, Office of Innovative Mobility
David Singer, Assistant Director of Passenger Rail, Division of Transit and Rail
DATE: August 16, 2023
RE: Rail Abandonments and the Potential for Rail Acquisitions Report to TLRC (SB 37 Report)

Purpose
Required by Senate Bill 37 (SB 37), the Executive Director makes a report to the Transportation Legislation Review Committee (TLRC) of the State Legislature each year. This memo summarizes the report findings and recommendations.

Action
None. Information only.

Background
Each year, the SB 37 Report provides an update on possible rail line abandonments and opportunities for rail line acquisitions.

Details
Burnham Yard (UP): CDOT Region 1 and the Colorado High Performance Transportation Enterprise (HPTE), doing business as the Colorado Transportation Investment Office (CTIO) successfully negotiated the purchase with UP to acquire the Burnham Yard. HPTE purchased the property on May 19, 2021. Under the deal, CDOT will pay UP $50 million for the property, with CDOT Region 1 and HPTE each providing $7.5 million—for a total of $15 million—and the remainder being financed through a bank loan. Since the purchase, CDOT has assumed responsibility for the property and completed an effort of cleanup and preservation of historic structures.

In partnership with the Office of Economic Development and International Trade (OEDIT), CDOT and CTIO are conducting a planning study to identify technically feasible alignment options, identify early environmental impacts and begin early planning efforts to identify remnant parcels and secure right of way for rail infrastructure. Additional planning and environmental efforts will continue after this study, in close coordination with the Front Range Passenger Rail District and local stakeholders.

Recommendation: As CDOT and Colorado Transportation Investment Office (CTIO) continue their planning and engineering efforts supporting the potential relocation of the Consolidated Main Line (CML) through the former Burnham Yard, CDOT & CTIO staff will continue to monitor and support those efforts.

Tennessee Pass (UP): Although no freight has been shipped across the full Tennessee Pass Line since 1996, recent conversations with the UP indicate that they do not intend to abandon this line in the near future. The Royal Gorge Route Railroad currently offers scenic, tourist rail trips on 12 miles of the Tennessee Pass Line west of Cañon City. CDOT often receives inquiries from parties interested in operating commuter and/or tourist operations on the line. Additionally, the line is considered desirable by bicyclists as a rail-to-trail corridor and was identified as one of 16 priority trails by Governor Hickenlooper in 2016. The Department of Natural Resources has also been working to make use of the line's right-of-way by "railbanking" which would allow interim use of the property for biking while preserving the right-of-way for future resumed rail use. Any arrangements by UP to resume freight service on the line would preclude other uses such as railbanking.

In December 2020, Colorado Midland & Pacific Railway Company (CMP), a subsidiary of Rio Grande Pacific Corporation, entered into a commercial agreement with UP for the potential use of the corridor for commuter passenger services over the pass. However, CMP's filing for common carrier authority was rejected by the U.S. Surface Transportation Board (STB) on March 25, 2021, over environmental and safety concerns. CMP stated that they are currently reviewing the ruling and considering the next steps.

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Recommendation: CDOT is recommending continued monitoring of activities on the Tennessee Pass. CDOT will closely monitor the progress of any developments. If this line is abandoned, the state should consider purchasing it to preserve for freight and/or passenger service in the future.

Fort Collins Branch Line (UP): The Fort Collins Branch line is a line that runs southeast from Fort Collins to Milliken and Dent, then east to La Salle. It is identified as a Rail Corridor of State Significance since it connects Greeley and Fort Collins to the North I-25 corridor and was identified as part of the preferred alternative in the North Front Range Transportation Alternatives Feasibility Study (NFRTAFS, March 2000). This line does not appear to be at risk of abandonment at this time. However, it should be noted that this branch line was not included in the Preferred Alternative of the North I-25 Environmental Impact Statement (EIS) (December 2011), though that EIS recommends a new commuter rail line connecting the commuter rail line in Longmont and the north end of the RTD FasTracks North Metro Line.

Recommendation: CDOT should continue to monitor activities on the Fort Collins Branch Line. If this line is abandoned, the state should consider purchasing it to preserve for freight and/or passenger service in the future.

San Luis & Rio Grande Railroad: In September 2019, SLRG was placed in receivership, which is an alternative to bankruptcy during which SLRG continued operating. Leading up to receivership, SLRG had struggled with rising maintenance needs and logistics difficulties with access to the national rail network. In late 2019, the receivership was ended and SLRG was placed into involuntary bankruptcy. On December 20, 2022, the line was purchased by KCVN, with the Surface Transportation Board (STB) confirming the sale on January 5, 2023. KCVN assigned all of its rights in the Asset Purchase Agreement to CP Rio Grande, an independent entity that is not owned or controlled by KCVN. CP Rio Grande will continue freight operations and determine if there is any potential for revival of passenger excursion service.

Recommendation: CDOT will continue to monitor this railroad. It will coordinate with and support the new owner on its' state of good repair to ensure future success on the line.

Towner Line: The Colorado Pacific Railroad initially contracted with the Kansas & Oklahoma Railroad (a subsidiary of Watco) to operate the Towner Line. Colorado Pacific chose not to renew this operating contract in December of 2021 and is beginning operations on the line themselves. On April 21, 2022, Kansas & Oklahoma Railroad, (K&O), filed a petition with the STB under 49 U.S.C. 10502 for exemption from the prior approval requirements of 49 U.S.C. 10903 to discontinue service over the Towner Line. This petition to the STB would end the common carrier obligation of K&O, with the Colorado Pacific, the Towner Line's owner, beginning operations independently. As such, no customers would be without service. As this is a discontinuance and not an abandonment, interim trail use/rail banking or negotiation for public use is not being considered. On July 28, 2022, the STB approved the petition for discontinuance of service exemption, subject to employee protective conditions. The exemption went into effect August 27, 2022.

