



North Front Range  
**Metropolitan  
Planning  
Organization**

**Denver Metro/North Front Range (Northern Subarea) 8-Hour Ozone  
Nonattainment Area and Fort Collins Carbon Monoxide (CO)  
Maintenance Area Conformity Determination - DRAFT**

for the  
North Front Range Metropolitan Planning Area  
2050 Regional Transportation Plan Amendment  
and for the  
FY2026-2029 Transportation Improvement Program  
and for the  
Northern Subarea of the Upper Front Range Transportation Planning Region  
2045 Regional Transportation Plan  
and for the  
Northern Subarea of the Upper Front Range Transportation Planning Region  
portion of the  
Colorado FY2026-2029 Statewide Transportation Improvement Program

**Anticipated Adoption: December 4, 2025**

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

If you need any accommodations to access this document's content, please email [staff@nfrmpo.org](mailto:staff@nfrmpo.org) or call (970) 800-9560. You can expect a response within 3 business days.

## Table of Contents

<b>Table of Contents .....</b>	<b>2</b>
<b>List of Tables .....</b>	<b>3</b>
<b>List of Figures .....</b>	<b>3</b>
<b>List of Acronyms .....</b>	<b>4</b>
<b>Chapter 1: Introduction.....</b>	<b>6</b>
Purpose .....	6
Background .....	6
Nonattainment Areas and Emissions Budgets .....	7
Planning Organizations and Memorandum of Agreements (MOAs) .....	12
Conformity Determination Process .....	14
Public Participation .....	14
<b>Chapter 2: Implementation of Control Measures.....</b>	<b>15</b>
<b>Chapter 3: Emissions Tests .....</b>	<b>16</b>
Background .....	16
CO Emissions Test .....	16
8-Hour Ozone Emissions Tests.....	16
<b>Appendix A: Memorandum of Agreement – Transportation Conformity Evaluations Conducted Under the 8-Hour Ozone Standard (2008).....</b>	<b>20</b>
<b>Appendix B: Memorandum of Agreement – Transportation Conformity Evaluations Conducted Under the 8-Hour Ozone Standards (2022).....</b>	<b>29</b>
<b>Appendix C: NFRMPO 2019 Base Year Regional Travel Demand Model Description .....</b>	<b>38</b>
Introduction.....	39
Demographic Development Estimation.....	39
Roadway and Transit System .....	40
Trip Generation .....	40
Trip Distribution.....	41
Mode Choice .....	42
Traffic Assignment/Time-of-Day Analysis.....	42
Model Validation .....	42

Speed Feedback.....	43
Air Quality Modeling.....	43
<b>Appendix D: 8-Hour Ozone Northern Subarea Modeling Summary.....</b>	<b>44</b>
<b>Appendix E: Northern Subarea Regional Travel Demand Model Projects .....</b>	<b>46</b>
<b>Appendix F: Resolution 2025-# North Front Range Transportation &amp; Air Quality Planning Council (NFRT&amp;AQPC) Adoption.....</b>	<b>54</b>
<b>Appendix G: APCD Conformity Concurrence.....</b>	<b>56</b>
<b>Appendix H: U.S. Department of Transportation Conformity Finding .....</b>	<b>58</b>

## List of Tables

Table 1: Population and Employment Forecasts - Northern Subarea.....	17
Table 2: 8-Hour Ozone Conformity for Denver Metro-North Front Range Northern Subarea (Emission Tops per Day).....	18
Table 3: 8-Hour Ozone Northern Subarea Modeling Summary .....	45
Table 4: Fiscally Constrained RSC Capacity Projects, Staging Period A: 2024-2026 ...	48
Table 5: Fiscally Constrained RSC Capacity Projects, Staging Period B: 2027-2030 ...	49
Table 6: Fiscally Constrained RSC Capacity Projects, Staging Period C: 2031-2040 ...	51
Table 7: Fiscally Constrained RSC Capacity Projects, Staging Period C: 2031-2040 ...	53

## List of Figures

Figure 1: The NFRMPO Planning Area .....	7
Figure 2: Fort Collins and Greeley CO Maintenance Area Boundaries .....	8
Figure 3: Denver Metro/North Front Range 8-Hour Ozone Nonattainment Areas and Subareas.....	10
Figure 4: The 2008 and 2015 Northern Subareas and TPRs .....	13
Figure 5: TAZ Structure .....	40
Figure 6: Fiscally Constrained Roadway Capacity and Infrastructure Projects .....	47

## List of Acronyms

Acronym	Meaning/Context
APCD	Air Pollution Control Division
AQCC	Air Quality Control Commission
BRT	Bus Rapid Transit
BY	Base Year
CAA	Clean Air Act
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CFR	Code of Federal Regulation
CO	Carbon Monoxide
COLT	City of Loveland Transit
CSU	Colorado State University
DRCOG	Denver Regional Council of Governments
EE	External-External
EI	External-Internal
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GET	Greeley Evans Transit
HBO	Home-Based Other
HBS	Home-Based Shopping
HBS <sub>c</sub>	Home-Based School
HBU	Home-Based University
HBW	Home-Based Work
HTRK	Heavy Truck
ICG	Air Quality Interagency Consultation Group
IE	Internal-External
I/M	Inspection and Maintenance Program
LBO	Lodging-Based Other
LUAM	Land Use Allocation Model
MOA	Memorandum of Agreement
MOVES4	EPA's Motor Vehicle Emission Simulator Model
MPO	Metropolitan Planning Organization
MTRK	Medium-Heavy Truck
MVEB	Motor Vehicle Emissions Budget
NAAQS	National Ambient Air Quality Standards
NFRMPO	North Front Range Metropolitan Planning Organization

Acronym	Meaning/Context
NFRT&AQPC	North Front Range Transportation and Air Quality Planning Council
NOx	Nitrogen Oxides
OBO	Other-Based Other
PIP	Public Involvement Plan
PPM	Parts per Million
RAQC	Regional Air Quality Council
RMSE	Root Mean Square Error
RSC	Regionally Significant Corridor
RTC	Regional Transit Corridor
RTDM	Regional Travel Demand Model
RTP	Regional Transportation Plan
RVP	Reid Vapor Pressure
SDO	Colorado State Demography Office
SIP	State Implementation Plan
STIP	Statewide Transportation Improvement Program
TAC	Technical Advisory Committee
TAZ	Traffic Analysis Zone
TCM	Transportation Control Measures
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TPR	Transportation Planning Region
UFR	Upper Front Range Transportation Planning Region
UNC	University of Northern Colorado
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
WBO	Work-Based Other
YOE	Year of Expenditure

## Chapter 1: Introduction

### Purpose

This report demonstrates the transportation programs and plans in the Northern Subarea of the Denver Metro/North Front Range (DM/NFR) Nonattainment area (NAA) and Fort Collins Maintenance area meet air quality requirements per the federally prescribed transportation conformity process. Specifically, the programs and plans meet the requirements for the 2008 8-Hour Ozone National Ambient Air Quality Standard (NAAQS), the 2015 8-Hour Ozone NAAQS, and the 1971 Carbon Monoxide (CO) NAAQS.

