



COLORADO

Department of Transportation

Clean Transit Enterprise Board

February 22, 2022



AGENDA

Topic	Presenter
Welcome, Agenda Review (5 min)	Kay Kelly, CDOT
Election of Board Officers (10 min)	Kay Kelly, CDOT
Action Agenda (15 min) <ul style="list-style-type: none">• Approval of Minutes - 1/31/22 CTE Board Meeting• CTE Board Articles of Organization• CTE Board Bylaws• Approval of Transportation Commission Loan	
Federal & State Transit Funding Landscape (20 min)	Amber Blake, CDOT
Transit ZEV Roadmap and 10-year CTE Plan (30 min)	Mike King, CDOT
Action Item: Rulemaking (20 min)	Herman Stockinger, CDOT
Wrap Up and Next Steps (15 min)	Kay Kelly, CDOT



Members of the Clean Transit Enterprise Board

For terms expiring 9/28/2024

Matt Frommer (Denver): Member with an expertise in zero-emissions transportation, motor vehicle fleets or utilities

Bonnie Trowbridge (Berthoud): Member representing a public advocacy group that has transit or comprehensive transit expertise

Vacant: Member representing a transportation-focused organization that services an environmental justice community

For terms expiring 9/28/2025

Mark Garcia (Pagosa Springs): Member of the Transportation Commission and have statewide transportation expertise

Cris Jones (Boulder): Member representing an urban area, having transit expertise

David Averill (Telluride): Member representing a rural area having transit expertise

Agency Appointments

Shoshana Lew: CDOT Executive Director

Kelly Blynn: Colorado Energy Office designee

Richard Coffin: Colorado Department of Public Health & Environment designee



Elected Positions

Chairperson: The principal duties of the Chairperson shall be to preside at all meetings of the Enterprise Board, to serve as the principal spokesperson for the Enterprise, and to aid the Secretary in coordination of meetings and agendas, and to perform all duties incident to the office

Vice-Chairperson: The principal duty of the Vice-Chairperson shall be, in the absence or disability of the Chairperson, to perform all the duties of the chairperson, and when acting shall have all the powers of the Chairperson. The Vice-Chairperson shall also have such powers and perform such duties as from time to time may be prescribed by the Membership

The Board may appoint other officers as it deems necessary and appropriate



Action Agenda

Motions to Approve:

1. Minutes of the January 31, 2022 CTE Board Meeting
2. CTE Board Articles of Organization
3. CTE Board Bylaws
4. Start-Up Loan Agreement between the CDOT Transportation Commission and the CTE Board in the amount of \$73,500



COLORADO

Department of Transportation

Transit Funding 101

Clean Transit Enterprise Board

February 2022₁



CDOT Transit Funding

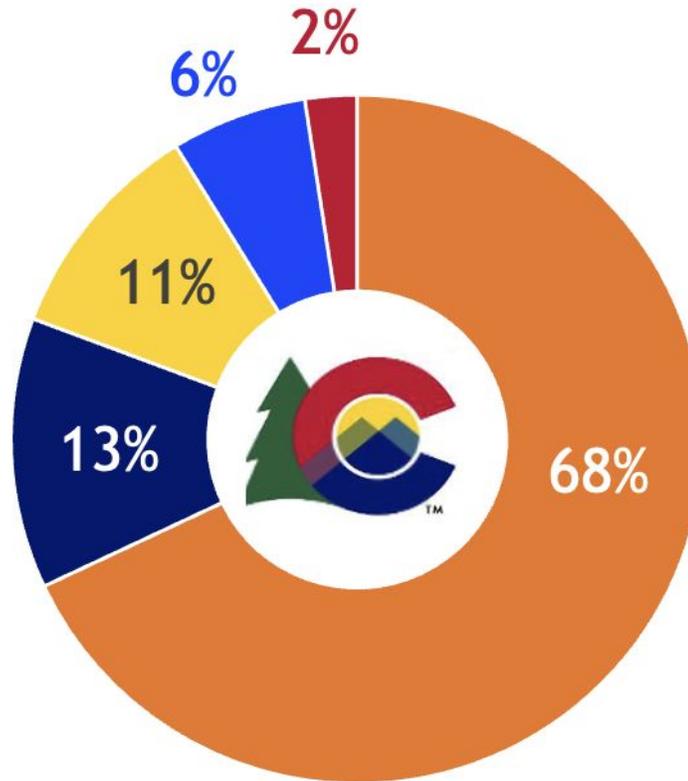


FY 2022-23 TRANSIT FUNDING - \$78.7M*

FASTER Local Transit Grants
\$5.0 million
State funded transit grants

Clean Transit Enterprise
\$8.3 million
Retail Delivery Fees

FASTER State Transit
\$10.0 million
Used for Bustang, state transit, administration



Bustang
\$1.9 million
Bustang farebox revenue

Federal Transit Grants
\$53.5 million
Includes local match

*This graph represents FY 2022-23 revenue only. Revenue from previous year will also be used for 10-year plan and MMOF transit projects.



FTA Transit Funding Overview

There are two types of FTA grant programs administered by CDOT.

Each grant program has its own set of criteria, eligibilities, and rules.

Discretionary

- Grants made through a competitive process.
- Discretionary funds may be subject to annual appropriations.

Formula Program

- Formula funds are a set amount of funds that are distributed annually.
- Formula funds are guaranteed.



FTA 5304 Statewide and Non-Metropolitan Planning

- **Program Purpose:** Statewide Planning and Nonmetropolitan Transportation Planning Program for transit planning, technical assistance, service and route planning, long range and short range planning.
- **Program Funding:** ~\$0.5 M forecasted for FY23 (federal dollars).
- **Program Overview:**
 - Eligible projects include development of transportation plans and programs, plan, design and evaluate a public transportation project, and conduct technical studies related to public transportation. (increase from 30% under the FAST Act).
 - The federal share of eligible costs for planning projects may not exceed 80 percent.

This funding administered by DTR and awarded as pass through grants via an annual call for projects.



5310 - Enhanced Mobility for Seniors and Individual with Disabilities

- **Program Purpose:** To improve transportation mobility and meet the needs of seniors and individuals with disabilities.
- **Program Funding:** ~\$2.8 M forecasted for FY23 (federal dollars)
- **Program Overview:**
 - The program provides capital and operating assistance (increase from 45% under the FAST Act).
 - Eligible projects include capital, operating, and mobility management.
 - The federal share of eligible capital costs may not exceed 80 percent, and 50 percent for operating assistance.

This funding administered by DTR and awarded as pass through grants via an annual call for projects.



FTA 5311 Rural Area Formula Program

- **Program Purpose:** The Formula Grants for Rural Areas program provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations of less than 50,000, where many residents often rely on public transit to reach their destinations. The program also provides funding for training and technical assistance through the Rural Transportation Assistance Program.
- **Program Funding:** ~\$17.6 M forecasted for FY23 (federal dollars)
- **Program Overview:**
 - Three programs saw an increase of 30% compared to funding levels under the FAST Act.
 - 5311 - Operating and Admin, Capital (fleet, facilities, equipment).
 - 5311(b)(3) - Rural Transit Assistance Program (RTAP).
 - 5311(f) - Intercity Bus (Bustang, Outrider) (15% of total allocation)
 - The federal share is 80 percent for capital projects, 50 percent for operating assistance, and 80 percent for Americans with Disabilities Act (ADA) non-fixed route paratransit service.

This funding administered by DTR and awarded as pass through grants via an annual call for projects.



FTA 5339 Bus and Bus Facilities Formula Program

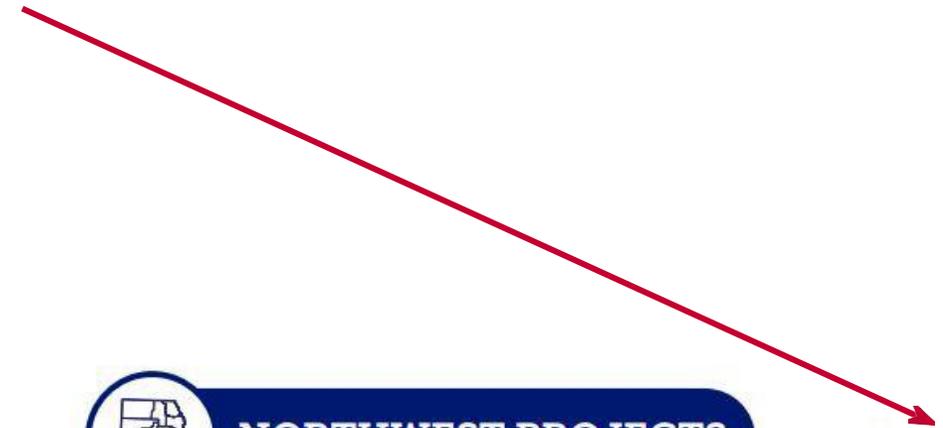
- **Program Purpose:** To maintain a State of Good Repair.
- **Program Funding:** ~\$6.5 M forecasted for FY23 formula program (federal dollars)
- **Program Overview:**
 - To provide funding to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities (increase from 30% under the FAST Act).
 - 5339(a) - formula pass through for Rural and Small Urban.
 - *5339(b) - Discretionary Program (competitive).*
 - *5339(c) - Low or No Emissions Vehicles (competitive).*