Recommendation: CDOT should continue to monitor activities on the Towner Line. If this line is abandoned, the state should consider purchasing it to preserve for freight and/or passenger service in the future.

North Fork Branch/Montrose Lead Line: The North Fork Line has seen a decrease in coal traffic over recent years. In 2010, there were three active coal mines along this line. Since then, two of the three have closed. The final remaining mine along the line, the West Elk Mine, had an approved expansion blocked by a federal judge in 2019. Although the closure of West Elk Mine is not imminent, the mine's position as the primary industry east of Delta along the North Fork Branch Line and the decline of traffic in recent years indicates to CDOT staff that, when the mine does eventually close, it could create a situation in which the line is not economically viable to operate.

The Montrose Industrial Lead currently runs one train a week. While not presently under the direct concern for abandonment, the low amount of traffic and the association with the aforementioned North Fork Branch Line warrants inclusion of the Montrose Industrial Lead on this list.

Recommendation: CDOT should continue to monitor activities on the North Fork Branch/Montrose Lead Line. If this line is abandoned, the state should consider purchasing it to preserve for freight and/or passenger service in the future.

Craig Branch Line: In 2020, the Tri-State Generation and Transmission Association announced that they would be retiring the Colowyo Mine and Craig Station by 2030. As coal is the primary customer along this branch, the closure of the mine and power station in Craig could lead to the abandonment of the Craig Branch Line. Additionally,

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communities along this line have indicated an interest in reintroducing passenger rail service within the area if such an abandonment were to occur. Such a service could plausibly be expanded to include service to Denver or Glenwood Springs/Grand Junction. Therefore, CDOT staff have determined a need to monitor this line in case any such proceedings were to occur.

Recommendation: CDOT should continue to monitor activities on the Craig Branch Line. If this line is abandoned, the state should consider purchasing it to preserve for freight and/or passenger service in the future.

Next Steps

CDOT staff will continue to monitor and report on abandonment activity and potential rail line acquisitions, notifying the Executive Director and Transportation Commission as appropriate, should any activities occur prior to the next annual report. As appropriate, the Executive Director will advise the Governor and the State Legislature.

Attachments

Previous SB 37 reports can be found on the CDOT web site at:
https://www.codot.gov/programs/transitandrail/plans-studies-reports/report-to-the-transportation-legislation-review-committee-on-rail-abandonments-and-the-potential-for-rail-line-acquisitions

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REPORT TO THE TRANSPORTATION LEGISLATION REVIEW COMMITTEE ON RAIL ABANDONMENTS AND THE POTENTIAL FOR RAIL LINE ACQUISITIONS

PREPARED BY

COLORADO
Department of Transportation
Division of Transit & Rail

AUGUST 2023

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INTRODUCTION

The purpose of this report is to provide the Transportation Legislation Review Committee (TLRC) with the Colorado Department of Transportation's (CDOT) report on rail abandonments and recommendations relative to possible rail line acquisitions. This is the 26th report submitted by the Executive Director of CDOT to the TLRC on rail abandonment pursuant to 43-1-1303 (3) C.R.S.

Over the course of the past year, there have been a few notable developments pertaining to rail abandonments or potential rail line acquisitions within Colorado.

As reported in previous SB 37 Reports, Union Pacific (UP) Railroad's Burnham Yard in central Denver holds great potential opportunities in the yard, adjacent tracks, and surrounding right-of-way and property, prompting CDOT and the Colorado High Performance Transportation Enterprise (HPTE), (d.b.a. Colorado Transportation Investment Office (CTIO)) to purchase the property in May 2021. The primary purpose of the acquisition is to enable potential improvements to the transportation infrastructure in central Denver, notably including increased capacity for Regional Transportation District's (RTD) light rail lines, future development opportunities for the City and County of Denver, and corridor preservation of right-of-way for future Front Range Passenger Rail. Such improvements are predicated on the relocation of the Consolidated Main Line (CML).

The Tennessee Pass Line, also owned by UP, is included in this report. UP has not expressed any intentions of abandoning the line, even though it has not operated freight trains on the line in many years. However, several groups, both private and public, have inquired about utilizing the line for tourist train operations and bicycle trails. UP's Fort Collins Branch remains in this report as well, but no changes in its status have occurred in the past year.

South-central Colorado's San Luis & Rio Grande (SLRG) Railroad, owned by Iowa Pacific Holdings, was placed in receivership in September 2019, and was involuntarily placed into bankruptcy at the end of 2019, with the line operating normally throughout the bankruptcy process. The line was purchased by KCVN on December 20, 2022, with KCVN assigning all of its rights in the Asset Purchase Agreement to CP Rio Grande. CP Rio Grande will continue freight operations on the railroad. The short line freight railroad plays a critical role in the region's economy, with shipments of agricultural and mining products and rail car storage.

Many of the general rail planning activities, which have appeared in prior reports, are no longer included in this report. Rail planning activities are documented in the 2018 State Freight and Passenger Rail Plan, which was approved by the Transportation Commission of Colorado in August 2018 and accepted by the FRA in December 2018. An update to the Rail Plan kicked off in 2022 and will be completed at the end of 2023.

Part I provides **Background Information** on Colorado's rail system and Legislative and Transportation Commission actions. **Part II** describes **Abandonment Activities**, which have occurred over the past year. **Part III** lists the **Recommendations** of CDOT.

Part I: Background

Rail System in Colorado

The Colorado rail system currently includes both a freight rail network and a limited passenger rail network. The role of the railroads and rail transportation in the state is to provide efficient and safe transportation choices for the movement of goods and people while connecting effectively to other transportation modes. The rail system in the state is an interconnected component of much larger regional, national, and global multimodal transportation systems and economies.