This demonstration is based on the regionally significant projects in the 2050 Regional Transportation Plan (RTP) Amendment, with which the FY2026-2029 Transportation Improvement Program (TIP) projects are consistent, along with the regionally significant projects in the 2045 RTP for the Upper Front Range (UFR), and the FY2026-2029 Statewide TIP (STIP).

### Background

The NFRMPO is the lead planning agency for Carbon Monoxide (CO) within the North Front Range and is responsible for conducting conformity determinations for all NAAQS pollutants for which the region is not in attainment. The NFRMPO's 15 local member agencies include the communities of Berthoud, Eaton, Evans, Fort Collins, Garden City, Greeley, Johnstown, LaSalle, Loveland, Milliken, Severance, Timnath, and Windsor, as well as portions of Larimer and Weld counties. The NFRMPO planning area can be seen in **Figure 1**.

The NFRMPO conducts air quality conformity determinations on transportation plans and programs to determine conformance with the applicable Colorado State Implementation Plans (SIP) and in compliance with the Clean Air Act (CAA),<sup>1</sup> the Transportation Conformity Regulation,<sup>2</sup> the Statewide and Metropolitan Planning Regulation,<sup>3</sup> and other applicable federal and state requirements. The conformity determination ensures that transportation plans, programs, and projects do not:

---

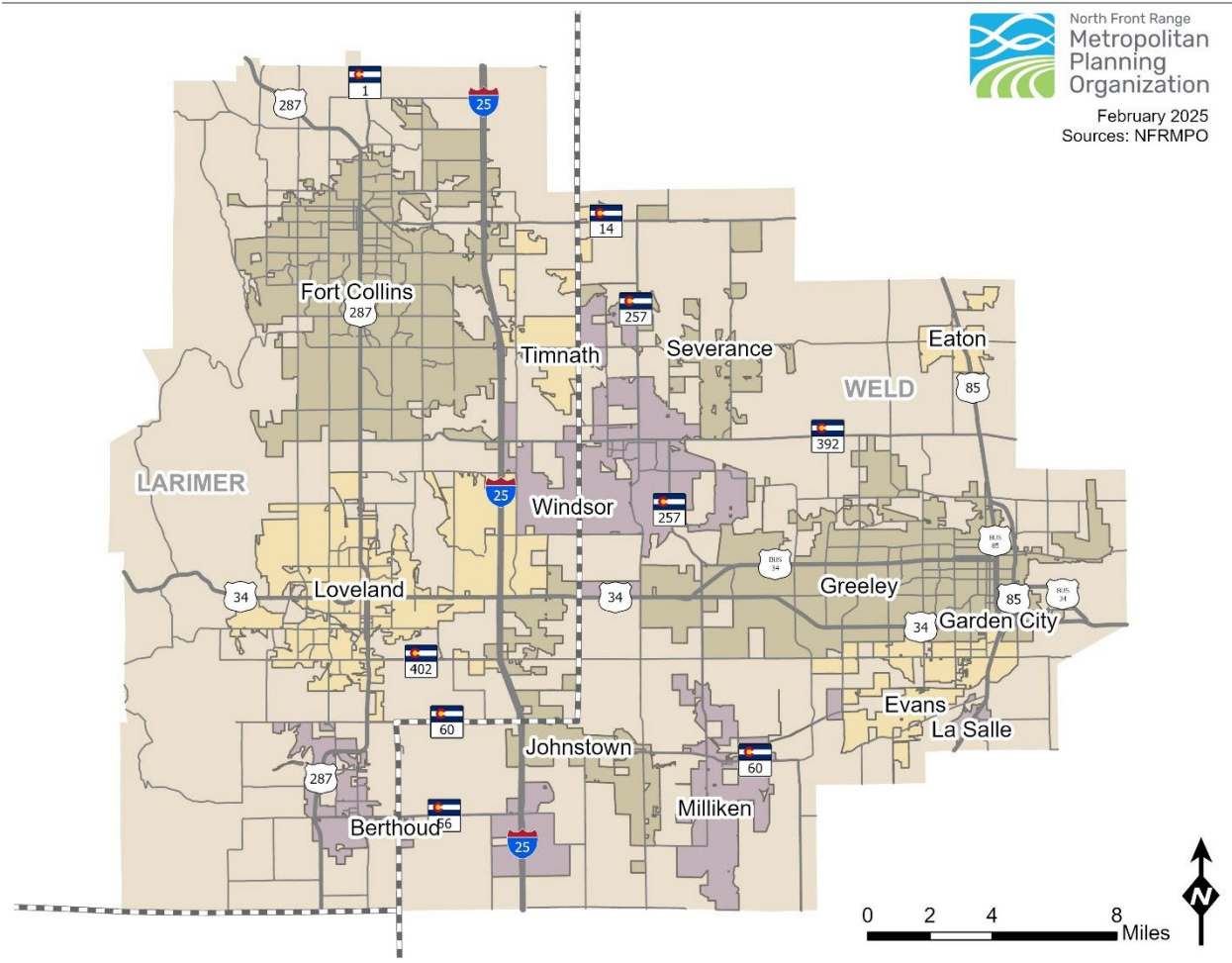
<sup>1</sup> 42 U.S.C. Chapter 85, Clean Air Act, Requirements and History, <https://www.govinfo.gov/content/pkg/USCODE-2017-title42/html/USCODE-2017-title42-chap85.htm>.

<sup>2</sup> 40 CFR 93 Subpart A, Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws, [https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr93\\_main\\_02.tpl](https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr93_main_02.tpl).

<sup>3</sup> 23 CFR 450, Planning Assistance and Standards, [https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title23/23cfr450\\_main\\_02.tpl](https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title23/23cfr450_main_02.tpl).

- Create new violations of the NAAQS;
- Increase the frequency or severity of NAAQS violations; or
- Delay timely attainment of the NAAQS or achievement of any interim milestone.

