



Air quality conformity determination documents

Eight-hour ozone conformity determination for the Denver Southern Subarea, triggered by the 2024-amended 2050 Regional Transportation Plan

For the:

- Denver Regional Council of Governments Fiscally Constrained Element of the 2050 Metro Vision Regional Transportation Plan
- DRCOG 2024-2027 Transportation Improvement Program
- Southern Subarea Portion of the Upper Front Range 2045 Regional Transportation Plan
- 2024-2027 Statewide Transportation Improvement Program for the Upper Front Range Transportation Planning Region

May 2024

Preparation of this report has been financed in part through grants from the United States Department of Transportation, Federal Transit Administration and Federal Highway Administration.

If you have difficulty using this document's content, please email access@drcog.org or call 303-455-1000. Please expect a response within 72 business hours (three business days).

Table of contents

Executive summary	7
Proposed amendments.....	7
Emissions test results	9
What is transportation conformity?	10
Ozone nonattainment area	11
Area boundaries and history.....	11
Motor vehicle emission budgets.....	19
Relevant planning efforts	20
Transportation control measures	21
Emission test process and assumptions.....	22
Background and staging years	22
Technical models	22
Demographic assumptions	23
Transportation network assumptions	25
Conclusion.....	26
Emissions test results	26
Summary statement.....	27

Appendices

Sub-Appendix A: DRCOG transportation network and project assumptions	28
Sub-Appendix B: Modeling summary tables	55
Sub-Appendix C: Memorandums of agreement for the transportation conformity evaluation conducted under the eight-hour ozone standard	57
Sub-Appendix D: U.S. Department of Transportation conformity finding	58

Figures

Figure 1: Planning organizations involved in the Denver Metro/North Front Range eight-hour ozone nonattainment areas.	13
Figure 2: Denver Metro/North Front Range Ozone Nonattainment Area and Subareas.	18
Figure 3: 2050 staging of fiscally constrained roadway capacity projects	28
Figure 4: 2050 fiscally constrained rapid transit system guideway facilities and stations	29

Tables

Table 1: Proposed regionally significant amendments to the DRCOG Metro Vision Regional Transportation Plan as part of the 2024 amendment cycle.	8
Table 2: Eight-hour ozone conformity modeling results for the Denver Southern Subarea.	9
Table 3: Ozone nonattainment area planning organizations.	12
Table 4: Ozone nonattainment area planning milestones.	14
Table 4: Ozone nonattainment area planning milestones. (continued).....	15
Table 4: Ozone nonattainment area planning milestones. (continued).....	16
Table 5: Eight-hour ozone conformity by subarea budgets.	20
Table 6: Population and employment forecasts for the Southern Subarea.	23
Table 7: 2020 and 2050 population estimates by county.	24
Table 8: 2020 and 2050 employment estimates by county.	24
Table 9: Eight-hour ozone conformity modeling results for the Denver Southern Subarea.....	26
Table 10: Colorado Department of Transportation administered funds for multimodal capital projects and programs	30
Table 11: Denver Regional Council of Governments administered funds for multimodal capital projects and programs	33
Table 12: Regional Transportation District administered funds for multimodal capital projects and programs	36

Table 13: Regional bus rapid transit projects37

Table 14: Corridor transit planning projects and program 38

Table 15: Arterial safety/Regional Vision Zero/Complete Streets retrofit projects and program..... 39

Table 16: Active transportation projects and program..... 40

Table 17: Freight projects and program.....41

Table 18: Local government funded projects and programs42

Table 19: Public highway toll authority projects and programs..... 53

Table 20: 2020 and 2050 population, employment and household estimates..... 55

Table 21: 2020 and 2050 vehicle miles traveled by roadway type. 55

Table 22: 2020 and 2050 average speed by roadway type..... 56

Table 23: 2020 and 2050 lane miles by roadway type. 56

Executive summary

The Denver Regional Council of Governments completed this transportation conformity determination as part of the transportation and air quality planning process. DRCOG's amendment of the long-range transportation plan triggered the need to perform the conformity analysis. The ozone nonattainment area continues to meet air quality conformity standards associated with the Greater Denver Area and Upper Front Range Transportation Planning Regions respective long-range transportation plans and short-range transportation improvement programs.

Proposed amendments

The changes to the Metro Vision Regional Transportation Plan include both new projects and a change to the staging period for one project. Amendments are outlined in Table 1.

Table 1: Proposed regionally significant amendments to the DRCOG Metro Vision Regional Transportation Plan as part of the 2024 amendment cycle.

Project name or corridor	Location or limits	Length	Revision type	Project description	Staging period
State Hwy. 7	US-36 and 28th St. to 63rd St.	1.8 (eastbound) to 2.75 (westbound) miles	New project	Convert 2 general purpose lanes to business access transit lanes.	2020-2029
96th Ave.	I-76 to Heinz Way	1.5 miles	New project	Widen from 2 to 4 lanes.	2020-2029
Havana St.	Lincoln Ave.	Not applicable	New project	Grade separation of Havana St. and Lincoln Ave. with safety, operational and multimodal improvements.	2020-2029
I-76	Weld County Road 8	Not applicable	New project	New interchange.	2020-2029

The amendments triggered the need for a new regional analysis of ozone precursor pollutants.

Emissions test results

Table 2 includes the budgets for volatile organic compounds and nitrogen oxides, the pollutants that directly contribute to ozone. The modeled emissions must be below budget to pass conformity tests. All staging-year results for the Denver Southern Subarea are reported in Table 2. Based on model results, all emission tests were below the motor vehicle emission

budgets. This means the plans associated with this determination meet conformity requirements for the 2020 Ozone State Implementation Plan budgets (2008 and 2015 ozone standards). The emissions estimates were generated by the Colorado Air Pollution Control Division using the transportation inputs from DRCOG's travel demand models and the Environmental Protection Agency's Motor Vehicle Emission Simulator model (referred to as MOVES, for brevity), version 3.0.

Table 2: Eight-hour ozone conformity modeling results for the Denver Southern Subarea.

	Volatile organic compounds	Nitrogen oxides
2020 State Implementation Plan Budgets (per the 2008 ozone standard)	41.2 tons per day	45.0 tons per day
2026 emissions	24.6 tons per day	17.1 tons per day
2030 emissions	20.2 tons per day	12.9 tons per day
2040 emissions	17.3 tons per day	9.1 tons per day
2050 emissions	18.8 tons per day	9.8 tons per day
Pass or fail?	Pass	Pass

Other pollutants

This document details ozone conformity. The Denver region is no longer designated as a maintenance area for particulate matter equal to or less than 10 microns in

aerodynamic diameter or carbon monoxide. The 20-year maintenance period requirements for both pollutants were completed in 2023 and 2022 respectively.

What is transportation conformity?

Each metropolitan planning organization associated with an air quality nonattainment area is required to show conformity of its long-range fiscally constrained regional transportation plan and transportation improvement program with the state implementation plan for air quality before they may be adopted. Section 176(c) of the Clean Air Act, as amended in 1990, requires that new conformity determinations be made when there are major changes such as additions, deletions or project scope adjustments to funded regionally significant projects as reflected in a current conformity determination; or if a new transportation improvement program (with different programming years) is proposed for adoption. Major changes usually occur in relation to the long-range regional transportation plan. Since transportation improvement program projects are contingent upon already being identified in the long-range plan, adjustments to a transportation improvement program alone rarely trigger the need for a new conformity determination. This new determination was triggered by DRCOG's amendment of the 2050 Metro Vision Regional Transportation Plan.

The Clean Air Act defines conformity as alignment with an air quality implementation plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (referred to by the acronym NAAQS for brevity) and achieving expeditious attainment of such standards. In addition, activities may not cause or contribute to new violations of air quality standards, exacerbate existing violations or interfere with the timely attainment of required emissions reductions toward attainment. For pollutants for which a region currently meets

standards but was formerly in nonattainment, the applicable State Implementation Plan may also be referred to as a maintenance plan, which demonstrates continued attainment of the standards. According to 40 C.F.R. 93.109 of the Transportation Conformity Rule, criteria and procedures for determining conformity of transportation plans, programs and projects must satisfy different criteria depending on whether the state has submitted a State Implementation Plan revision, and whether the U.S. Environmental Protection Agency has approved the revision.

On January 9, 2008, the EPA administrator signed an amendment to the conformity rule (referred to as the "Final Rule" for brevity), to implement the provisions of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. The EPA final transportation conformity rule is located at 40 C.F.R. Part 93, Subpart A. The Final Rule was promulgated Feb. 25, 2008. The most recent EPA revision to the conformity rule occurred on March 14, 2012 (77 F.R. 14979, effective April 13, 2012). To address revised standards and changes in conformity requirements, the EPA has promulgated several amendments to the final rule in recent years. The Air Quality Control Commission Regulation No. 10 or "Criteria for Analysis of Transportation Conformity," was adopted by the commission in 1998. It formally defines the process for determining conformity. The EPA approved Regulation No. 10 on September 21, 2001 (66 F.R. 48561), making it federally enforceable. Regulation No. 10 was updated and approved by the Air Quality Control Commission on December 15, 2011.

Ozone nonattainment area

Area boundaries and history

The EPA's process to determine the nonattainment area dates to 1997. Within the DRCOG region, there are several key planning organizations. Table 3 depicts the three organizations, their roles in the region and their geographic boundaries. Figure 1 depicts the boundary of all three metropolitan planning organizations/ transportation planning regions involved in this report's eight-hour ozone conformity determination.

DRCOG is within the nine-county Denver Metro/ North Front Range Nonattainment Area for the 2008 eight-hour Ozone NAAQS and 2015 eight-hour ozone NAAQS. The Nonattainment Area for the 2008 eight-hour ozone NAAQS and 2015 NAAQs covers the full counties of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, and portions of Larimer and Weld counties. The EPA expanded the boundary of the Denver Metro/North Front Range Nonattainment Area for the 2015 eight-hour ozone NAAQS to include

the entirety of Weld County. Figure 2 displays the boundaries of the Denver Metro/North Front Range Nonattainment Area for both the 2008 and 2015 NAAQS and displays its two subareas, Northern and Southern. The boundary between the two subareas is the Boulder/Larimer County line, extended at the same latitude eastward through southern Weld County to the Morgan County line. DRCOG conducts conformity determinations for the Southern Subarea. The NFRMPO conducts conformity determinations for the Northern Subarea.

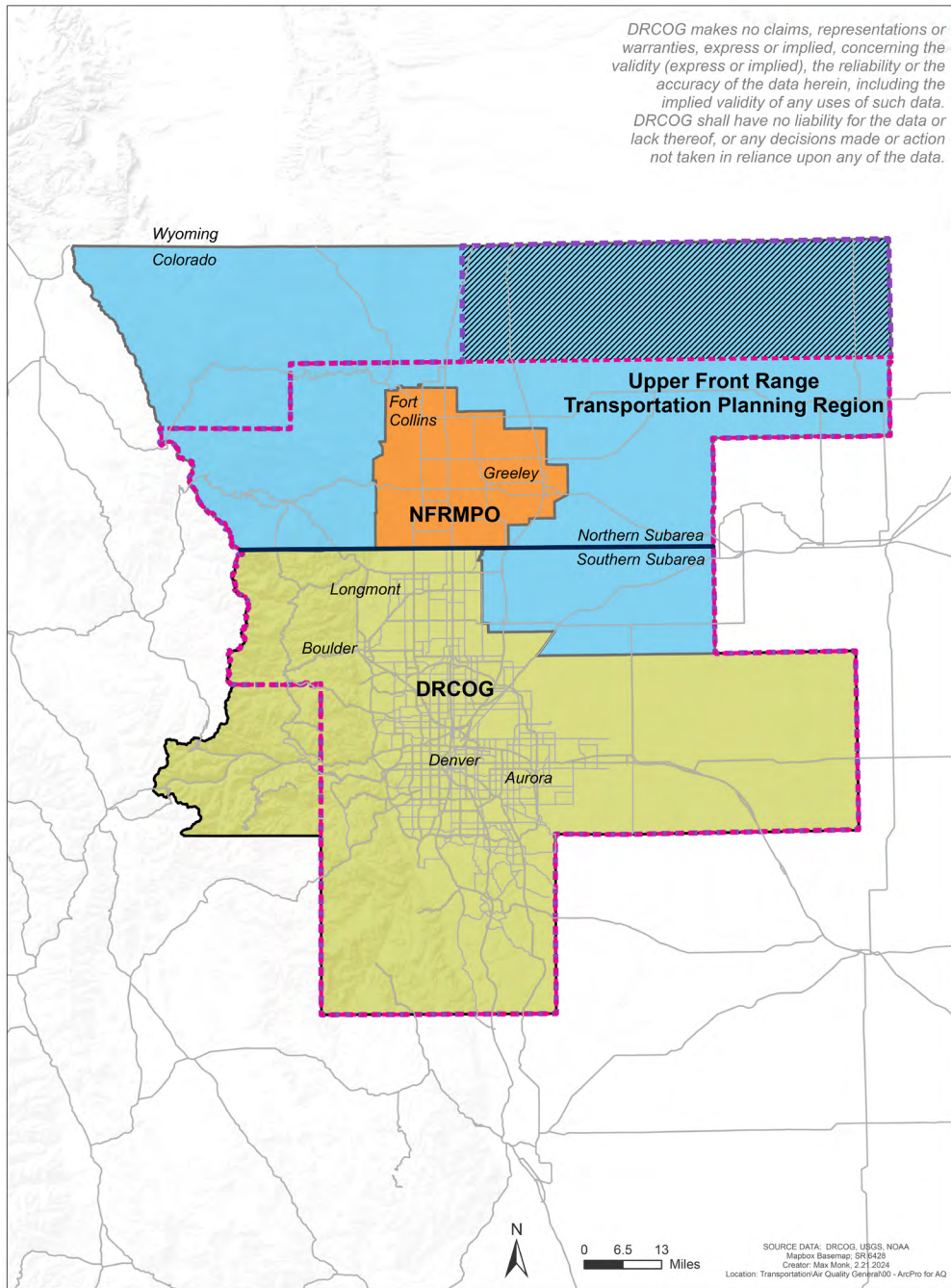
For long-term and short-term planning, DRCOG's 2050 Metro Vision Regional Transportation Plan includes the entire DRCOG transportation planning region. The DRCOG Transportation Improvement Program covers the transportation management area, while the Colorado Department of Transportation and the Statewide Transportation Improvement Program covers the remaining portions of the region.