Rail infrastructure in Colorado provided the first major addition of transportation infrastructure to the Rocky Mountain west, as lines were initially constructed south from Cheyenne to connect to Denver. Mining and agricultural booms helped the network expand and lay the foundation for much of the cities and towns in the Front Range and across the state.

Currently, 14 privately owned freight railroads operate in Colorado[1]. These railroads own more than 2,800 miles of track in the state and currently operate on 2,636 miles of those tracks. This represents about 1.9 percent of the nation's 140,000 miles of network track. The extent of this network is also reflected in the fact that 48 of Colorado's 64 counties are directly served by the freight rail network. There are two Class I freight railroads in Colorado, BNSF Railway and Union Pacific (UP). Combined, they operate over 80 percent of the freight track miles and carry most of the rail freight in the state.

In addition, there are 3 regional railroads and 9 short line railroads in Colorado, comprising 20 percent of freight track miles in the state. They primarily provide localized service with connections to the Class I railroads. They principally serve the agricultural industry, as well as the oil & gas industry, and are very valuable assets to both local and statewide economies.

The passenger rail system in Colorado is presently very limited. Outside of the Regional Transportation District's (RTD) light rail and commuter rail lines in the Denver metro area, Amtrak and Rocky Mountaineer Railroad provide passenger rail service through the state

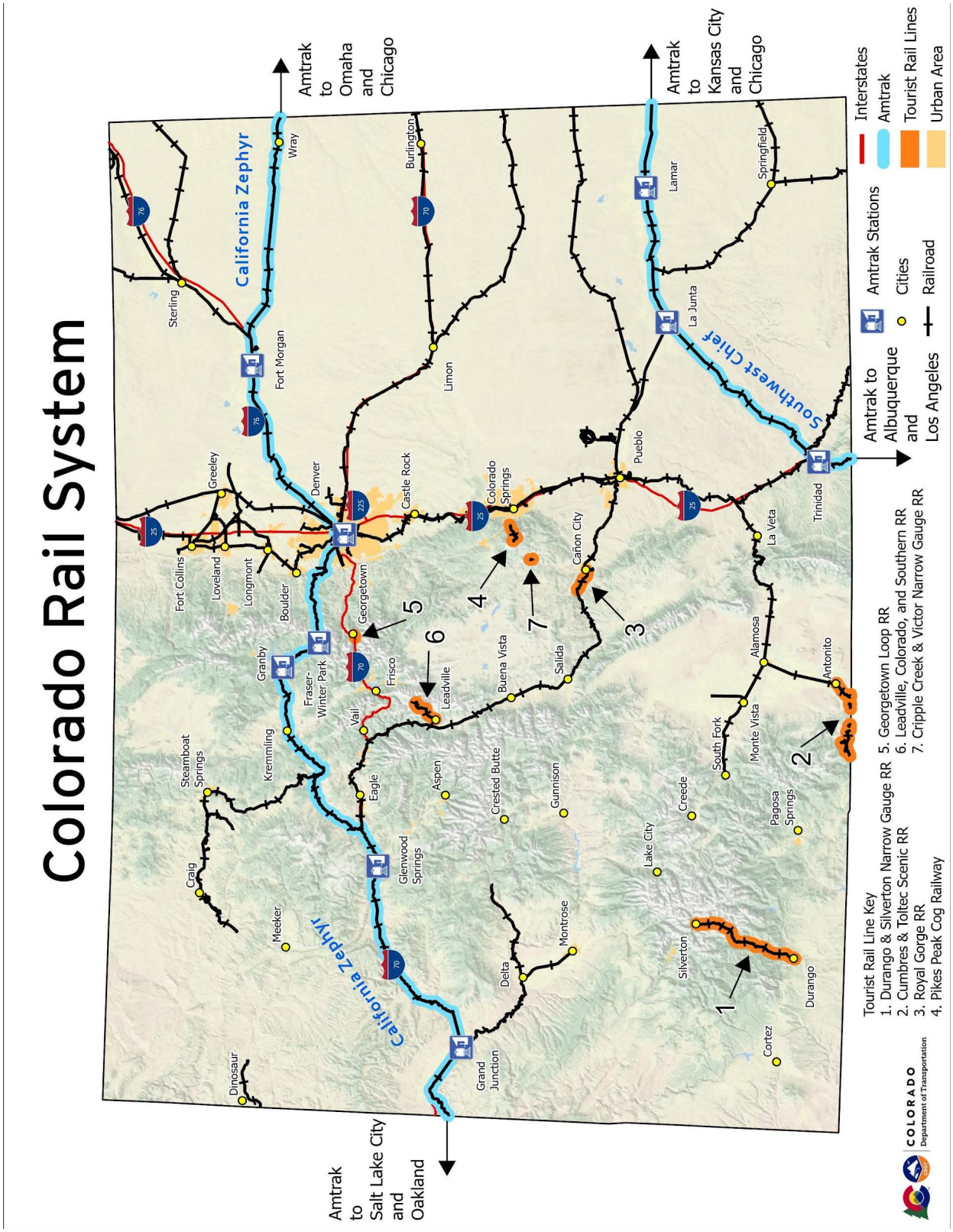
Amtrak's three passenger routes use existing freight tracks and rely on freight railroad infrastructure to be maintained and/or upgraded for efficient service. These two routes are:

- The California Zephyr, which runs daily between Chicago and San Francisco. Colorado stops include Fort Morgan, Denver, Fraser/Winter Park, Granby, Glenwood Springs, and Grand Junction. This service operates over UP track from Utah to Denver, and BNSF Railway track eastward of Denver.
- The Southwest Chief runs daily between Chicago and Los Angeles. Colorado stops include Lamar, La Junta, and Trinidad. Much of this service operates over BNSF Railway track.
- Winter Park Express is a seasonal rail service operated through a partnership between Amtrak and the Winter Park Resort. It connects Denver Union Station directly to the ski area and serves primarily residents and tourists.