**Figure 1: The NFRMPO Planning Area**



## Legend

### Boundaries

 County Boundary

 NFRMPO Planning Area

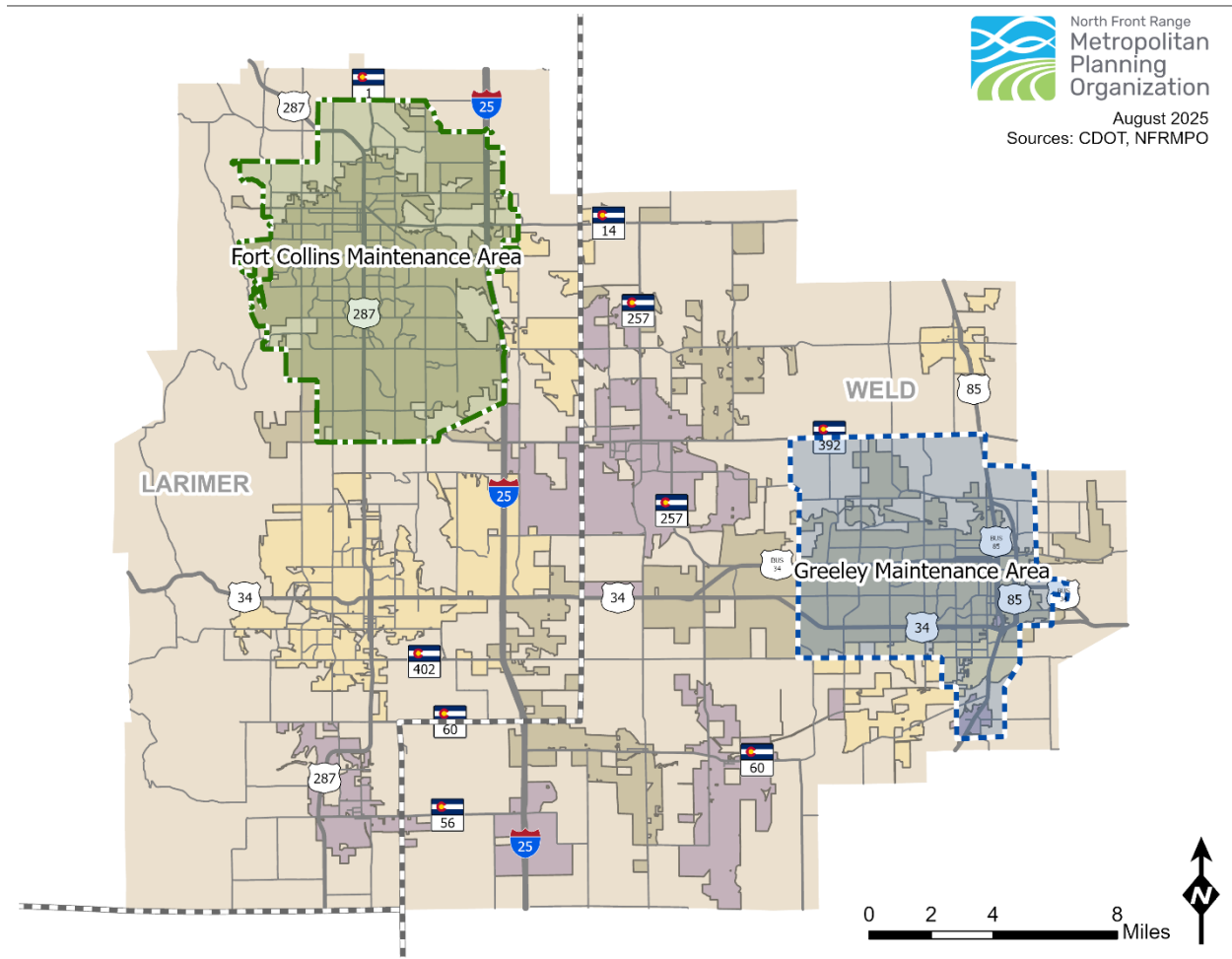
## Nonattainment Areas and Emissions Budgets

There is one nonattainment area partially within the NFRMPO region: the DM/NFR NAA for the 2008 Ozone NAAQS and 2015 Ozone NAAQS.

## Carbon Monoxide Maintenance Areas

Portions of the cities of Fort Collins and Greeley and their immediate vicinities are designated as maintenance areas for CO, shown in **Figure 2**.

**Figure 2: Fort Collins and Greeley CO Maintenance Area Boundaries**



### Legend

#### Boundaries

- County Boundary
- NFRMPO Planning Area
- Fort Collins Maintenance Area
- Greeley Maintenance Area

The Fort Collins area was designated by the U.S. Environmental Protection Agency (EPA) as nonattainment for CO in 1979. The last violation of the CO standard in Fort Collins was in 1991. The EPA redesignated Fort Collins as an attainment/maintenance area in 2003 with the approval of the first 10-year maintenance plan.<sup>4</sup> The second 10-year

<sup>4</sup> 68 FR 43316, <https://federalregister.gov/a/03-18303>, 2003



maintenance plan was approved by the EPA in 2013 and demonstrates continued attainment through September 22, 2023.<sup>5</sup>

The second 10-year maintenance plan for the Fort Collins Maintenance Area meets the requirements and provisions of EPA's limited maintenance plan option. To qualify for this option, the maintenance plan demonstrated CO levels at or below 85 percent of the 8-hour standard of 9 parts per million (ppm) for eight consecutive quarters. Transportation plans and improvement programs in CO limited maintenance plan areas are presumed to automatically satisfy the emissions budget test requirement, and no regional emissions analysis is required.

The Greeley area was designated by the EPA as nonattainment for CO in 1977. The last violation of the CO standard in Greeley was in 1988. The EPA redesignated Greeley as an attainment/maintenance area in 1999 with the approval of the first 10-year maintenance plan.<sup>6</sup> The second 10-year maintenance plan was approved by the EPA in 2013 and demonstrated continued attainment through May 10, 2019.<sup>7</sup> While the Greeley CO Maintenance area has not yet been redesignated as an attainment area, conformity requirements no longer apply due to the expiration of the second 10-year maintenance plan.

### *Ozone Nonattainment Area*

The NFRMPO region is within the nine-county Denver Metro/North Front Range (DM/NFR) Nonattainment Area (NAA) for the 2008 8-hour Ozone NAAQS and 2015 8-hour ozone NAAQS. The NAA for the 2008 8-hour ozone NAAQS covers the full counties of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, and portions of Larimer and Weld counties. The same area was designated as nonattainment for the 2015 8-Hour ozone NAAQS. Subsequently, the EPA expanded the boundary of the DM/NFR NAA for the 2015 8-hour ozone NAAQS to include the entirety of Weld County. **Figure 3** shows the boundaries of the DM/NFR NAA for both the 2008 and 2015 NAAQS and shows 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. The NFRMPO conducts conformity determinations for the Northern Subarea.

