

Appendix D: 2022 Update

In 2021 and 2022, new State requirements to account for greenhouse gas (GHG) emissions resulting from transportation plans were implemented. To address these requirements, the NFRMPO updated the 2045 RTP in 2022 and developed a *GHG Transportation Report* that was developed in conjunction with and reviewed by the Colorado Department of Transportation (CDOT) and the Colorado Department of Public Health & Environment (CDPHE) Air Pollution Control Division (APCD). This **Appendix** contains the 2022 updates to the 2045 RTP, including identified projects and strategies and the demonstration of fiscal constraint.

GHG Strategy Commitments

The State's GHG Planning Standard requires the NFRMPO to demonstrate a reduction in GHG emissions resulting from the RTP as compared with GHG emissions resulting from the Baseline Plan. The Baseline Plan is the plan in place at the time the GHG Planning Standard became effective on January 30, 2022. For the NFRMPO, the Baseline Plan is the 2045 RTP, adopted by the NFRMPO Planning Council on September 5, 2019

The 2045 RTP included a wide range of transportation investments, many of which will contribute to reductions in GHG emissions compared to a no-build scenario. These investments, such as expanding transit service and building out the Regional Non-Motorized Corridors (RNMCs, now known as Regional Active Transportation Corridors or ATCs) are not eligible for the required GHG reductions in the State's GHG Planning Standard because they were incorporated into the baseline GHG estimates.

GHG strategies which are eligible to be applied toward achieving the GHG Planning Standard include any new commitments to reduce GHG emissions that were not included in the Baseline Plan or commitments that are being advanced to an earlier staging year since the Baseline Plan was adopted. These strategies were discussed with the NFRMPO Technical Advisory Committee (TAC) and Planning Council to determine feasibility, appropriateness, and fundability. For the 2045 RTP 2022 Update, the NFRMPO is committing to the strategies and projects identified in **Table D-1**. The **Table** categorizes the projects into transit projects, TDM projects, operations projects, and active transportation projects, and explains the funding sources identified to maintain fiscal constraint.

GHG Emission Analysis

The GHG emission analysis of the 2045 RTP 2022 Update was conducted in compliance with state regulations and found the RTP meets or exceeds the requirements in the state's GHG Planning Standard, as shown in **Table D-2**. Documentation of the GHG emission analysis is available in the **NFRMPO GHG Transportation Report: Determining Compliance with the GHG Transportation Planning Standard**, adopted by the North Front Range Transportation & Air Quality Council (NFRT&AQPC) on October 6, 2022.

Table D-1: 2045 RTP Amendment Strategies		
Category	Improvement Description	Funding Source
Transit	Advance US34 transit service between Loveland and Greeley from 2045 to 2030	CDOT 10-Year Plan, FTA, MMOF
Transit	Expansion of COLT's local transit network as identified in Connect Loveland by 2030	Connect Loveland, FTA, MMOF, Local Funds
Transit	Double frequency of Bustang North Line in all compliance years	CDOT 10-Year Plan
Transit	Addition of mobility hubs and transit centers planned since 2019	CDOT 10-Year Plan, MMOF, IIJA, Local Funds
TDM	Increase in work from home in all compliance years	MMOF, IIJA
TDM	Development and expansion of TDM programs by 2030 and growth in 2040 and 2050	MMOF, IIJA
Operations	Arterial signal timing improvements by 2030 and carried through to 2040 and 2050	CDOT 10-Year Plan, IIJA, Local funds
Active Transportation	Expansion of the local bicycle and pedestrian network by 2030	IIJA, MMOF, Local Funds
Active Transportation	Increased prevalence of e-bikes and scooters by 2030	IIJA, MMOF, Local Funds