Table 3: Ozone nonattainment area planning organizations.

Organization	Role	Boundaries
Denver Regional Council of Governments	Metropolitan planning organization and transportation planning region for the Denver transportation management area.	The transportation management area includes four urbanized areas and the portions of Adams and Arapahoe counties west of Kiowa Creek; all of Boulder County except Rocky Mountain National Park; the City and County of Broomfield; the City and County of Denver; all of Douglas and Jefferson counties; and parts of southwestern Weld County. The transportation planning region includes the transportation management area plus the portions of Adams and Arapahoe counties east of Kiowa Creek, Clear Creek and Gilpin counties, and the Rocky Mountain National Park area of Boulder County.
North Front Range Metropolitan Planning Organization	Metropolitan planning organization for the North Front Range transportation management area.	Includes 15 local governments in portions of Larimer and Weld counties.
Upper Front Range	Transportation planning region for northcentral Colorado.	Comprises Larimer, Morgan and Weld counties, and excludes the urbanized areas in Larimer and Weld counties.

Figure 1: Planning organizations involved in the Denver Metro/ North Front Range eight-hour ozone nonattainment areas.

Ozone nonattainment planning agencies



	Northern and southern subarea boundary		Area incorporated into 2015 ozone standard with revised designation
	Regional roadway system		Upper Front Range Transportation Planning Region
	2008 ozone nonattainment area		North Front Range Metropolitan Planning Org. (NFRMPO)
	2015 ozone nonattainment area		Denver Regional Council of Governments (DRCOG)

Table 4 is a historical summary of the 1997, 2008 and 2015 eight-hour ozone NAAQS for the Denver Metro/ North Front Range region. The eight-hour ozone nonattainment area is comprised of two subareas (Northern and Southern), displayed in Figure 2. The boundary between the two subareas is the Boulder/ Larimer County line extended east through southern

Weld County to the Morgan County line. Per 2004 designation, the area includes nine counties in the Denver Metro/North Front Range region (the City and County of Denver; the City and County of Broomfield; and Adams, Arapahoe, Boulder, Douglas, Jefferson and the southern portions of Larimer and Weld counties).

Table 4: Ozone nonattainment area planning milestones.

Date	Milestone	Comments
1997	The EPA established the eight-hour ozone National Ambient Air Quality Standard of 80 parts per billion.	Due to litigation at the federal level, it took the EPA until 2004 to designate nonattainment area.
April 30, 2004	The EPA promulgated Phase I ozone implementation rule and designated nine Denver Metro/North Front Range counties as marginal nonattainment for the 1997 eight-hour ozone NAAQS.	nine counties in the Denver Metro/North Front Range region: Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, and the southern portions of Larimer and Weld effective date: June 15, 2004 (69 F.R. 23951)
March 27, 2008	The EPA lowered the NAAQS for ground-level ozone to 0.075 parts per million; same nine counties marginal nonattainment.	new 2008 standard is 75 parts per billion; secondary standards are identical to the revised primary standard effective date: May 27, 2008 (73 F.R. 16436)
May 21, 2012	The EPA designated the Denver Metro/North Front Range region as marginal nonattainment under the new standard.	not applicable
Conclusion of the 2014 ozone season	The Denver Metro/North Front Range region failed to attain air quality standards based on the three-year average of ozone data from 2012 to 2014.	not applicable

Table 4: Ozone nonattainment area planning milestones. (continued)

Date	Milestone	Comments
October 26, 2015	The EPA published the final rule revising eight-hour ozone NAAQS (2015 eight-hour ozone NAAQS).	New 2015 standard is 0.070 parts per million; secondary standards are identical to the revised primary standard effective date: December 28, 2015 (80 F.R. 65291)
May 4, 2016	The EPA reclassified the region from a marginal to a moderate nonattainment area for the 2008 ozone NAAQS, extending the attainment year to 2017.	A Moderate State Implementation Plan was developed to demonstrate how the Denver Metro/North Front Range region will comply with the federal Clean Air Act.
May 2017	New motor vehicle emissions budgets were submitted to the EPA as part of the State Implementation Plan package for the 2008 ozone NAAQS.	not applicable
June 4, 2018	The EPA published a final rule designating the Denver Metro/North Front Range region as marginal for the 2015 ozone NAAQS.	The same nine-county Denver Metro/North Front Range geography was used as with the 2008 ozone NAAQS. Until new motor vehicle emissions budgets are approved and become effective, the Denver Metro/North Front Range Nonattainment Area demonstrates conformity to the 2015 ozone NAAQS by meeting the approved moderate State Implementation Plan motor vehicle emissions budget tests for the 2008 NAAQS (40 C.F.R. 93.109I(2)(i)) effective date: August 3, 2018.
December 16, 2019	Redesignated to serious for 2008 standard.	The Air Quality Control Commission adopted the Serious Area State Implementation Plan including new motor vehicle emissions budgets on December 18, 2020.
July 2020	Denver Metro/North Front Range Area expanded to include the entirety of Weld County for the 2015 standard.	not applicable

Table 4: Ozone nonattainment area planning milestones. (continued)

Date	Milestone	Comments
August 19, 2020	New motor vehicle emissions budgets were submitted to the EPA by the Colorado Department of Public Health and Environment as part of the State Implementation Plan package for the 2008 ozone NAAQS serious classification.	not applicable
April 14, 2022	Redesignated to moderate for 2015 standard.	The EPA announced the proposed rule to reclassify to moderate for the 2015 NAAQS, which has attainment year of 2023. A State Implementation Plan is currently under development for the 2015 ozone NAAQS. Until new motor vehicle emissions budgets are approved and become effective, the Denver Metro/North Front Range Nonattainment Area demonstrates conformity to the 2015 ozone NAAQS by meeting the approved Moderate State Implementation Plan motor vehicle emissions budgets tests for the 2008 ozone NAAQS.
May 3, 2023	The EPA found the 2020 motor vehicle emissions budgets adequate (as part of the State Implementation Plan package for the 2008 National Ambient Air Quality Standard serious classification).	not applicable

Memorandum of agreement

A memorandum of agreement was signed in March 2008 by the Colorado Department of Public Health and Environment, Colorado Department of Transportation, Regional Air Quality Council, Upper Front Range Transportation Planning Region, North Front Range Metropolitan Planning Organization and DRCOG.

A new memorandum of agreement reflecting the updated Regulation No. 10 was signed by North Front Range Metropolitan Planning Organization, Colorado Department of Public Health and Environment, Regional Air Quality Council, and DRCOG in 2015. It updated the specific roles and responsibilities in conformity evaluations and findings for each agency. The memorandum of agreement also includes courses of action to be pursued if a subarea exceeds an emission budget. This superseded the November 1998 memorandums of agreement the Colorado Department of Public Health and Environment signed with DRCOG and the North Front Range Metropolitan Planning Organization. A copy of the 2008 and 2015 memorandums of agreement are in Sub-Appendix C.

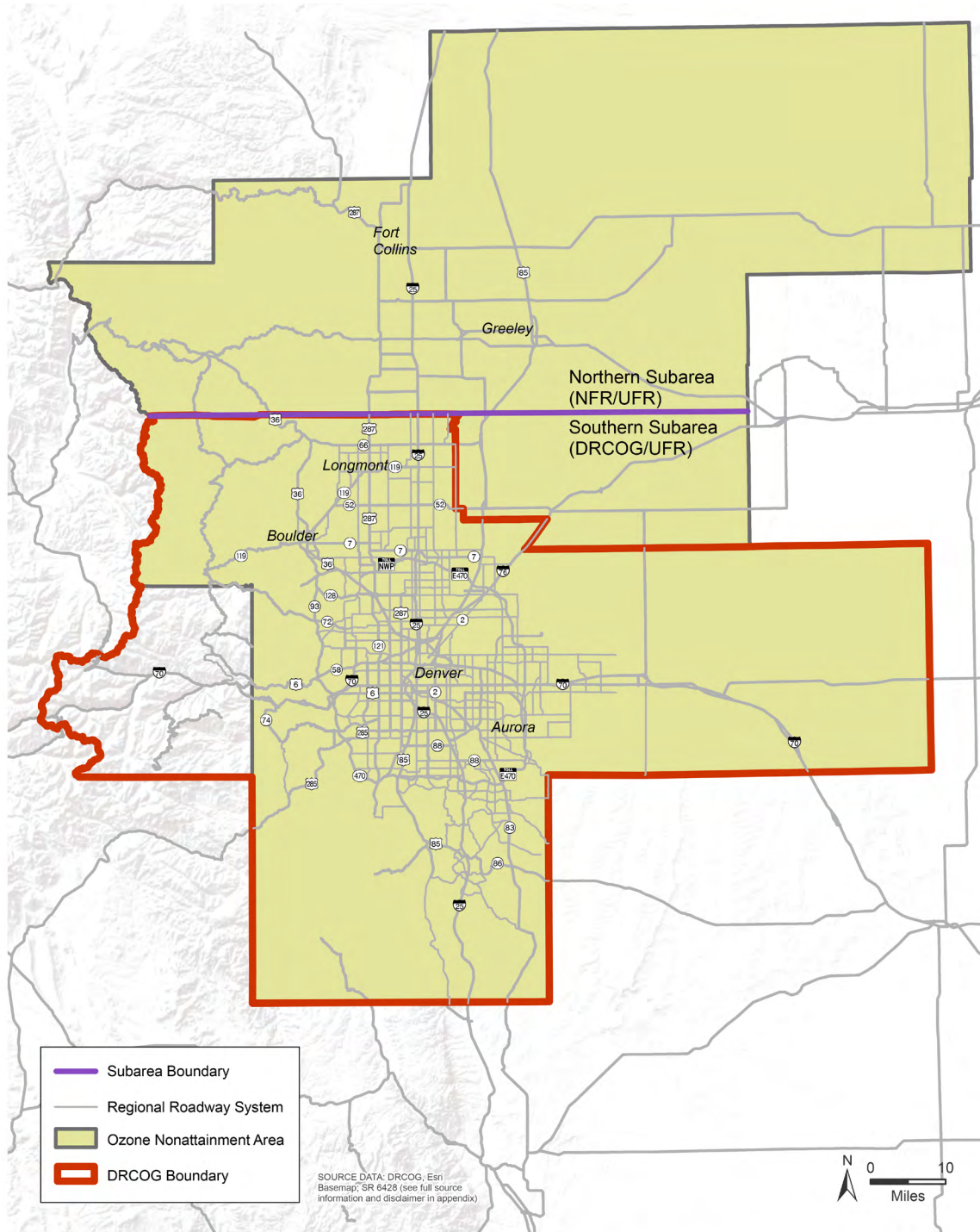
The memorandum of agreement stipulates that DRCOG will make conformity determinations for the Southern Subarea of the eight-hour ozone nonattainment area, while the North Front Range Metropolitan Planning Organization will make the conformity determination for the Northern Subarea of the eight-hour ozone nonattainment area, with boundaries as displayed in Figure 2. Both the North Front Range Metropolitan Planning Organization and DRCOG worked

cooperatively with an interagency consultation group (Federal Highway Administration, Federal Transit Administration, Regional Air Quality Council, North Front Range Metropolitan Planning Organization, Upper Front Range Transportation Planning Region, EPA, Colorado Department of Transportation and the Air Pollution Control Division) to review the conformity documentation and planning assumptions. Per the memorandum of agreement, each metropolitan planning organization sends the travel demand model outputs to the Air Pollution Control Division of the Colorado Department of Public Health and Environment for generation of emissions estimates.

Federal Transportation Regulations at 23 Code of Federal Regulations 450.314(b) states:

“where a metropolitan planning area (MPA) does not include an entire nonattainment area, there shall be written agreement among the State Department of Transportation, state air quality agency, affected local agencies, and the MPO describing the process for cooperative planning and analysis of all projects outside the MPA within the nonattainment area.”

Figure 2: Denver Metro/North Front Range Ozone Nonattainment Area and Subareas.



Motor vehicle emission budgets

The Regional Air Quality Council establishes motor vehicle emission budgets as part of a State Implementation Plan. The Regional Air Quality Council is the air quality planning agency for the Denver metropolitan area (Southern Subarea), the North Front Range metropolitan area (Northern Subarea), and the Upper Front Range transportation planning region (Northern Subarea) and is charged with preparing the State Implementation Plan.

The 2008 memorandum of agreement calls for the establishment of overall area motor vehicle emissions budgets based on the entire eight-hour ozone nonattainment area and allows for the option of establishing subarea emissions budgets. The memorandum of agreement describes that after the initial motor vehicle emissions budget-based conformity determination, DRCOG and the North Front Range Metropolitan Planning Organization may switch from using the total nonattainment area motor vehicle emissions budgets for joint determinations to using the subarea budgets for individual conformity determinations. If using subarea budgets, as is the current practice, both subareas must demonstrate conformity for their plans. If one subarea fails, the other subarea cannot adopt a new conformity determination until the failure is resolved. To switch methods DRCOG and the North Front Range Metropolitan Planning Organization must use the process as described in

the Denver Metro/North Front Range Ozone State Implementation Plan. The motor vehicle emissions budgets for nitrogen oxides and volatile organic compounds went through the process of:

- Submittal to the EPA in 2009 as part of the State Implementation Plan for the 1997 Ozone NAAQS.
- EPA finding budgets adequate for transportation conformity purposes on March 4, 2010 (75 F.R. 9893), effective March 19, 2010.
- EPA subsequently approving budgets in a final rule on August 5, 2011 (76 F.R. 47443), effective September 6, 2011.

DRCOG and the North Front Range Metropolitan Planning Organization used the 2011 budgets for subsequent transportation conformity determinations until 2017. Due to the reclassification to a moderate nonattainment area in 2016, additional planning requirements were triggered including the requirement to submit updated motor vehicle emissions budgets for the 2017 attainment year. Following the same approach as under the 1997 ozone NAAQS, the Serious Area Ozone State Implementation Plan set new motor vehicle emissions budgets for the northern and southern subareas found in Table 5. These lower budgets were submitted to the EPA in August 2020 as part of the State Implementation Plan package for the 2008 ozone NAAQS. The EPA found the budgets adequate on May 3, 2023 (88 F.R. 29827) with an effective date of June 8, 2023.