5339(a) funding administered by DTR and awarded as pass through grants via an annual call for projects. *5339(b) and (c) are competitive programs awarded directly through the FTA, projects are administered by DTR.*



Notable Funding Programs: Federal

Funding Program	Strategic Funding Source for 10-Year Plan?*
Surface Transportation Block Grant (STBG)	✓
Transportation Alternatives Program (TA)	
Congestion Mitigation and Air Quality (CMAQ)	
NEW! Risk/Resiliency Formula Program	✓
FTA 5304 - Statewide Planning	
FTA 5310 - Enhanced Mobility for Seniors and Individual with Disabilities	
FTA 5311 - Rural Area Formula Program	
FTA 5339 - Bus and Bus Facilities Formula Program	



NORTHWEST PROJECTS		Project Type	Total Project Cost	Total Strategic Funding	Other Funding	F Y
Highway & Transit– Region 3						
	I-70 Auxiliary Lane Frisco East to Silverthorne	H	\$25 M	\$25 M		
	I-70 West: Vail Pass Safety Improvements - Phase 1*	H	\$140 M	\$33.5 M	✓	\$
	Summit County Transit Operations Center (Design & Engineering)*	T	\$0.531 M	\$0.425 M	✓	\$0
	I-70B East of 1st Street to 15th Street*	H	\$16 M	\$16 M		
	North Avenue Transit Infrastructure Improvements	T	\$1.5 M	\$1.5 M		\$
	Grand Junction Mobility Hub	T	TBD	\$4.08 M	✓	
	I-70 and CO 9 (Exit 203) Interchange Improvements	H	\$30 M	\$30 M		

*Check marks indicate a “strategic” source of funding for the 10-Year Plan. However, all types of funding programs may be leveraged to fully deliver projects in the 10-Year Plan.



Transportation Alternatives (TA)

- **Program Purpose:** Implement non-motorized transportation projects and environmental mitigation.
- **Program Funding:** ~\$18.5 M forecasted for FY23 (federal dollars)*
- **Program Overview:**
 - 59% of funding allocated based on population (increase from 50% under the FAST Act)
 - This funding is split between the CDOT Regions by population, and the Transportation Management Areas (i.e. the large MPOs) by urbanized area population.
 - Remaining funding can be spent anywhere in the state and is allocated to the CDOT Regions based on 45% VMT, 40% lane miles, and 15% truck VMT.

Transit Eligibility: First and last mile connections (local agency projects)

*Draft FY23 Final Budget.



Congestion Mitigation and Air Quality (CMAQ)

- **Program Purpose:** Support activities with air quality benefits.
- **Program Funding:** ~\$46M forecasted for FY23 (federal dollars)*
- **Program Overview:**
 - Required to go to air quality nonattainment or maintenance areas, with a few exceptions.
 - Most of this funding goes to the ozone nonattainment areas (DRCOG, NFRMPO, and UFR TPR) on the basis of 75% population and 25% VMT.

Transit Eligibility: Transit Improvements, Operating assistance (1st 5 years only), Alternative fuels and vehicles

*Draft FY23 Final Budget.



PROTECT Formula & Discretionary Program

- **Program Purpose:** Provide formula and grant funding for resilience improvements
- **Program Funding:** \$19M forecasted for FY23 (federal dollars)* (formula funding)
 - \$1.4 Billion available nationally via competitive, discretionary grant funding available (non formula funding)
- **Program Overview:**
 - The full name of the program is Promoting, Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) program.
 - Formula funding is available for highway, **transit**, and certain port projects, higher Federal share if the State develops a resilience improvement plan and incorporates it into its long-range transportation plan, of the amounts apportioned to a State for a fiscal year, the State may use: not more than 40% for construction of new capacity, or not more than 10% for development phase activities.
 - Competitive, discretionary grant funding covers highway, **transit**, intercity passenger rail, and port facilities, resilience planning activities, including resilience improvement plans, evacuation planning and preparation, and capacity-building, construction activities (oriented toward resilience), construction of (or improvement to) evacuation routes.



Carbon Reduction Program

- **Program Purpose:** To support the reduction of transportation emissions.
- **Program Funding:** \$16.8M forecasted for FY23 (federal dollars)*
- **Program Overview:**
 - New federal funding program from the IIJA.
 - Requires 65% of the funding to be obligated on the basis of population.
 - Population driven.

Transit Eligibility: Transit system improvements



Notable Funding Programs: State

Funding Program	Strategic Funding Source for 10-Year Plan?*
SB 267	✓
SB 260 State MMOF	✓
SB 260 Local MMOF	
FASTER	

*Check marks indicate a “strategic” source of funding for the 10-Year Plan. However, all types of funding programs may be leveraged to deliver projects in the 10-Year Plan.



- **Program Purpose:** Strategic funding from the state legislature.
- **Program Funding:** \$500M / yr on average for over four years (FY19-22)
- **Program Overview:**
 - 25% of the funding must be spent in rural areas
 - 10% minimum to transit projects
 - Capital projects



- **Program Purpose:** The Multimodal Transportation & Mitigation Options Fund (MMOF), created by Senate Bill 18-001, and seeks to promote a complete and integrated multimodal system
- **Program Funding:** \$17.4M forecasted for FY23*
 - \$2.6M allocated to CDOT, and \$14.9M to local entities
- **Program Overview:**
 - MMOF funds are split 15% to CDOT and 85% to local entities
 - All MMOF funding awards and projects will be administered and overseen by CDOT
 - **Transit projects including operating are eligible**



FASTER

- **Program Purpose:** FASTER allows the state of Colorado to improve roadway safety, repair deteriorating bridges, and **support and expand transit**.
- **Program Funding:** \$85M forecasted for FY23, for state transportation projects*
 - \$23M forecasted for FY23, for cities*
 - \$28M forecasted for FY23, for counties*
- **Program Overview:**
 - Senate Bill 09-108, also known as the Funding Advancements for Surface Transportation and Economic Recovery Act of 2009 (FASTER), was signed into law on March 2, 2009.
 - FASTER legislation created the Colorado Bridge Enterprise (CBE) and the High Performance Transportation Enterprise (HPTE)
 - FASTER revenue is generated through several vehicle registration fees and fines

*Draft FY23 Final Budget.



- Program Overview Transit Specific:

Eligible Expense	Annual Amount
Small agency capital (all except MMT, Transfort, RTD)	\$2.1 Million
Small agency admin & operating (all except MMT, Transfort, RTD)	\$2.0 Million
Large urban capital (MMT @ \$0.7 M/yr & TransFort@ \$0.2 M/yr)	\$0.9 Million
Local Pool	\$5.0 Million
DTR Administration, Planning, Technical Assistance	\$1.0 Million
CDOT Bustang Interregional Bus Services	\$3.5 Million
Operating Assistance for Other Regional / Interregional Bus Services	\$2.5 Million
Large urban capital (RTD)	\$3.0 Million
Statewide Pool	\$10.0 Million

*Draft FY23 Final Budget.



VW Settlement Funds

- **Program Purpose:** The Volkswagen Settlement program is designed to mitigate NOx pollution by replacing older diesel transit vehicles with new, zero emission options
- **Program Funding:** ~\$5 M forecasted for FY23
- **Program Overview:**
 - Settlement funds directly replace Model Year 2009 or earlier Class 4-8 passenger revenue vehicles that are diesel-fueled with zero emission vehicles:
 - Battery Electric Vehicles, Hydrogen Fuel Cell Vehicles, or Compressed Natural Gas Vehicles that are fueled by renewable natural gas (RNG)
 - Grantees are required to scrap an existing transit vehicle
 - Grant funding is also available for charging and fueling infrastructure to support zero-emission vehicles

This funding is administered by DTR and allocated through a call for projects annually.



CDOT Enterprise Funding

Funding Program	Strategic Funding Source for 10-Year Plan?*
SB 260 Clean Transit Enterprise	
SB 260 Non-Attainment Enterprise	

*Check marks indicate a “strategic” source of funding for the 10-Year Plan. However, all types of funding programs may be leveraged to deliver projects in the 10-Year Plan.



SB 260 Non-Attainment Enterprise

- **Program Purpose:** Created within CDOT to mitigate transportation-related emissions in ozone nonattainment areas.
- **Program Funding:**
 - Total fee revenue is \$7.1M forecasted for FY23*
 - Revenue ramps up over time with lower revenues in earlier years.
 - Enterprise can impose an air pollution mitigation fee on retail deliveries and rides provided by TNCs to fund its operations.
- **Program Overview:**
 - Enterprise funding is for eligible **projects that reduce traffic, including demand management projects** that encourage alternatives to driving alone or that directly reduce air pollution, such as retrofitting of construction equipment, construction of roadside vegetation barriers, etc.
 - Full name is the Nonattainment Area Air Pollution Mitigation Enterprise.



