

CMAQ Performance Plan

MID-PERIOD PERFORMANCE REPORT

Second Performance Period

OCTOBER | 2024



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Introduction

23 United States Code 149(l) requires the Denver Regional Council of Governments to biennially prepare and submit a CMAQ Performance Plan.

This document is the mid-period report for the second performance period. The CMAQ Performance Plan is due at the beginning of a four-year performance period and updated every two years – once at the midpoint and again at the end of the performance period. The Colorado Department of Transportation will submit CMAQ Performance Plans to FHWA as part of the State Biennial Performance Report.

Performance Measures

To carry out the Congestion Mitigation and Air Quality Improvement Program, the Moving Ahead for Progress in the 21st Century Act required USDOT to establish measures for State DOTs to use to assess traffic congestion and on-road mobile source emissions. Additional legislation has refined these efforts.

To meet this requirement, the Federal Highway Administration finalized three performance measures (two congestion measures and one on-road mobile source emissions measure) in the [National Performance Management Measures - Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program Final Rule](#).

Exhibit 1: PM3 Subpart G (Traffic Congestion) Measures and Descriptions

Measure	Description
Peak hour excessive delay	Annual hours of peak hour excessive delay per capita that occurs within an applicable urbanized area
Percent of non-single occupancy vehicle travel	Percentage of non-SOV travelling within an applicable urbanized area

For **Subpart G: Traffic congestion**, the two performance measures are:

- 1) peak hour excessive delay, abbreviated as PHED.
- 2) percent of non-single occupancy vehicle travel measure, abbreviated as non-SOV.

The PHED measure is the annual hours of peak hour excessive delay per capita that occurs within an applicable urbanized area. The percent of non-SOV travel measure is the percentage of non-SOV vehicles travelling within an applicable urbanized area. The traffic congestion measures only apply in certain urbanized areas that include National Highway System mileage and have a population over 200,000.

Exhibit 2: PM3 Subpart H (On-road mobile source emissions) Measure and Description

Subpart	Measure	Description
Subpart H: On-road mobile source emissions	Total emissions reduction	Two-year and four-year cumulative estimated emission reductions, for all CMAQ funded projects, of each applicable criteria pollutant

For **Subpart H: On-road mobile source emissions**, the performance measure is the total emissions reduction measure. This measure is the two-year and four-year cumulative estimated emission reductions, for all CMAQ funded projects, of each applicable criteria pollutant (Ozone, Carbon Monoxide, and Particulate Matter and their precursors (Volatile Organic Compounds and Oxides of Nitrogen) for which the area is designated nonattainment or maintenance.

CMAQ Performance Plan

The CMAQ Performance Plan is submitted to CDOT and will be included as a separate section of the biennial report submitted to FHWA.

23 CFR 490.107 requires that CMAQ Performance Plans include the following four key components:

- a) **Condition/Performance:** A baseline level of condition/performance at the beginning of the performance period for each of the CMAQ measures. Throughout the performance period, the CMAQ Performance Plan reports on the actual two-year and four-year condition/performance for each of the applicable CMAQ measures in 23 CFR 490.707 and 490.807.
- b) **Targets:** The targets that the MPOs establish for each of the applicable CMAQ performance measures, including any updates at the midpoint of the performance period, if applicable.
- c) **Description of Projects:** A description of projects scheduled for CMAQ funding that will contribute toward achieving their targets.
- d) **Assessment of Progress:** For the mid and full performance period report, updates to the CMAQ Performance Plan include an assessment of how the CMAQ projects contribute toward achieving the targets.

Exhibit 2: Components of the CMAQ Performance Plan and biennial updates

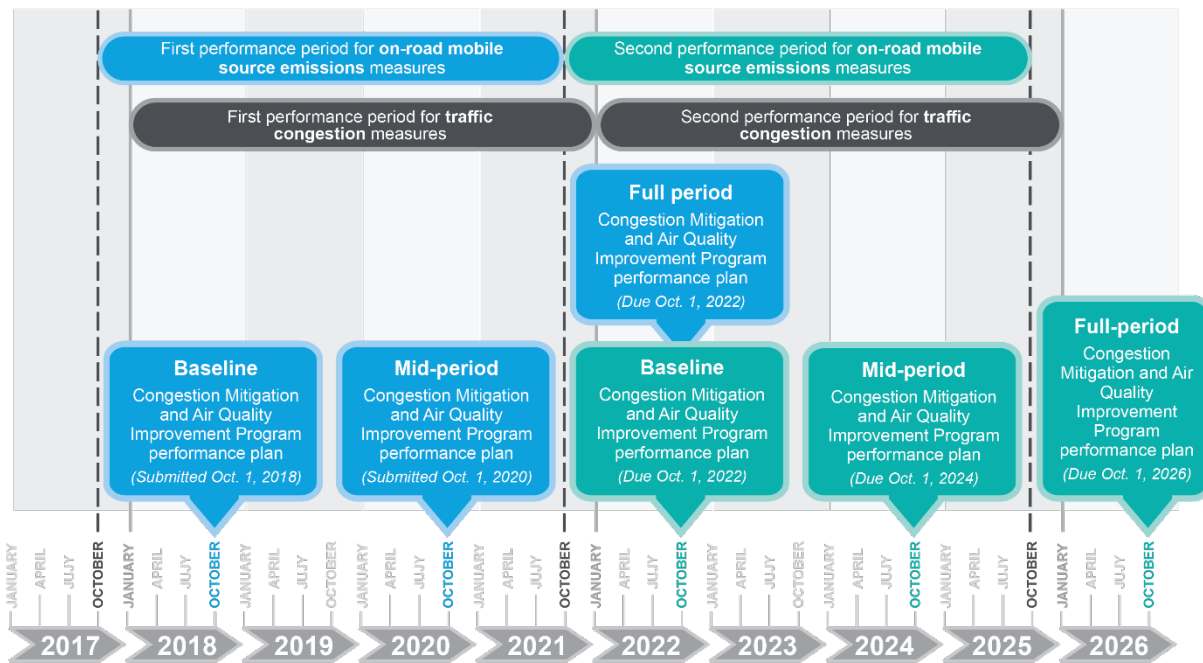
Key component	State DOT baseline performance period report	State DOT mid-performance period progress report	State DOT full performance period progress report
Condition/performance	Baseline condition/performance	Two-year condition/performance	Four-year condition/performance
Targets	Applicable two-year and four-year targets (if available)	Adjusted four-year target (optional)	N/A
Description of projects	Description of projects	Updated description of projects	N/A
Assessment of progress	N/A	Assessment of projects' contribution to achieving two-year target	Assessment of projects' contribution to achieving four-year target
Due dates for 1st performance period	October 1, 2022	October 1, 2024	October 1, 2026

(Courtesy of FHWA's Congestion Mitigation and Air Quality Improvement Program: A Guidebook for Preparing Performance Plans for Metropolitan Planning Organizations)

In the CMAQ Performance Plan and its biennial updates, the MPO reports two- and four-year targets, describes how they plan to meet their targets, and details their progress toward achieving the targets over the course of the performance period.

This CMAQ Performance Plan is an attachment to the Colorado Department of Transportation's Mid-Period Performance Progress Report.

Exhibit 4: Periods for CMAQ measures and reporting timeline



(Courtesy of FHWA's Congestion Mitigation and Air Quality Improvement Program: A Guidebook for Preparing Performance Plans for Metropolitan Planning Organizations)

Applicability determination

As of October 1, 2023, DRCOG is subject to the traffic congestion targets, on-road mobile source emissions targets, and the CMAQ performance plan requirements (Federal Highway Administration).