Table 5: Eight-hour ozone conformity by subarea budgets.

Nonattainment area	Volatile organic compounds	Nitrogen oxides
Northern Subarea Budget (North Front Range Metropolitan Planning Organization and Upper Front Range Transportation Planning Region Subarea)	8.2 emission tons per day	9.7 emission tons per day
Southern Subarea Budget (DRCOG and Upper Front Range Transportation Planning Region Subarea)	41.2 emission tons per day	45.0 emission tons per day
Total nonattainment area budget (entire nonattainment area)	49.4 emission tons per day	54.7 emission tons per day

Relevant planning efforts

DRCOG Metro Vision Regional Transportation Plan

DRCOG’s Metro Vision plan is the long-range growth and development strategy for the Denver region. It integrates plans for growth and development, transportation and environmental quality into a single comprehensive foundation for regional planning. Metro Vision calls for a balanced multimodal surface transportation system including rapid transit, a regional bus network, bicycle and pedestrian facilities, and

improvements to the existing roadway system. Among Metro Vision’s regional objectives is to “improve air quality and reduce greenhouse gas emissions,” which reflects the region’s commitment to improve air quality through local and regional initiatives that reduce ground-level ozone, greenhouse gas emissions and other air pollutants. Supporting objectives include:

- Increase collaboration with local and regional partners on air quality initiatives.
- Increase public awareness of air quality issues.
- Improve the fuel economy of the region’s vehicle fleet.

The Metro Vision Regional Transportation Plan implements the transportation element of Metro Vision. The Metro Vision Regional Transportation Plan contains an unconstrained vision plan, outlining the region's total transportation needs, as well as the Fiscally Constrained Regional Transportation Plan, which includes those projects that can be implemented given reasonably anticipated revenues through 2050. When the 2050 Metro Vision Regional Transportation Plan is referenced in this document it denotes the fiscally constrained element of the plan.

The 2024-2027 Transportation Improvement Program identifies transit, multimodal and roadway projects to be funded from fiscal year 2024 through fiscal year 2027. Regionally significant projects funded in the Transportation Improvement Program must first be identified in the 2050 Metro Vision Regional Transportation Plan. Regionally significant projects are listed in Sub-Appendix A. The Transportation Improvement Program will implement selected projects and strategies identified in the first staging periods of the 2050 Metro Vision Regional Transportation Plan.

DRCOG staff fostered public participation throughout development of the 2050 Metro Vision Regional Transportation plan and 2024-2027 Transportation Improvement Program and continue to facilitate youth and civic engagement on a regular basis. DRCOG staff provided numerous public participation opportunities, including workshops, county forums, stakeholder meetings, surveys, interactive online forums, a Youth Advisory Panel and a Civic Advisory Group.

Upper Front Range Regional Transportation Plan

The Upper Front Range Transportation Planning Region provided its 2045 Regional Transportation Plan for public comment in May of 2020 and was approved by the Upper Front Range Regional Planning Commission in September 2020. The Upper Front Range Transportation Planning Region 2045 Regional Transportation Plan contains both a vision plan as well as a fiscally constrained plan. Short-range transportation projects in the plan are contained in the Statewide Transportation Improvement Program. There have been no regionally significant amendments to either of these documents since the last determination.

Consistent with the process used for the memorandum of understanding, information about and summaries of DRCOG's public hearings were circulated within the Upper Front Range Transportation Planning Region, available through DRCOG's website and at its 1001 17th St. offices in downtown Denver. Additionally, DRCOG staff encouraged the public to provide input to their local elected officials and government staff who work closely with DRCOG.

Transportation control measures

For this conformity determination, there are no transportation control measures identified for timely completion or implementation as part of the applicable implementation plan. The eight-hour ozone State Implementation Plan that was adopted by the Air Quality Control Commission in December 18, 2020 did not include any transportation control measures.

Emission test process and assumptions

Background and staging years

The transportation plan and program must pass a series of eight-hour ozone emissions tests to demonstrate conformity. These emissions tests relate to the two ozone precursors, NOX and VOC. The plan and program must meet the motor vehicle emissions budget in the applicable State Implementation Plan or plan submittal. Satisfying these tests involves demonstrating that relevant emissions in future years are less than or equal to the emissions budget established in the State Implementation Plan.

In accordance with EPA regulations 40 C.F.R. 93.118, the Interagency Consultation Group agreed upon the following base and reporting years for this eight-hour ozone conformity determination.

- **2026**, an intermediate modeling year.
- **2030**, an intermediate modeling year.
- **2040**, an intermediate modeling year.
- **2050**, the last year (horizon) of regional transportation plan.

Under the terms of the memorandum of agreement (as described above), DRCOG is responsible for the 8-hour ozone nonattainment area's Southern Subarea, while the North Front Range Metropolitan Planning Organization is responsible for the conformity

determination for the 8-hour ozone nonattainment area's Northern Subarea, as shown in Figure 1.

Technical models

The technical process used to estimate future pollutant emission levels is based on the latest planning assumptions in effect at the time of this conformity determination. Assumptions behind the analysis were derived from estimates of current and future population, employment, travel patterns and congestion developed by DRCOG staff and incorporated into a regional travel demand forecasting model. Vehicle miles traveled and operating speed information was updated as part of this conformity finding process. Contact DRCOG staff to receive more detailed technical information about the travel demand forecasting model.

A memorandum of agreement stipulates that the emissions estimates are to be performed by the Air Pollution Control Division. The Air Pollution Control Division of the Colorado Department of Public Health and Environment estimates air pollution emissions using the EPA MOVES model. The conformity analysis for this eight-hour ozone conformity determination began in December 2023 when DRCOG transferred initial travel model output files to the Air Pollution Control Division to be used with EPA's MOVES3 mobile source emission model to estimate emissions.

Demographic assumptions

Growth in population and employment is the principal factor for the increased demand for travel on the region's transportation facilities and services. The population forecast for the Southern Subarea of the Denver Metro/North Front Range eight-hour Ozone Nonattainment Area in 2050 is 4,404,997. This is an increase of 31% over the 2020 estimated population

of 3,358,999. The employment forecast for 2050 is 2,970,635 compared to the 2020 estimate of 2,160,276, an increase of 38%. Table 6 displays the latest forecasts of population and employment for 2020, 2023, 2030, 2040 and 2050 for the Southern Subarea of the Denver Metro/North Front Range Nonattainment Area. Tables 7 and 8 list 2020 and 2050 population and employment estimates by each of the counties in the DRCOG ozone modeling Southern Subarea.

Table 6: Population and employment forecasts for the Southern Subarea.

Year	Population	Employment
2020	3,358,999	2,160,276
2023	3,520,911	2,241,691
2030	3,806,424	2,443,012
2040	4,180,711	2,706,188
2050	4,404,997	2,970,635

Source: Colorado Department of Local Affairs, State Demography Office.

Table 7: 2020 and 2050 population estimates by county.

County	2020 population	2050 population
Adams County	523,778	842,689
Arapahoe County	659,564	837,991
Boulder County	331,025	420,105
City and County of Broomfield	72,773	98,239
City and County of Denver	736,531	883,165
Douglas County	354,508	464,189
Jefferson County	586,965	661,332
Southern Weld County	93,855	197,287
Total DRCOG ozone modeling Southern Subarea	3,358,999	4,404,997

Source: Colorado Department of Local Affairs, State Demography Office. Weld County portioning was applied by DRCOG staff.

Table 8: 2020 and 2050 employment estimates by county.

County	2020 employment	2050 employment
Adams County	267,686	365,949
Arapahoe County	426,173	584,069
Boulder County	248,111	339,920
City and County of Broomfield	48,254	66,192
City and County of Denver	646,251	885,225
Douglas County	174,176	238,725
Jefferson County	313,198	429,177
Southern Weld County	36,427	61,378
Total DRCOG ozone modeling Southern Subarea	2,160,276	2,970,635

Source: Colorado Department of Local Affairs, State Demography Office. Weld County portioning was applied by DRCOG staff.

Transportation network assumptions

Denver Regional Council of Governments

Emission tests were based on the 2020, 2023, 2030, 2040 and 2050 transportation networks and associated planning assumptions as defined in DRCOG's 2050 Metro Vision Regional Transportation Plan. The networks included financially constrained roadway and transit system improvements and resulting networks to be completed by the year 2050. The networks include both federally and locally funded projects. The Metro Vision Regional Transportation Plan and Transportation Improvement Program also include many other projects that will help to reduce emissions associated with ozone such as:

- Transit operating funds and bus purchases.
- Bicycle and pedestrian facilities.
- Transportation demand management programs.
- Intelligent transportation systems infrastructure.
- Traffic signal systems and coordination.
- Master plans for areas around transit stations and urban centers.

All roadway and rapid transit projects and staging years through 2050 are displayed in the figures found in Sub-Appendix A. The full project list is also detailed in Sub-Appendix A.

Upper Front Range Transportation Planning Region

There were no regionally significant transportation improvement projects in the Upper Front Range Transportation Planning Region portion of the Southern Subarea, and no amendments are proposed for this cycle.

Other mobile source reduction strategies

Two categories of strategies to reduce regional emissions are funded and assumed to continue through 2050, but are not specifically analyzed in the future year transportation and air quality modeling:

- Transportation demand management programs such as DRCOG's regional Way to Go program, transit pass subsidies and other transportation demand management actions will help to reduce the amount of single-occupant-vehicle driving by the growing population of the region. Such efforts will also take advantage of the increased provision of pedestrian and bicycling facilities across the region.
- The DRCOG Regional Transportation Operations and Technology Program will implement projects that allow the transportation system to operate much more efficiently. The projects cover four key areas: Traffic signal system equipment, traffic signal coordination and timing, transportation incident management and communications, and intelligent transportation systems technological improvements covering a range of communications (vehicle and infrastructure), monitoring, public information and other projects.

Conclusion

Emissions test results

The results of the Denver Southern Subarea emissions tests by year are reported in Table 1, included in the executive summary and repeated here as Table 9. The emissions estimates were generated by Air Pollution Control Division using the transportation inputs from

DRCOG’s travel demand models and the MOVES model. The eight-hour ozone conformity analysis was performed and is reported for the years 2023, 2030, 2040 and 2050, which meet the requirements for the staging years specified in 40 C.F.R. 93.118.

Table 9: Eight-hour ozone conformity modeling results for the Denver Southern Subarea

	Volatile organic compounds	Nitrogen oxides
2020 State Implementation Plan Budgets (per the 2008 ozone standard)	41.2 tons per day	45.0 tons per day
2026 emissions	24.6 tons per day	17.1 tons per day
2030 emissions	20.2 tons per day	12.9 tons per day
2040 emissions	17.3 tons per day	9.1 tons per day
2050 emissions	18.8 tons per day	9.8 tons per day
Pass or fail?	Pass	Pass

Summary statement

DRCOG staff has assessed the Denver Southern Subarea for compliance with the applicable ozone conformity criteria requirements and affirms conformity. The test results do not indicate any failures in the reporting years of the program or plan that would lead to a finding of nonconformity for the 2020 Serious State Implementation Plan budgets (2008 ozone standard and 2015 ozone standard). Based on the quantitative conformity analysis, DRCOG staff have determined

conformity is demonstrated for the amended DRCOG 2050 Metro Vision Regional Transportation Plan, Upper Front Range 2045 Regional Transportation Plan, and the regionally significant projects funded in the DRCOG 2024-2027 Transportation Improvement Program and 2024-2027 Statewide Transportation Improvement Program within the Denver Southern Subarea associated with the 2008 and 2015 eight-hour ozone standards.

Sub-Appendix A: DRCOG transportation network and project assumptions

Figure 3: 2050 staging of fiscally constrained roadway capacity projects

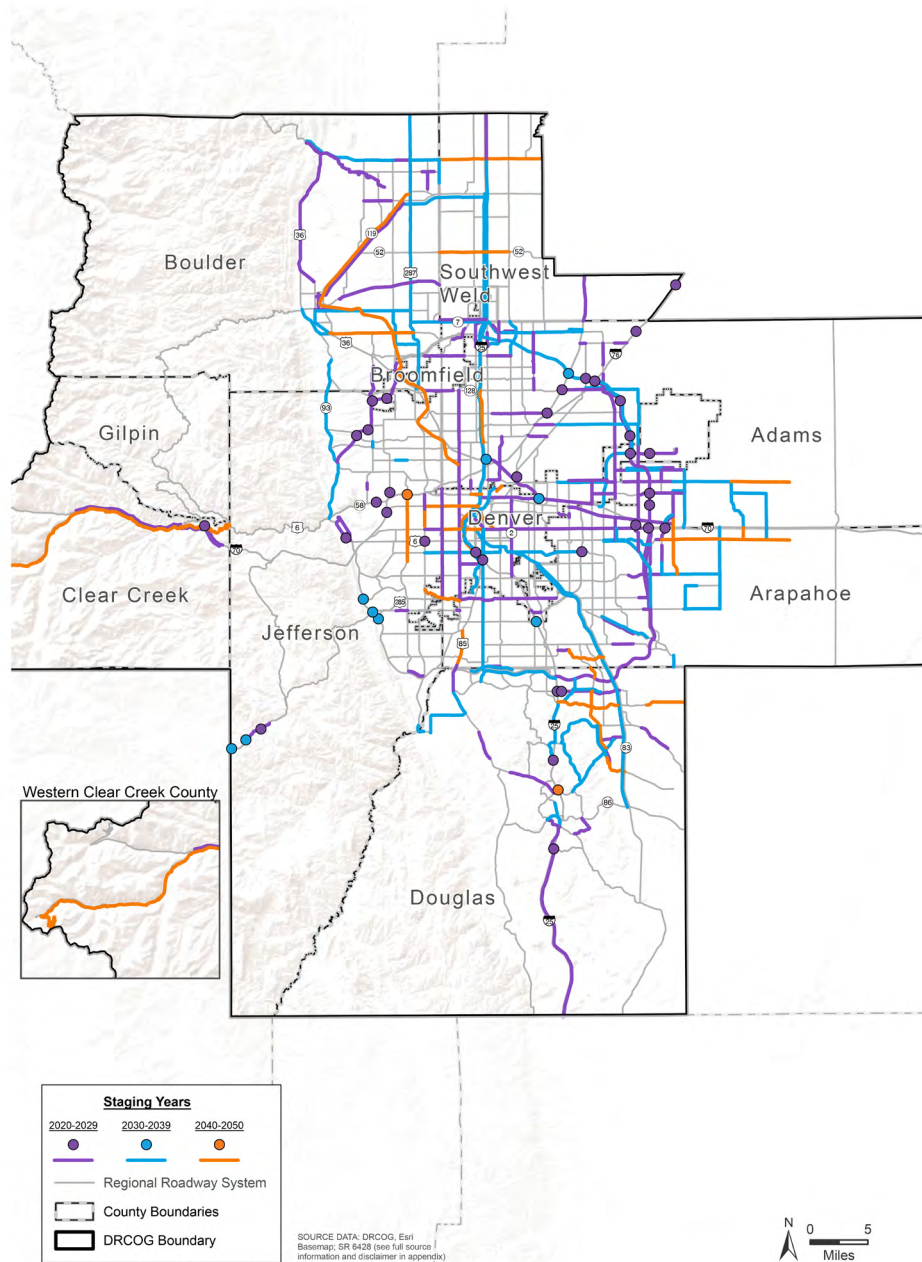


Figure 4: 2050 fiscally constrained rapid transit system guideway facilities and stations