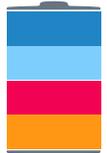
SB260 Clean Transit Enterprise

- **Program Purpose:** The Clean Transit Enterprise supports public transit electrification planning efforts, facility upgrades, fleet motor vehicle replacement, as well as construction and development of electric motor vehicle charging and fueling infrastructure.
- **Program Funding:** \$8.3M forecasted for FY23*
- **Program Overview:**
 - The bill allows the enterprise to impose a Clean Transit Retail Delivery Fee to fund its operations, issue grants, loans or rebates to support electrification of public transit
 - The Clean Transit Enterprise Board includes six members appointed by the governor, and executive directors or their designees from CDOT, Colorado Department of Public Health and Environment (CDPHE) and the Colorado Energy Office (CEO).
 - Appointed board members will serve terms of three or four year.

*Draft FY23 Final Budget.



Total SB 260 Electrification Investments



\$733 million of new fee revenue supports 3 new electrification and charging infrastructure Enterprises:

Charging Infrastructure & Electric Vehicle Equity

- ◆ New **‘Community Access’ Enterprise** in Colorado Energy Office (CEO).
- ◆ Build charging infrastructure in communities across the State, and support electric vehicle and eBike adoption in low and moderate income communities.
- ◆ **\$310 million** investment
- ◆ Paired with existing CO EV Infrastructure Fund - \$115 million and potential federal funding

Fleet Electrification Incentives

- ◆ New **‘Clean Fleet’ Enterprise** in CO Department of Public Health and Environment (CDPHE)
- ◆ Support fleet replacement (delivery trucks, TNCs, school buses, and other light/medium/heavy duty vehicles) with incentives to meet climate and air quality goals
- ◆ Support CDPHE’s Mobile Source Program to complement vehicle investment.
- ◆ **\$289 million** investment

Public Transit Electrification

- ◆ New **“Clean Transit” Enterprise** in Colorado Department of Transportation (CDOT).
- ◆ Support electrification of public transit through electrification planning efforts, facility upgrades, fleet vehicle replacements and associated charging infrastructure.
- ◆ **\$134 million** investment

Transit Zero Emission Vehicle Roadmap



Clean Transit Enterprise
Board Meeting
2/22/2022



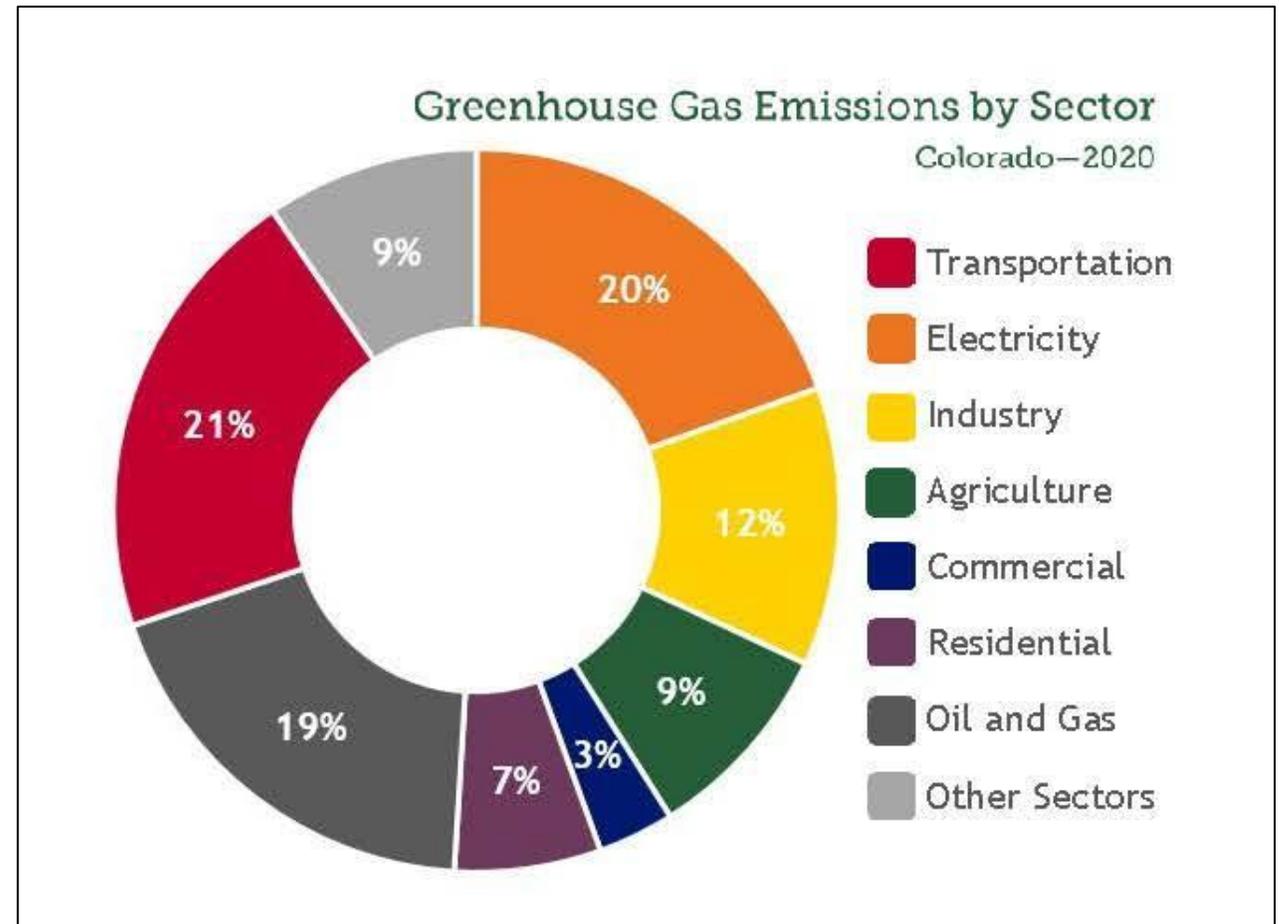
State of Colorado GHG Reduction Targets

House Bill 19-1261

Sets statewide greenhouse gas (GHG) reduction targets of:

- 26% by 2025
- 50% by 2030
- 90% by 2050

*From a 2005 baseline



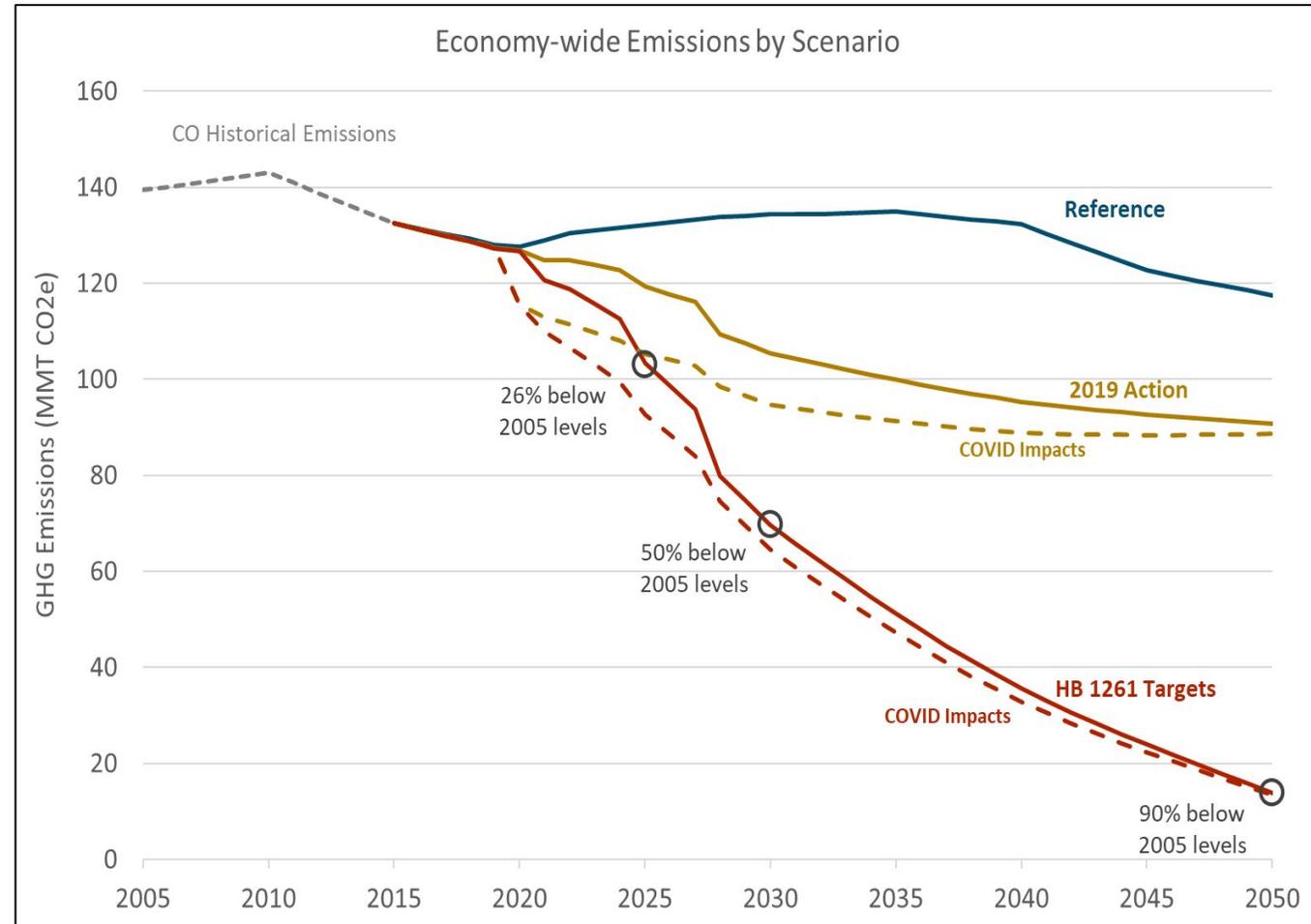


Colorado GHG Roadmap

Significant Progress Underway, But More Action Necessary

As a result of the state's actions to date, we are on a trajectory to achieving approximately half the level of emission reductions to meet the 2025 and 2030 goals.

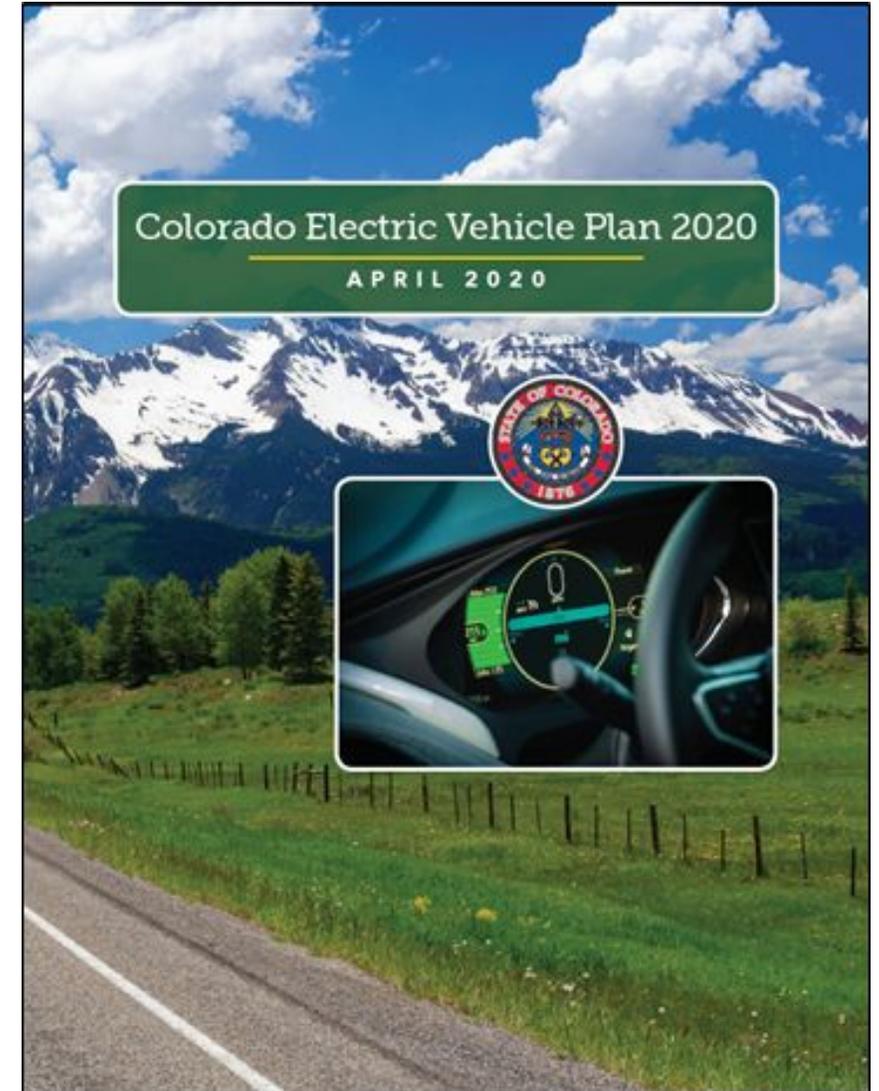
Additional strategies can advance co-benefits such as reducing local air pollution, generating economic growth, advancing environmental justice and equity.





2020 Colorado EV Plan

- Colorado's 2020 Electric Vehicle Plan established a state target of 940,000 registered ZEVs by 2030
- CDOT and its partner agencies are currently developing a Clean Trucking Strategy to reduce emissions from medium- and heavy-duty vehicles across the state
- Colorado also has a goal of converting all transit vehicles in-state to ZEVs, with an interim target of 1,000 transit ZEVs by 2030
- The plan also includes strategies to explore related issues like the hydrogen fuel market, supporting EV equity, and working with dealers and technical schools to develop a supportive ZEV workforce over the longer-term





Key Elements of the Transit ZEV Roadmap

- **Collecting data and conducting research and analysis** to inform the current state of Colorado's transit fleet, understand the current state of the national transit ZEV market, identify transit ZEV conversion barriers and opportunities, and determine and document complementary utility actions and policies needed to advance the transition of Colorado's transit fleet to ZEVs.
- **Conducting outreach and engagement with transit agencies and utilities** to understand current ZEV plans, issues, opportunities and potential strategies the State could implement to support the transit ZEV transition.
- **Engaging with transit agencies and utilities** to support the transition of 1,000 transit vehicles to ZEV by 2030 and a 100 percent fleet transition by 2050.
- **Crafting a comprehensive Transit ZEV Roadmap** that integrates findings and strategies from complementary planning efforts and provides statewide transit and utility decision-makers with the direction and tools to facilitate and manage the ZEV transition while continuing to deliver quality transit service to the traveling public



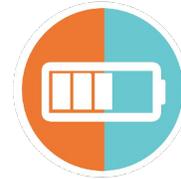
National ZEV Transit Trends

Barriers to ZEV Fleet Adoption



Knowledge Barriers

Lack of understanding of the technical, planning, financial, and governance factors critical to successful ZEV implementation.



Technological Barriers

Currently, available ZEV transit models cannot meet the needs of all transit services due to battery limitations that impact range and vehicles' ability to operate at varying grades and temperatures.



Financial Barriers

Some Colorado transit agencies report that the cost of transit ZEVs can be as much as double that of internal combustion engine vehicles. Significant financial barriers arise when combined with costly infrastructure upgrades and transit agency training required to develop electric rates collaboratively with utility companies.



Institutional Barriers

Transit agency and utility service territories cover diverse and dynamic geographic areas. Colorado utilities and transit agencies have varying levels of experience and inconsistent processes for coordinating across jurisdictional boundaries to meet service planning and transmission/distribution planning needs.



Colorado ZEV Environment

By the Numbers (2018)

- Approximately 3,301 total transit vehicles in Colorado*



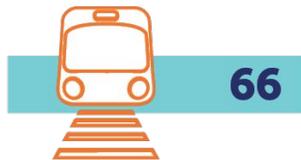
ZEV Transit Buses Deployed, On Order or Soon to be on Order in Colorado