Table D-2: GHG Emissions Results, Million Metric Tons (MMT) per Year				
	2025	2030	2040	2050
Baseline Plan: 2045 RTP, 2019	1.73	1.60	1.22	0.82
Updated Plan: 2045 RTP, 2022 Update	1.68	1.48	1.11	0.75
Reduction	0.05	0.12	0.11	0.07
Required GHG Reduction Level	0.04	0.12	0.11	0.07
Pass/Fail	PASS	PASS	PASS	PASS

Financial Plan

The financial plan of the 2045 RTP, also known as the fiscally constrained plan, is detailed in [Chapter 3, Section 4](#). The financial plan identifies the total amount of revenue anticipated to be available throughout the horizon year of the RTP (2045) and the estimated cost of operating, maintaining, and improving the transportation system over the same timeframe.

Since the NFRMPO Planning Council adopted the 2045 RTP, new federal and state funding legislation has been adopted: the new federal transportation authorization bill known as the [Infrastructure Investment and Jobs Act \(IIJA\)](#), also known as the Bipartisan Infrastructure Law (BIL); and [Colorado Senate Bill \(SB\) 21-260 Sustainability Of The Transportation System](#). CDOT provided the revenue estimates used in the 2045 RTP and projected additional statewide HUTF funds in future years, which accounts for the increased funding and programming provided in IIJA and SB260. While a deeper analysis of the impacts of the new legislation will be undertaken for the 2050 RTP, NFRMPO staff determined using the existing levels of identified revenues from the 2045 RTP would be sufficient for this amendment. Strategies do, however, identify the new funding sources, as well as if projects have funding identified in CDOT's 10 Year Plan.

In the financial plan, each funding program is assigned to one or more expenditure categories in **Table 3-14** (see page 252), with total revenue estimates summed by category. The expenditure categories include roadway operations and maintenance (O&M), intersection improvements, bike & ped, transit, and flexible. A total of \$9.097B is anticipated to be available in year of expenditure dollars (YOE) from 2020 through 2045. The available funding is then allocated to the identified operations, maintenance, and expansion costs in **Table 3-16** (see page 255).

To fund the GHG strategies identified in this RTP Update, the resource allocation originally identified in **Table 3-16** is replaced with the resource allocation in **Table D-3**, with all updated values shown in blue. The relationship between expenditure category and amendment strategy is shown in **Figure D-1**. A column to denote the percentage of total expenditure category cost dedicated to GHG-reducing projects is also included. Important to note in **Table D-3** is additional funding for capacity projects would be used for TDM strategies, transit upgrades, and bicycle and pedestrian improvements.

Resource allocation was determined based on fiscal constraint rationale, shown in **Table D-4**. To maintain fiscal constraint, intersection improvement project funding was reduced with the funding redistributed to strategies like TDM, transit, and bicycle and pedestrian improvements. A total of \$600M in funding will be allocated to the GHG strategies newly committed to in this RTP Update.