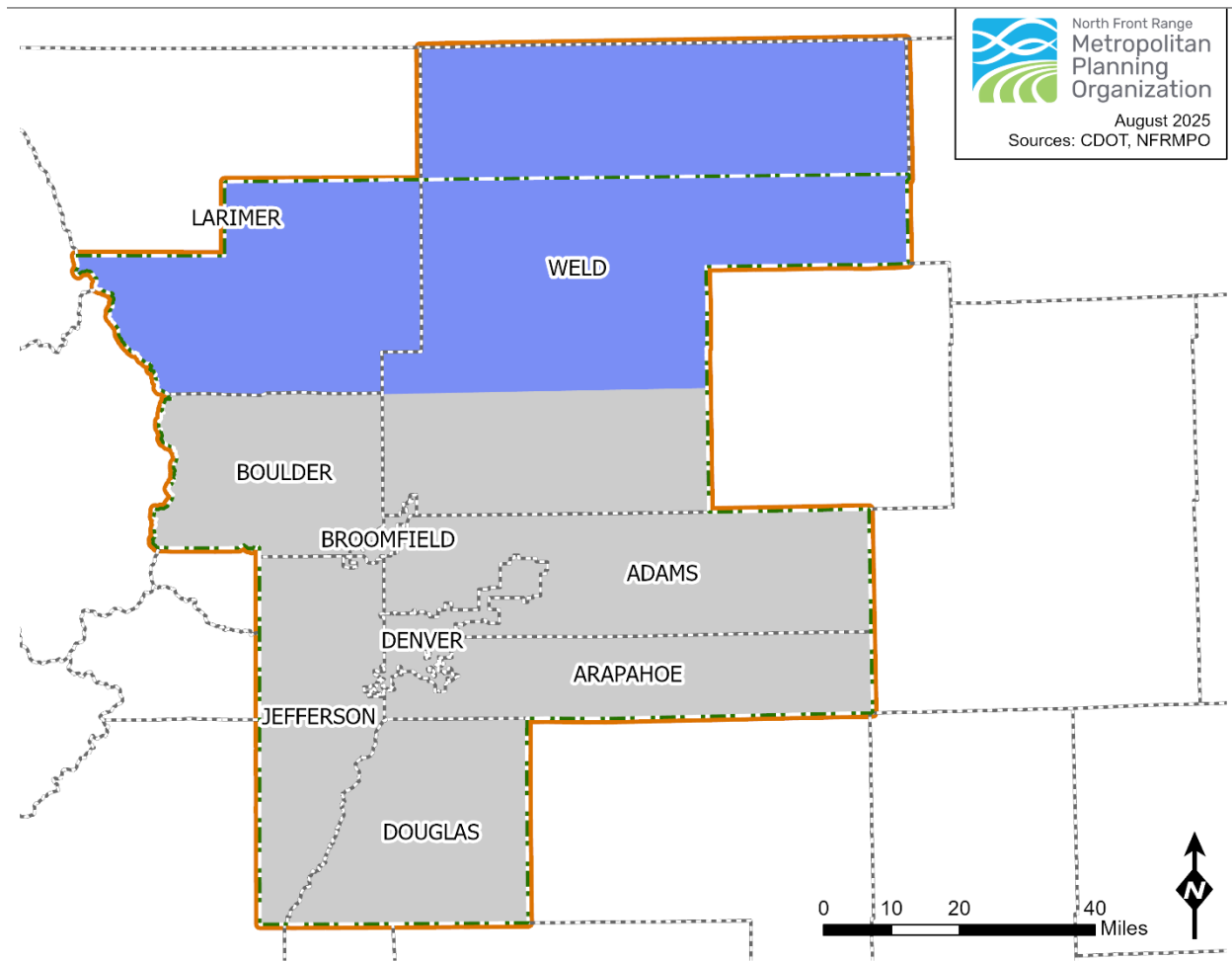
---

<sup>5</sup> 78 FR 56164, <https://federalregister.gov/a/2013-21987>, 2013

<sup>6</sup> 64 FR 11775, <https://federalregister.gov/a/99-5661>, 1999

<sup>7</sup> 78 FR 46816, <https://federalregister.gov/a/2013-18439>, 2013

**Figure 3: Denver Metro/North Front Range 8-Hour Ozone Nonattainment Areas and Subareas**



## Legend

### Boundaries

County Boundaries

Northern Subarea

Southern Subarea

DM/NFR Ozone NAA - 2015 Standard

DM/NFR Ozone NAA - 2008 Standard

The nine-county DM/NFR area was originally designated as a nonattainment area for ozone under the 1997 8-hour ozone NAAQS of 0.08 parts per million (ppm) established by the EPA. A SIP was developed to demonstrate how the region would attain the 1997 8-hour ozone standard by 2010. For the purposes of transportation conformity, Motor Vehicle Emission Budgets (MVEBs) were established as part of the SIP for each subarea of the NAA for the two ozone precursors: Nitrogen Oxides (NO<sub>x</sub>) and Volatile Organic Compounds (VOC). EPA found the NO<sub>x</sub> and VOC MVEBs adequate for transportation

conformity purposes<sup>8</sup> and approved the budgets with the final rule to approve the Denver Metro Area & North Front Range Ozone Action Plan which included revisions to the SIP for the 1997 8-hour ozone NAAQS.<sup>9</sup>

On March 27, 2008,<sup>10</sup> the EPA lowered the NAAQS for ground-level ozone to 0.075 ppm. The same nine-county DM/NFR NAA under the 1997 standard was designated as Marginal Nonattainment by the EPA under the 2008 standard on May 21, 2012.<sup>11</sup> As a Marginal Nonattainment area, the deadline to attain the 2008 ozone NAAQS was by the end of the 2014 ozone season and a new SIP was not required. The DM/NFR NAA failed to attain the NAAQS based on the three-year average of ozone data from 2012 to 2014 and on May 4, 2016, EPA reclassified the area from Marginal to Moderate, extending the attainment year to 2017.<sup>12</sup> Due to the reclassification, the State of Colorado developed the Moderate Area Ozone SIP to demonstrate how the area will comply with the federal CAA for the 2008 ozone NAAQS and set new MVEBs for each subarea of the Nonattainment area. The MVEBs were deemed adequate for conformity determinations by the EPA on March 16, 2018.<sup>13</sup> The region failed to attain the NAAQS based on the three-year average of ozone data from 2015 to 2017, but due to a clean data year in 2017 the State of Colorado requested a one-year extension on the attainment deadline. The State later withdrew the request, and the EPA reclassified the area from Moderate to Serious on December 26, 2019, with an attainment year of 2020.<sup>14</sup> The Air Quality Control Commission (AQCC) adopted the Serious Area SIP including new MVEBs on December 18, 2020. Until the new MVEBs are approved or deemed adequate by EPA, the MVEBs in the Moderate Area Ozone SIP continue to be the applicable budgets. On April 13, 2022, the EPA announced a proposed rule to reclassify the region to Severe for the 2008 NAAQS, which has attainment year of 2027. Effective date was October 7, 2022.