[1] https://www.aar.org/wp-content/uploads/2023/03/AAR-State-Rankings-2021.pdf

The Rocky Mountaineer Railroad, a Canada-based company, began offering its Rockies to the Red Rocks luxury passenger rail service in 2021. The company launched the route with a preview season of 40 departures across 10 weeks, from August 15 to October 23, 2021. It runs on existing freight railroads. It is a two-day journey between Denver, Colorado and Moab, Utah with an overnight stop in Glenwood Springs, Colorado.

Colorado has seven tourist railroads that showcase Colorado's history and offer trips through Colorado's scenic outdoors. These scenic & tourist lines are in Cripple Creek/Victor, Durango/Silverton, Georgetown, Leadville, Manitou Springs/Colorado Springs, Cañon City, and one between Antonito and Chama, New Mexico. Most of the tourist railroads were temporarily closed due to the COVID-19 pandemic but resumed service in the summer of 2021. One tourist railroad—the Rio Grande Scenic Railroad—suspended service indefinitely in 2019 while its parent company is in bankruptcy. The railroad has since been purchased by CP Rio Grande Railroad, the rolling stock has been sold, and there has been no indication of continuing scenic railroad services by the new owner.


Colorado Rail System
California Zephyr
Amtrak to Omaha and Chicago
Amtrak to Kansas City and Chicago
Southwest Chief
Amtrak to Albuquerque and Los Angeles
Amtrak to Salt Lake City and Oakland
Sterling
Wray
Fort Morgan
Burlington
Limon
Springfield
Lamar
La Junta
Trinidad
Greeley
Fort Collins
Loveland
Longmont
Boulder
Denver
Castle Rock
Colorado Springs
Pueblo
Canon City
La Veta
Alamosa
Antonito
Georgetown
Granby
Fraser-Winter Park
Frisco
Vail
Leadville
Buena Vista
Salida
Steamboat Springs
Kremmling
Craig
Meeker
Eagle
Glenwood Springs
Aspen
Crested Butte
Gunnison
Montrose
Delta
Dinosaur
Grand Junction
Lake City
Creede
Silverton
South Fork
Monte Vista
Pagosa Springs
Durango
Cortez
1
2
3
4
5
6
7
Interstates
Amtrak
Tourist Rail Lines
Urban Area
Amtrak Stations
Cities
Railroad
Tourist Rail Line Key
1. Durango & Silverton Narrow Gauge RR
2. Cumbres & Toltec Scenic RR
3. Royal Gorge RR
4. Pikes Peak Cog Railway
5. Georgetown Loop RR
6. Leadville, Colorado, and Southern RR
7. Cripple Creek & Victor Narrow Gauge RR
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Colorado Legislative Actions

1997 SB 37 / CRS 43-1-13-3: CDOT Report to Legislature

In 1997, the General Assembly enacted Senate Bill (SB) 37, concerning the disposition of abandoned freight and passenger railroad rights-of-way in Colorado. According to this legislation and resulting state statute (CRS Title 43, Part 13 – Acquisition of Abandoned Railroad Rights-of-Way, 43-1-1303 rev. 2013), an existing rail line, railroad right-of-way, or an abandoned railroad right-of-way is eligible for acquisition by CDOT, if the Executive Director determines it serves one or more of the following purposes:

(1) Preservation of the rail line for freight or passenger service;

(2) Maintenance of a rail corridor for future transportation purposes or interim recreational purposes;

(3) Access to surrounding state manufacturing facilities, agricultural areas, or other locales that may be adversely affected by the loss of rail service or loss of railroad corridor; or

(4) Any public use of the rail line or railroad right-of-way that is compatible with the future use as a railroad or other transportation system.

The legislation also requires the Transportation Commission of Colorado (Transportation Commission) to review any property determined to be eligible for acquisition and approve the acquisition before the Executive Director submits the prioritized list of rail lines or rights-of-way to be acquired to the Transportation Legislation Review Committee (TLRC) ((43-1-1303) (2)). CDOT Policy Directive 1607 (PD 1607) and the State Freight & Passenger Rail Plan, both described further below, are Transportation Commission and staff-level implementation of the SB 37 legislation.

43-1-1308 C.R.S., states, “the members of the TLRC shall make a written report setting forth its recommendations, findings, and comments as to each recommendation for the acquisition of railroad rights-of-way and their uses and submit the report to the General Assembly.”

43-1-1301(3) C.R.S., stipulates that the “Executive Director shall submit a prioritized list with recommendations to the TLRC concerning the railroad rights-of-way or rail lines to be acquired by the state and their proposed use.”

2017 SB 17-153 / CRS 43-4-1001: Southwest Chief and Front Range Passenger Rail Commission

On May 22, 2017, Governor Hickenlooper signed into law this replacement and expansion of the former Southwest Chief Commission. In addition to CRS 43-4-1001, the bill amended sections of law pertaining to the relationship of this Commission with CDOT. See 24-1-128.7 8(a) and 8(b).

The Front Range Passenger Rail District succeeded the Southwest Chief and Front Range Passenger Rail Commission after its creation in May 2022 (see below).

2021 SB 21-238 / CRS 32-22-102: Creation of Front Range Passenger Rail District

On June 30, 2021, Governor Polis signed into law the creation of The Front Range Passenger Rail District as the successor to the SWCFRPR Commission. This bill allowed for the creation of a rail district along the Front Range, the largest special district in the state, for the purpose of designing, developing, financing, constructing, operating, and maintaining an interconnected passenger rail system along the Front Range.