DRCOG fulfills the following:

- Designated urbanized area
- Contains NHS Mileage
- Population over 200,000

And fulfills at least one of the following:

- Non-attainment or Maintenance Area for Ozone (O₃)
- Non-attainment or Maintenance Area for Carbon Monoxide (CO) or
- Non-attainment or Maintenance Area for Particulate matter (PM₁₀ or PM_{2.5})

DRCOG's planning area includes a designated urbanized area, contains National Highway System mileage, and has a population over 200,000. Additionally, the area includes a non-attainment area for ozone. This is a change from 2022 at the start of the performance period, when DRCOG was subject to the CO and PM₁₀ requirements as well.

Targets

Minimize traffic congestion

The two targets that require joint approval from CDOT and DRCOG are the peak-hour excessive delay and percent of non-single occupancy vehicle travel measures.

Exhibit 5 shows the adopted targets for PHED and Non-SOV Travel agreed upon by CDOT and DRCOG for the Denver-Aurora, CO Urbanized Area.

Exhibit 3: Traffic congestion reduction performance targets

Traffic Congestion Reduction Performance Measures	Desired Trend	Baseline	2-Year Target (2023)	4-Year Target (2025)
Percent of non-single occupancy vehicle travel	⤴	27.3%	26.7%	27.7%
Annual hours of peak hour excessive delay	⤵	11.7	15.8	17.4

Reduce on-road mobile source emissions

The on-road mobile source emissions targets are individual targets for the DRCOG MPO Planning Area.

Exhibit 6 shows the adopted targets for nitrogen oxide, volatile organic compounds, carbon monoxide, and particulate matter for the Denver region. For this mid-period report, DRCOG is no longer required to report on CO* or PM₁₀*. Staff decided to include the original CO and PM₁₀ targets in this report for consistency.

Exhibit 4: Emissions reduction performance targets

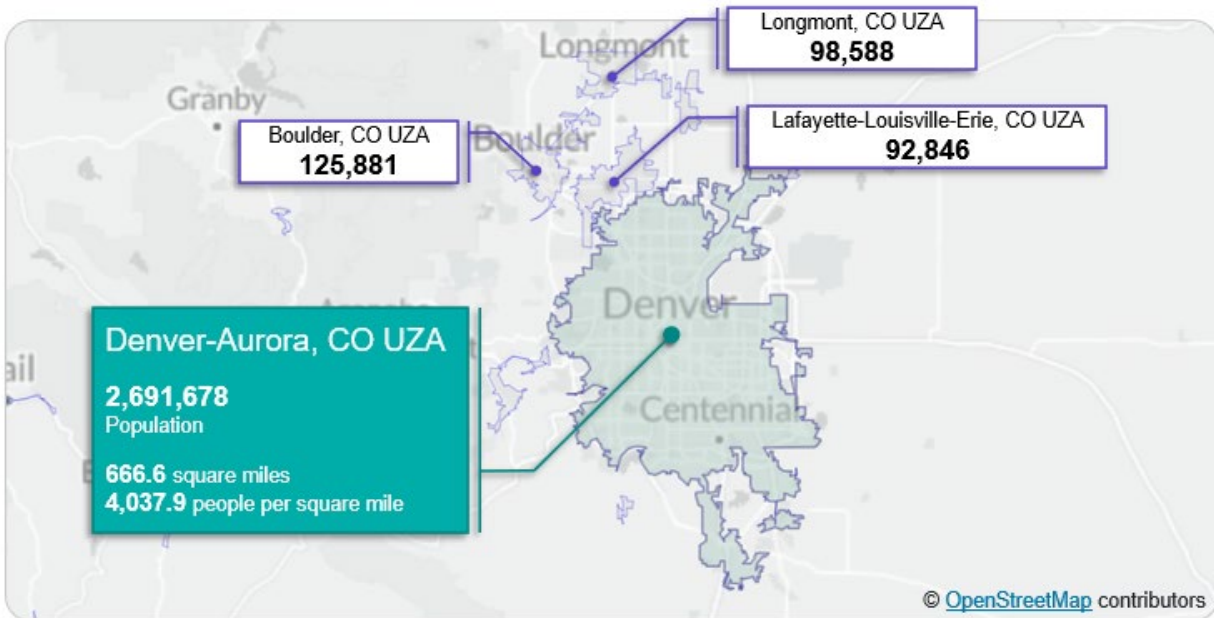
On-Road Mobile Source Emissions Reduction Performance Measures	Desired Trend	Baseline (2018-2021)	2-Year Target (2022-2023)	4-Year Target (2022-2025)
Total emissions reduction (VOC) kg/day	⤴	388.191	209.971	423.397
Total emissions reduction (PM₁₀) kg/day*	⤴	41.385	23.900	47.800
Total emissions reduction (CO) kg/day*	⤴	6,006.652	2,583.027	5,213.589
Total emissions reduction (NO_x) kg/day	⤴	707.876	397.012	800.557

Conditions/Performance

Traffic congestion

The DRCOG planning area includes multiple UZAs, but only the Denver-Aurora, Colorado UZA meets the population threshold for setting traffic congestion reduction targets. The traffic congestion reduction targets are set jointly by DRCOG and CDOT.

Exhibit 5: Denver-Aurora, Colorado Urbanized Area



Data from the U.S. Census.

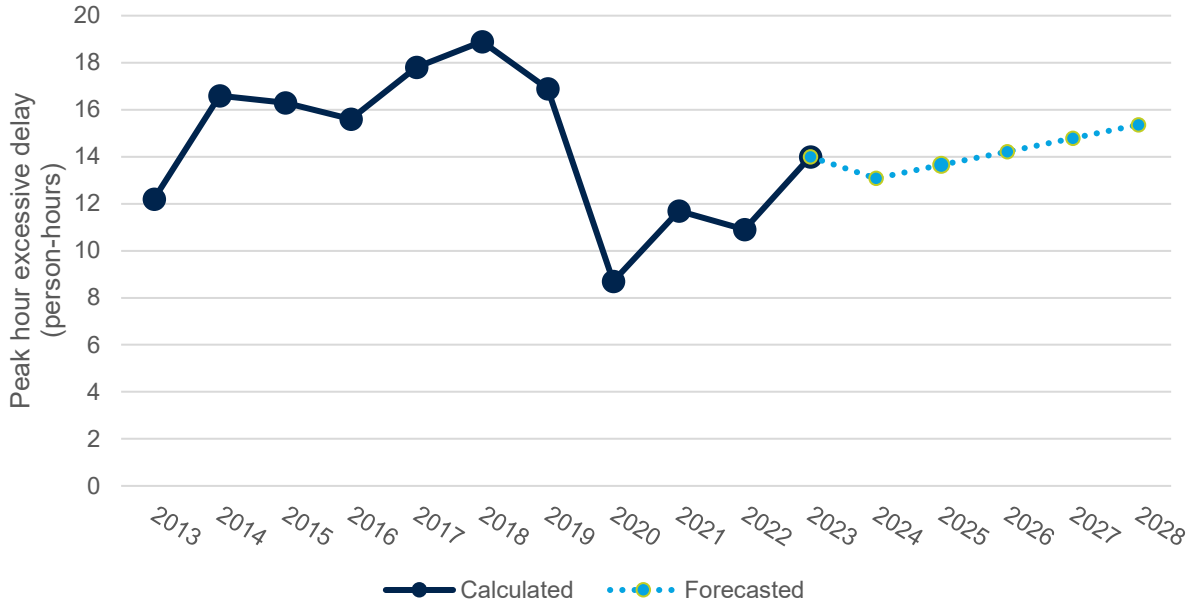
Peak hour excessive delay

DRCOG is on track to meet its peak hour excessive delay target.

The peak hour excessive delay performance measure applies to both traveling directions of the mainline highway segments on the National Highway System. This measure applies to urbanized areas of more than 200,000 people that are also in non-attainment or maintenance areas for ozone, carbon monoxide, or particulate matter.