Electric Gondola Transit Vehicles



Light Rail Train Cars



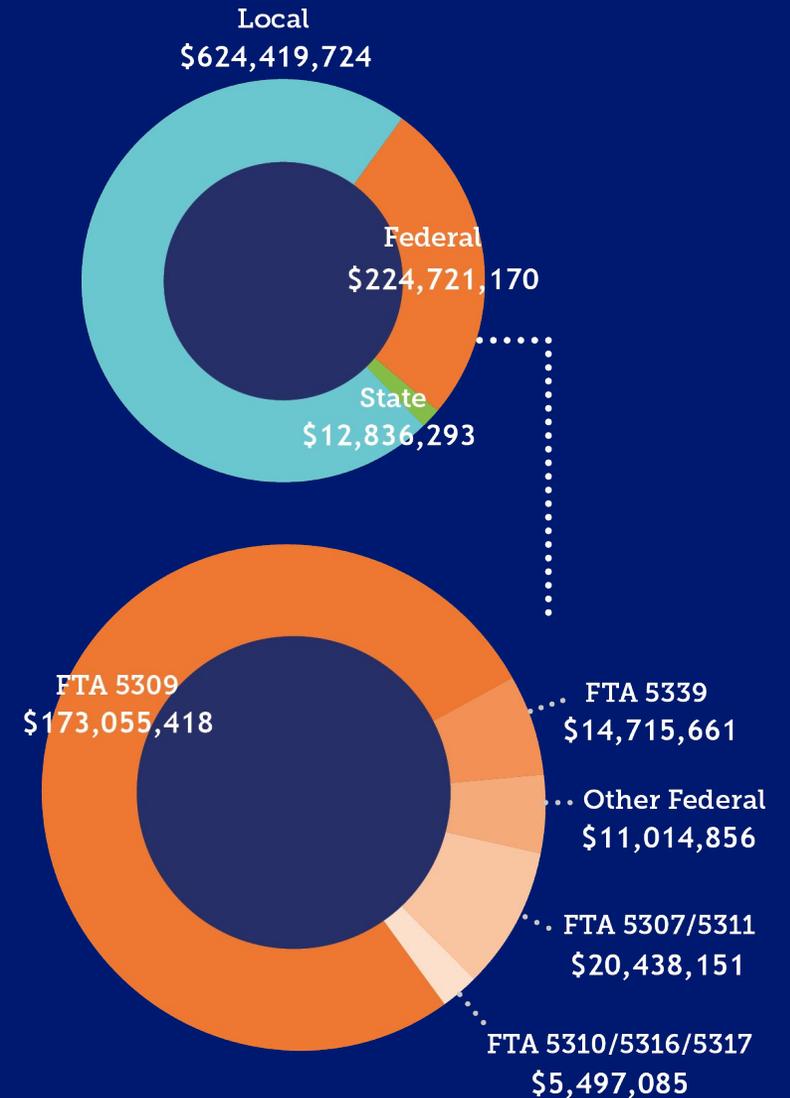
Commuter Rail Cars



Renewable Natural Gas (RNG) transit buses

*2021 data

Funding the 2018 Colorado Transit Fleet





Colorado ZEV Environment

2021 Transit ZEVs By the Numbers



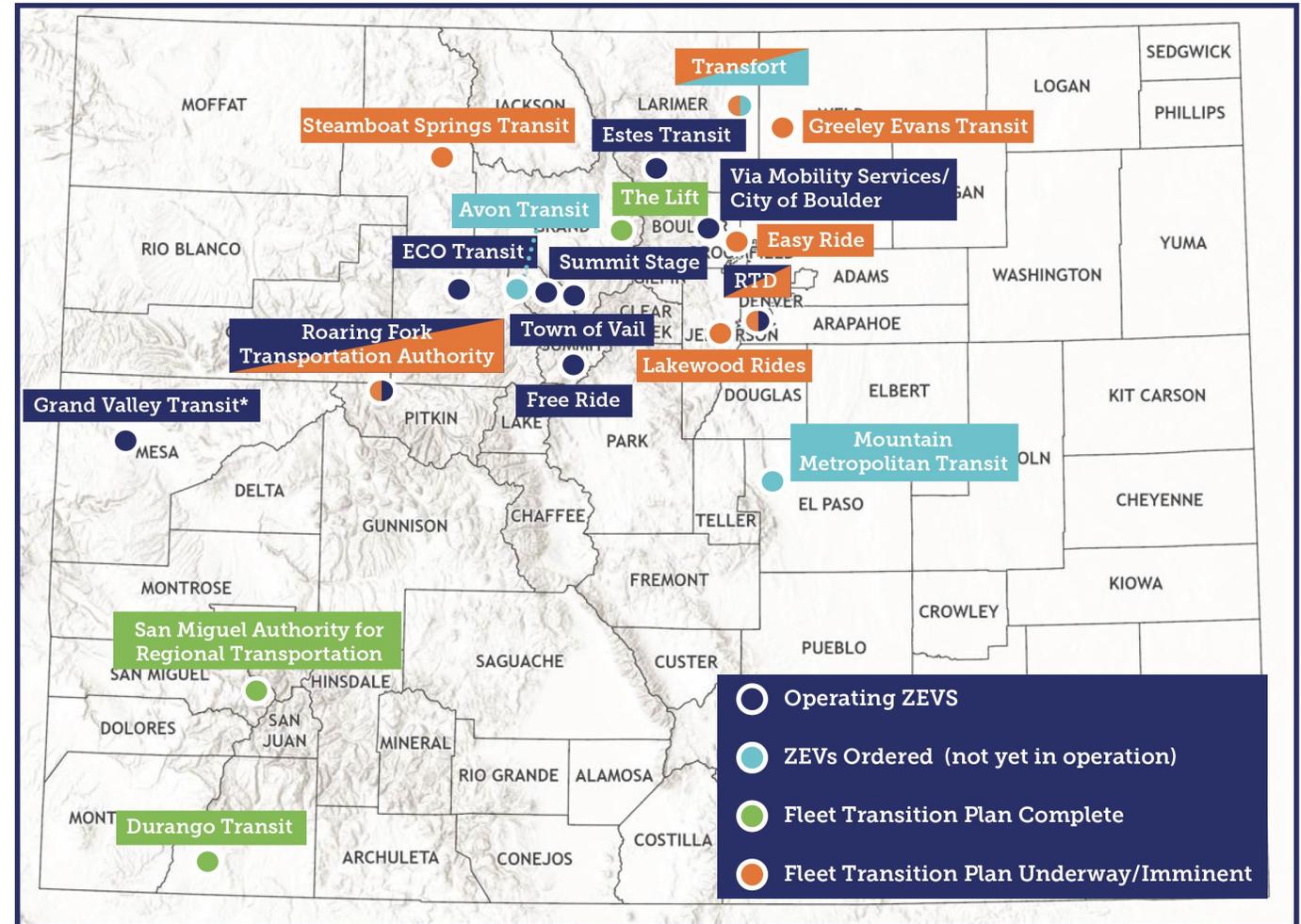
Colorado transit agencies operating ZEVs



Colorado transit agencies with ZEVs on order (not yet operational)



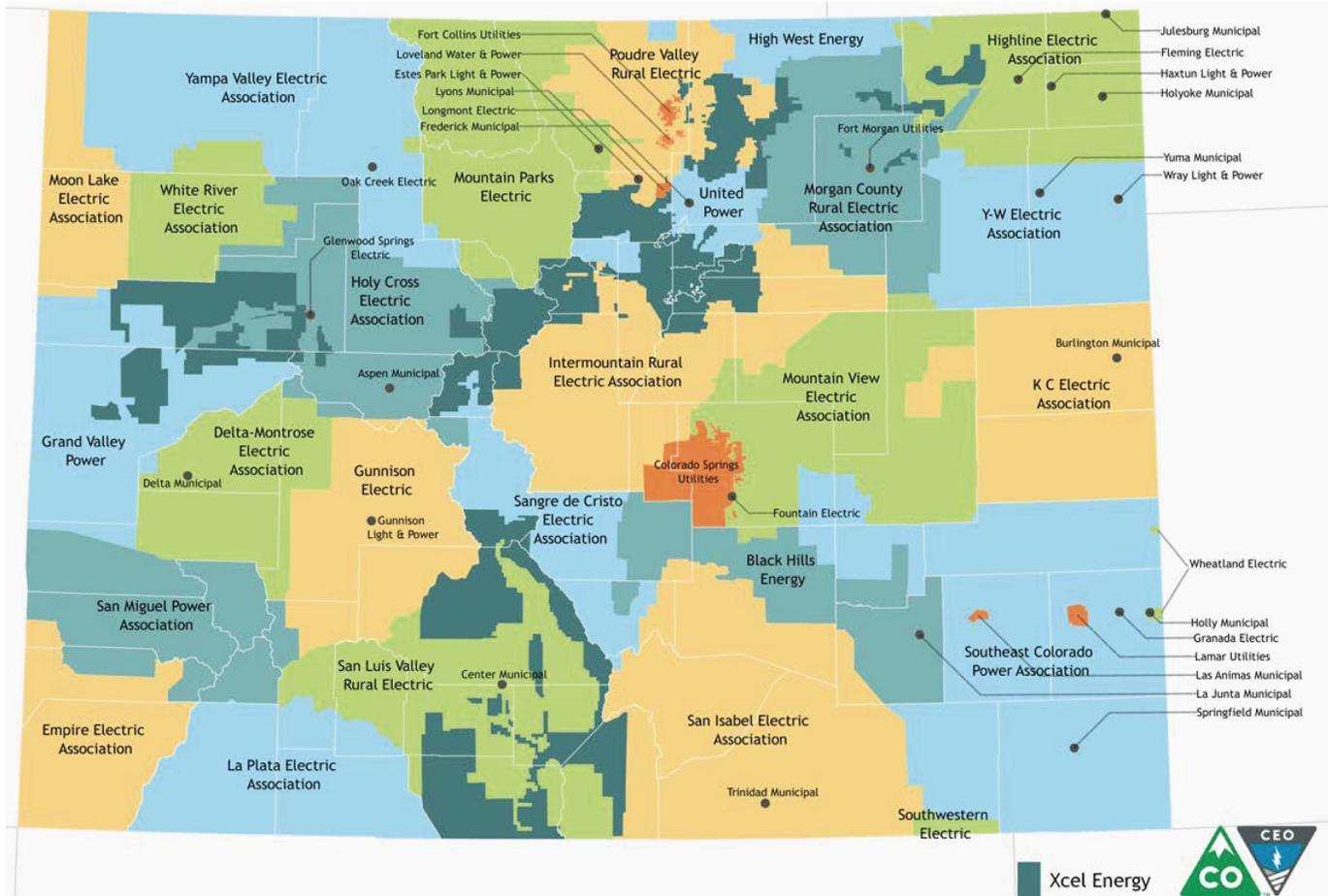
Colorado transit agencies that have completed, are in the process of, or will be completing a ZEV Transition Plan in the near future



*Grand Valley Transit uses Renewable Natural Gas (RNG) for 50% of its operations; the remaining 50% uses Xcel Energy natural gas.