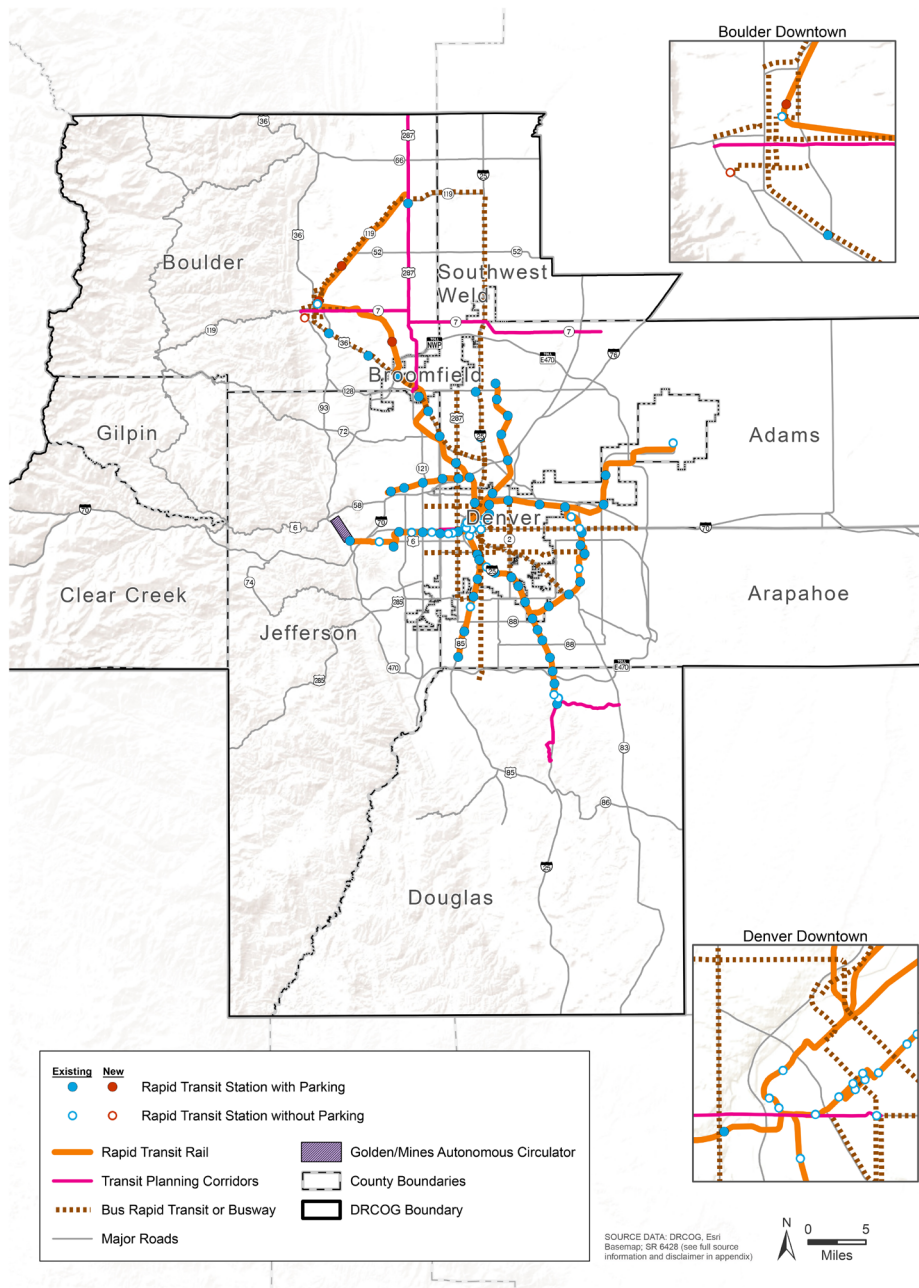


Table 10: Colorado Department of Transportation administered funds for multimodal capital projects and programs

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Regional system preservation, enhancement, and operations	Varies	Road resurfacing; traffic signals, optimization, communication, variable message signs; bridge replacement, rehabilitation, preservation; and other systematic repairs and preventative maintenance	Regional	\$11,409,000,000	2020-2050
C-470	U.S. Route 285/Morrison/Quincy	Interchange complex reconstruction	Jefferson	\$150,000,000	2030-2039
Federal Blvd.	6th Ave. to Howard Pl.	Widen from 5 to 6 lanes	Denver	\$23,400,000 (note)	2020-2029
I-25 North (Segment 5)	State Hwy. 66 to Weld County Rd. 38 (DRCOG boundary)	Add 1 toll/managed lane each direction	Weld	\$175,000,000	2020-2029
I-25 North (Segment 4)	State Hwy. 7 to State Hwy. 66	Managed lanes, State Hwy. 119 mobility hub, intelligent transportation systems, bicycle and pedestrian trail connections	Broomfield, Weld	\$150,000,000	2030-2039
I-25 North	E-470 to State Hwy. 7	Managed lanes, State Hwy. 7 interchange reconstruction and State Hwy. 7 mobility hub	Adams, Broomfield	\$200,000,000	2030-2039
I-25 North	84th Ave. to 104th Ave.	Operational improvements, center-loading transit station at 88th Ave. and general purpose lane	Adams	\$230,000,000	2040-2050
I-25 Central Improvements	Santa Fe Blvd. to 20th St.	Safety, operations, multimodal mobility, transit, and community connections	Denver	\$645,000,000	2040-2050
I-25	Speer Blvd/23rd Ave	Bridge replacements with safety and multimodal mobility improvements	Denver	\$75,000,000	2020-2029
I-25	Santa Fe Dr. (U.S. Route 85) to Alameda Ave.	Bridge replacement, intersection safety, and multimodal mobility improvements	Denver	\$35,000,000	2020-2029
I-25	Bellevue Ave.	Interchange reconstruction and pedestrian connections	Arapahoe	\$112,000,000	2030-2039
I-25	El Paso County Line to north of Crystal Valley Pkwy.	Add 1 toll/managed-lane each direction	Douglas	\$300,000,000 (note)	2020-2029
I-270	I-25/U.S. Route 36 to I-70	New managed lanes	Adams	\$500,000,000	2020-2029

Continued on next page.

(note) This cost is not included in the fiscal constraint analysis because funding was allocated prior to 2020.

Table 10: Colorado Department of Transportation administered funds for multimodal capital projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
I-270	I-25/U.S. Route 36 and I-70	New freeway "direct connects" at each end of I-270	Adams	\$300,000,000	2030-2039
I-70 Floyd Hill eastbound improvements	Floyd Hill to Veterans Memorial Tunnel	Eastbound interchange improvements with frontage road extension from the Hidden Valley interchange to U.S. Route 6 interchange	Clear Creek	\$250,000,000	2020-2029
I-70 Floyd Hill westbound improvements	Floyd Hill to Veterans Memorial Tunnel	Addition of a new express travel lane from the top of Floyd Hill to Veterans Memorial Tunnels, and eastbound auxiliary lane from the bottom to top of Floyd Hill	Clear Creek	\$450,000,000	2020-2029
I-70	Eisenhower-Johnson Memorial Tunnels	Major rehabilitation of the Eisenhower-Johnson Memorial Tunnels	Clear Creek	\$142,000,000	2020-2050
I-70	Twin Tunnels to Empire Junction (U.S. Route 40)	Add 1 westbound peak period managed lane	Clear Creek	\$50,000,000	2020-2029
I-70	Kipling St.	Interchange reconstruction and pedestrian connections	Jefferson	\$80,000,000	2040-2050
I-70	I-25 to Chambers Rd.	Add 2 new managed lanes	Adams, Denver	\$1,175,700,000 (note)	2020-2029
State Hwy. 66	Lyons to Hover St.	Operational/safety improvements from Lyons to Longmont in alignment with PEL	Boulder	\$5,000,000	2030-2039
State Hwy. 66	Hover St. to Main St. (U.S. Route 287)	Widen from 2 to 4 lanes	Boulder	\$5,000,000	2020-2029
State Hwy. 83 (Parker Rd.)	State Hwy. 86 to E. Mississippi Ave.	Corridor planning/investment for multimodal mobility, operations and safety	Arapahoe, Douglas	\$150,000,000	2030-2039
U.S. Route 6	Wadsworth Blvd.	Interchange capacity	Jefferson	\$80,000,000	2020-2029
U.S. Route 85	120th Ave	New interchange	Adams	\$100,000,000	2020-2029
U.S. Route 85	104th Ave.	New interchange	Adams	\$100,000,000	2020-2029
U.S. Route 85	Louviers to milepost 191.75	Widen from 2 to 4 lanes	Douglas	\$59,000,000 (note)	2020-2029
U.S. Route 85	Sedalia to Daniels Park	Widen from 2 to 4 lanes	Douglas	\$35,000,000	2020-2029

Continued on next page.

(note) This cost is not included in the fiscal constraint analysis because funding was allocated prior to 2020.

Table 10: Colorado Department of Transportation administered funds for multimodal capital projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
U.S. Route 85	Daniels Park to Meadows Pkwy	Widen from 2 to 4 lanes	Douglas	\$32,000,000	2020-2029
U.S. Route 285	Pine Valley Rd. (County Rd. 126)/Mt. Evans Blvd.	New interchange	Jefferson	\$40,000,000	2030-2039
U.S. Route 285	Parker Ave.	New interchange	Jefferson	\$25,000,000	2030-2039
U.S. Route 285	Shaffers Crossing to Kings Valley Dr.	Widen from 3 to 4 lanes (add 1 southbound lane)	Jefferson	\$60,000,000	2020-2029
U.S. Route 285	Kings Valley Dr.	New interchange	Jefferson	\$15,000,000	2020-2029
U.S. Route 285	Kings Valley Dr. to Richmond Hill Rd.	Widen from 3 to 4 lanes (add 1 southbound lane)	Jefferson	\$25,000,000	2020-2029
Vasquez Blvd.	60th Ave.	Intersection improvements	Adams	\$80,000,000	2020-2029
			CDOT projects and programs total	\$15,655,000,000	

Table 11: Denver Regional Council of Governments administered funds for multimodal capital projects and programs

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
TIP Set-Asides	Varies	Investment in transportation demand management, air quality, operations and technology and human services transportation	Regional	\$375,000,000	2020-2050
88th Ave.	I-76 northbound ramps to State Hwy. 2	Widen from 2 to 4 lanes	Adams	\$21,500,000	2020-2029
104th Ave.	Colorado Blvd. to McKay Rd.	Widen from 2 to 4 lanes	Adams	\$8,100,000	2020-2029
120th Ave.	U.S. Route 85 to E-470	Widen from 2 to 4 lanes	Adams	\$24,000,000	2020-2029
Broncos Pkwy./ Easter Ave. corridor	Havana to Parker Rd.	Multimodal corridor and intersection improvements	Arapahoe	\$35,000,000	2040-2050
County Line Rd	Phillips St. to University Blvd.	Widen from 2 to 4 lanes	Douglas	\$9,500,000	2020-2029
Gun Club Rd.	State Hwy. 30 to 6th Ave.	Widen from 2 to 4 lanes, includes stream crossing upgrade at Coal Creek, multimodal corridor improvements	Arapahoe	\$60,000,000	2020-2029
Gun Club Rd.	Quincy Ave. to Aurora Pkwy.	Widen from 2 to 4 lanes, multimodal corridor improvements, and transit service	Arapahoe	\$30,000,000	2020-2029
I-25 North	104th Ave. to 120th Ave.	Shoulders; general purpose lanes; bridge	Adams	\$70,000,000	2040-2050
I-25	Broadway	Interchange capacity	Denver	\$50,000,000	2020-2029
I-25	Lincoln Ave.	Interchange capacity	Douglas	\$49,400,000	2020-2029
I-25	Happy Canyon Rd.	Interchange reconstruction	Douglas	\$30,000,000	2020-2029
I-25	Meadows Pkwy/Founders Pkwy	Interchange reconstruction	Douglas	\$50,000,000	2040-2050
I-25	Crystal Valley Pkwy.	New interchange and south frontage road	Douglas	\$80,000,000	2020-2029
I-225/Yosemite St.	DTC Blvd. to I-25 on-ramp	Interchange and ramp reconstruction	Arapahoe	\$60,000,000	2020-2029

Continued on next page.

(note) This cost is not included in the fiscal constraint analysis because funding was allocated prior to 2020.