The area that comprises the district extends from Wyoming to New Mexico and includes:

- The entirety of the City and County of Broomfield and the City and County of Denver;
- All areas within Adams, Arapahoe, Boulder, Douglas, El Paso, Huerfano, Jefferson, Larimer, Las Animas, Pueblo, and Weld counties that are located within the territory of a metropolitan planning organization (MPO);
- All areas within Huerfano, Las Animas, and Pueblo counties that are not located within the territory of a MPO and are located within a county precinct that is located wholly or partly within five miles of the public right-of-way of I-25; and
- All areas within Larimer and Weld counties that are not located within the territory of a MPO and are located within a county precinct that is north of the city of Fort Collins and is located wholly or partly within five miles of the public right-of-way of I-25.

The district is governed by a Board of Directors that is composed of:

- Six voting members appointed by the Governor and confirmed by Senate
- 10 voting MPO/COG representatives confirmed by Senate:
    - Four members from MPOs representing more than 1.5 million residents (DRCOG)
    - Four members from MPOs representing more than 500,000 residents (PPACG, NFRMPO)
    - One member from PACOG
    - One member from SCCOG
- One voting director appointed by the CDOT Executive Director
- Multiple non-voting members:
    - BNSF Railway
    - Union Pacific Railroad (UP)
    - Amtrak
    - Regional Transportation District (RTD)
    - I-70 Mountain Corridor Coalition
    - Wyoming

- New Mexico

The Board of Directors of the rail district has the ability to:

(1) Ask voters who reside within the district to vote on sales and use taxes;

(2) Create station area improvement districts to cover the cost of construction, operation, and maintenance of the station, but only with approval of property owners within a two-mile radius of the proposed station;

(3) Enter into public-private partnerships; and

(4) Employ its own personnel and contract with public or private entities for the operation and maintenance of the Front Range Passenger Rail.

For more information, see https://www.ridethefrontrange.com/.

Past Transportation Commission Actions

The Transportation Commission believes that certain significant rail corridors represent an irreplaceable state transportation resource and that it is critical to preserve them because once they are lost, the cost of recreating equivalent corridors in the future will be prohibitive.

In June 2000, the Transportation Commission first approved a **Rail Corridor Preservation Policy, also known as CDOT PD 1607.** The policy directive was updated and approved by the Transportation Commission in August 2014 and is currently being updated with an anticipated approval in the fall of 2023. As updated, PD 1607 states the reasons why rail transportation is important to Colorado.

To facilitate a more comprehensive examination of which rail corridors are of interest to the state, the Transportation Commission directed CDOT staff to identify significant rail corridors. In November 2000, CDOT prepared a list of **State Significant Rail Corridors**, which were adopted by the Transportation Commission as part of the Statewide Transportation Plan. The criteria used to identify these State Significant Rail Corridors included existing and potential future demand for passenger and freight services and local/regional support for the preservation of the corridor.

CDOT is responsible for maintaining the Colorado Freight and Passenger Rail Plan (FPRP), which was last updated in 2018. Federal Railroad Administration requirements mandate each state's plan to be updated every four years. The Rail Plan serves as a framework for future freight and passenger rail planning in Colorado. It contains the most recent information concerning the forecasted growth of freight and passenger rail operations and includes an updated short-term (four-year) investment plan, and a long-term (20-year) investment vision. The Rail Plan identifies the state's priority strategies and actions to implement them. The updated Rail Plan is expected to be completed by the end of 2023.

Part II: Abandonment Activity "Watch List"

When a rail line is not economically viable to operate, the result is often either (1) the sale of the line, usually from the two Class I railroads (Union Pacific (UP) and/or BNSF Railway), to small, regional railroad companies; or (2) a formal request for abandonment to the U.S. Surface Transportation Board (STB) by the owner of the rail line. Rather than abandon a line, a larger railroad company will usually solicit bidders for the purchase of the line by a short line operator or regional railroad to maintain rail service along the line. These smaller railroad companies usually have lower operating costs and do not need the same volume of business on the line as the larger railroads to be profitable.

The ability to respond quickly to a potential abandonment can be an important factor in ensuring corridor preservation: once a Request to Abandon has been formally filed with the STB, abandonment can take place in as little as 90 days.

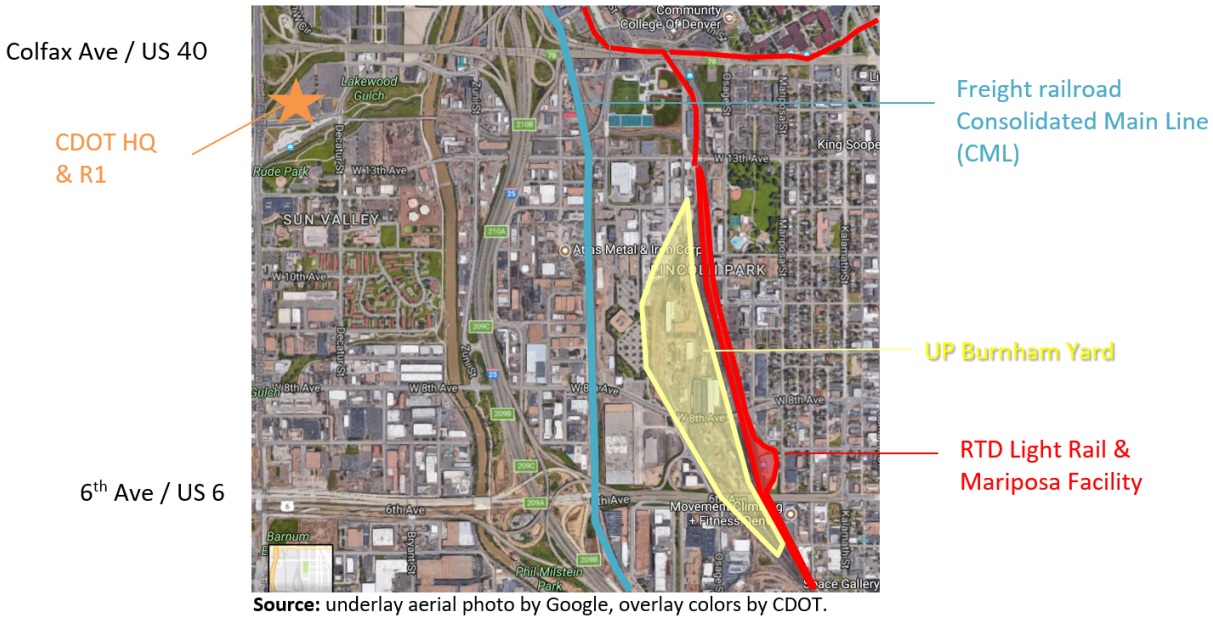
The issue of rail lines being abandoned is of statewide importance due to the impact these abandonments may have on the remainder of the transportation system. As lines are lost, the freight that was being moved by rail must then be moved by truck, causing additional deterioration (e.g., pavement surface condition and/or increased traffic volumes) of the local roadways and/or state highways. In addition, some businesses cannot survive without access to a rail line, thereby causing these businesses either to relocate to another area in the state or to move out of state, resulting in negative local or statewide economic impacts. The loss of a rail line additionally precludes the potential for passenger service to be added as a multi-modal transportation choice. In addition, once a railroad corridor is abandoned, it is unlikely it will be returned to rail service or be available for any transportation purpose, especially if the rail tracks are salvaged and the right-of-way is sold or reverts to adjoining property owners.