The EPA lowered the ozone NAAQS to 0.070 ppm on December 28, 2015.<sup>15</sup> The nine-county DM/NFR area was designated as a Marginal Nonattainment area by the EPA on August 3, 2018.<sup>16</sup> After failing to attain the 2015 standard based on measured values from 2018 through 2020, the EPA reclassified the DM/NFR area to Moderate on October 7, 2022 with an attainment date of August 3, 2024. On June 8, 2024 Colorado requested EPA reclassify the DM/NFR to Serious based on a determination that the area would most likely not meet its attainment date. The EPA adopted the state's voluntary reclassification

---

<sup>8</sup> 75 FR 9893, <https://federalregister.gov/a/2010-4551>, 2010

<sup>9</sup> 76 FR 47443, <https://federalregister.gov/a/2011-19807>, 2011

<sup>10</sup> 73 FR 16436, <https://federalregister.gov/a/E8-5645>, 2008

<sup>11</sup> 77 FR 30098, <https://federalregister.gov/a/2012-11618>, 2012

<sup>12</sup> 81 FR 26697, <https://federalregister.gov/a/2016-09729>, 2016

<sup>13</sup> 83 FR 11751, <https://federalregister.gov/a/2018-05406>, 2018

<sup>14</sup> 84 FR 70897, <https://federalregister.gov/a/2019-27485>, 2018

<sup>15</sup> 80 FR 65291, <https://federalregister.gov/a/2015-26594>, 2015

<sup>16</sup> 83 FR 25776, <https://federalregister.gov/a/2018-11838>, 2018

for the 2015 ozone standard on July 24, 2024. As noted previously, EPA subsequently designated the entirety of Weld County as nonattainment for the 2015 ozone standard, with an effective date of December 30, 2021<sup>17</sup>, thus expanding the boundary of the DM/NFR NAA for the 2015 ozone standard. This conformity determination includes northern Weld County and demonstrates conformity, thus meeting the federal requirements.

A SIP is currently under development for the 2015 ozone NAAQS. Until new MVEBs are approved and become effective, the DM/NFR NAA, including the entirety of Weld County, demonstrates conformity to the 2015 ozone NAAQS by meeting the approved Moderate SIP MVEB tests for the 2008 ozone NAAQS ([40 CFR 93.109\(c\)\(2\)\(i\)](#)). The 2015 Serious ozone SIP for the DM/NFR NAA and MVEBs from the SIP are expected to be approved in 2025.

### Planning Organizations and Memorandum of Agreements (MOAs)

The NFRMPO is the MPO for the Fort Collins Transportation Management Area (TMA), which includes Berthoud, Fort Collins, Loveland, and portions of Johnstown, Timnath, and Windsor. The NFRMPO has 15 local government members, including 13 municipalities and portions of Larimer and Weld counties.

The UFR covers the remainder of the Northern Subarea of the 8-Hour Ozone Nonattainment Area. Located in north-central Colorado, the UFR is comprised of portions of Larimer and Weld counties and Morgan County and excludes the portion of southwestern Weld County included in the Denver Regional Council of Governments (DRCOG) Metropolitan Planning Area (MPA). **Figure 4** illustrates the Northern Subarea boundaries for the 2008 ozone NAAQS and the 2015 ozone NAAQS as well as the North Front Range, the Upper Front Range, and the Greater Denver Area Transportation Planning Regions (TPRs).

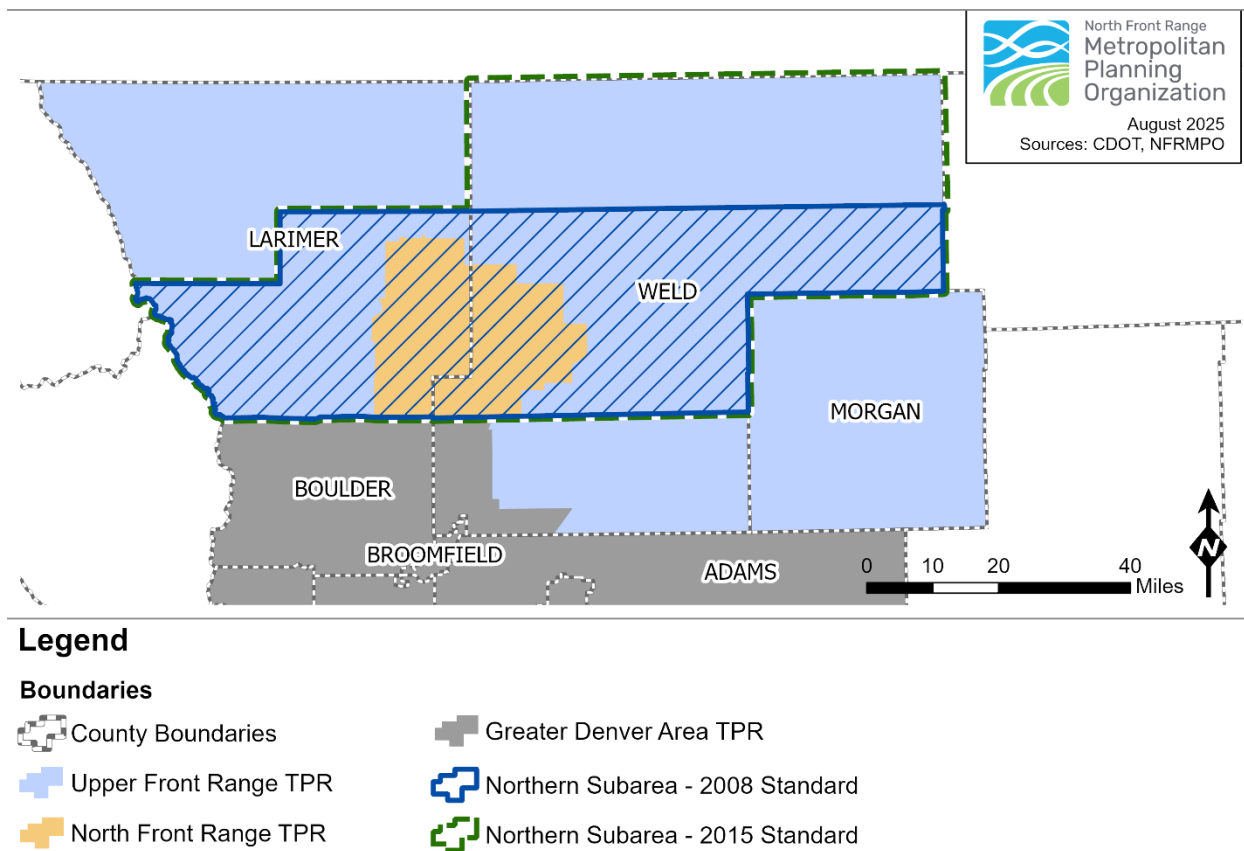
The Regional Air Quality Council (RAQC) is the lead air quality planning agency for the entire DM/NFR 8-Hour Ozone Nonattainment Area.<sup>18</sup> DRCOG is the MPO for the Denver TMA and is responsible for conformity determinations for the Southern Subarea.