The Role of Utilities



- Local electric utilities will play an essential role in any successful ZEV planning and implementation process.
- Increased load associated with charging transit fleets could put significant strain on the existing electric infrastructure. Utilities and transit agencies will both have to invest in distribution upgrades and new infrastructure to meet the increased electrical demand to support electric fleets.
- The utility and transit agency relationship will look very different depending on the size of fleet, type of vehicles, type of chargers, and geographic location. Mutual understanding of both utility and transit agency operating needs will go a long way to ensuring reliable energy to meet evolving transit service schedules and operational needs. There are also opportunities to develop resiliency plans for planned and unplanned outages.
- State and local governments can encourage utility investment in ZEVs by supporting infrastructure development. For example, the state and CDOT could oversee and manage coordinated infrastructure planning processes for both utilities and transit agencies.



Questions for the Financial Model based on the 2020 EV Plan's identified transit goals:

What does it take to get to 1,000 Vehicles by 2030?



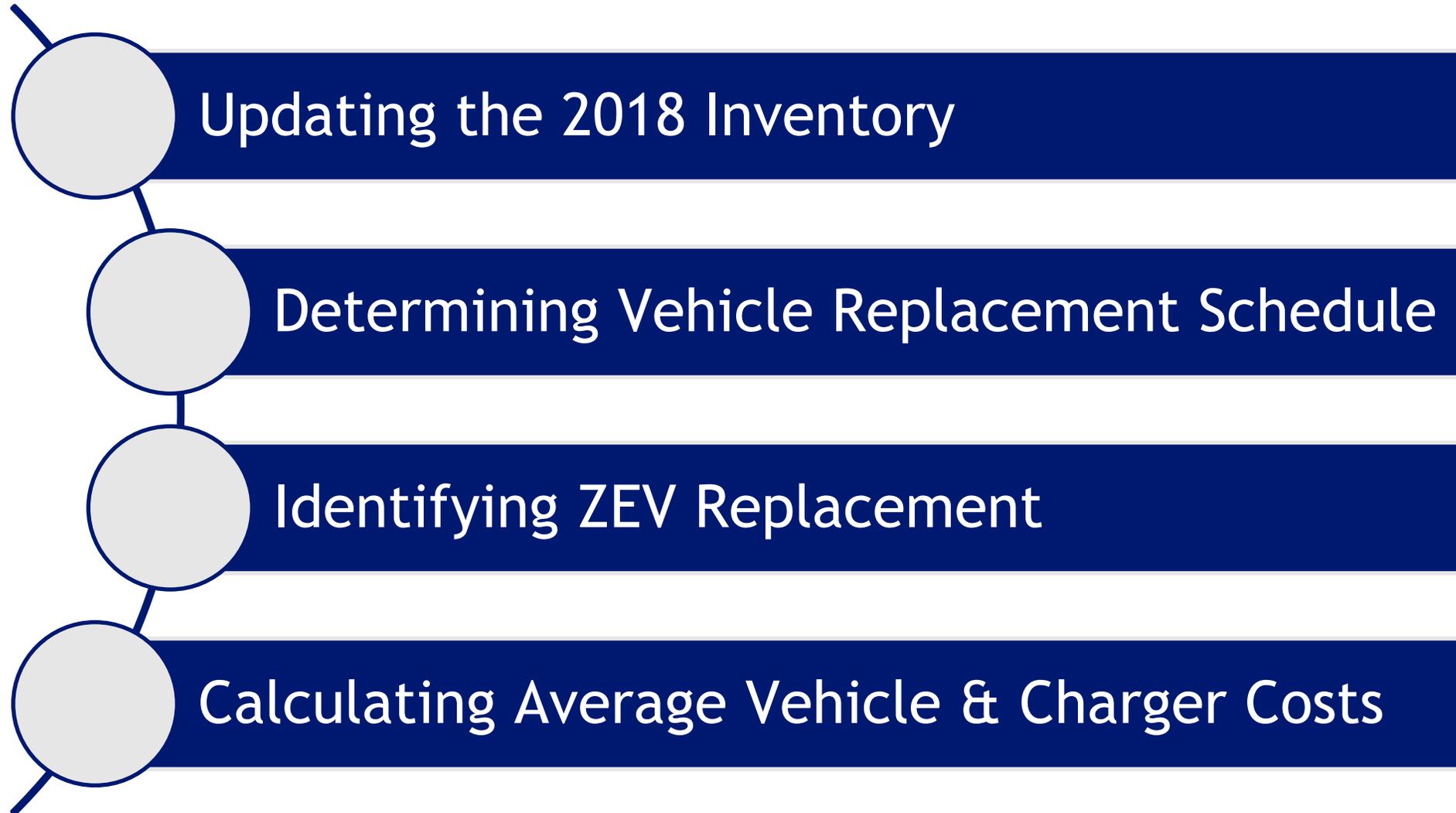
What does it take to get to 100 percent ZEV by 2050?



Is there a reasonable path forward?



Financial Modeling Assumptions





The Thought Exercise...

What will replacing vehicles like-for-like cost?

Scenario	Do we meet the 2030 goal? (# of ZEVs in 2030 Fleet, ULB/MUL)	Do we hit the 2050 goal? (Year Fleet is 100% ZEV, ULB/MUL)	Cost of Vehicle Replacements (ULB/MUL)	Incremental Cost (ULB/MUL)
No ZEVs (Baseline)	✗ (100)	✗ (N/A)	\$595M / \$785M	-

How does this compare to...

Replacing all
vehicles with
ZEVs starting
in 2022?

Somewhere in
between...2025?
2027?

Replacing all
vehicles with
ZEVs starting
in 2030?



Financial Modeling

Scenario	Do we meet the 2030 goal? (# of ZEVs in 2030 Fleet, ULB/MUL)	Do we hit the 2050 goal? (Year Fleet is 100% ZEV, ULB/MUL)	Cost of Vehicle Replacements (ULB/MUL)	Incremental Cost (ULB/MUL)
No ZEVs (Baseline)	✗ (100)	✗ (N/A)	\$595M / \$785M	-
2022	✓ (2,050 / 2,325)	✓ (2035 / 2033)	\$870M / \$1,070M	\$275M / \$285M
2025	✓ (1,580 / 2,250)	✓ (2038 / 2036)	\$840M / \$1,045M	\$245M / \$260M
2027	✓ (1,150 / 1,225)	✓ (2040 / 2038)	\$830M / \$1,020M	\$235M / \$235M
2030	✓ (245 / 205)	✓ (2043 / 2041)	\$825M / \$1,015M	\$230M / \$230M

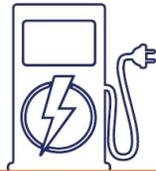
Transitioning the CO fleet to ZEVs is projected to cost \$230M to \$285M (30-45%) more than maintaining the existing fleet.



Financial Modeling



Transitioning the Colorado fleet to ZEVs is projected to cost \$230 to \$285 million more than the baseline scenario, equating to a 30 to 45 percent premium over maintaining the existing fleet.



Initial capital investment in EV chargers represent most of the incremental ZEV costs (\$225 million to \$230 million).



Incremental cost difference (excluding associated charger costs) is \$45 to \$60 million, reflecting a 5 to 10 percent premium over the vehicle costs of replacing the existing non-ZEV fleet.



The near-term push to 1,000 will cost an additional \$5 to \$10 million in transit ZEV replacement costs to meet the 2030 goal.