This measurement uses travel times of all traffic during each 15-minute interval for all applicable reporting segments in the travel time data set occurring for peak periods from January 1 through December 31 of the same year, for the Denver-Aurora, CO UZA, as reported by the NPMRDS.

Exhibit 6: Observed annual hours of peak hour excessive delay and model projections



Metro Vision addresses a similar target—daily person delay per capita. Even though Metro Vision guides DRCOG’s work, the data in this report does not use this target. This report relies on modeled data instead. CATCH Intelligence did the modeling work for CDOT, coordinating with DRCOG.

Exhibit 7: Peak hour excessive delay performance targets

Performance Measures	Desired Trend	Baseline	2-Year Target (2023)	Mid-Period Progress	4-Year Target (2025)
Annual hours of peak hour excessive delay	≡	11.7	Under 15.8	14.0	Under 17.4

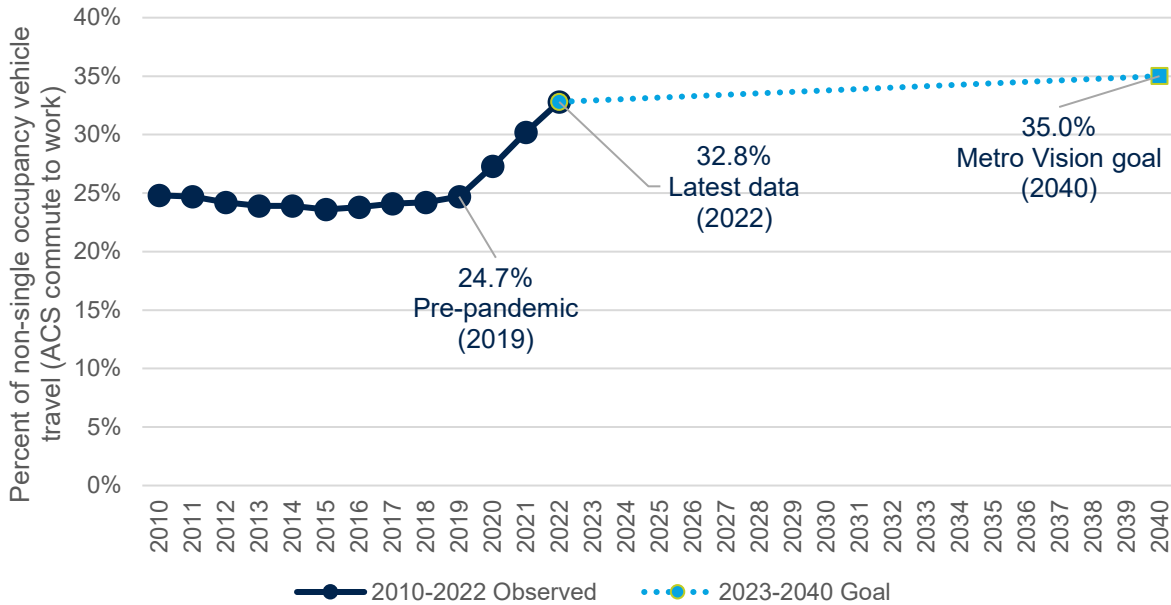
The forecasted PHED in 2 years will be under 17.4, indicating DRCOG is on track to meet the 4-year target. CDOT and DRCOG have agreed not to revise this target.

Percent of non-single occupancy vehicle travel

DRCOG is on track to meet its non-SOV target. Due to the rise of remote work post-pandemic, DRCOG has met and exceeded the target.

Non-single occupancy vehicle travel is defined as any travel mode other than driving alone in a motorized vehicle, including travel via carpool, van, public transportation, commuter rail, walking, bicycling, or telecommuting. This measure applies to urbanized areas of more than 200,000 people that are also in non-attainment or maintenance areas for ozone, carbon monoxide, or particulate matter. This measurement used the American Community Survey Commuting (Journey to Work) data from the U.S. Census Bureau.

Exhibit 8: Non-SOV Commute to Work



Please note, in this chart the trend line predicting the future is a goal, not a statistical projection. DRCOG and CDOT used 2022 data and the adopted Metro Vision target to draw a line indicating the region’s goals.

The COVID-19 pandemic caused a rise in people working from home. This has resulted in DRCOG reaching the non-SOV target. This data is only up to date as of 2022, so DRCOG will continue to monitor the data as the effects of the pandemic continue to lessen.

Exhibit 9: Non-single occupancy vehicle travel performance targets

Performance Measures	Desired Trend	Baseline	2-Year Target (2023)	Mid-Period Progress	4-Year Target (2025)
Percent of non-single occupancy vehicle travel	⬆️	27.3%	26.7%	32.8%	27.7%

DRCOG in coordination with CDOT, has chosen not to adjust the target. While recent data has shown a continued increase in non-SOV travel, staff believe it prudent to take into account future data as the effects of the pandemic lessen. If the impact of the pandemic wears off by 2025, then having the original adopted target will be useful.

On-road mobile source emissions

DRCOG is on track to meet its targets for on-road mobile source emissions.

This performance measure is only applicable to areas that include any part of a nonattainment or maintenance area for ozone, carbon monoxide or particulate matter per the National Ambient Air Quality Standards. This measure is limited to these areas

to further the CMAQ’s program purpose of funding programs and projects that seek to satisfy the NAAQS.

If an MPO has a population of greater than 1 million, and is designated as a nonattainment and maintenance area, then both 2 and four-year targets are required. If the population is less than 1 million, then only a four-year target is required. MPOs are also required to report on progress made toward achieving those targets in their CMAQ Performance Plan every two years.

Unlike other federal performance targets, the on-road mobile source emissions targets are project-based. Specifically, they are based on projects reported in FHWA’s CMAQ Public Access System. This project database shows estimated emission reductions at the time of federal funding obligation, not project implementation. It also may have incomplete data by pollutant and/or reporting year.

As the DRCOG MPO Planning Area has a population greater than 1 million and at the time of the applicability determination (Oct. 1, 2021) was designated as nonattainment/maintenance for ozone, carbon monoxide, and particulate matter, performance targets for this measure for each criteria pollutant had to be established.

The DRCOG MPO Planning Area has a population greater than 1 million, so DRCOG is required to set emissions targets. DRCOG staff determined performance targets for nitrogen oxides, volatile organic compounds, carbon monoxide, and particulate matter.

DRCOG is no longer required to show CO* and PM₁₀* progress ([Federal Highway Administration](#)), but this report shows the CO and PM₁₀ progress for transparency.

Exhibit 12: Emissions reduction performance targets

On-Road Mobile Source Emissions Reduction Performance Measures	Desired Trend	Baseline (2018-2021)	2-Year Target (2022-2023)	Mid-Period Progress	Target Achieved
Total emissions reduction (VOC) kg/day	⬆️	388.191	209.971	237.274	Yes
Total emissions reduction (PM ₁₀) kg/day*	⬆️	41.385	23.900	291.859	Yes
Total emissions reduction (CO) kg/day*	⬆️	6,006.652	2,583.027	3807.624	Yes
Total emissions reduction (NO _x) kg/day	⬆️	707.876	397.012	391.685	No

As DRCOG is no longer subject to reporting for CO and PM₁₀, and significant progress has been made in achieving the two-year targets, DRCOG does not intend to revise targets associated with on-road mobile source emissions.

Description and assessment of projects

This report includes 96 CMAQ funded projects that will help DRCOG achieve:

- its traffic congestion targets, and
- its on-road mobile source emissions targets.

The Appendix lists the projects identified at the time of this report, the year they are obligated, and their associated emission reduction benefits.

Additional projects that are selected for CMAQ funding in ongoing and future calls for projects, will be captured in the Full Performance Period Progress Report.