---

<sup>17</sup> 86 FR 67864, <https://federalregister.gov/a/2021-25451>, 2021

<sup>18</sup> *Executive Order B 2013 007*, [https://www.colorado.gov/governor/sites/default/files/executive\\_orders/b\\_2013-007.pdf](https://www.colorado.gov/governor/sites/default/files/executive_orders/b_2013-007.pdf), 2013

**Figure 4: The 2008 and 2015 Northern Subareas and TPRs**



An MOA was signed in 2008 by the Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment (CDPHE), Colorado Department of Transportation (CDOT), RAQC, UFR, NFRMPO, and DRCOG per federal transportation regulations,<sup>19</sup> and is included in **Appendix A**. The MOA allows the option to establish subarea emissions budgets for VOC and NO<sub>x</sub> based on the subareas defined in **Figure 3**. The MOA stipulates DRCOG will conduct conformity determinations for the Southern Subarea of the 8-Hour Ozone Nonattainment Area, while the NFRMPO will conduct conformity determinations for the Northern Subarea. It states the course of action to be pursued if one (or both) Subareas fail a conformity test or exceed emissions budgets. An updated MOA was signed in 2015 signed by the NFRMPO, CDPHE, RAQC, and DRCOG, replacing an MOA signed in 1998 by the NFRMPO and CDPHE and a similar MOA between DRCOG and CDPHE.

In 2022, an MOA was signed by the NFRMPO, CDPHE, RAQC, and DRCOG, replacing the 2015 MOA. The MOA, included in **Appendix B**, identifies the specific roles and

<sup>19</sup> 23 CFR 450.314(c), [https://www.ecfr.gov/cgi-bin/text-idx?SID=cb8fc2bb654e58e1c70363164784595b&mc=true&node=se23.1.450\\_1314&rgn=div8](https://www.ecfr.gov/cgi-bin/text-idx?SID=cb8fc2bb654e58e1c70363164784595b&mc=true&node=se23.1.450_1314&rgn=div8), 2017

responsibilities in conformity evaluations and findings for each agency, including allowing for routine conformity determinations to be performed and approved through the APCD, rather than through a public meeting with the State of Colorado's AQCC.

## Conformity Determination Process

The NFRMPO and DRCOG worked cooperatively with the Air Quality Interagency Consultation Group (ICG) which includes membership from the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), EPA, CDOT, RAQC, UFR, and CDPHE-APCD to review the conformity documentation and planning assumptions for this report. Furthermore, members of the NFRMPO's Technical Advisory Committee (TAC), or their representatives, served as the review team for the North Front Range Socio-economic Data and NFRMPO 2019 Base Year (BY) Regional Travel Demand Model (RTDM) assumptions, pursuant to the AQCC's Regulation Number 10.<sup>20</sup>

## Public Participation

The 2022 Public Involvement Plan (PIP) guides the NFRMPO's public participation activities for all plans and programs.<sup>21</sup> The NFRMPO released the 2050 Regional Transportation Plan (2050 RTP) Amendment and the FY2026-2029 Transportation Improvement Program (TIP) for public comment on September 5, 2025 and ending on October 6, 2025. The NFRMPO is also holding a 30-day public comment period on this conformity determination beginning on October 6, 2025 and ending on November 5, 2025. During the public comment periods, these documents will be available on the NFRMPO website at <https://nfrmpo.org/public-comment/> and at the NFRMPO Office as a print copy.

The North Front Range Air Quality and Transportation Planning Council (NFRT&AQPC) will hold a public hearing regarding this conformity determination prior to their regular monthly meeting on December 4, 2025. The NFRT&AQPC will entertain adoption of the 2050 RTP Amendment, the FY2026-2029 TIP, the GHG Transportation Report, and this conformity determination at their regular monthly meeting on December 4, 2025. All public comments submitted during the public comment period will be presented and the public is encouraged to attend. Minutes of the NFRMPO Planning Council's meeting will be available on the NFRMPO website at <https://nfrmpo.org/meeting-materials/> and at the NFRMPO Office as a print copy.

---

<sup>20</sup> 5 CCR 1001-12,

<https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=4498&fileName=5%20CCR%201001-12>, 2012

<sup>21</sup> NFRMPO, "2019 Public Involvement Plan", accessed on 7/6/2022 at <https://nfrmpo.org/wp-content/uploads/2019-public-involvement-plan.pdf>.

## **Chapter 2: Implementation of Control Measures**

For this conformity determination no new transportation control measures (TCMs) are identified for timely completion or implementation as part of the applicable state implementation plans. The Moderate Area Ozone SIP adopted by the AQCC did not include any TCMs.

## Chapter 3: Emissions Tests

### Background

The Regional Transportation Plan and Program must pass a series of emissions tests to demonstrate conformity. The Plan and Program must not exceed the MVEBs in the applicable SIP. Satisfying these tests involves demonstrating relevant emissions in future years are less than or equal to the emissions budget established in the approved SIP.

### CO Emissions Test

As stated in **Chapter 1**, a conformity determination is no longer required for the Greeley CO Maintenance area. In addition, the second 10-year maintenance plan for the Fort Collins CO Maintenance Area meets the requirements and provisions of EPA's limited maintenance plan option. Transportation plans and improvement programs in carbon monoxide limited maintenance plan areas are presumed to automatically satisfy the emissions budget test requirement, and no regional emissions analysis is required.

### 8-Hour Ozone Emissions Tests

The 8-Hour Ozone emissions test is required for the Northern Subareas of the DM/NFR NAA. The emissions test is for the two ozone precursors, NO<sub>x</sub> and VOC. The EPA found the MVEBs for NO<sub>x</sub> and VOCs contained in the Moderate Area Ozone SIP adequate for transportation conformity purposes on March 16, 2018 and approved these MVEBs on August 2, 2018. As a result, the NFRMPO is required to use these budgets for subsequent transportation conformity determinations.

The emission test in this conformity determination uses the MVEBs established for the Northern Subarea for the 2015 ozone NAAQS to determine conformity for the Northern Subarea for the 2015 ozone NAAQS, as permitted by 40 CFR 93.109(c)(2)(iii)(B).

### *Budgets Analysis Years*

In accordance with EPA regulations,<sup>22</sup> the ICG agreed on the following staging years for determining 8-hour ozone conformity:

- **2026** – the first horizon year (no more than 10 years from the 2019 base year of the travel demand model)
- **2030** – an intermediate modeling year

---

<sup>22</sup> 40 CFR 93.118, <http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=1&SID=4c2888da2e1fb443b24ff76fcd7cfc84&ty=HTML&h=L&mc=true&r=PART&n=pt40.20.93>



- **2040** – an intermediate modeling year
- **2050** – the last year (horizon) of the 2050 RTP

These attainment years are anticipated once the Moderate and Severe classifications are effective.