Table 11: Denver Regional Council of Governments administered funds for multimodal capital projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Indiana (State Hwy. 72)	W. 80th Ave. to W. 86th Pkwy.	Widen from 2 to 4 lanes	Jefferson	\$39,000,000	2030-2039
Kipling St.	Kentucky Ave. to I-70	Multimodal corridor improvements	Jefferson	\$250,000,000	2040-2050
Lincoln Ave.	Oswego to Keystone	Multimodal corridor improvements	Douglas	\$24,000,000	2020-2029
Martin Luther King Jr. Blvd.	Havana St./Iola St. to Peoria St.	Widen 2 to 4 lanes; new 4-lane road	Denver	\$15,000,000 (note)	2020-2029
Peña Blvd.	I-70 to 64th Ave.	Add 1 managed lane in each direction	Denver	\$139,000,000	2030-2039
Peña Blvd.	64th Ave. to E-470	Add 1 managed lane in each direction	Denver	\$124,000,000	2030-2039
RidgeGate Pkwy.	Havana St. to Lone Tree eastern city limit	Widen from 2 to 4 lanes	Douglas	\$8,000,000 (note)	2020-2029
Smoky Hill Rd.	Buckley Rd. to Picadilly St.	Safety, operational, and multimodal corridor improvements and transit service	Arapahoe	\$10,000,000	2020-2029
State Hwy. 7	164th Ave. to Dahlia St.	Widen from 2 to 4 lanes	Adams	\$24,000,000	2020-2029
State Hwy. 30	Airport Blvd. to Quincy Ave.	Widen from 2 to 4 lanes, multimodal corridor improvements, and transit service	Arapahoe	\$175,000,000	2030-2039
State Hwy. 52	Weld County Rd. 1 to Weld County Rd. 13	Planning and Environment Linkages study outcomes — safety, operational and multimodal improvements	Weld	\$20,000,000	2040-2050
State Hwy. 66	U.S. Route 287/Main Street to E. County Line Rd.(Weld County Rd. 1)	Capacity, operations and bicycle/pedestrian	Boulder	\$15,000,000	2030-2039
State Hwy. 66	E. County Line Rd. (Weld County Rd. 1) to Weld County Rd. 19	Widen 2 to 4 lanes, pedestrian improvements	Weld	\$35,000,000	2040-2050
State Hwy. 93	State Hwy. 58 to State Hwy. 170	Widen from 2 to 4 lanes and safety/transit improvements	Jefferson	\$200,000,000	2030-2039
U.S. Route 6	Heritage Rd.	New interchange	Jefferson	\$30,000,000	2020-2029

Continued on next page.

(note) This cost is not included in the fiscal constraint analysis because funding was allocated prior to 2020.

Table 11: Denver Regional Council of Governments administered funds for multimodal capital projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
U.S. Route 85 (Santa Fe)	C-470 to Bowles	Corridor planning/investment for multimodal mobility, operations and safety	Arapahoe	\$150,000,000	2040-2050
U.S. Route 85	Highlands Ranch Pkwy. to north of County Line Rd.	Widen from 4 to 6 lanes	Douglas	\$50,000,000 (note)	2020-2029
U.S. Route 287/120th Ave.	Midway Blvd. to Lowell Blvd.	Improve circulation, safety, active transportation access, business access, congestion and transit operations	Broomfield	\$150,000,000	2020-2029
Wadsworth Blvd.	35th Ave. to 48th Ave.	Widen from 4 to 6 lanes	Jefferson	\$31,000,000	2020-2029
Wadsworth Blvd.	17th Ave. to 35th Ave.	Multimodal corridor improvements	Jefferson	\$60,000,000	2040-2050
			DRCOG projects and programs total	\$2,428,500,000	

(note) This cost is not included in the fiscal constraint analysis because funding was allocated prior to 2020.

Table 12: Regional Transportation District administered funds for multimodal capital projects and programs

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Northwest Rail	Westminster Station to downtown Longmont	Implement peak period service plan	Adams, Boulder, Broomfield, Jefferson	\$700,000,000	2040-2050
Base System and FasTracks Debt Service	Varies	Repayment of debt service for the construction of RTD's FasTracks and base system	Regional	\$6,424,000,000	2020-2050
Base System and FasTracks Operations and Maintenance	Varies	On-going and preventative maintenance for transit vehicles and facilities to operate RTD's FasTracks and base system.	Regional	\$27,287,000,000	2020-2050
			RTD projects and programs total	\$34,411,000,000	

Table 13: Regional bus rapid transit projects

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
New bus maintenance facility	TBD (RTD northern area)	Construction of a new bus maintenance facility in RTD's northern service area	Regional	\$50,000,000	2020-2029
38th/Park BRT	Wadsworth Blvd to Colfax Ave.	Bus rapid transit service and supporting safety/multimodal improvements	Denver, Jefferson	\$40,000,000	2040-2050
Alameda BRT	Wadsworth to R Line	Bus rapid transit service and supporting safety/multimodal improvements	Arapahoe, Denver, Jefferson	\$61,000,000	2030-2039
Broadway/ Lincoln BRT	Colfax to Highlands Ranch Pkwy.	Bus rapid transit service and supporting safety/multimodal improvements	Arapahoe, Denver, Douglas	\$61,000,000	2030-2039
Colfax Ave. BRT	Union Station to I-225	Bus rapid transit service (dedicated lanes) and supporting safety/multimodal improvements	Adams, Arapahoe, Denver	\$250,000,000	2020-2029
Colfax Ave. Extension BRT	I-225 to E-470	Bus rapid transit service and supporting safety/multimodal improvements	Adams, Arapahoe	\$100,000,000	2020-2029
Colorado Blvd. BRT	A Line to I-25	Bus rapid transit service and supporting safety/multimodal improvements	Denver	\$35,000,000	2020-2029
Federal Blvd. BRT	120th to Santa Fe/Dartmouth	Bus rapid transit service and supporting safety/multimodal improvements	Adams, Denver	\$94,000,000	2020-2029
North I-25 BRT	Union Station to State Hwy. 119	Bus rapid transit service and supporting safety/multimodal improvements	Adams, Broomfield, Denver, Weld	\$97,000,000	2030-2039
Speer/ Leetsdale/ Parker BRT	Colfax to I-225	Bus rapid transit service and supporting safety/multimodal improvements	Arapahoe, Denver	\$95,000,000	2030-2039
State Hwy. 119 BRT	Downtown Boulder to downtown Longmont	Bus rapid transit service and supporting safety/multimodal improvements, including a separated bikeway	Boulder	\$200,000,000	2020-2029
State Hwy. 119 Extension BRT	Downtown Longmont to I-25/ State Hwy. 119 mobility hub	Bus rapid transit service and supporting safety/multimodal improvements, including the Firestone-Longmont Mobility Hub	Boulder, Weld	\$100,000,000	2030-2039
			Regional bus rapid transit total	\$1,183,000,000	

Table 14: Corridor transit planning projects and program

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Regional mobility hubs	Varies	Construction of multimodal mobility hubs	Regional	\$200,000,000	2020-2050
Regional strategic transit	Varies	Investment in regional transit services including Bustang, human services transportation, and rural transportation	Regional	\$200,000,000	2020-2050
Castle Pines transit mobility corridor	Castle Pines to RidgeGate RTD Station	Transit corridor	Douglas	\$20,000,000	2030-2039
W. Colfax Ave.	Sheridan Blvd. to Broadway Blvd/Lincoln St.	Transit corridor and supporting safety/multimodal improvements	Denver	\$26,573,077	2040-2050
Golden/Mines autonomous circulator	Downtown Golden, School of Mines, RTD W Line	Autonomous circulator	Jefferson	\$3,500,000	2020-2029
RidgeGate Pkwy. transit mobility corridor	Mainstreet in Parker to Lone Tree City Center RTD Station	Transit corridor	Douglas	\$100,000,000	2040-2050
S. Boulder Rd.	Lafayette to Boulder	Multimodal corridor improvements	Boulder	\$75,000,000	2040-2050
State Hwy. 7	US-36/28th St. to 63rd St.	Convert two general purpose lanes to Business Access Transit (BAT) lanes	Boulder	\$150,000	2020-2029
State Hwy. 7	Boulder to Brighton	Multimodal corridor improvements	Adams, Boulder, Broomfield, Weld	\$100,000,000	2030-2039
U.S. Route 36/28th St. and State Hwy. 93/ Broadway	U.S. Route 36/28th St. and State Hwy. 93/Broadway	Transit corridor and supporting safety/multimodal improvements	Boulder	\$15,200,000	2030-2039
U.S. Route 287	U.S. Route 36 to Larimer County Line	Safety, operational and multimodal improvements	Boulder, Broomfield	\$200,000,000	2030-2039
			Corridor transit planning total	\$940,423,077	

Table 15: Arterial safety/Regional Vision Zero/Complete Streets retrofit projects and program

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Arterial Safety/ Regional Vision Zero/Complete Streets retrofits set-aside	High-Injury Network/critical corridors	Vision Zero, safety, and Complete Streets improvements	Regional	\$249,000,000	2020-2050
Brighton Blvd.	Race St to York St	Reconstruction, Vision Zero, safety and freight improvements	Denver	\$19,800,000	2040-2050
Chambers Rd.	40th Ave. to E. E. 56th	Vision Zero corridor improvements	Denver	\$16,700,000	2020-2029
Colfax safety improvements	Wadsworth Blvd to Sheridan Blvd	Multimodal arterial safety	Jefferson	\$12,000,000	2020-2029
Federal Blvd. multimodal improvements	52nd Ave. to 120th Ave.	Bicycle/pedestrian/transit improvements; Turn lanes; bus/business access lanes	Adams	\$50,000,000	2020-2029
W. Mississippi Ave.	South Federal Blvd. to S. Broadway	Vision Zero and pedestrian improvements	Denver	\$18,600,000	2020-2029
Sheridan safety improvements	52nd Ave. to Hampden Ave.	Vision Zero corridor improvements	Denver, Jefferson	\$17,100,000	2020-2029
State Hwy. 42	Louisville and Lafayette	Safety and operational improvements	Boulder	\$50,000,000	2030-2039
U.S. Route 36	Boulder to Lyons	Corridor safety improvements	Boulder	\$20,000,000	2020-2029
U.S. Route 85 operational and safety improvements	Weld County Rd. 2 to Weld County Rd. 10	Safety and operational improvements	Weld	\$6,100,000	2020-2029
U.S. Route 285 congestion mitigation improvements	Knox Ct./Lowell Blvd. (west) to Havana (east)	Speed and reliability corridor and Vision Zero improvements	Arapahoe, Denver	\$88,200,000	2020-2029
			Arterial safety, Regional Vision Zero, Complete Streets retrofits total	\$547,500,000	

Table 16: Active transportation projects and program

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Active transportation set-aside	Zones, areas, and corridors identified in the Active Transportation Plan	Bicycle and pedestrian improvements	Regional	\$822,000,000	2020-2050
Bear Creek Trail	(not specified)	Upgrade trail for safe crossings and consistent cross section. Integrate intelligent transportation systems/artificial intelligence equipment.	Denver	\$31,200,000	2040-2050
Boulder to Erie Trail	Boulder to Erie	Regional trail	Boulder	\$6,000,000	2020-2029
Clear Creek Greenway	Jefferson County Line to Loveland Ski Area	Clear Creek Greenway portion of Peaks to Plains trail system	Clear Creek	\$50,000,000	2040-2050
McCaslin Regional trail	Rock Creeky Pkwy. to State Hwy. 128	Regional trail	Boulder	\$3,000,000	2020-2029
S. Platte River Trail	Northern city limits (near 53rd Ave.) to southern city limits (Harvard Ave.)	Complete missing links and upgrade trail section	Denver	\$25,000,000	2020-2029
S. Platte River Trail	Northern city limits (near 53rd Ave.) to southern city limits (Harvard Ave)	Complete missing links and upgrade trail section	Denver	\$25,000,000	2030-2039
Smith Rd. bicycle/ pedestrian facilities	Peoria Street to Powhaton Rd.	New share use path	Adams	\$4,000,000	2020-2029
St. Vrain Greenway	Longmont to Lyons	Regional trail	Boulder	\$4,000,000	2020-2029
			Active transportation total	\$970,200,000	

Table 17: Freight projects and program

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Freight set-aside	Varies	Freight improvements including but not limited to bridge reconstructions, overpasses/underpasses, new bridges	Regional	\$76,000,000	2020-2050
47th Ave./48th Ave.	I-25 to Pecos St.	Bridge reconstruction, new multimodal underpass and new bicycle/pedestrian bridge	Denver	\$45,225,000	2040-2050
Alameda Pkwy. Bridge over I-225	Potomac St. and Abilene St.	Bridge reconstruction	Arapahoe	\$20,000,000	2020-2029
Peoria St. Bridge	Sand Creek	Bridge reconstruction	Adams	\$19,000,000	2020-2029
Ward Rd./BNSF	I-70 frontage road north and Ridge Rd.	Multimodal grade separation	Jefferson	\$60,000,000	2020-2029
			Freight total	\$220,225,000	

Table 18: Local government funded projects and programs

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Bridges & culverts	Varies	Bridge replacement, rehabilitation, preservation, and systematic repairs	Regional	\$3,367,673,000	2020-2050
New non-regional roadway system	Varies	Construction of new arterials, collectors, and local roads	Regional	\$48,275,895,000	2020-2050
System preservation, enhancement, and operations	Varies	Road resurfacing; traffic signals, optimization, communication, variable message signs; and other systematic repairs and preventative maintenance	Regional	\$17,025,351,000	2020-2050
Toll authority debt service	Varies	Repayment of debt service for the construction of toll facilities	Regional	\$1,850,678,000	2020-2050
104th Ave.	Marion St. to Colorado Blvd.	Widen from 4 to 6 lanes	Adams	\$6,276,340	2020-2029
104th Ave.	McKay Rd. to U.S. Route 85	Widen from 2 to 4 lanes	Adams	\$40,600,000	2020-2029
120th Ave.	E-470 to Picadilly Rd.	Widen from 2 to 6 lanes	Adams	\$15,500,000	2030-2039
120th Ave.	Sable Blvd. to E-470	Widen from 4 to 6 lanes	Adams	\$15,500,000	2030-2039
144th Ave.	U.S. Route 287 to Zuni St.	Widen from 2 to 4 lanes	Broomfield	\$21,200,000	2020-2029
144th Ave.	Washington St. to York St.	Widen from 2 to 4 lanes	Adams	\$12,795,250	2020-2029
144th Ave.	York St. to Colorado Blvd.	Widen from 2 to 4 lanes	Adams	\$10,433,050	2020-2029
152nd Ave.	Washington St. to York St.	Widen from 2 to 4 lanes	Adams	\$13,074,650	2030-2039
17th Ave.	Alpine St. to Ute Creek Dr.	Widen from 2 to 4 lanes	Boulder	\$2,302,510	2020-2029
48th Ave.	Imboden Rd. to Manila Rd.	Widen from 2 to 4 lanes	Adams	\$4,800,000	2030-2039
48th Ave.	Picadilly Rd. to Powhaton Rd.	New 6-lane road	Adams	\$40,706,040	2020-2029
48th Ave.	Powhaton Rd. to Monaghan Rd.	New 2-lane road	Adams	\$7,500,000	2020-2029
48th Ave.	Powhaton Rd. to Monaghan Rd.	Widen from 2 to 4 lanes	Adams	\$7,500,000	2030-2039
56th Ave.	E-470 to Powhaton Rd.	Widen from 2 to 6 lanes	Adams	\$19,400,000	2020-2029