Figure D-1: Expenditure Category and Amendment Strategy Relationship

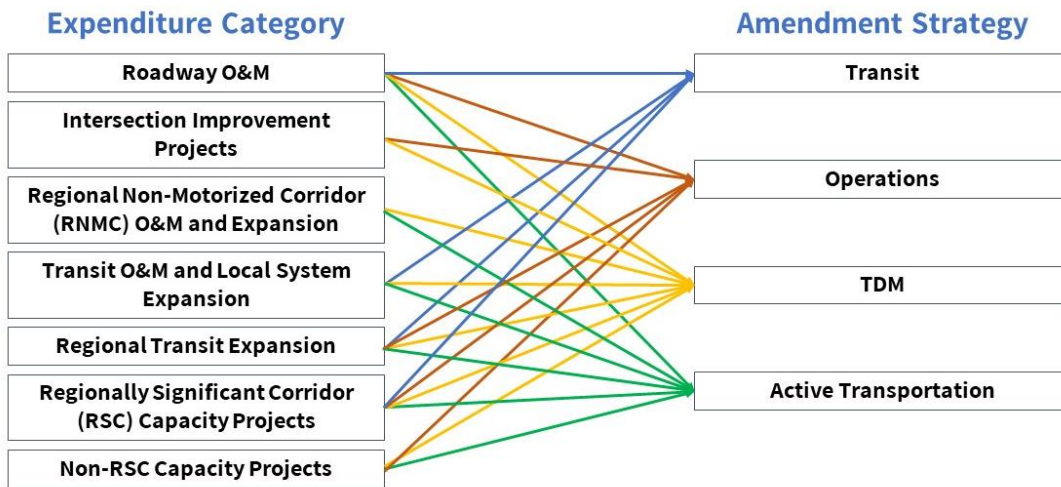


Table D-3: Resource Allocation by Expenditure Category in Millions of YOE Dollars, 2020-2045

Expenditure Category	Cost	Dedicated Funding	Flexible Funding	Total Funded	Unfunded	Share for GHG Strategies	GHG Funding Total
Roadway O&M	\$5,070	\$1,339	\$3,731	\$5,070	\$0	6%	\$304
Intersection Improvement Projects	\$531	\$99	\$229	\$328	\$203	9%	\$28
Regional Non-Motorized Corridor (RNMC) O&M and Expansion	\$273	\$122	\$151	\$273	\$0	0%	\$0
Transit O&M and Local System Expansion	\$1,486	\$950	\$536	\$1,486	\$0	10%	\$201
Regional Transit Expansion: RTE Corridors and Front Range Passenger Rail	\$2,069	\$0	\$40	\$40	\$2,029	66%	\$3
Regionally Significant Corridor (RSC) Capacity Projects	\$3,638	\$0	\$1,407	\$1,407	\$2,231	5%	\$70
Non-RSC Capacity Projects	\$678	\$0	\$493	\$477	\$185	5%	\$24
TOTAL	\$13,776	\$2,510	\$6,586	\$9,097	\$4,649	N/A	\$600

The Transit O&M and Local System Expansion includes funding for the West Elizabeth Bus Rapid Transit project in development by Fort Collins/Transfort.

Table D-4: Fiscal Constraint Rationale

Category	Cost (2019-2045)	Rationale and Funding Opportunity
Transit	\$147M	<p>CDOT and local communities have identified funding for similar projects between 2019 and 2022, showing a commitment to GHG-reducing strategies. Examples include:</p> <ul style="list-style-type: none"> • CDOT has identified 10-Year Plan funds to partially fund US34 transit service capital and operating costs • Colorado legislature passed SB22-180, which will provide funds to CDOT for Bustang expansion • Loveland has received MMOF and local funds for transit expansion between 2021 and 2022 • CDOT has funded two mobility hubs along I-25 at Kendall Parkway and SH56 and is partnering with Greeley on a US34 and Centerplace mobility hub <p>Transit projects will be funded through sources included in four categories and could be included as part of multimodal corridor investments, not just as standalone projects.</p>
Operations	\$51M	<p>Since at least the 2014 Call for Projects, communities have submitted applications and received funding for adaptive signal and other operational improvement projects. Additionally, transit signal priority is installed in existing transit signals on some state highways. Operational improvements will be funded through sources included in five categories and should be considered as part of maintenance where applicable.</p>
TDM	\$40M	<p>CDOT has held a Call for Projects on a semiannual basis since 2021 for TDM related projects. The NFRMPO, Fort Collins, and Colorado State University (CSU) are in the process of developing TDM plans and strategies. TDM strategies will be funded through each category.</p>
Active Transportation	\$283M	<p>Funding requests for bicycling and walking infrastructure have increased in each passing Call for Projects. Bicycle and pedestrian improvements are considered throughout the transportation and land use development stage, with more developers citing trails as a perk. Active transportation investments will be funded through six categories.</p>
<p>Cost estimates for each strategy are based on CDOT's Cost Benefit Analysis, local and regional plans, local and state input, National Transit Database (NTD), and data from recent NFRMPO Calls for Projects.</p>		