#### *Technical Process*

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, and congestion. The MOA stipulates the emissions estimates for the Northern Subarea portion of the 8-Hour Ozone Nonattainment Area are to be performed by the APCD.

The NFRMPO 2019 BY Land Use Allocation Model (LUAM) and the 2019 BY RTDM, developed for input to the emissions model, covers the Northern Subarea of the 8-Hour Ozone Nonattainment Area. **Appendix C** and **Appendix D** describe the modeling structure for the RTDM in more detail.

#### *Demographic Assumptions*

**Table 1** presents the demographic assumptions for the Northern Subarea developed using the 2019 LUAM. The 2020 estimated population for the Northern Subarea is 579,427. The population forecast for the Northern Subarea in 2050 is 927,879, an increase of 60.1 percent. Employment is forecast to be approximately 490,155 in 2050 compared to the year 2020 estimate of 311,202, an increase of 57.5 percent. Growth in population and employment will be the principal factors for the increased demand on the region's transportation facilities and services.

**Table 1: Population and Employment Forecasts - Northern Subarea**

Northern Subarea	Statistic	2026	2030	2040	2050
<b>2008 Ozone NAAQS</b>	Population	632,571	700,072	876,410	927,879
	Employment	362,590	386,437	411,525	490,155
<b>2015 Ozone NAAQS</b>	Population	632,571	700,072	876,410	927,879
	Employment	362,590	386,437	411,525	490,155

#### *Transportation Assumptions*

To complete the emissions tests, the applicable staging years (2026, 2030, 2040, and 2050) and transportation networks were defined for the NFRMPO boundary and the UFR area within the Northern Subarea. The RTDM includes all capacity improvements

(widening) and regionally significant projects for the Northern Subarea for the respective staging years. **Appendix E** contains the list and map of regionally significant transportation improvement projects coded in the RTDM on regionally significant corridors (RSCs) and regional transit corridors (RTCs).

#### *Air Quality Modeling Assumptions*

APCD estimated air pollution emissions shown in this report using the EPA Motor Vehicle Emissions Simulation (MOVES4) model.

#### *Emission Test Results – Northern Subarea*

The results of the Northern Subarea emissions tests by year are reported in **Table 2**. APCD generated emissions estimates using the transportation inputs from the 2019 RTDM and the MOVES4 emissions model. APCD performed the 8-hour ozone conformity analysis for the years 2026, 2030, 2040, and 2050, which meet the EPA staging year requirements.<sup>23</sup>

**Table 2: 8-Hour Ozone Conformity for Denver Metro-North Front Range  
Northern Subarea (Emission Tops per Day)**

Northern Subarea	Ozone Precursor	MVEB SIP Budgets	2026	2030	2040	2050	Pass/Fail
<b>2008 Ozone NAAQS</b>	Volatile Organic Compounds (VOC)	<b>8</b>	4	4	4	3	<b>Pass</b>
	Oxides of Nitrogen (NOx)	<b>10</b>	4	3	2	1	<b>Pass</b>
<b>2015 Ozone NAAQS</b>	Volatile Organic Compounds (VOC)	<b>8</b>	4	4	4	3	<b>Pass</b>
	Oxides of Nitrogen (NOx)	<b>10</b>	4	3	2	1	<b>Pass</b>

<sup>23</sup> 40 CFR 93.118, <http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=1&SID=c9ad38a0577544cc1bd184aaa325cb6a&ty=HTML&h=L&mc=true&r=PART&n=pt40.20.93>, 2013

### *Summary of 8-Hour Ozone Conformity Findings*

Based on the quantitative conformity analysis, NFRMPO staff has determined the NFRMPO 2050 RTP Amendment, the FY2026-2029 TIP, the UFR 2045 RTP, and the northern subarea of the FY2026-2029 STIP demonstrate conformity for the 2008 and 2015 8-Hour Ozone NAAQS using the 8-hour ozone emissions budgets for the Northern Subarea. In addition, the NFRMPO 2050 RTP Amendment met all planning requirements identified in 23 CFR 450. **Appendix C** includes more information on the transportation and demographic assumptions used in the 8-hour ozone emissions analysis.

**Appendix A: Memorandum of Agreement – Transportation  
Conformity Evaluations Conducted Under the 8-Hour Ozone  
Standard (2008)**

# MEMORANDUM OF AGREEMENT

FOR

TRANSPORTATION CONFORMITY EVALUATIONS  
CONDUCTED UNDER THE 8-HOUR OZONE STANDARD

BY AND BETWEEN

THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT,  
THE DENVER REGIONAL AIR QUALITY COUNCIL,  
THE COLORADO DEPARTMENT OF TRANSPORTATION,  
THE UPPER FRONT RANGE TRANSPORTATION PLANNING REGION,  
THE NORTH FRONT RANGE TRANSPORTATION AND AIR QUALITY  
PLANNING COUNCIL (a.k.a. the North Front Range MPO),  
AND THE DENVER REGIONAL COUNCIL OF GOVERNMENTS

March 14, 2008

## Abbreviations Guide

APCD – Air Pollution Control Division  
AQCC – Air Quality Control Commission, (“the Commission”)  
CDPHE – Colorado Department of Public Health and Environment  
CDOT - Colorado Department of Transportation  
DRCOG – Denver Regional Council of Governments  
MOA – Memorandum of Agreement  
MPA – Metropolitan Planning Area  
MPO – Metropolitan Planning Organization  
NFR – North Front Range  
NFRT& AQPC – North Front Range Transportation & Air Quality Planning Council (the NFR MPO)  
NOx – Nitrogen Oxides  
RAQC – (Denver) Regional Air Quality Council  
SIP – State Implementation Plan  
UFR – Upper Front Range  
TIP – Transportation Improvement Program  
TPR – Transportation Planning Region  
USDOT – United States Department of Transportation  
USEPA – United States Environmental Protection Agency  
VOC – Volatile Organic Compounds

## Terminology

Consulting parties – Those agency parties involved in data and document review for the purposes making or commenting on a Conformity Determination. Includes the Air Quality Control Commission, USDOT and USEPA, who are not signatory parties to this MOA.

Signatories/Signatory parties – The parties signatory to this document. This group of six agencies does not include USDOT or USEPA.

On-road motor vehicle – Refers to cars, trucks, buses, motorcycles, vans and other motorized vehicles that use public highways, streets and roadways; to be distinguished from motor vehicles that may be designed for off-road use, e.g., all-terrain vehicles, and from agricultural and construction equipment.