CDOT will continue to monitor short line railroads in the state to ascertain their current financial status and to examine the prospects for their continued survival because they continue to be an important part of Colorado's future.

Burnham Yard (UP)

In November 2015, UP made the decision to close and sell the Burnham Shop repair yard in central Denver due to a decline in coal shipments and a desire to consolidate maintenance activities.

Burnham Yard and Surrounding Area



Source: underlay aerial photo by Google, overlay colors by CDOT.

Potential benefits include:

- For RTD, it is of importance to their ability to expand light rail operations. To expand service for both central downtown and Denver Union Station destinations, RTD needs four main tracks in this area. Although RTD does not need the entire Burnham Yard site, it would benefit from a right-of-way purchase west of, and along the existing light rail and Mariposa facility site.
- For Front Range Passenger Rail (FRPR) purposes, a 60- to 80-foot right-of-way would be required. This can be co-located with the realigned CML but would need to have sufficient tracks to accommodate both FRPR and freight trains without delaying either. This would be in addition to RTD's needs.
- Private railways also stand to gain from a relocation of the CML, which would eliminate major at-grade crossings over Kalamath and Santa Fe Streets. The elimination of these crossings would also improve traffic flow and safety for drivers using those streets, which are major commuter routes into and out of downtown Denver.
- It is also of importance because it could potentially relieve freight train stoppages through commercial and residential properties in Lower Downtown Denver. Freight rail shipments stage or hold trains in or near downtown to sequence the movements of trains south of Denver, over Monument Hill / Palmer Divide.

- The City and County of Denver would benefit with the addition of developable, transit-served parcels in the form of a small area plan for an integrated redevelopment of the parcel for rail use.

Acquisition

CDOT Region 1 and the Colorado High Performance Transportation Enterprise (HPTE), doing business as the Colorado Transportation Investment Office (CTIO) successfully negotiated the purchase with UP to acquire the Burnham Yard. After some delays brought on by the COVID-19 pandemic, HPTE purchased the property on May 19, 2021. Under the deal, CDOT will pay UP $50 million for the property, with CDOT Region 1 and HPTE each providing $7.5 million—for a total of $15 million—and the remainder being financed through a bank loan. Since the purchase, CDOT has assumed responsibility for the property and completed an effort of cleanup and preservation of historic structures.

Next Steps

In partnership with the Office of Economic Development and International Trade (OEDIT), CDOT and CTIO have initiated a planning study to identify technically feasible alignment options, identify early environmental impacts and begin early planning efforts to identify remnant parcels and secure right of way for rail infrastructure. Additional planning and environmental efforts will continue after this study, in close coordination with the Front Range Passenger Rail project and local stakeholders.

Tennessee Pass Line (UP)

The Tennessee Pass line runs 178 miles from near Gypsum, through Eagle, Edwards, Avon, and Minturn, under Tennessee Pass (by tunnel) and along the Arkansas River via Leadville, Buena Vista, Salida, and Cañon City to Pueblo. The Tennessee Pass line has been identified as significant to CDOT because of its potential to carry both passengers and freight, and because it is the only existing trans-mountain alternative in Colorado to the Moffat Tunnel line. The Tennessee Pass Line may serve as an alternate route as trans-mountain rail demand grows due to increased development on the Western Slope or if the Moffat Tunnel were damaged or closed for any reason. Such an event would have a significant impact on Colorado, particularly on the Western Slope, since the railroads would be forced to move freight through Wyoming.

The Royal Gorge Route Railroad currently offers scenic, tourist rail trips on 12 miles of the Tennessee Pass Line west of Cañon City. CDOT often receives inquiries from parties interested in operating commuter and/or tourist operations on the line. Additionally, the line is considered desirable by bicyclists as a rail-to-trail corridor and was identified as one of 16 priority trails by Governor Hickenlooper in 2016. The Department of Natural Resources has also been working to make use of the line's right-of-way by "railbanking" which would allow interim use of the property for biking while preserving the right-of-way for future resumed rail use. Any arrangements by UP to resume freight service on the line would preclude other uses such as railbanking. Although no freight has been shipped across the full Tennessee Pass Line since 1996, recent conversations with the UP indicate that they do not intend to abandon this line in the near future.

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common carrier authority was rejected by the STB on March 25, 2021, over environmental and safety concerns. CMP stated that they are currently reviewing the ruling and considering the next steps.