Since the baseline report submitted in 2022, 96 projects have been obligated in fiscal years 2022 and 2023. DRCOG will assess the additional progress in the Full Performance Period Progress Report.

For more information, visit DRCOG's [Performance Based Planning and Programming webpage](#).

Appendix 1: List of projects obligated in 2022 and 2023

This report includes 96 CMAQ funded projects that have helped DRCOG achieve its targets for traffic congestion and on-road mobile source emissions. Additional projects that are selected for CMAQ funding in ongoing and future calls for projects will be captured in the full performance period report.

Table 1: Alternative Fuels and Vehicles

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
1	CNG/CMAQ Project - RAQC	Non-Transit alternative fueled vehicles, CNG.	2023	TBD	TBD	TBD	TBD	No	No
2	CNG/CMAQ Project - RAQC	Non-Transit alternative fueled vehicles, CNG.	2022	TBD	TBD	TBD	TBD	No	No
3	CMAQ RAQC Advanced Fleet Technology II	Publicly owned fueling Infrastructure.	2022	TBD	TBD	TBD	TBD	Nos	Yes
4	CMAQ RAQC Advanced fleet Technology II	Publicly owned fueling Infrastructure.	2023	TBD	TBD	TBD	TBD	Nos	Yes

Table 2: Bicycle and Pedestrian Facilities and Programs

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
1	30th St & Colorado	Overpass construction, trail connections - 30th St & Colorado Ave in Boulder.	2022	TBD	TBD	TBD	TBD	No	Yes

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
	Ave Underpass								
2	30th St & Colorado Ave Underpass	Overpass construction, trail connections - 30th St & Colorado Ave in Boulder.	2023	TBD	TBD	TBD	TBD	No	Yes
3	19th Street Trail + Bridge	Construct trail and pedestrian bridge.	2022	TBD	TBD	TBD	TBD	No	Yes
4	SH157 /Foothills Pkwy N/S of Colorado	Construct bike/ped underpass.	2022	TBD	TBD	TBD	TBD	No	Yes
5	S Platte Greenway Access Sidewalk Imp	Remove existing stairs and replace with ADA compliant ramp, widen sidewalk, construct queing area for bicycles and peds, wayfinding and new bicycle racks. Sidewalk reconstruction; new sidewalk construction; bicycle facilities improvements.	2022	TBD	TBD	TBD	TBD	No	Yes
6	Toll Gate Crk Trl:Chambers-Montview Ph2	Construct 10' multi-use bike/ped trail, retaining walls, bike railing.	2023	TBD	TBD	TBD	TBD	No	Yes
7	Toll Gate Crk Trl:Chambers-Montview Ph2	Construct 10' multi-use bike/ped trail, retaining walls, bike railing.	2022	TBD	TBD	TBD	TBD	No	Yes

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
8	FY 2018 Denver Bicycle Detection	Deploy bicycle detection at 26 signalized intersections.	2022	TBD	TBD	TBD	TBD	No	Yes
9	FY 2018 Denver Bicycle Detection	Deploy bicycle detection at 26 signalized intersections.	2023	TBD	TBD	TBD	TBD	No	Yes
10	FY 2019 Aurora Bicycle Detection	Install bike detection at 33 locations; Aurora will install bike detection at 33 signalized intersections per the city's bike plan.	2022	TBD	TBD	TBD	TBD	No	Yes
11	Sheridan Blvd RTD Station Underpass	Construct a multimodal underpass to provide a first and final mile connection between US-36/Sheridan Park-n-Ride/Bus Rapid Transit (BRT) station, US-36 Bikeway, and Downtown Westminster. Improves Sheridan Blvd. to a six-lane roadway with appropriate turn lanes from US-36 bridge to Turnpike Dr.	2023	0.05	1.72	0.06	0.01	No	Yes

Table 3: Congestion Reduction and Traffic Flow Improvements

#	Project	Description of project	Obligation Year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
1	Denver TSSIP 2012	Purchase signal system and all associated equipment.	2022	TBD	TBD	TBD	TBD	Yes	No
2	Denver TSSIP 2012	Purchase signal system and all associated equipment.	2023	TBD	TBD	TBD	TBD	Yes	No
3	Iliff Ave Op Imp:Parker Rd-Quebec St- AR	Congestion Reduction, Left-Turn / Managed lanes, Construction,	2023	TBD	TBD	TBD	TBD	Yes	No
4	Iliff Ave Op Imp:Parker Rd-Quebec St- AR	Congestion Reduction, Left-Turn / Managed lanes, Construction,	2022	TBD	TBD	TBD	TBD	Yes	No
5	Denver TSSIP 2016 Signal System Upgrade	Intelligent Transportation Systems, Signalization Upgrades,	2022	TBD	TBD	TBD	TBD	Yes	No
6	FY 2018 Aurora Traffic Sig Sys Upgrade	Upgrade 51 signalized intersections with new traffic signal equipment.	2022	TBD	TBD	TBD	TBD	Yes	No
7	FY 2018 Denver CCTV Network Upgrade	Install 54 CCTV cameras along various corridors.	2022	TBD	TBD	TBD	TBD	Yes	No
8	FY 2018 Denver	Connect transuite systmes between Denver, CDOT, and Lakewood - perform	2022	TBD	TBD	TBD	TBD	Yes	No

#	Project	Description of project	Obligation Year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
	Multijurisdictional Monitor	C2C operation between transuite systems.							
9	FY 2019 R1 Adaptive Pilot Implementation	Implement and adaptive signal system along founders meadows corridor.	2022	TBD	TBD	TBD	TBD	Yes	No
10	FY 2019 R1 Adaptive Pilot Implementation	Implement and adaptive signal system along founders meadows corridor.	2023	TBD	TBD	TBD	TBD	Yes	No
11	FY 2018 Denver Signal Performance System.	Use advanced detection cameras at signals along various corridors; install advanced detection at 34 signalized intersections.	2022	TBD	TBD	TBD	TBD	Yes	No
12	FY 2020 Denver ITS Device Performance	Deploy 12 switches to upgrade communication network; upgrade communication network by upgrading switches.	2022	TBD	TBD	TBD	TBD	Yes	No
13	FY 2019 Arvada Signal Interconnect	To expand an existing traffic signal interconnect system. Arvada will expand fiber communications from a backbone network established separately to interconnect and replace 17 traffic signals across the city.	2022	TBD	TBD	TBD	TBD	Yes	No

#	Project	Description of project	Obligation Year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
14	FY 2019 Aurora CCTV Network Upgrade	Install 51 CCTV's at key intersections across the city; the city of aurora will install 51 CCTV's as part of an upgrade.	2022	TBD	TBD	TBD	TBD	No	No
15	FY 2019 Aurora CCTV Network Upgrade	Install 51 CCTV's at key intersections across the city; the City of Aurora will install 51 CCTV's as part of an upgrade.	2023	TBD	TBD	TBD	TBD	No	No
16	Denver FY 2020 Bluetooth Expansion	The Bluetooth devices will be added to Cotrip. City of Denver.	2023	TBD	TBD	TBD	TBD	Yes	No
17	Denver FY 2020 Bluetooth Expansion	The Bluetooth devices will be added to Cotrip. City of Denver.	2022	TBD	TBD	TBD	TBD	Yes	No
18	Denver FY 2020 VMS Installation	This project will use variable message signs (VMS).	2022	TBD	TBD	TBD	TBD	Yes	No
19	Denver FY 2020 VMS Installation	This project will use variable message signs (VMS).	2023	TBD	TBD	TBD	TBD	Yes	No
20	FY 2020 Denver Adaptive Pilot	Denver will deploy traffic adaptive operations.	2023	TBD	TBD	TBD	TBD	Yes	No
21	DRCOG Regional	Traffic operations improvement program.	2023	TBD	TBD	TBD	TBD	Yes	No