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
56th Ave.	Havana St. to Peña Blvd.	Widen from 4 to 6 lanes	Denver	\$15,000,000	2030-2039
56th Ave.	Imboden Rd. to Schumaker Rd.	New 2-lane road	Adams	\$19,000,000	2040-2050
56th Ave.	Peña Blvd. to Tower Rd.	Widen from 4 to 6 lanes	Denver	\$17,300,000	2020-2029
56th Ave.	Peoria St. to Peña Blvd.	Widen from 2 to 4 lanes	Denver	\$40,000,000	2020-2029
56th Ave.	Picadilly Rd. to E-470	Widen from 2 to 6 lanes	Adams	\$9,696,450	2020-2029
56th Ave.	Powhaton Rd. to Imboden Rd.	Widen from 2 to 4 lanes	Adams	\$24,000,000	2030-2039
56th Ave	Genoa St. to Picadilly Rd.	Widen from 5 to 6 lanes	Denver	\$5,800,000	2020-2029
58th Ave.	Washington St. to York St.	Widen from 2 to 4 lanes	Adams	\$10,346,093	2020-2029
64th Ave.	Denver/Aurora city limit to Himalaya St.	Widen from 2 to 6 lanes	Adams	\$6,452,362	2020-2029
64th Ave.	Harvest Mile Rd. to Powhaton Rd.	New 2-lane road	Adams	\$6,452,362	2020-2029
64th Ave.	Harvest Mile Rd. to Powhaton Rd.	Widen from 2 to 4 lanes	Adams	\$10,934,700	2020-2029
64th Ave.	Himalaya Rd. to Harvest Mile Rd.	Widen from 2 to 4 lanes	Adams	\$39,000,000	2030-2039
64th Ave.	Himalaya Rd. to Harvest Mile Rd.	Widen from 4 to 6 lanes	Adams	\$39,000,000	2030-2039
64th Ave.	Powhaton Rd. to Monaghan Rd.	New 4-lane road	Adams	\$6,709,410	2020-2029
64th Ave.	Tower Rd. to Denver/Aurora City Limits	Widen from 2 to 4 lanes	Denver	\$7,000,000	2020-2029
6th Ave. (State Hwy. 30)	Airport Blvd to 6th Pkwy	Widen from 4 to 6 lanes	Arapahoe	\$24,257,000	2030-2039
6th Ave.	6th Pkwy. to Harvest Rd.	Widen from 2 to 6 lanes	Arapahoe	\$13,194,030	2020-2029
6th Ave.	Harvest Mile Rd. to Watkins Rd.	New 6-lane road	Arapahoe	\$19,200,000	2040-2050
6th Ave.	Manila Rd. to Schumaker Rd.	New 2-lane road	Arapahoe	\$9,600,000	2040-2050
6th Ave.	Watkins Rd. to Manila Rd.	New 4-lane road	Arapahoe	\$19,200,000	2040-2050
72nd Ave.	Simms St. to Kipling St.	Widen from 2 to 4 lanes	Jefferson	\$20,000,000	2030-2039

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
96th Ave.	I-76 to Heinz Way	Widen from 2 to 4 lanes	Adams	\$14,500,000	2020-2029
96th Ave.	State Hwy. 2 to Tower Rd.	Widen from 2 to 4 lanes	Adams	\$46,672,500	2030-2039
96th Ave.	Tower Rd. to Picadilly Rd.	Widen from 2 to 6 lanes	Adams	\$14,668,500	2030-2039
Arapahoe Rd.	Himalaya Way to Liverpool St.	Widen from 4 to 6 lanes	Arapahoe	\$6,176,772	2020-2029
Arapahoe Rd.	Waco St. to Himalaya St.	Widen from 2 to 6 lanes	Arapahoe	\$20,400,000	2020-2029
Broncos Pkwy.	Havana St. to Peoria St.	Widen from 4 to 6 lanes	Arapahoe	\$8,134,350	2020-2029
Broncos Pkwy.	Jordan Rd. to Parker Rd.	Widen from 4 to 6 lanes	Arapahoe	\$6,934,200	2020-2029
Buckley Rd.	118th Ave. to Cameron Dr.	Widen from 2 to 6 lanes	Adams	\$13,897,737	2020-2029
Buckley Rd.	136th Ave. to Bromley Rd.	Widen from 2 to 4 lanes	Adams	\$7,747,000	2020-2029
C-470 eastbound (S. Kipling Pkwy. to I-25)	Broadway to I-25	Add 1 high-occupancy toll lane	Douglas	\$80,000,000	2030-2039
C-470 eastbound (S. Kipling Pkwy. to I-25)	S. Kipling Pkwy. to Wadsworth Blvd.	Add 1 high-occupancy toll lane	Jefferson	\$45,000,000	2020-2029
C-470 westbound (S. Kipling Pkwy. to I-25)	Colorado Blvd. to Lucent Blvd.	Add 1 high-occupancy toll lane	Douglas	\$80,000,000	2030-2039
C-470 westbound (S. Kipling Pkwy. to I-25)	Wadsworth Blvd. to S. Kipling Pkwy.	Add 1 high-occupancy toll lane	Jefferson	\$45,000,000	2020-2029
Canyonside Blvd.	Crowfoot Valley Rd. to Hess Rd.	New 4-lane road	Douglas	\$16,000,000	2030-2039

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Chambers Rd./ Bayou Gulch Rd.	Crowfoot Valley Rd. to Parker south town limit, new road	New 2-lane road	Douglas	\$5,000,000	2020-2029
Chambers Rd./ Bayou Gulch Rd.	Crowfoot Valley Rd. to Parker south town limit, widening	Widen from 2 to 4 lanes	Douglas	\$4,500,000	2030-2039
Chambers Rd./ Bayou Gulch Rd.	Parker Rd. to Vistancia Dr.	Widen from 2 to 4 lanes	Douglas	\$18,000,000	2040-2050
Chambers Rd./ Bayou Gulch Rd.	Vistancia Dr. to southern boundary	New 2-lane road	Douglas	\$6,000,000	2020-2029
Chambers Rd./ Bayou Gulch Rd.	Vistancia Dr. to southern boundary	Widen from 2 to 4 lanes	Douglas	\$6,000,000	2040-2050
Chambers Rd.	Crowfoot Valley Rd. to Hess Rd.	New 2-lane road	Douglas	\$19,500,000	2020-2029
Chambers Rd.	Crowfoot Valley Rd. to Hess Rd.	Widen from 2 to 4 lanes	Douglas	\$17,500,000	2030-2039
Chambers Rd.	Crowfoot Valley Rd. to Hess Rd.	Widen from 4 to 6 lanes	Douglas	\$12,000,000	2040-2050
Chambers Rd.	E-470 to Arapahoe/Douglas County Line	Widen from 4 to 6 lanes	Douglas	\$12,500,000	2040-2050
Chambers Rd.	Hess Rd. to Mainstreet	Widen from 4 to 6 lanes	Douglas	\$10,000,000	2040-2050
Chambers Rd.	Mainstreet to Lincoln Ave.	Widen from 4 to 6 lanes	Douglas	\$16,000,000	2040-2050
Colorado Blvd.	144th Ave. to 156th Ave.	Widen from 2 to 4 lanes	Adams	\$23,500,000	2030-2039
Colorado Blvd.	156th Ave. to 168th Ave.	New 4-lane road	Adams	\$23,500,000	2030-2039
Crowfoot Valley Rd.	Chambers Rd. to Stroh Rd.	Widen from 2 to 4 lanes	Douglas	\$11,500,000	2030-2039
Crowfoot Valley Rd.	Founders Pkwy. to Macanta Rd./ Canyonside Blvd.	Widen from 2 to 4 lanes	Douglas	\$10,000,000	2030-2039

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Crowfoot Valley Rd.	Macanta Rd./Canyonside Blvd. to Chambers Rd.	Widen from 2 to 4 lanes	Douglas	\$38,000,000	2030-2039
East Bromley Ln.	Tower Rd. to I-76	Widen from 4 to 6 lanes	Adams	\$1,853,032	2020-2029
East Bromley Ln.	U.S. Route 85 to Sable Blvd.	Widen from 4 to 6 lanes	Adams	\$1,333,500	2020-2029
East County Line Rd.	9th Ave. to State Hwy. 66	Widen from 2 to 4 lanes	Boulder	\$9,779,000	2030-2039
East County Line Rd.	State Hwy. 7 to Arapahoe Rd Relocation	Widen from 2 to 4	Boulder, Weld	\$12,000,000	
East County Line Rd.	State Hwy. 7 to Arapahoe Rd Relocation	Widen from 2 to 4	Weld	\$12,000,000	
Green Valley Ranch Blvd.	Chambers Rd. to Peña Blvd.	Widen from 4 to 6 lanes	Denver	\$9,900,000	2020-2029
Green Valley Ranch Blvd.	Peña Blvd. to Tower Rd.	Widen from 4 to 6 lanes	Denver	\$1,700,000	2020-2029
Hampden Ave.	Picadilly Rd. to Gun Club Rd.	Widen from 2 to 4 lanes	Arapahoe	\$12,353,544	2020-2029
Harvest Mile Rd./Powhaton Rd.	I-70 to 26th Ave.	New 4-lane road	Adams	\$12,000,000	2020-2029
Harvest Mile Rd./Powhaton Rd.	I-70 to 26th Ave.	Widen from 4 to 6	Adams	\$8,000,000	2030-2039
Harvest Mile Rd.	56th Ave. to 64th Ave.	New 3-lane road	Adams	\$6,452,235	2020-2029
Harvest Mile Rd.	56th Ave. to 64th Ave.	Widen from 3 to 6 lanes	Adams	\$7,760,970	2030-2039

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Harvest Mile Rd.	Jewell Ave. to Mississippi Ave.	Widen from 2 to 6 lanes	Arapahoe	\$13,313,410	2030-2039
Harvest Rd.	6th Ave. to I-70	New 6-lane road	Arapahoe	\$13,313,410	2020-2029
Harvest Rd.	Alameda Ave. to 1st Ave.	Widen from 4 to 6 lanes	Arapahoe	\$6,657,340	2020-2029
Harvest Rd.	Mississippi Ave. to Alameda Ave.	Add new 6-lane road	Arapahoe	\$13,313,410	2020-2029
Havana St.	Lincoln Ave.	Grade separation of Havana St. and Lincoln Ave. with safety, operational, and multimodal corridor improvements	Douglas	\$60,000,000	2020-2029
Hess Rd.	Canyonside Blvd. to Chamber Rd.	Widen from 2 to 4 lanes	Douglas	\$17,000,000	2030-2039
Hilltop Rd.	Canterberry Pkwy. to Singing Hills Rd.	Widen from 2 to 4 lanes	Douglas	\$20,000,000	2020-2029
Huron St.	150th Ave. to 160th Ave.	Widen from 2 to 4 lanes	Broomfield	\$8,572,500	2020-2029
Huron St.	160th Ave. to State Hwy. 7	Widen from 2 to 4 lanes	Broomfield	\$5,080,000	2020-2029
I-70	32nd Ave. Interchange	Interchange reconstruction	Jefferson	\$22,400,000	2020-2029
I-70	Harvest Mile Rd.	Add new interchange	Adams, Arapahoe	\$39,566,215	2020-2029
I-70	Picadilly Rd.	Add new interchange	Adams	\$27,490,547	2020-2029
I-76	Bridge St.	Add new interchange	Adams	\$25,400,000	2020-2029
I-76	Weld County Rd. 8	New interchange	Weld	\$180,000,000	2020-2029
Imboden Mile Rd./Quail Run Rd.	29th Ave./Quail Run Rd to Imboden Rd./40th Ave.	New 4-lane road	Adams	\$24,000,000	2030-2039
Imboden Mile Rd.	40th Ave. to 48th Ave.	Widen from 2 to 4 lanes	Adams	\$4,000,000	2030-2039
Imboden Rd.	48th Ave. to 56th Ave.	Widen from 2 to 4 lanes	Adams	\$24,000,000	2030-2039
Jewell Ave.	E-470 to Gun Club Rd.	Widen from 2 to 6 lanes	Arapahoe	\$4,848,860	2020-2029