Financial Modeling

Financial Modeling Tool Revised Costs

Search (Alt+Q)

King, Michael P

File Home Insert Draw Page Layout Formulas Data Review View Help Acrobat

Clipboard Font Alignment Number Styles Cells Editing Sensitivity

Colorado Transit Fleet

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		MODEL ASSUMPTIONS											
2		Vehicle Replacement Schedule:		CDOT/FTA MUL				Fleet:	Colorado Transit Fleet				
3								ZEV Replacements	Neighbor to Neighbor Volunteers North Front Range Transportation and Air Quality Planning Council Northeastern Colorado Association of Local Governments (NECALG) Prowers County Rocky Fork Transportation Authority (RFTA) Routt County Government San Miguel County Senior Resource Development Agency, Pueblo, Inc. (Pueblo SRDA)				
4		Revenue Vehicle Type	# of Vehicles in Fleet	ZEV Cost	Non-ZEV Cost	Year							
5		Articulated Bus	124	\$ 1,200,000	\$ 672,000	2027							
6		Standard Bus (35 to 40 ft.)	1044	\$ 950,000	\$ 500,000	2027							
7		Small Bus (less than 35 ft)	198	\$ 580,000	\$ 350,000	2027							
8		Large Cutaway (17 to 30 passengers)	50	\$ 360,000	\$ 200,000	2027							
9		Standard Cutaway (10 to 25 passengers)	779	\$ 170,000	\$ 88,000	2027							
10		Passenger Van	250	\$ 100,000	\$ 55,000	2027							
11		Automobile	104	\$ 60,000	\$ 30,000	2027							
12		Minivan	103	\$ 60,000	\$ 33,500	2027							
13		Sports Utility Vehicle	4	\$ 60,000	\$ 33,500	2027							
14		Over-the-road Bus/Motorcoach	228	\$ 1,100,000	\$ 630,000	2027							
15		# of Vehicles in Fleet:	2884										
16													
17		Total Colorado Transit Fleet							2022	2023	2024	2025	2026
18		# of Non-ZEVs being replaced with ZEVs							0	0	0	0	0
19		Total ZEVs in CO Fleet							100	100	100	100	100
20		Percent of Colorado Transit Fleet that is ZEV							3.5%	3.5%	3.5%	3.5%	3.5%
21		Cost of Vehicle Replacements						\$ 791,058,109	\$ 16,859,000	\$ 10,300,000	\$ 7,200,000	\$ 33,311,000	\$ 32,123,000
22		Cost of First Time Charger Purchases						\$ 228,840,000	\$ -	\$ -	\$ -	\$ -	\$ -
23		Incremental Cost Difference						\$ 234,554,361	\$ -	\$ -	\$ -	\$ -	\$ -
24													
25		Articulated Bus		2027					2022	2023	2024	2025	2026
26		# of Non-ZEVs being replaced with ZEVs							0	0	0	0	0
27		Total ZEVs in CO Fleet							0	0	0	0	0
28		Percent of Colorado Transit Fleet that is ZEV							0.0%	0.0%	0.0%	0.0%	0.0%
29		Cost of Vehicle Replacements						\$ -	\$ -	\$ -	\$ 672,000	\$ 2,016,000	\$ -
30		Cost of First Time Charger Purchases						\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31		Incremental Cost Difference						\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
32													
33		Standard Bus (35 to 40 ft.)		2027					2022	2023	2024	2025	2026
34		# of Non-ZEVs being replaced with ZEVs							0	0	0	0	0
35		Total ZEVs in CO Fleet							81	81	81	81	81
36		Percent of Colorado Transit Fleet that is ZEV							7.8%	7.8%	7.8%	7.8%	7.8%

Ready

Display Settings 110%



Achieving Colorado's Transit ZEV Goals



Policy

Identify policies to reduce barriers to ZEV transition and implementation.



Planning & Technical Support

Provide training to promote workforce readiness and educational programs for riders and policy-makers.



Information Sharing & Research

Increase access to technical resources and expertise to support the planning, design, and implementation activities.



Funding

Define data collection, research, and analysis methods to facilitate statewide information sharing and support a successful transition to transit ZEVs in Colorado.



Education & Training

Prioritize funding and identify state funding types and methods to effectively support ZEV planning and implementation.

Implementation Timeframes

Near-Term: 2021-2024

Mid-Term: 2025-2027

Long-Term: 2028-2030



Policy Strategies

Near-Term (2021 - 2024)



Policy

- Integrate Transit ZEV Roadmap strategies into the next revision of the Colorado EV Plan.
- Develop a ZEV Transition Plan for CDOT operated transit services (e.g., Bustang, Outrider, Snowstang) to demonstrate CDOT's commitment to ZEV goals and to lead by example.
- Integrate recommendations from CEO's EV Equity Study into transit electrification grants, programs, and initiatives.
- Explore opportunities to better define the process for tracking RNG and to substantiate the use of RNG as a transit ZEV option.
- Evaluate opportunities and methodologies for integrating environmental impact analyses to capture the environmental and societal costs of tailpipe emissions in procurement processes.
-  Serve as a facilitator or convenor to bring together transit agencies and utilities to actively address known ZEV transition challenges and overcome barriers to transit ZEV fleet transition. Workshop and/or working group topics should include:
 - Transit agency and utility programmatic coordination
 - Generation, transmission, and distribution planning
 - Best practices for transit agency/utility coordination
 - Facility planning (including strategies for overcoming building and lease limitations)
 - Transit ZEV electric rate design
 - ZEV model availability and applications

- Education & Training
- Information Sharing & Research
- Funding
- Policy
- Planning & Technical Support

Strategies that span multiple goal areas are indicated with multicolored bullets.



Planning & Technical Support Strategies

Near-Term (2021 - 2024)



Planning & Technical Support

- Education & Training
- Information Sharing & Research
- Funding
- Policy
- Planning & Technical Support

Strategies that span multiple goal areas are indicated with multicolored bullets.

- Define a standard approach for measuring GHG emissions and reductions for transit agencies that is consistent with the Transit Emission Dashboard methodology.
- Hire staff and/or contract with consultants to provide on-call technical assistance to transit agencies to support ZEV fleet transition planning. Support activities could include utility coordination, grant application support, route modeling, maintenance/operations planning, facility planning, GHG emissions tracking, etc.
- Identify opportunities to streamline data collection for the entire Colorado transit fleet to efficiently track progress toward the statewide ZEV transit and related GHG emission reductions goals. Build on the CEVC Transit Subgroup Zero-Emission Bus Tracking Sheet and the COTRAMS database.
- Integrate the findings and data from the Transit ZEV Roadmap into the Group Transit Asset Management Plan update.
- Coordinate with transit agencies to better understand options and strategies for transitioning contractor owned facilities to support ZEVs.
- Track storage location of transit vehicles in COTRAMS to aid in ZEV replacement feasibility analysis and transition planning.



Information Sharing & Research Strategies

Near-Term (2021 - 2024)



Information Sharing & Research

- Education & Training
- Information Sharing & Research
- Funding
- Policy
- Planning & Technical Support

Strategies that span multiple goal areas are indicated with multicolored bullets.

- Create an informal transit-focused virtual peer exchange network (e.g., Slack channel, Listserv, etc.) to ask questions, share information and/or lessons learned, and facilitate ongoing conversations among transit agencies.
- Engage existing Colorado research groups and programs (e.g., NREL, ASPIRE⁵³, CU, CSU, etc.) to support and develop opportunities for transit agencies to test/evaluate ZEVs and research transit ZEV-related technologies such as battery recycling second use cases, transit and utility business models, smart vehicle charging solutions, etc.
- Convene a rural transit working group, including electric co-ops, to define barriers and potential solutions for rural transit agencies.
- Convene interested transit agency and hydrogen fuel providers to identify pilot project opportunities and discuss potential barriers to widespread fleet adoption in Colorado.
- Collaborate with the CEO and CDPHE to assess potential benefits, costs, and timing for adoption of the California Innovative Clean Transit Rule (ICTR) in Colorado.
- Integrate Transit ZEV Roadmap data and recommendations into the Clean Transit Enterprise's 10-Year Plan.
- Track real-world transit vehicle purchase and infrastructure upgrade costs to refine assumptions and inputs to the Transit ZEV Roadmap transition financial model and conduct future scenario analyses.
- Monitor and document real-world ZEV operational costs in Colorado to inform future planning efforts.



Funding Strategies

Near-Term (2021 - 2024)



Funding

- Evaluate strategies for vehicle leasing options, third-party financing, battery leases, utility on-bill financing, and other funding mechanisms and opportunities to use SB 21-260 Clean Transit Enterprise funds.
- Establish a permanent Statewide Local Match Fund to buy down the transit agency local match for the purchase of transit ZEVs to be equal to that of the comparable internal combustion engine vehicle option. Evaluate the potential to use the Clean Transit Enterprise to fund the Local Match Fund, as well as potential match funding strategies (e.g., incentivizing transit agencies to pursue federal funding sources by providing a higher percentage of matching funds for federal grants than state/local grants).
- Establish and maintain a state-approved master purchasing agreement for zero emission vans, cutaways, and buses to streamline transit agency procurement of transit ZEVs.
- Develop flexible funding programs to support ongoing maintenance and operations costs and long-term operations of transit ZEVs.
- Incentivize and promote private sector support for ZEV transit transition, including demonstration projects, vehicle testing and/or short-term proof of concept lease options, etc. to ensure vehicle types and technologies meet Colorado transit agency needs and to support the advancement of the larger transit ZEV market.
- Assess opportunities to support the replacement of vehicles with ZEVs prior to the end of their useful life to expedite ZEV transition.
- Consider establishing a more flexible vehicle replacement policy for zero-emission buses for so long as available vehicle technologies (i.e., battery range and low-temperature performance) do not align with the typical 1-to-1 replacement ratio.