#	Project	Description of project	Obligation Year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
	Traffic Operations Program								
22	DRCOG Regional Traffic Operations Program	Traffic operations improvement program.	2022	TBD	TBD	TBD	TBD	Yes	No
23	120th Ave Imp: Washington St to York St.	Widen 120th Ave from 2 to 3 lanes in each direction from Washington to York St. Add turn lanes at intersections, modify traffic signals, add detached multi-use trail.	2022	TBD	TBD	TBD	TBD	Yes	No
24	120th Ave Imp: Washington St to York St.	Widen 120th Ave from 2 to 3 lanes in each direction from Washington to York St. Add turn lanes at intersections, modify traffic signals, add detached multi-use trail.	2023	TBD	TBD	TBD	TBD	Yes	No
25	Traffic Signalization: Erie Pkwy & WCR7	Add traffic signal Erie parkway and wcr 7.	2022	TBD	TBD	TBD	TBD	Yes	No
26	I-25 / Dry Creek Rd Southbound On-Ramp Op Imp -	Re-stripe/minor widening of on-ramp, create 3 lanes, median mod.	2022	TBD	TBD	TBD	TBD	Yes	No

#	Project	Description of project	Obligation Year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
27	I-25 / Dry Creek Rd Southbound On-Ramp Op Imp -	Re-stripe/minor widening of on-ramp, create 3 lanes, median mod.	2023	TBD	TBD	TBD	TBD	Yes	No
28	US287-Advanced Detection Expansion	Upgrade/replacement of existing video detection.	2022	TBD	TBD	TBD	TBD	Yes	No
29	FY 2021 R1 Advance Detection Arapahoe Road	Procurement and deployment of advanced detectors at intersections to serve as data input to CDOT's automated traffic signal performance measures system.	2022	11	147	16	1	Yes	No
30	Dry Creek Rd Eastbound Lane (I25-Inverness East)	Congestion Reduction, High Occupancy Vehicle Lanes, Construction, Description, Extend the eastbound through/right lane from NB I-25 Off Ramp to connect to right turn lane at the Inverness Dr. East, shared path improvements along the south side of Dry Creek Rd., signage & pavement markings on the SB Clinton St. for east to SB I-25.,	2022	0.12	4.05	0.14	0.01	Yes	No

#	Project	Description of project	Obligation Year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
31	Santa Fe Dr and Mineral Ave Op Imps	Congestion Reduction, Left-Turn / Managed lanes, Construction.	2023	TBD	TBD	TBD	TBD	Yes	No
32	Santa Fe Dr and Mineral Ave Op Imps	Congestion Reduction, Left-Turn / Managed lanes, Construction.	2022	0.13	4.28	0.14	0.01	Yes	No
33	FY 2021 Passive Ped Detection	Procurement and deployment of pedestrian detection devices at signalized intersection to activate and control pedestrian phases.	2023	TBD	TBD	TBD	TBD	Yes	Yes
34	FY 2021 Passive Ped Detection	Procurement and deployment of pedestrian detection devices at signalized intersection to activate and control pedestrian phases.	2022	8	109	12	1	Yes	Yes
35	FY 2021 Castle Rock Advance Detection-ATSPM	Procurement and deployment of detection to expand Castle Rock's automated traffic signal system performance measures system. In addition, Castle Rock's deployment includes integration with CDOT's automated traffic signal performance measures system since CDOT and	2022	2	43	8	4	Yes	No

#	Project	Description of project	Obligation Year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
		Castle Rock have signals in close proximity.							
36	FY 2021 Northglenn ATSPM system	Procurement and deployment of automated traffic signal performance measures system.	2023	TBD	TBD	TBD	TBD	Yes	No
37	FY21 Northglenn ATSPM System	Intelligent Transportation Systems, Signalization Upgrades, Description, Procurement and deployment of automated traffic signal performance measures system.,	2022	2	30	9	4	Yes	No
38	Erie Signal System Communications	Intelligent Transportation Systems, Signalization Upgrades, Description, Procurement and deployment of a traffic signal system and an associated communications system to connect to the signalized intersections.,	2023	TBD	TBD	TBD	TBD	Yes	No
39	Erie Signal System Communications	Intelligent Transportation Systems, Signalization Upgrades, Description, Procurement and deployment of a traffic signal system and an associated communications system to	2022	160	2574	257	255	Yes	No

#	Project	Description of project	Obligation Year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
		connect to the signalized intersections.,							
40	FY 2021 R1 Traffic Camera System Expansion	Procurement and deployment of traffic cameras at CDOT signalized intersections to improve operator situational awareness.,	2023	TBD	TBD	TBD	TBD	Yes	No
41	FY 2021 R1 Traffic Camera System Expansion	Procurement and deployment of traffic cameras at CDOT signalized intersections to improve operator situational awareness.	2022	9	185	13	1	Yes	No
42	SH119 Advance Detection	Procurement and deployment of advanced detection to allow automated traffic signal performance measure system operation.,	2022	3	37	4	1	Yes	No
43	FY 2018 Adams County Signal System Upgrade	Congestion Reduction	2023	4.08	49.85	6.86	1	Yes	No
44	Vasquez I-270 to 64th	This project aims to improve traffic operations, safety and pedestrian connections within the project area.	2023	0.79	0.204	0.38	0.019	Yes	No

#	Project	Description of project	Obligation Year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
45	BUILD: North Interstate 25 Phase 2	Congestion Reduction, Left-Turn / Managed lanes, Construction	2023	13.64	0.887	13.6	0.534	Yes	No
46	FY21 Thornton Travel Time Monitoring	Congestion Reduction	2023	3.63	121.12	12.42	8.41	Yes	No
47	Boulder-ATSPM & System Comm.	Congestion Reduction	2023	5.49	152.62	26.91	14.47	Yes	No
48	Parker Rd Op. Imp. Lincoln to Pine	Congestion Reduction	2023	0.049	0.01	0.01	0.01	Yes	No
49	FY 2022 Lone Tree Adaptive Signals	Congestion Reduction	2023	0.56	14.45	0.93	0.09	Yes	No
50	FY 2021 r1 Traffic Camera System Expansion	Congestion Reduction	2023	0.243	0.007	0.008	0	Yes	No

Table 4: Ride sharing

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
1	Falcon/US 24 Park & Ride	Shared Ride Project - Public Program - Park & Ride Lot,	2023	TBD	TBD	TBD	TBD	Yes	Yes

Table 5: Transit improvements

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
1	Coffman St Busway - Longmont	Facilities, Railway and Busway Infrastructure, Busway, New,	2022	TBD	TBD	TBD	TBD	Yes	Yes
2	Havana St Transit Improvement S-Aurora	Facilities, Railway and Busway Infrastructure, Busway, New	2023	3.61	0.107	0.12	0.003	Yes	Yes

Table 6: Travel demand management

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
1	FY 2016 CMAQ RAQC Ozone Aware	Other,	2023	TBD	TBD	TBD	TBD	Yes	No
2	FY 2016 CMAQ	Other,	2022	TBD	TBD	TBD	TBD	Yes	No

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
	RAQC Ozone Aware								
3	Commuting Solutns 20-21 CMAQ TDM Partner	Other,	2022	TBD	TBD	TBD	TBD	Yes	No
4	Commuting Solutns 20-21 CMAQ TDM Partner	Other,	2023	TBD	TBD	TBD	TBD	Yes	No
5	Denver South 20-21 CMAQ TDM Partnership	Other,	2023	TBD	TBD	TBD	TBD	Yes	No
6	Denver South 20-21 CMAQ TDM Partnership	Other,	2022	TBD	TBD	TBD	TBD	Yes	No
7	Downtown Denver Partners 20-21 CMAQ TDM	Other,	2022	TBD	TBD	TBD	TBD	Yes	No
8	Downtown Denver Partners 20-21 CMAQ TDM	Other,	2023	TBD	TBD	TBD	TBD	Yes	No