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Jewell Ave.	Gun Club Rd. to Harvest Mile Rd.	Widen from 2 to 6 lanes	Arapahoe	\$9,950,450	2020-2029
Jewell Ave.	Harvest Rd. to Monaghan Rd.	Widen from 2 to 6 lanes	Arapahoe	\$9,700,000	2030-2039
Jewell Ave.	Himalaya St. to E-470	Widen from 3 to 6 lanes	Arapahoe	\$13,194,030	2020-2029
Jewell Ave.	Monaghan Rd. to Watkins Rd.	Widen from 2 to 4 lanes	Arapahoe	\$14,400,000	2030-2039
Lincoln Ave.	1st St. to Keystone Blvd.	Widen from 4 to 6 lanes	Douglas	\$18,000,000	2030-2039
Lincoln Ave.	Keystone Blvd. to Parker Rd.	Widen from 4 to 6 lanes	Douglas	\$20,250,000	2020-2029
Lincoln Ave.	Peoria St. to 1st Ave.	Widen from 4 to 6 lanes	Douglas	\$4,000,000	2030-2039
Mainstreet	Canterberry Pkwy. to Delbert Rd.	Widen from 2 to 4 lanes	Douglas	\$28,000,000	2040-2050
Manila Rd.	6th Ave. to I-70	New 4-lane road	Arapahoe	\$5,000,000	2030-2039
Manila Rd.	I-70 to 48th Ave.	Widen from 2 to 4 lanes	Adams	\$15,000,000	2030-2039
McIntyre St.	52nd Ave. to 60th Ave.	Widen from 2 to 4 lanes	Jefferson	\$6,500,000	2020-2029
Monaghan Rd.	26th Ave. to 56th Ave.	Widen from 2 to 4 lanes	Adams	\$26,000,000	2030-2039
Monaghan Rd.	56th Ave. to 64th Ave.	New 4-lane road	Adams	\$25,000,000	2030-2039
Monaghan Rd.	I-70 to 26th Ave.	New 4-lane road	Adams	\$25,000,000	2030-2039
Monaghan Rd.	Quincy Ave. to Yale Ave.	New 6-lane road	Arapahoe	\$22,860,000	2030-2039
Nelson Rd.	75th St. to Affolter Dr.	Widen from 2 to 4 lanes	Boulder	\$5,198,110	2020-2029
Northwest Pkwy. Managed Lanes (96th St.)	96th St. west of Northwest Pkwy. to State Hwy. 128	Add 2 toll lanes	Broomfield	\$39,370,000	2020-2029
Pace St.	5th Ave. to 17th Ave.	Widen from 2 to 4 lanes	Boulder	\$3,827,780	2020-2029
Pecos St.	52nd Ave. to 0.72 miles north of 52nd Ave.	Widen from 2 to 4 lanes	Adams	\$8,647,748	2020-2029

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Peña Blvd.	E-470 to Jackson Gap St.	Widen from 6 to 8 lanes	Denver	\$33,000,000	2020-2029
Peña Blvd.	Gun Club Rd.	Interchange capacity	Denver	\$15,000,000	2020-2029
Peña Blvd.	Jackson Gap St. west ramps to DEN terminal	Widen from 6 to 8 lanes	Denver	\$10,200,000	2020-2029
Peoria St.	0.75 miles south of Lincoln Ave. to Mainstreet/RidgeGate Pkwy.	Widen from 2 to 4 lanes	Douglas	\$5,000,000	2030-2039
Peoria St.	E-470 to 0.75 mile south of Lincoln Ave.	Widen from 2 to 4 lanes	Douglas	\$7,000,000	2030-2039
Picadilly Rd.	48th Ave. to 56th Ave.	Widen from 2 to 6 lanes	Adams	\$13,568,680	2020-2029
Picadilly Rd.	56th Ave. to 70th Ave./Aurora city limits	New 6-lane road	Adams	\$20,353,020	2020-2029
Picadilly Rd.	6th Pkwy. to Colfax Ave.	Widen from 2 to 6 lanes	Arapahoe	\$5,000,000	2020-2029
Picadilly Rd.	70th Ave. to 82nd Ave.	New 6-lane road	Denver	\$11,400,000	2020-2029
Picadilly Rd.	82nd Ave. to 96th Ave.	New 6-lane road	Adams	\$21,590,000	2030-2039
Picadilly Rd.	96th Ave. to 120th Ave.	New 6-lane road	Adams	\$49,022,000	2030-2039
Picadilly Rd.	Colfax Ave. to I-70	New 6-lane road	Adams	\$12,904,724	2020-2029
Picadilly Rd.	I-70 to Smith Rd.	Widen from 2 to 6 lanes	Adams	\$5,332,730	2020-2029
Picadilly Rd.	Smith Rd. to 48th Ave.	Widen from 2 to 6 lanes	Adams	\$22,496,780	2020-2029
Picadilly Rd.	State Hwy. 30 to 6th Pkwy.	New 4-lane road	Arapahoe	\$7,000,000	2020-2029
Plum Creek Pkwy.	Gilbert St. to Ridge Rd.	Widen from 2 to 4 lanes	Douglas	\$5,080,000	2020-2029
Plum Creek Pkwy.	Wolfensberger Rd. to I-25	Widen from 2 to 4 lanes	Douglas	\$5,080,000	2020-2029
Powhaton Rd.	26th Ave. to 48th Ave.	Widen from 2 to 6 lanes	Adams	\$40,000,000	2020-2029

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Powhaton Rd.	Jewell Ave. to 26th Ave.	Widen from 2 to 4 lanes	Adams, Arapahoe	\$24,500,000	2040-2050
Powhaton Rd.	Smoky Hill Rd. to County Line Rd.	Widen from 2 to 6 lanes	Arapahoe	\$3,491,230	2030-2039
Prairie Hawk Dr.	0.2 miles south of Topeka Way to Morningbird Ln.	Widen from 2 to 4	Douglas	\$9,000,000	2030-2039
Prairie Hawk Dr.	Plum Creek Pkwy to 0.2 miles south of Topeka Way	Add New Road	Douglas	\$9,000,000	2030-2039
Quail Run Rd.	6th Ave. to I-70	New 4-lane road	Arapahoe	\$5,000,000	2040-2050
Quail Run Rd.	I-70 to 29th Ave./Quail Run Rd.	New 4-lane road	Adams	\$36,391,342	2030-2039
Quebec St.	120th Ave. to 128th Ave.	Widen from 2 to 4 lanes	Adams	\$8,432,800	2020-2029
Quebec St.	132nd Ave. to 160th Ave.	Widen from 2 to 4 lanes	Adams	\$21,010,880	2020-2029
Quincy Ave.	Hayesmount Rd. to Watkins Rd.	Widen from 2 to 6 lanes	Arapahoe	\$16,002,000	2030-2039
Quincy Ave.	Irving St. to Federal Blvd.	New 2-lane road	Arapahoe	\$3,810,000	2020-2029
Quincy Ave.	Monaghan Rd. to Hayesmount Rd.	Widen from 2 to 6 lanes	Arapahoe	\$18,935,700	2030-2039
Quincy Ave.	Plains Pkwy. to Gun Club Rd.	Widen from 2 to 6 lanes	Arapahoe	\$13,335,000	2020-2029
Quincy Ave.	Simms St. to Kipling Pkwy.	Widen from 2 to 4 lanes	Jefferson	\$12,001,500	2020-2029
Rampart Range Rd.	Waterton Rd. to Titan Rd.	Widen from 2 to 4 lanes	Douglas	\$10,000,000	2030-2039
Ridge Rd.	Plum Creek Pkwy. To State Hwy. 86	Widen from 2 to 4 lanes	Douglas	\$3,810,000	2020-2029
Sheridan Pkwy.	Lowell Blvd. to Northwest Pkwy.	Widen from 2 to 4 lanes	Broomfield	\$7,620,000	2020-2029
Sheridan Pkwy.	Northwest Pkwy. to Preble Creek	Widen from 2 to 4 lanes	Broomfield	\$5,715,000	2020-2029
Smoky Hill Rd.	Pheasant Run Pkwy. to Versailles Pkwy.	Widen from 4 to 6 lanes	Arapahoe	\$33,909,000	2030-2039
State Hwy. 58	Cabela St.	Add new interchange	Jefferson	\$19,558,000	2020-2029

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
State Hwy. 7	Boulder County Line to Sheridan Pkwy.	Widen from 2 to 4 lanes	Broomfield	\$6,604,000	2020-2029
State Hwy. 7	Riverdale Rd. to U.S. Route 85	Widen from 2 to 4 lanes	Adams	\$16,319,500	2030-2039
State Hwy. 7	Sheridan Pkwy. to I-25	Widen from 2 to 6 lanes	Broomfield	\$10,172,700	2020-2029
Stephen D. Hogan Pkwy. (6th Pkwy.)	E-470 to Gun Club Rd.	Widen from 2 to 6 lanes	Arapahoe	\$34,904,680	2030-2039
Stephen D. Hogan Pkwy. (6th Pkwy.)	State Hwy. 30 to E-470	Widen from 2 to 6 lanes	Arapahoe	\$34,904,680	2030-2039
Stroh Rd.	Chambers Rd. to Crowfoot Valley Rd.	New 4-lane road	Douglas	\$14,000,000	2020-2029
Stroh Rd.	Crowfoot Valley Rd. to J. Morgan Blvd.	Widen from 2 to 4 lanes	Douglas	\$9,250,000	2020-2029
Titan Rd.	Rampart Range Rd. to Santa Fe Dr.	Widen from 2 to 4 lanes	Douglas	\$25,000,000	2030-2039
Tower Rd./ Buckley Rd.	105th Ave. to 118th Ave.	New 4-lane road	Adams	\$8,801,100	2020-2029
Tower Rd.	45th Ave. to Green Valley Ranch Blvd. (48th Ave.)	Widen from 4 to 6 lanes	Denver	\$2,500,000	2020-2029
Tower Rd.	48th Ave. to 56th Ave.	Widen from 4 to 6 lanes	Denver	\$5,300,000	2020-2029
Tower Rd.	56th Ave. to Peña Blvd.	Widen from 4 to 6 lanes	Denver	\$16,000,000	2020-2029
Tower Rd.	6th Ave. to Colfax Ave.	New 2-lane road	Arapahoe	\$25,820,370	2020-2029
Tower Rd.	6th Ave. to Colfax Ave.	Widen from 2 to 6 lanes	Arapahoe	\$25,820,370	2030-2039
Tower Rd.	Colfax Ave. to Smith Rd.	Widen from 2 to 6 lanes	Adams	\$8,727,440	2020-2029
Tower Rd.	Peña Blvd. to 105th Ave.	Widen from 4 to 6 lanes	Adams	\$20,000,000	2020-2029
U.S. Route 85	Titan Rd. to Highlands Ranch Pkwy.	Widen from 4 to 6 lanes	Douglas	\$5,000,000	2030-2039

Continued on next page.

Table 18: Local government funded projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
Washington St.	152nd Ave. to 160th Ave.	Widen from 2 to 6 lanes	Adams	\$37,300,000	2020-2029
Waterton Rd.	State Hwy. 121 to Campfire St.	Widen from 2 to 4 lanes	Douglas	\$16,000,000	2030-2039
Watkins Rd.	Quincy Ave. to I-70	Widen from 2 to 6 lanes	Arapahoe	\$54,673,500	2030-2039
Wolfensberger Rd.	Coachline Rd. to Prairie Hawk Dr.	Widen from 2 to 4 lanes	Douglas	\$7,500,000	2030-2039
Yale Ave.	Monaghan Rd. to Hayesmount Rd.	Widen from 2 to 6 lanes	Arapahoe	\$17,335,500	2030-2039
York St.	152nd Ave. to E-470	Widen from 2 to 4 lanes	Adams	\$13,074,650	2030-2039
York St.	160th Ave. (State Hwy. 7) to 168th Ave.	Widen from 2 to 4 lanes	Adams	\$7,493,000	2020-2029
York St.	78th Ave. to State Hwy. 224	Widen from 2 to 4 lanes	Adams	\$12,800,000	2020-2029
York St.	88th Ave. to 78th Ave.	Widen from 2 to 4 lanes	Adams	\$13,500,000	2020-2029
York St.	E-470 to State Hwy. 7	Widen from 2 to 4 lanes	Adams	\$10,668,000	2020-2029
York St.	State Hwy. 224 to 58th Ave.	Widen from 2 to 4 lanes	Adams	\$20,000,000	2020-2029
			Local government projects and programs total	\$73,671,964,273	

Table 19: Public highway toll authority projects and programs

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
E-470 multiuse trails	Varies	Trail projects anticipated to be linked with E-470 widenings	Adams, Arapahoe, Douglas	\$28,600,000	2020-2050
E-470 pavement overlays	Varies	Pavement overlays needed before reconstruction associated with anticipated widenings	Adams, Arapahoe, Douglas	\$25,618,000	2020-2050
E-470 ramp signalization and geometric improvements	Varies	Signalize ramp terminal intersections and geometric interchange improvements	Adams, Arapahoe, Douglas	\$62,444,000	2020-2050
E-470 renewal and replacement program	Varies	Infrastructure renewal, replacement and maintenance items	Adams, Arapahoe, Douglas	\$679,022,419	2020-2050
E-470	U.S. Route 85 to I-25 North	Widen 4 to 6 lanes	Adams	\$28,000,000	2030-2039
E-470	I-76 to U.S. Route 85	Widen 4 to 6 lanes	Adams	\$21,096,000	2030-2039
E-470	Peoria St.	Widen to 6 through-lanes plus turn lanes	Adams	\$21,096,000	2030-2039
E-470	Sable Blvd.	New interchange	Adams	\$16,000,000	2020-2029
E-470	104th Ave. to I-76	Widen 4 to 6 lanes	Adams	\$106,500,000	2020-2029
E-470	Peña Blvd. to I-76	Widen 6 to 8 lanes	Adams	\$27,700,000	2030-2039
E-470	I-76	Add ramps for fully directional interchange	Adams	\$15,822,000	2030-2039
E-470	I-76	Add ramps for fully directional interchange	Adams	\$18,000,000	2020-2029
E-470	112th Ave.	New interchange	Adams	\$15,822,000	2020-2029
E-470	Peña Blvd.	Add separated auxillary lanes	Denver	\$23,000,000	2020-2029
E-470	I-70 to 104th Ave.	Widen 4 to 6 lanes	Adams	\$30,589,000	2020-2029
E-470	88th Ave.	New interchange	Adams	\$102,000,000	2020-2029
E-470	48th Ave.	New Interchange	Adams	\$19,885,000	2020-2029

Continued on next page.