- Education & Training
- Information Sharing & Research
- Funding
- Policy
- Planning & Technical Support

Strategies that span multiple goal areas are indicated with multicolored bullets.



Education & Training Strategies

Near-Term (2021 - 2024)



Education & Training

- Education & Training
- Information Sharing & Research
- Funding
- Policy
- Planning & Technical Support

Strategies that span multiple goal areas are indicated with multicolored bullets.

- Develop Colorado-specific informational materials about transit ZEV challenges, opportunities, and benefits in coordination with existing transit and ZEV organizations (e.g., Colorado Association of Transit Agencies [CASTA]) to educate transit agency staff and key decision-makers.
- Partner with CASTA to provide OEM neutral training and/or educational sessions for transit operators and maintenance staff early in the ZEV transition process.
- Collaborate with CASTA to offer training on use of the Transit ZEV Roadmap financial modeling tool to transit agencies so that they can run their own fleet-specific analyses and effectively communicate the results to decision-makers and the public.



Clean Transit Enterprise 10-Year Plan

Requirements

(10)(a) TO ENSURE TRANSPARENCY AND ACCOUNTABILITY, THE ENTERPRISE SHALL:

(I) NO LATER THAN JUNE 1, 2022, PUBLISH AND POST ON ITS WEBSITE A TEN-YEAR PLAN THAT DETAILS HOW THE ENTERPRISE WILL EXECUTE ITS BUSINESS PURPOSE DURING STATE FISCAL YEARS 2022-23 THROUGH 2031-32 AND ESTIMATES THE AMOUNT OF FUNDING NEEDED TO IMPLEMENT THE PLAN. NO LATER THAN JANUARY 1, 2032, THE ENTERPRISE SHALL PUBLISH AND POST ON ITS WEBSITE A NEW TEN-YEAR PLAN FOR STATE FISCAL YEARS 2032-33 THROUGH 2041-42;

(II) CREATE, MAINTAIN, AND REGULARLY UPDATE ON ITS WEBSITE A PUBLIC ACCOUNTABILITY DASHBOARD THAT PROVIDES, AT A MINIMUM, ACCESSIBLE AND TRANSPARENT SUMMARY INFORMATION REGARDING THE IMPLEMENTATION OF ITS TEN-YEAR PLAN, THE FUNDING STATUS AND PROGRESS TOWARD COMPLETION OF EACH PROJECT THAT IT WHOLLY OR PARTLY FUNDS, AND ITS PER PROJECT AND TOTAL FUNDING AND EXPENDITURES;

(III) ENGAGE REGULARLY REGARDING ITS PROJECTS AND ACTIVITIES WITH THE PUBLIC, SPECIFICALLY REACHING OUT TO AND SEEKING INPUT FROM COMMUNITIES, INCLUDING BUT NOT LIMITED TO DISPROPORTIONATELY IMPACTED COMMUNITIES, AND INTEREST GROUPS THAT ARE LIKELY TO BE INTERESTED IN THE PROJECTS AND ACTIVITIES; AND

(IV) PREPARE AN ANNUAL REPORT REGARDING ITS ACTIVITIES AND FUNDING AND PRESENT THE REPORT TO THE TRANSPORTATION COMMISSION CREATED IN SECTION 42-1-106 (1) AND TO THE TRANSPORTATION AND LOCAL GOVERNMENT AND ENERGY AND ENVIRONMENT COMMITTEES OF THE HOUSE OF REPRESENTATIVES AND THE TRANSPORTATION AND ENERGY COMMITTEE OF THE SENATE, OR ANY SUCCESSOR COMMITTEES. THE ENTERPRISE SHALL ALSO POST THE ANNUAL REPORT ON ITS WEBSITE. NOTWITHSTANDING THE REQUIREMENT IN SECTION 24-1-136 (11)(a)(I), THE REQUIREMENT TO SUBMIT THE REPORT REQUIRED IN THIS SUBSECTION (10)(a)(IV) TO THE SPECIFIED LEGISLATIVE COMMITTEES CONTINUES INDEFINITELY.



Clean Transit Enterprise 10-Year Plan

Draft Outline

1. Introduction
 - a. SB21-260 Language
 - b. State of Colorado ZEV Goals
2. Anticipated Fee Revenues for FY23-FY32
 - a. Fee Levels
 - b. Anticipated Revenues by Year
 - c. Potential Matching Funds
3. Transit Electrification Barriers & Opportunities
 - a. Current State Transit Fleet Inventory
 - b. Technology Availability
 - c. Barriers to Implementation
 - d. Anticipated Costs & Timelines
 - e. Supporting Policies & Actions
4. Clean Transit Enterprise Funding Strategy
 - a. Funding Mechanisms
 - b. Funding Category Prioritization
 - c. Project Prioritization
 - d. Match Levels
 - e. Scrapping Requirements
 - f. Replacement Ratios
 - g. Other Policy Decisions
5. Implementation & Tracking
6. Conclusions

Legislation and 2020 Colorado EV Plan

CDOT Division of Accounting & Finance (CDOT DAF) and Colorado Department of Revenue (DOR)

Colorado Transit Zero Emission Vehicle Roadmap

Potential Focus of Clean Transit Enterprise Board & Stakeholder Conversations



Statutory Authority for Rulemaking

Rules Carry the Force of Law and Must be Authorized in Statute

43-4-1203 (6)(g) “... To promulgate rules to set the amount of the clean transit retail delivery fee at or below the maximum amount authorized in this section and to govern the process by which the enterprise accepts applications for, awards, and oversees grants, loans and rebates...”

43-4-1203 (7)(b) “For retail deliveries of tangible personal property purchased during the state fiscal year 2022-2023, the enterprise shall impose the clean transit retail delivery fee in a maximum amount of three cents.”



1.0 Statement of Basis and Purpose and Statutory Authority

- States the reason for the rule and where the authority lies in statute for the Enterprise to promulgate rules.

2.0 Definitions

- Duplicates many statutory definitions, and defines terms that are used in the Rule.

3.0 Fees

- Sets the initial fees effective July 1, 2022.
- Assumes the adjustment for inflation and working with DOR to determine the new rate.
- Reiterates statute that the Enterprise must notify DOR of changes in the fee by each March 15.



4.0 Process for Awarding and Overseeing Grants, Loans, and Rebates

- Selection of grants will be done on a competitive basis.
- Process will be part of the broader annual call for transit projects (currently referred to as the CDOT DTR Consolidated Call for Capital Projects).
- Criteria for awards will be established by the Enterprise and published no fewer than 60 days before any grant deadlines.
- Applications will be assessed and scored based on their support for the business purpose of the Enterprise.
 - Replacement of gasoline and diesel vehicles
 - Provide charging infrastructure
 - Support facility modifications
 - Fund planning studies
- The Enterprise will approve the grants.
- CDOT DTR staff will oversee the grant process and day-to-day management of grants.

5.0 Declaratory Orders

- Every rule, by statute, must provide for the entertaining of, and prompt disposition of petitions for declaratory orders to terminate controversies or remove uncertainties surrounding the Rule.



Rulemaking for Enterprise Fee Setting

Process and Timeline

- Open Rule: Enterprise Opens Rule **February 22**, authorizes CDOT Hearing Officer to conduct Public Hearing.
- File Rule: CDOT staff “files the rule” with the Secretary of State.
- Public Hearing: On April 4, CDOT staff will conduct the public hearing per the Administrative Procedures Act.
- Adopt Rule: Enterprise Board adopts Rule on **April 12**
- Effective Date: As early as May 31.



Board Member Participation and Proposed Motion

Board Member Participation in the Rulemaking

- All board members will be invited to attend the rulemaking hearing, but are not required to attend.
- It would be appropriate but optional to “assign” a board member to offer introductory comments at the rulemaking hearing and “represent” the Board at the hearing.

Elements of an Appropriate Motion to Open the Rules

- Move to authorize CDOT staff to open the Clean Transit Enterprise Rules;
- Authorize the appointment of a member of CDOT staff to serve as the Hearing Officer to preside over the Rulemaking Hearing and process.



Upcoming Dates:

- Tuesday, March 15th - CTE Board Confirmation Hearings
- Tuesday, March 29th - CTE Board Meeting
- Monday, April 4th - CTE Rulemaking Hearing
- Tuesday, April 12th - CTE Board Meeting
- Wednesday, May 25th - CTE Board Meeting
- Wednesday, June 1st - Deadline to Publish/Post 10-year Plan

Upcoming Meeting Topics:

- 10-year Plan Process and Engagement



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- [Clean Transit Enterprise](#)

Clean Transit Enterprise

To support Colorado's transit electrification through planning efforts, transit site upgrades, procurement of electric transit buses, and deployment of associated charging infrastructure.



Contact Us

cdot_cleantransitenterprise@state.co.us

Resources

- [Board Appointments](#)
- [Enterprise Funds](#)
- [Board Powers & Duties](#)

Upcoming Meetings

January 31, 2022 2:30 - 4:30 pm

[Link to YouTube Live Stream](#)