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
9	NE Trans Conect 20-21 CMAQ Part	Other,	2023	TBD	TBD	TBD	TBD	Yes	No
10	NE Trans Conect 20-21 CMAQ Part	Other,	2022	TBD	TBD	TBD	TBD	Yes	No
11	CMAQ TDM Part 20-21 Smrt Comm mtro No	Other,	2022	TBD	TBD	TBD	TBD	Yes	No
12	Tran Sol 20-21 CMAQ TDM Partnership	Other,	2022	TBD	TBD	TBD	TBD	Yes	No
13	DRCOG FY 2020-2021 Non-Matching CMAQ	These projects are both for the Way to Go TDM program. Their funding is divided between matched and unmatched grants. The unmatched portion of Way-to-Go goes toward activities including vanpool, carpool, employer outreach, schoolpool, partnership outreach, and training.	2023	TBD	TBD	TBD	TBD	Yes	Yes
14	DRCOG FY 2020-2021 Non-Matching CMAQ	These projects are both for the Way to Go TDM program. Their funding is divided between matched and unmatched grants. The	2022	TBD	TBD	TBD	TBD	Yes	Yes

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
		unmatched portion of Way-to-Go goes toward activities including vanpool, carpool, employer outreach, schoolpool, partnership outreach, and training.							
15	Boulder TC 2020-21 TDM Partnership CMAQ	Other,	2022	TBD	TBD	TBD	TBD	Yes	No
16	Boulder TC 2020-21 TDM Partnership CMAQ	Other,	2023	TBD	TBD	TBD	TBD	Yes	No
17	DRCOG CMAQ TDM Matched 2021-2022	These projects are both for the Way to Go TDM program. Their funding is divided between matched and unmatched grants. The matched portion of Way-to-Go goes toward activities including transit promotion and bike/ped.,	2022	TBD	TBD	TBD	TBD	Yes	Yes
18	DRCOG FY 2020-2021 Non-Matching CMAQ	These projects are both for the Way to Go TDM program. Their funding is divided between matched and unmatched grants. The	2023	TBD	TBD	TBD	TBD	Yes	Yes

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
		unmatched portion of Way-to-Go goes toward activities including vanpool, carpool, employer outreach, schoolpool, partnership outreach, and training.							
19	CMAQ West Corridor DRCOG FY 2021-2023	Transportation Management Associations, Marketing and outreach,	2023	TBD	TBD	TBD	TBD	Yes	No
20	CMAQ West Corridor DRCOG FY 2021-2023	Transportation Management Associations, Marketing and outreach	2022	0.04	1.24	0.04	0.01	Yes	No
21	CMAQ Trans Sol DRCOG Partner FY 2023	Transportation Management Associations, Marketing and outreach,	2023	TBD	TBD	TBD	TBD	Yes	No
22	CMAQ Trans Sol DRCOG Partner FY 2023	Transportation Management Associations, Marketing and outreach	2022	0.08	2.73	0.09	0.01	Yes	No
23	CMAQ Smart Commute DRCOG Partner FY 2023	Transportation Management Associations, Marketing and outreach,	2023	TBD	TBD	TBD	TBD	Yes	No
24	CMAQ Smart Commute DRCOG	Transportation Management Associations, Marketing and outreach	2022	0.92	30.94	1.03	0.03	Yes	No

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
	Partner FY 2023								
25	CMAQ Commuting Solutions DRCOG FY 2023	Transportation Management Associations, Marketing and outreach	2023	0.6	20.24	0.675	0.016	Yes	No
26	CMAQ NE Trans Connect DRCOG Partner FY 2023	Transportation Management Associations, Marketing and outreach	2023	0.705	23.79	0.793	0.019	Yes	No
27	CMAQ TDM Partnership Denver South 22-24	Transportation Management Associations, Marketing and outreach	2023	1.969	66.465	2.216	0.054	Yes	No
28	DRCOG Unmatched Grant Regional TDM	Transportation Management Associations, Marketing and outreach	2023	4.038	136.299	4.543	0.111	Yes	No
29	CMAQ DRCOG Matched 23-24	Transportation Management Associations, Marketing and outreach	2023	0.463	15.615	0.52	0.013	Yes	No
30	CMAQ: Denver Civic	Transportation Management Associations, Marketing and outreach	2023	1.067	36	1.2	0.029	Yes	No

#	Project	Description of project	Obligation year	VOC benefit (kg/day)	CO benefit (kg/day)	NOx benefit (kg/day)	PM10 benefit (kg/day)	PHED benefit	Non-SOV benefit
	Ventures Part 23								

Appendix 2: List of projects to be obligated in 2024 and 2025

DRCOG has 20 projects listed in the Transportation Improvement Program that are CMAQ funded and anticipated to be obligated in 2024 and 2025. DRCOG expects these projects to help it achieve its targets for traffic congestion and on-road mobile source emissions. The emissions and non-SOV benefits of these projects will be included in the full period report.

As additional projects are selected for CMAQ funding in ongoing and future calls for projects, they will be reported in the Full Performance Period Progress Report.

For more information, use the “project search” function on the DRCOG Transportation Regional Improvement Projects and Survey dashboard.

Projects with expected obligation in 2024 and 2025

#	Project	Description of project	PHED benefit	Non-SOV benefit
1	Regional TDM Set-Aside: TMA Partnerships	The Regional TDM Pool promotes alternatives to SOV travel, with the intent to reduce mobile source emissions. This pool includes funds for 1) eight TMA regional partnerships (CMAQ; \$120k each/year), and 2) unallocated TDM non-infrastructure funding. Non-infrastructure projects to be selected through calls for projects using STBG funding and programmed individually in TIP.	Yes	No
2	Way to GO: Regional TDM Program	DRCOG will partner with transportation management agencies in the region to cooperatively carry out a comprehensive and coordinated program to mitigate traffic congestion and poor air quality through reducing travel demand. As part of The Program, DRCOG will offer: (a) Web-accessible CarPool matching programs for individuals and employers (b) SchoolPool programs with web-accessible matching software (c) Vanpool Services with web-accessible matching software (d) Telework programs (e) Regional Bike to Work Day Coordination (f) Guaranteed Ride Home programs (g) Support, Assistance, Materials, and Collateral for DRCOG services (h) Regional TDM web-page, portal, and web-applications supportive of The Program (i) Regional TDM services	Yes	Yes

#	Project	Description of project	PHED benefit	Non-SOV benefit
		<p>telephone numbers (j) Customer service staff for written, telephone, or email referrals, inquiries or issues (k) Developing and maintaining a marketing program to efficiently and effectively meet Program goals (l) Conducting surveys to determine the benefits of The Program (m) Reporting Program outcomes (n) Business Outreach (o) Maintaining an employer outreach database for shared use (p) Providing training and facilitating professional development opportunities</p>		
3	Air Quality Improvements Set-Aside	Funding for specialized air quality improvement outreach activities including ozone, localized, and focused. SIP modeling is located under TIP ID 2016-058.	No	No
4	FLEX Route Extension: Boulder to Longmont	<p>This project will extend the existing FLEX route by providing service from Longmont to Boulder. This extension will create up to five, round-trip, weekday trips. These trips will run as a complement to the existing FLEX trips between Ft. Collins and Longmont, which will remain with their existing run times and with the same destinations. Destinations for the route within Boulder include: Boulder Junction (30th & Pearl), Boulder Transit Center/ downtown Boulder (14th & Walnut), and the University of Colorado at Boulder campus. 2020-2023 TIP funding adds one new weekday midday trip, four new weekend trips, and support for the existing weekday peak period trips. Fiscal Year 2023 funding goes toward the purchase of on-route electric vehicle chargers for battery electric buses at Transfort's South Transit Center in Fort Collins.</p>	Yes	Yes
5	Wadsworth Operations and Widening: 35 th to I-70	This project will widen Wadsworth Blvd from W 35th Ave to W 48th Ave from 4 to 6 lanes. Features include: • 8-10 ft. wide sidewalks along both sides of the corridor separated from the street with 2-4 ft. wide	Yes	Yes