Fort Collins Branch Line (UP)

The Fort Collins Branch line is a line that runs southeast from Fort Collins to Milliken and Dent, then east to La Salle. It is identified as a Rail Corridor of State Significance since it connects Greeley and Fort Collins to the North I-25 corridor and was identified as part of the preferred alternative in the North Front Range Transportation Alternatives Feasibility Study (NFRTAFS, March 2000). However, it should be noted that this branch line was not included in the Preferred Alternative of the North I-25 Environmental Impact Statement (December 2011), though that EIS recommends a new commuter rail line connecting the commuter rail line in Longmont and the north end of the RTD FasTracks North Metro Line. Recent conversations with the UP indicate that they do not intend to abandon this line in the near future. CDOT will continue to monitor activities on this rail line, but it will not be considered a potential line for acquisition until such time as conditions may warrant.

San Luis & Rio Grande Railroad (Iowa Pacific)

The San Luis & Rio Grande Railroad (SLRG) runs west from a connection with the UP Railroad at Walsenburg, Colorado, over the Sangre de Cristo Mountains at La Veta Pass and into the San Luis Valley. At Alamosa, the railroad splits with a branch extending south to Antonito, Colorado just north of the New Mexico border, and northwest to South Fork. In total, this is approximately 150 route miles of track. Scenic passenger service was offered on the line by the Rio Grande Scenic Railroad (RGSR) from 2006 to 2019, but the service ended indefinitely when the SLRG went into receivership.

In September 2019, SLRG was placed in receivership, which is an alternative to bankruptcy during which SLRG continued operating. Leading up to receivership, SLRG had struggled with rising maintenance needs and logistics difficulties with access to the national rail network. In late 2019, the receivership was ended and SLRG was placed into involuntary bankruptcy. On December 20, 2022, the line was purchased by KCVN, with the Surface Transportation Board (STB) confirming the sale on January 5, 2023. KCVN assigned all of its rights in the Asset Purchase Agreement to CP Rio Grande, an independent entity that is not owned or controlled by KCVN. CP Rio Grande will continue freight operations and determine if there is any potential for revival of passenger excursion service.

Towner Line

While not presently under the direct concern for abandonment, the Towner Line has been subject to review and action in relation to service at the Surface Transportation Board (STB).

The Towner Line runs from Towner, CO to NA Junction, where the line intersects with the BNSF Pueblo Subdivision. The line was initially built by Missouri Pacific (MoPac) and became property of the Union Pacific with the purchase of the MoPac in 1997.

See the 2017 and preceding SB-37 reports for details on the sequence of events of CDOT Acquisition, then lease, then attempts to abandon by the lessee, resulting in the eventual sale of the line to the Colorado Pacific Railroad.

The Colorado Pacific Railroad initially contracted with the Kansas & Oklahoma Railroad (a subsidiary of Watco) to operate the Towner Line, an extension of K&O operations ending in Towner. Colorado Pacific chose not to renew this operating contract in December of 2021 and is beginning operations on the line themselves.

On April 21, 2022, Kansas & Oklahoma Railroad, (K&O), filed a petition with the STB under 49 U.S.C. 10502 for exemption from the prior approval requirements of 49 U.S.C. 10903 to discontinue service over the Towner Line. This petition to the STB would end the common carrier obligation of K&O, with the Colorado Pacific, the Towner Line's owner, beginning operations independently. As such, no customers would be without service. As this is a discontinuance and not an abandonment, interim trail use/rail banking or negotiation for public use is not being considered. On July 28, 2022, the STB approved the petition for discontinuance of service exemption, subject to employee protective conditions. The exemption went into effect August 27, 2022.

North Fork Branch/Montrose Industrial Lead Line (UP)

The North Fork Branch line runs southeast from Grand Junction through Delta and east to the West Elk Mine in Somerset. At Delta, the line branches off with the Montrose Industrial Lead heading south to Montrose.

The North Fork Line is included here due to a decrease in coal traffic over recent years. In 2010, there were three active coal mines along this line. Since then, two of the three have closed. The final remaining mine along the line, the West Elk Mine, had an approved expansion blocked by a federal judge in 2019. Although the closure of West Elk Mine is not imminent, the mine's position as the primary industry east of Delta along the North Fork Branch Line and the decline of traffic in recent years indicates to CDOT staff that, when the mine does eventually close, it could create a situation in which the line is not economically viable to operate.

The Montrose Industrial Lead currently runs one train a week. While not presently under the direct concern for abandonment, the low amount of traffic and the association with the aforementioned North Fork Branch Line warrants inclusion of the Montrose Industrial Lead on this list.

Craig Branch Line (UP)

The Craig Branch Line splits from the Moffat Tunnel Subdivision Mainline at Bond, heading north to Steamboat Springs and then west to Craig, with a spur line to Pinnacle Peak approximately 9.5 miles west of Steamboat Springs.

In 2020, the Tri-State Generation and Transmission Association announced that they would be retiring the Colowyo Mine and Craig Station by 2030. As coal is the primary customer along this branch, the closure of the mine and power station in Craig could lead to the abandonment of the Craig Branch Line. Additionally, communities along this line have indicated an interest in reintroducing passenger rail service within the area if such an abandonment were to occur. Such a service could plausibly be expanded to include service to Denver or Glenwood Springs/Grand Junction. Therefore, CDOT staff have determined a need to monitor this line in case any such proceedings were to occur.