Table 19: Public highway toll authority projects and programs (continued)

Project name/ corridor	Location/limits	Project description	County	Project cost	Staging period
E-470	38th Ave.	New Interchange	Adams	\$56,950,000	2020-2029
E-470/I-70 interchange Complex	I-70	Directional I-70 interchanges	Adams, Arapahoe	\$74,000,000	2020-2029
E-470	Quincy Ave. to I-70	Widen 4 to 6 lanes	Arapahoe	\$83,100,000	2020-2029
E-470	Smoky Hill Rd to I-70	Widen 6 to 8 lanes	Arapahoe	\$41,000,000	2020-2029
E-470	Parker Rd. to Smoky Hill Rd.	Widen 6 to 8 lanes	Arapahoe, Douglas	\$109,000,000	2020-2029
E-470	I-25 South to Parker Rd.	Widen 6 to 8 lanes	Douglas	\$1,750,000	2020-2029
Jefferson Pkwy.	State Hwy. 128/96th St. to State Hwy. 93 north of 64th Ave.	New 4-lane road	Jefferson	\$51,816,000	2020-2029
Jefferson Pkwy.	Indiana St./State Hwy. 128	Add New Interchange	Jefferson	\$51,816,000	2020-2029
Jefferson Pkwy.	Candelas Pkwy.	Add new interchange	Jefferson	\$51,816,000	2020-2029
Jefferson Pkwy.	Simms St.	Add new interchange	Jefferson	\$51,816,000	2020-2029
Jefferson Pkwy.	State Hwy. 72	Add new interchange	Jefferson	\$51,816,000	2020-2029
			Public highway toll authority projects and programs total	\$1,866,074,419	

Sub-Appendix B: Modeling summary tables

Table 20: 2020 and 2050 population, employment and household estimates.

Category	2020	2050
Total population	3,408,152	4,478,343
Total employment	2,180,587	3,000,647
Total dwelling units (or households)	1,361,781	1,882,031
Individuals per dwelling unit (or household)	2.50	2.38

Table 21: 2020 and 2050 vehicle miles traveled by roadway type.

Roadway type	2020 vehicle miles traveled	2050 vehicle miles traveled
Freeways	30,758,698	39,207,414
Tollways: E-470 and Northwest Parkway	1,865,436	4,474,889
Freeway express lanes	389,613	2,944,955
Expressways	5,416,461	7,289,159
Principal arterials	26,300,663	37,416,316
Minor arterials	8,514,946	12,019,522
Collector and local roads	5,390,378	8,416,719
Freeway entry and exit ramps	2,095,875	2,733,233
Freeway-to-freeway ramps	941,334	1,211,024
Centroid connectors	8,774,341	13,415,651
Total	90,447,745	129,128,881

Table 22: 2020 and 2050 average speed by roadway type.

Roadway type	2020 average speed in miles per hour	2050 average speed in miles per hour
Freeways	55.9	50.3
Tollways: E-470 and Northwest Parkway	77.5	75.5
Freeway express lanes	62.5	55.2
Expressways	44.3	40.5
Principal arterials	33.3	31.5
Minor arterials	29.0	27.7
Collector and local roads	25.1	24.1
Freeway entry and exit ramps	31.6	30.0
Freeway-to-freeway ramps	38.3	32.5
Centroid connectors	26.6	27.9
Combined average speed	37.4	35.3

Table 23: 2020 and 2050 lane miles by roadway type.

Roadway type	2020 lane miles	2050 lane miles
Freeways	1,852	1,866
Tollways: E-470 & Northwest Parkway	242	397
Freeway express lanes	64	233
Expressways	541	559
Principal arterials	4,296	5,096
Minor arterials	2,888	3,147
Collector and local roads	6,089	6,107
Freeway entry and exit ramps	328	340
Freeway-to-freeway ramps	80	88
Centroid connectors	4,322	4,337
Total	20,701	22,170

Sub-Appendix C: Memorandums of agreement for the transportation conformity evaluation conducted under the eight-hour ozone standard

2015
MEMORANDUM OF AGREEMENT
FOR
TRANSPORTATION CONFORMITY EVALUATIONS

BY AND BETWEEN
THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
AND
THE REGIONAL AIR QUALITY COUNCIL
AND
THE DENVER REGIONAL COUNCIL OF GOVERNMENTS
AND
THE NORTH FRONT RANGE TRANSPORTATION AND
AIR QUALITY PLANNING COUNCIL

PURPOSE

This Memorandum of Agreement (MOA) is established for the purpose of defining the specific roles and responsibilities of the Air Pollution Control Division (APCD) of the Colorado Department of Health and Environment (CDPHE), the Regional Air Quality Council (RAQC), the Denver Regional Council of Governments (DRCOG), and the North Front Range Transportation and Air Quality Planning Council (NFRMPO) for transportation conformity evaluations and modeling for the Denver and North Front Range regions. Hereafter, the above are referenced as “parties,” and DRCOG and NFRMPO are referenced to as the “MPO(s)” (Metropolitan Planning Organization(s)).

Section 176(c) of the Clean Air Act Amendments of 1990 calls for conformity evaluations to be made for transportation plans, programs, and projects, and for these conformity determinations to be developed through an interagency consultation process. Title 23, Part 450 of the Code of Federal Regulations calls for a continuing, cooperative and comprehensive transportation planning process, including provision of complete information, opportunity for early and continuing public involvement, and access to technical and policy information used in developing transportation documents. These federal mandates are best carried out with the explicit understanding of how the state air quality agency and the MPOs will coordinate efforts, especially with regard to transmitting and analyzing data, and identifying key assumptions used in planning documents.

This MOA augments interagency consultation requirements set forth in federal law and Colorado Air Quality Control Commission (AQCC) Regulation Number 10, Section III. The MOA is to be used in conjunction with these federal and state requirements for transportation conformity determinations required under the Clean Air Act. Specifically, this MOA identifies the roles and responsibilities of RAQC, DRCOG, NFRMPO and APCD in conducting conformity evaluations and sets forth a procedural framework to ensure appropriate consultation and coordination between RAQC, DRCOG, NFRMPO and APCD in carrying out these responsibilities. It also clarifies what key assumptions and data are expected in draft documents and materials used in the interagency consultation process.

This MOA supersedes the prior agreements between the parties dated November 19, 1998 (DRCOG and APCD) and November 24, 1998 (NFRMPO and APCD).

CONFORMITY EVALUATIONS RESPONSIBILITIES

Conformity evaluations are conducted in association with new conformity determinations. The evaluations require the modeling and calculation of pollutant emissions.

MPO RESPONSIBILITIES

As defined in Regulation 10, Section III, MPOs are responsible for the development, maintenance, accuracy, and operation of the regional travel demand models which provide input data to the official emissions model. MPOs will notify APCD and RAQC staff once a need for a new conformity determination is identified and a schedule for conformity modeling has been established. The estimated time period over which APCD modeling work would be required will be defined. Any changes in the schedule will be discussed with APCD staff as soon as such changes are known by the MPO. When requesting APCD to model emissions, MPO staff will forward all necessary travel model data, for each staging year that will be modeled. The NFRMPO is responsible for travel modeling in the Ozone Northern Subarea and DRCOG is responsible in the Ozone Southern Subarea, as defined in the March 14, 2008 Memorandum of Agreement.

APCD RESPONSIBILITIES

The APCD is responsible for the development, maintenance, accuracy, and operation of the official emissions model. After receiving travel model inputs to the emissions model, the APCD will inform the parties regarding an estimated schedule for completion of the emissions results. After the APCD performs emissions modeling, it will provide the parties with the emission model output results as soon as possible.

RAQC RESPONSIBILITIES

The RAQC shall review travel and emissions modeling inputs and outputs and provide comments to the parties. The RAQC will provide technical support and advice regarding model modifications.

MODEL MODIFICATIONS AND CORRECTIONS

Once travel and emission models have been established, modifications and updates to those models by the APCD or MPO may occur for some of the following reasons: updated models, updated input information, such as fleet mix or travel demand model changes, or other issues that are discovered.

If a modification or correction is required in the travel or emissions model, the following steps should be led by the agency making the identification:

- Identify all affected parties and potential work items
- Notify the affected parties and provide an initial explanation
- If needed, call a meeting to review and explain the issue to all parties
- Establish timeline and assigned duties for implementing the modification or correction
- Obtain concurrence and approval for the process for implementation from all parties
- Ensure that the APCD or MPO updates the model with the new information for use with the next applicable conformity cycle
- Share and/or discuss model results with all parties

Changes to the models will be documented and provided to the affected parties and, if needed, may be incorporated into the applicable conformity determination report.

INTERAGENCY CONSULTATION PROCESS (OR GROUP)

An Interagency Consultation Group (ICG) has been established for consultation purposes as identified in Regulation 10. The APCD, DRCOG, and NFRMPO staff will submit technical data for review and recommendation by the ICG that is comprised of representatives from Federal Highway Administration (FHWA), Colorado Department of Transportation (CDOT), Environmental Protection Agency (EPA), Regional Air Quality Council (RAQC), Air Pollution Control Division (APCD), Upper Front Range Transportation Planning Region (UFR), Denver Regional Council of Governments (DRCOG), and North Front Range MPO (NFRMPO).

The ICG will meet as needed to review data pertaining to conformity determinations and advise in a timely fashion. In this way, the assumptions and procedures used in transportation and air quality modeling can be reviewed by staff before the final modeling is performed. Data to be submitted to the ICG for review as part of the regular transportation planning process should be sufficient for making decisions and may include transportation network and land use assumptions, descriptions of any calibrations or updates to the travel model, and updates or changes to the air quality model. If changes which could affect air emissions modeling or evaluations are made after the above data have been reviewed by the ICG, these differences will be disclosed to the ICG and to the other parties to this MOA prior to initiating the final air quality modeling.

Per Regulation 10 section III.H.2, the APCD, shall decide if the conformity determination needs to be reviewed by the AQCC (non-routine) or solely by APCD (routine).

AQCC CONFORMITY REVIEW

The MPO will follow the procedures identified in the AQCC Procedural Rules calling for a public meeting by the AQCC for purposes of commenting on the MPO's non-routine conformity determinations. The parties acknowledge the initial conformity determination document must be available to the Commission office at least 15 days prior to requesting that the AQCC schedule a public meeting, and the final conformity determination document must be available to the Commission office at least 30 days prior to the AQCC's public meeting at which the conformity determination is scheduled to be discussed. The initial document should contain all modeling results and the appropriate supporting materials, and the final documents should contain any updates, revisions or corrections. The Commission can entertain deviations from this schedule on a case-by-case basis.

The Division will provide the MPO with a copy of its written comments, if any, on the conformity determination at the same time it provides them to the AQCC. All AQCC comments on determinations of conformity shall be forwarded to the MPO by APCD. Any AQCC appeal of such conformity determination will follow the procedure outlined in Regulation 10. After review, the APCD will send the MPO a letter of concurrence of a positive conformity determination. If the AQCC does not concur on the conformity determination made by the MPO, this disagreement is forwarded to the Governor's Office unless the parties revise the conformity determination.

LIMITATIONS

1. Nothing in this MOA impairs or otherwise affects the authority of the heads of the signatory party over their organizations.
2. This MOA is intended to outline an agreement among the parties and does not create or confer any right or benefit on any person or party, private or public. Nothing in this MOA is intended to

- restrict the authority of any signatory to act as provided by law or regulation, or to restrict any agency from enforcing any laws within its authority and jurisdiction.
3. This MOA in no way restricts signatory parties from participating in similar activities with other public or private agencies, organizations, and individuals.
 4. Nothing in this MOA shall obligate any signatory party to obligate or transfer any funds, nor does it supplement existing statutory authorities of the signatory party agencies.
 5. This MOA, consisting of five (5) pages, represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations, and agreements concerning this MOA, whether written or oral.

EXECUTION, MODIFICATION AND TERMINATION OF AGREEMENT

It is mutually agreed and understood by all signatory parties that:

1. Any party to this agreement may suspend it by a 60-day written notice to the other parties. If this occurs, the parties agree to consult further to determine whether the issues can be resolved and the agreement re-implemented in an amended form.
2. Changes to the scope of this MOA shall be made by the issuance of a multilaterally executed modification. These changes are to be mutually agreed upon between the parties to this MOA, shall be incorporated by written instrument, executed and signed by all parties to this MOA and are effective as of the date of the last signature obtained.
3. This MOA may be executed in counterparts. A copy with the original signature pages affixed will constitute the original MOA. The effective date shall be the date of the final signatory party agency's signature, and the MOA shall remain in effect until modified or dissolved.
4. This MOA may not serve as the basis for any challenges or appeals.
5. Colorado Open Records Act (CORA). Any information furnished by any parties under this Memorandum is subject to the Colorado Open Records Act (24-72-201 to 24-72-309, C.R.S.).
6. **RESPONSIBILITIES OF PARTIES.** The subject parties intend to handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing these objectives. Each party intends to carry out its separate activities in a coordinated and mutually beneficial manner.
7. **NON-FUND OBLIGATING DOCUMENT.** Nothing in this MOA shall obligate the subject parties to obligate or transfer any funds. Specific work projects or activities that involve the transfer of funds, services, or property among the various agencies and offices of the parties will require execution of separate agreements and be contingent upon the availability of appropriated funds. This MOA does not provide such authority. Negotiation, execution, and administration of each such agreement must comply with all applicable statutes and regulations.
8. **ESTABLISHMENT OF RESPONSIBILITY.** This MOA is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against any of the signatory parties, including but not limited to, their agencies, their officers, or any other person.
9. **AUTHORIZED REPRESENTATIVES.** By signature below, the signatory party certifies that the individuals listed in this document as representatives of the signatory party are authorized to act in their respective areas for matters related to this agreement.
10. **GOVERNMENTAL IMMUNITY:** The parties do not waive their governmental immunity by entering into this MOA and retain all immunities and defenses provided by law with respect to any action based on or occurring as a result of this MOA.

11. The parties agree that exclusive venue for any action related to performance of this agreement shall be in the City and County of Denver, Colorado.

The undersigned parties hereby agree to the responsibilities and procedures described above.

for


Larry Wolk, Executive Director &
Chief Medical Officer
Colorado Department of Public Health and Environment

5.28.15

Date



Ken Lloyd, Executive Director
Regional Air Quality Council

March 31, 2015

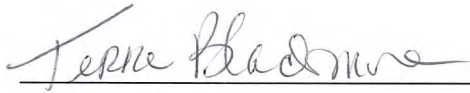
Date



Jennifer Schaufele, Executive Director
Denver Regional Council of Governments

March 25, 2015

Date



Terri Blackmore, Executive Director
North Front Range MPO

May 7, 2015

Date

Sub-Appendix D: U.S. Department of Transportation conformity finding

For the conformity determination finding, please review Appendix R: Adopting resolution and conformity determination.