#	Project	Description of project	PHED benefit	Non-SOV benefit
		paved buffers or 8 ft wide landscaped amenity zone • An 12 ft wide multi-use path on the east side of Wadsworth Blvd between 35th and 44th • Street and pedestrian-level lighting • Landscaped center medians, raised crosswalks, and access consolidation • Continuous flow intersections with single left turns at 38th and 44th; additional left turns at the four crossover signals and at 41st • Traffic signals upgrades and bicycle detection • Transit stop enhancements including shelters, benches, and kiosks 2020-2023 TIP funding continues the project north to I-70.		
5	RTD Bus Purchases	Project to be used by RTD to purchase buses to be used region-wide.	No	Yes
7	Vasquez Operational Improvements: 52 nd to 64 th	Geometric and operational improvements to Vasquez, including the intersection at 60th Ave. and interchange at I-270.	Yes	No
8	CO 7 Corridor Multimodal Improvements: Foothills Pkwy to Brighton – Precon	Pre-construction activities on CO7 from Boulder County (outside of the City of Boulder) to US85 in Brighton for future multimodal construction improvements. Note: work in the City of Boulder included in separate TIP project (TIPID 2022-082).	Yes	Yes
9	Inverness Dr West Bicycle and Pedestrian Facilities: Fulton to Inverness Dr East	Construct bicycle and pedestrian facilities along Clinton St./Inverness Dr. West, from Fulton St. to Inverness Dr. East.	No	Yes
10	Colfax Complete Streets: Violet to I-70	Phase 1 includes constructing roadway improvements, including intersection improvements at Rooney Rd. and the intersection of Heritage Rd. and Colfax Ave. Drainage improvements, sidewalks, bike lanes will be included. Phase 2 includes constructing an off-street trail along Lena Gulch. Phase 3 includes constructing buffered bike lanes, pedestrian refuge islands, a roundabout,	Yes	Yes

#	Project	Description of project	PHED benefit	Non-SOV benefit
		turn lane improvements, and sidewalks between Violet St. and Zeta St.		
11	Sheridan/US 36 Multimodal Improvements	Construct a multimodal underpass to provide a first and final mile connection between US-36/Sheridan Park-n-Ride/Bus Rapid Transit (BRT) station, US-36 Bikeway, and Downtown Westminster. Improves Sheridan Blvd. to a six-lane roadway with appropriate turn lanes from the US-36 bridge to Turnpike Dr.	Yes	Yes
12	CO 7 / 119 th Intersection Improvements	Operational improvements for additional left turn lanes and new BRT stops.	Yes	Yes
13	Micro Transit Service & Mobility Options: North I-25 Area	Flexible Micro Transit Service and Mobility Options addressing underserved workforce needs in the North I-25 area: 120th to 160th and Huron to Washington.	No	Yes
14	CO 86 / 5 th and founders/Ridge Intersection Operational Improvements	Operational improvements, including bicycle/pedestrian safety improvements.	Yes	Yes
15	I-70/CO 79 Eastbound Ramp Improvements	Widen interchange footprint, relocate existing ramp interchange, and signalize the eastbound off-ramp.	Yes	No
16	Parker/Quincy/Smoky Hill Intersection Operational Improvements	Reconfigure NB Smoky Hill Rd./Quincy Ave. approach to three exclusive left turn lanes and a shared through-right lane. Reconfigure WB Quincy Ave./NB Parker Rd. for three right turn lanes, shift the crosswalk across Parker Rd., undertake signal improvements, and install/widen sidewalks.	Yes	Yes
17	Dry Creek Operational Improvements: I-25 to Inverness Dr East	Extend the eastbound through/right lane from NB I-25 Off Ramp to connect to right turn lane at the Inverness Dr. East, shared path improvements along the south side of Dry Creek Rd., signage & pavement markings on the SB Clinton St. for ease to SB I-25.	Yes	Yes

#	Project	Description of project	PHED benefit	Non-SOV benefit
18	Mineral/Santa Fe Operational Improvements	Provide quadrant road in the southwest corner of the intersection, eliminate left turn phases at intersection, install new/upgraded traffic signals, and expand active transportation facilities.	Yes	Yes
19	Parker Rd Operational Improvements: Lincoln to Pine	Construct pedestrian and traffic operational improvements, including a new multiuse path.	Yes	Yes
20	CO 83 Safety Improvements: Bayou Gulch to El Paso County	Construct safety improvements, possibly including passing lanes, intersection improvements, turn lanes, and others to reduce crashes.	Yes	No
21	Broomfield FlexRide	Operations, marketing, and capital purchases to expand and modify service boundaries, destinations, and operational hours of the existing FlexRide services within the City and County of Broomfield.	No	Yes
22	Human Services Transportation/F ASTER Set-Aside	TIP Set-Aside that funds underfunded and underserved trips and rolling stock expansion to improve service and mobility for older adults and people with disabilities.	No	No
23	Coffman Busway: 1 st to 9 th	Design and construct a dedicated center-lane busway on Coffman Street between 1st and 9th Avenues in downtown Longmont and completion of a new multimodal street from Boston to 1st which will be critical to connecting the planned Bus Rapid Transit for CO119 and US287 and connecting people walking and on bikes from the St Vrain Greenway trail just south of the site to downtown Longmont just north of the project.	No	Yes
24	CO 119/CO 52 Transit Bypass Lanes	Design and construct transit bypass lanes on SH-119 at the northbound and southbound approaches to the SH-52 intersection.	No	Yes
25	Wadsworth Operational Improvements: Vassar to Woodard	Add a new acceleration/deceleration lane on NB Wadsworth Blvd. and other intersection operational improvements at Morrison Rd. Add a southbound acceleration lane on the southwest corner	Yes	No

#	Project	Description of project	PHED benefit	Non-SOV benefit
		of the intersection, including lighting and shared-use path.		
26	East Colfax BRT: Civic Center Station to Yosemite	Design and construct a fixed-guideway center-running bus rapid transit line along Colfax Ave between Civic Center Station and Yosemite St.	No	Yes
27	Lone Tree Mobility Hub at Sky Ridge Station	Construct a mobility hub at Sky Ridge Station and I-25 to facilitate connections between all travel modes.	No	Yes
28	Buchtel Complete Street/Evans Intersection Improvements: University to Colorado	Construct high-comfort bike facility, ped crossing improvements, and safety enhancements along Buchtel from University Blvd. to Colorado Blvd. Intersection improvements including bike signal phase, bulbouts, and safety improvements at 5 intersections along Buchtel Blvd. and Evans Ave.	No	Yes
29	Bike/Ped Bridge over Santa Fe: Jewell to Evans Station	Construct new bike/ped bridge from Jewell Ave. to Evans LRT Station over Santa Fe Dr.	No	Yes
30	South Platte River Trail Improvements: Mississippi to Dartmouth – Precon	Design a segment of upgraded trail to include a widened 12' path with shoulders, lighting, wayfinding, and new connection to Ruby Hill Park.	No	Yes
31	Airport Creek Trail Underpass at BNSF	Design and construct a bike/ped underpass of BNSF railway between 112th Ave. and 116th Ave.	No	Yes
32	Wadsworth Shared-Use Path: 32 nd to 35 th	Construct a shared-use path from 32nd Ave. to 35th Ave., pedestrian lighting, bus stop improvements, and improvements at 32nd Ave. intersection.	No	Yes
33	Ward Station Multimodal Access Improvements	Construct a shared-use path from I-70 North Frontage Rd. to Ward LRT Station, pedestrian bridge over the LRT tracks, pedestrian lighting and amenities.	No	Yes
34	Bennett Kiowa Creek Trail	Design and construct a trail along SH-79 from Kiowa Creek North Open Space to SH-79 at Edwards Ave. and along SH-79 from Edwards Ave. to Colfax Ave.	No	Yes