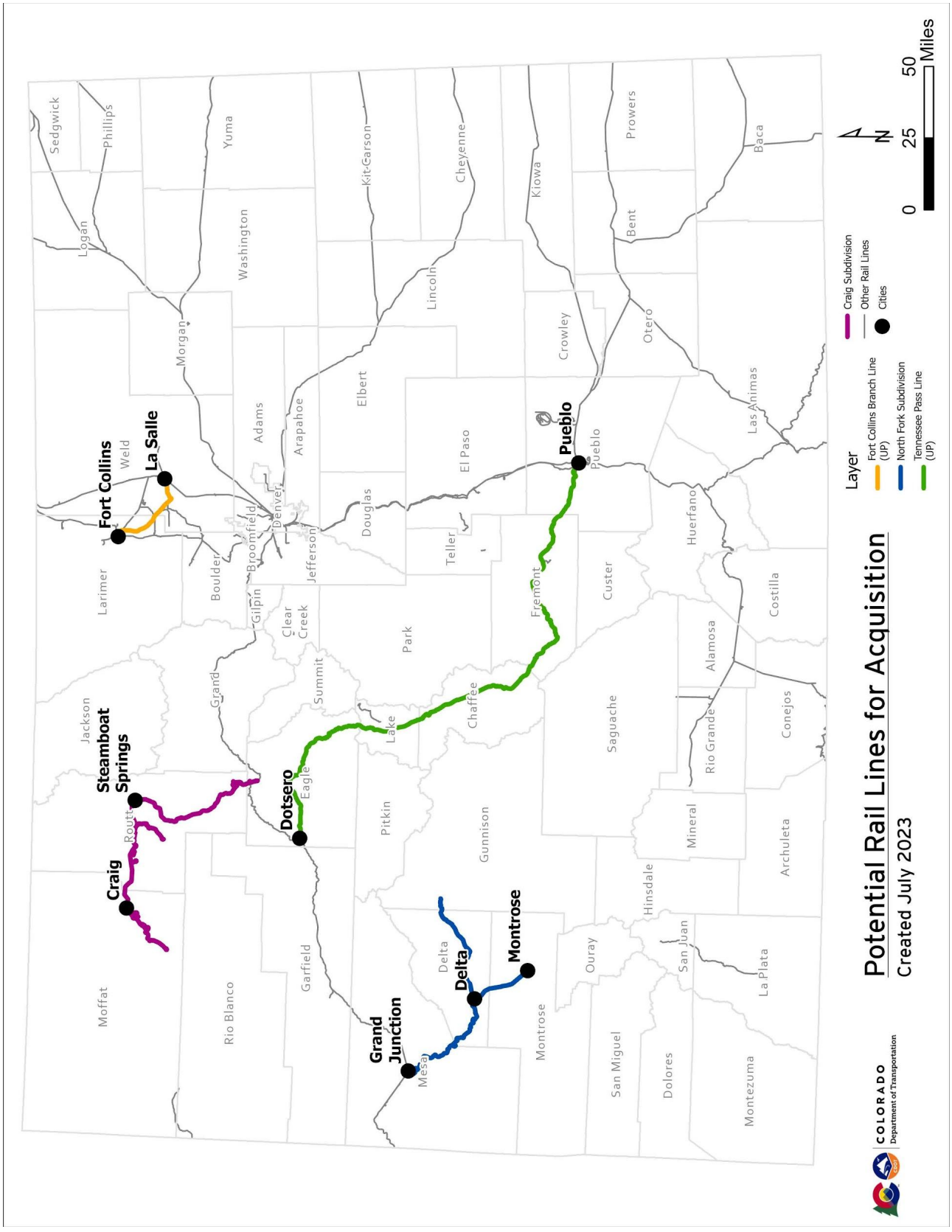
Part III: Recommendations

There are no major rail lines in Colorado which have been abandoned in the past year that impact the state's transportation system. CDOT is recommending the following:

Abandonment/Acquisition Recommendations

CDOT and CTIO should advance work on planning and engineering efforts in support of the potential relocation of the Consolidated Main Line (CML) through the former Burnham Yard.

In addition, CDOT should monitor activities on the Tennessee Pass, Craig Subdivision, North Fork Branch/Montrose Industrial Lead, and the Fort Collins Branch Lines. While there is no indication that Union Pacific (UP) will abandon these lines in the near future, the Tennessee Pass Line has not been used for freight movements in over 15 years and interest has been expressed for other uses, such as passenger train service and a bicycle trail. An application by the Colorado Midland & Pacific Railway Company (CMP) to the Surface Transportation Board was rejected in 2021, and they are reviewing next steps in their plans for future operations on the Tennessee Pass line. Likewise, the associated freight rail activity in Craig is not slated to cease until 2030. However, discussions around the fate of the rail line could feasibly begin before such activity has ended. CDOT will closely monitor the progress of any developments. *If any of these lines are abandoned, the state should consider purchasing them to preserve them for freight and/or passenger service in the future.*


Potential Rail Lines for Acquisition
Created July 2023
COLORADO
Department of Transportation
Layer
Craig Subdivision
Other Rail Lines
Cities
Fort Collins Branch Line (UP)
North Fork Subdivision
Tennessee Pass Line (UP)
0
25
50
Miles
N
Fort Collins
La Salle
Steamboat Springs
Craig
Dotsero
Grand Junction
Delta
Montrose
Pueblo
Sedgwick
Phillips
Logan
Yuma
Washington
Morgan
Kit Carson
Cheyenne
Kiowa
Prowers
Baca
Bent
Otero
Crowley
Lincoln
Elbert
Arapahoe
Adams
Weld
Larimer
Boulder
Broomfield
Denver
Jefferson
Douglas
El Paso
Teller
Pueblo
Las Animas
Huerfano
Custer
Fremont
Park
Gilpin
Clear Creek
Grand
Summit
Lake
Chaffee
Eagle
Pitkin
Gunnison
Saguache
Alamosa
Rio Grande
Costilla
Conejos
Archuleta
Mineral
Hinsdale
Ouray
San Juan
La Plata
Montezuma
Dolores
San Miguel
Montrose
Delta
Mesa
Garfield
Rio Blanco
Moffat
Routt
Jackson

TOP