#	Project	Description of project	PHED benefit	Non-SOV benefit
35	Thorton Multimodal Trail Study and Precon	Update the City's trails master plan and begin preconstruction on priority recommended trail improvements.	No	Yes
36	Lone Tree Creek Trail Underpass of Arapahoe	Construct a bike/ped underpass at Arapahoe Rd.	No	Yes
37	Arapahoe Sidepath Improvements: I-25 to Parker Rd	Construct 8'-10' wide multi-use paths to fill in sidewalk gaps along Arapahoe Rd., upgrade curb ramps, and improve bus stops.	No	Yes
38	CO 93/Table Mesa and Regent Intersection Improvements	Bus-only lanes at intersections, signal timing improvements, multi-use path realignment, and curb ramp upgrades.	No	Yes
39	Longmont Main/ 21 st Bike/Ped Improvements – Precon	Study and design active transportation connections at the Main St. and 21st Ave. intersection.	No	Yes
40	I-25/Castle Pines Pkwy Bike/Ped Overpass – Precon	Design a grade-separated bike/ped crossing over I-25, just south of the Castle Pines Parkway bridge.	No	Yes
41	Castle Rock Industrial Tributary Trail: Plum Creek to Plum Creek Trail	Design and construct approximately one mile of 10' shared-use path connecting Philip S Miller Park to downtown Castle Rock.	No	Yes
42	S Havana Bikeway: RidgeGate Station to Lone Tree City Limits	Construct 6' wide bike lanes and new protected intersection at RidgeGate Station.	No	Yes
43	32 nd /I-70 Bike Lanes: Wright to Zinnia	Construct bike lanes under I-70 from Wright Ct. to Zinnia St.	No	Yes
44	Arapahoe Ave Multimodal Improvements:	Develop preliminary and environmental engineering and identify ROW and utility needs on CO7 from 28th St to Foothills Pkwy in Boulder. Perform design and	Yes	Yes

#	Project	Description of project	PHED benefit	Non-SOV benefit
	28 th to Foothills – Precon	environmental work associated with passenger vehicle, transit, and active transportation improvements along the CO7 corridor. Note: work outside the City of Boulder included in TIP# 2020-007		
45	CO 7 Transit Service: Boulder to Brighton	New transit service along SH-7 between Downtown Boulder and Downtown Brighton operating at 30-minute headways.	No	Yes
46	High Line Canal Trail Underpass at Colfax	Design and construct 16' wide, 12' tall underpass for the High Line Canal Trail under Colfax Ave just east of Laredo St	No	Yes
47	124 th Multimodal Improvements: Claude to Colorado	Design and environmental for bike/ped facilities and roadway traffic calming from Claude Ct to Colorado Blvd. The project will also fund right-of-way acquisition and construction from York St to Fillmore St, including the York St intersection.	No	Yes
48	Thorton Pkwy Multiuse Path: I-25 to Grant	Design and construct a multi-use path on the south side of Thornton Pkwy., including lighting, landscaping, and retaining wall.	No	Yes
49	Easter Trail Study: Cherry Creek Trail to Parker Rd	Study the proposed Easter Trail to connect the Cherry Creek Trail with neighborhoods east of Parker Rd.	No	Yes
50	13 th Ave Multimodal Improvements: Yosemite to High Line Canal Trail – Precon	Design improvements along the corridor including: 8-10' wide shared-use path, 5-6' wide sidewalks, curb extensions, crosswalk and sharrow markings, roadway and pedestrian-scale lighting, 2 raised intersections, 6 raised crosswalks, and a mid-block crossing with an RRFB.	No	Yes
51	30 th St Multimodal Improvements: Colorado to Baseline	Design and construct multimodal improvements, including raised protected bicycle lanes, wider sidewalks, protected intersections, transit enhancements, and enhanced crossings.	No	Yes
52	Folsom Multimodal Study: Pine to Colorado	Corridor study to evaluate multimodal and safety improvements.	No	Yes

#	Project	Description of project	PHED benefit	Non-SOV benefit
53	Mead Trails & Open Space Master Plan Update	Update existing plan to analyze current trail conditions, identify missing gaps, and prioritize connections.	No	Yes
54	SE Boulder County SuperFlex	Pilot 1-2 vehicle demand-response service in southeast Boulder County to supplement RTD FlexRide and Ride Free Lafayette.	No	Yes
55	Erie FlexRide	Two years of Flex ride services within the Town of Erie. The service will also provide connections to RTD services located outside the town boundaries.	No	Yes
56	CO 66 Multi-Use Path: Hover to Main	Construct a multi-use path on the south side of CO66 between Hover St and Main St, including multimodal crossing improvements at four intersections.	No	Yes
57	Midway Blvd Multimodal Improvements: Lake Link Trail to Zuni – Precon	Design and right-of-way acquisition for Complete Streets bike/ped improvements along the corridor.	No	Yes
58	High Line Canal Trail Underpass at Yale	Construct an underpass of the High Line Canal Trail under Yale Ave just west of Holly St.	No	Yes
59	Wadsworth Path Improvements: Mansfield to Bear Creek	Construct a multi-use path along Wadsworth; east side between Mansfield and Jefferson, and on the west side between Eastman and Bear Creek.	No	Yes
60	Sheridan Blvd Multimodal Path: Jewell to Iowa	Construct a multimodal path on the west side of Sheridan Blvd.	No	Yes
61	Golden Free Transit Program	Provide four routes of free transit service in the City of Golden connecting Downtown Golden, Colorado School of Mines, RTD Jeffco Government Center Station, and RTD Wheat Ridge-Ward Station.	No	Yes
62	I-25/Lincoln Multimodal Connections	Bicycle and pedestrian improvements in the vicinity of the I-25 and Lincoln interchange based on study outcomes.	No	Yes
63	North Central Denver Community	Construct multimodal improvements in the Globeville and Elyria-Swansea neighborhoods including high-comfort	No	Yes

#	Project	Description of project	PHED benefit	Non-SOV benefit
	Multimodal Improvements	bike facilities and crosswalk safety enhancements.		
64	South Platte River Trail Improvements: Mississippi to Florida	Replace existing 8' trail with 12' wide trail with 4' crusher fines and 3' shoulders on both sides and reconstructed 16' wide bike/ped bridge in Overland Park.	No	Yes

Appendix 3: Data Sources and References

- Federal Highway Administration. *Applicability Determination: CMAQ Traffic Congestion and CMAQ on-Road Mobile Source Emissions Measures*. United States Department of Transportation, 1 Oct. 2023, https://www.fhwa.dot.gov/environment/air_quality/cmaq/measures/cmaq_applicability/cmaq_applicability-mid-period-2023.pdf.
- Federal Highway Administration. *Detailed Project Listing - CMAQ Emissions Performance Measure - MPO* . https://fhwaapps.fhwa.dot.gov/cmaq_pub/Reports/Criteria.
- *Transportation Regional Improvement Projects and Survey*. <https://apps.drcoq.org/TRIPS/TIP/>.
- U.S. Census. *A List of All 2020 Census Urban Areas for the U.S. , Puerto Rico, and Island Areas Sorted by Urban Area Census Code*. <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html>.
- U.S. Census. *DP03 Selected Economic Characteristics*. Tabular Data, data.census.gov.
- U.S. Census. *DP05 ACS Demographic and Housing Estimates*. 2020, data.census.gov.