### **A. Background and Purpose**

The U.S. Environmental Protection Agency (USEPA) has designated an area (See map, Attachment A) inclusive of the Denver Metro Area and portions of both the North Front Range Metropolitan Planning area and the Upper Front Range Transportation Planning Region as nonattainment under the 8-hour ozone standard. The nonattainment designation became effective November 20, 2007. The Upper Front Range TPR is not represented by a Metropolitan Planning Organization as it comprises a largely rural area. Furthermore, the TPR lacks the expertise and wherewithal to provide or purchase transportation and modeling forecasts as part of the Conformity Determination process for the 8-hour ozone area.

Federal Transportation Regulations at 23CFR 450.314 (b) state that where a metropolitan planning area does not include an entire nonattainment area or maintenance 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 or maintenance area. The agreement must also indicated how the total transportation-related emissions for the nonattainment or maintenance area, including areas outside the MPA, will be treated for the purposes of determining conformity in accordance with EPA’s transportation conformity rule (40 CFR Part 93). The agreement shall address policy mechanisms for resolving conflicts concerning transportation-related emissions...(and) (c): In nonattainment or maintenance areas, if the MPO is not the designated agency for air quality planning...there shall be a written agreement between the MPO and the designated air quality planning agency describing their respective roles and responsibilities for air quality related transportation planning. (d) If more than one MPO has been designated to serve an urbanized area, there shall be written agreement among the MPOs, the State(s), and the public transportation operator(s) describing how the metropolitan transportation planning processes will be coordinated to assure the development of consistent metropolitan transportation plans and TIPs across the MPA boundaries....”

Similarly, EPA regulations at 40 CFR 93.105(e) and 51.390 require states to create consultation procedures in the SIP whereby MPO representatives, state and local air quality planning agencies, state and local transportation agencies and other organizations must consult with each other and with U.S. Environmental Protection Agency (USEPA) and U.S. Department of Transportation (USDOT) regarding development of State Implementation Plans (SIPs), transportation plans, transportation improvement programs (TIPs), and Conformity Determinations.

This Memorandum of Agreement (MOA) is designed to allow for and to guide cooperative transportation planning in conformance with State air quality plans, and related review and analysis in the pursuit of transportation Conformity Determinations associated with the 8-hour ozone State Implementation Plan (SIP).

### **B. Conformity Determinations Prior to/In Lieu of the Establishment of On-Road Motor Vehicle Emission Budgets**

The first Conformity Determination for the area of concern is due November 20, 2008, as required by the federal Conformity Rule at 40 CFR 93.102(d). Since adequate or

approved motor vehicle emission budgets will not be available until late 2009, one or more Conformity Determinations for the nonattainment or maintenance area of concern must follow the procedures at 40 CFR 93.109(e)(2)(iii).

The Denver Regional Council of Governments and the North Front Range MPO shall perform transportation emissions forecasting for the respective areas described in Section C.1 and C.2 for Conformity Determinations, regardless of whether emission budgets have been established, and regardless of whether overall nonattainment-or maintenance area emission budgets or sub-area emission budgets are used.

### **C. Motor Vehicle Emission Budgets for the 8-Hour Ozone Nonattainment (or Maintenance) Area and Sub-Areas**

In the SIP development process, the Air Pollution Control Division (APCD), the North Front Range Metropolitan Planning Organization (NFRMPO), and the Regional Air Quality Council (RAQC) shall work together to propose overall area motor vehicle emission budgets for volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) for the 8-hour ozone nonattainment or maintenance area. Said budgets must be adopted by the Commission and affirmed via USEPA adequacy determinations in order to become viable for use in Conformity Determinations.

Sub-area emission budgets for ozone precursors under the 8-hour ozone standard may also be proposed to the AQCC for the following two sub-areas:

1. The combined areas of the Denver Metro Region and the southern portion of the Upper Front Range Transportation Planning Region (TPR) as designated nonattainment by USEPA, i.e., the area south of the north line of Township 3 north of the 6<sup>th</sup> Principal Meridian; said line is the southern boundary of the North Front Range MPO extended to the east line of Weld County. For this sub-area, the budgets for NO<sub>x</sub> and VOC shall be proposed during SIP development for the federal 8-hour ozone standard by the RAQC with input from the APCD, CDOT, DRCOG, and UFR to be considered for adoption by the Commission.
2. The combined areas of the North Front Range MPO area and the northern portion of the Upper Front Range TPR, as designated nonattainment by USEPA, i.e., the area north of the north line of Township 3 north of the 6<sup>th</sup> Principal Meridian; said line is the southern boundary of the North Front Range MPO extended to the east line of Weld County. For this sub-area, the budgets for NO<sub>x</sub> and VOC shall be proposed determined during SIP development for under the federal 8-hour ozone standard by the NFR MPO in consultation with the APCD and the RAQC, with input from CDOT and UFR, to be considered for adoption by the Commission.

Sub-area budgets, agreed to by the signatories and approved by the Commission, may be used to measure the conformity of plans and programs for the respective areas, once determined adequate by the USEPA.

Sub-areas as described above and Conformity procedures described in this document shall remain the same when and if the 8-Hour Nonattainment Area is re-designated an “Attainment/Maintenance Area.

#### **D. Granting of Authority, Responsibilities**

The Upper Front Range TPR lacks the expertise and wherewithal to provide or purchase transportation and modeling forecasts as part of the Conformity Determination process for the 8-hour ozone area. By this agreement:

1. The DRCOG agrees to provide transportation forecasts and make Conformity Determinations for the area described in Section C.1 above. The area includes the DRCOG MPO area and other 8-hour ozone nonattainment areas within the DRCOG TPR, as well as a portion of the nonattainment area of the Upper Front Range TPR.
2. The North Front Range MPO agrees to provide transportation forecasts and make Conformity Determinations for an area described in Section C.2 above. The area includes North Front Range MPO 8-hour ozone nonattainment areas as well as portions of the Upper Front Range TPR nonattainment area.
3. The Upper Front Range TPR authorizes the DRCOG and the NFR MPO to prepare transportation forecasts and make Conformity Determinations for the relevant nonattainment areas of the Upper Front Range as described in Section C of this document.
4. The agreed-upon transportation forecasting authorities shall continue for the 8-Hour Ozone Area after it is re-designated “Attainment/Maintenance” status by USEPA.



#### **E. Compensation to MPOs for Additional Responsibilities**

It is anticipated that over the next one-to-four years, funding will be needed for enhanced transportation forecasting and to perform Conformity Determinations for the Upper Front Range areas of concern. The CDOT has the responsibility to fund required Conformity Determinations and associated transportation modeling efforts for areas outside of the MPOs.

As forecasting and modeling work for the UFR will extend beyond the MPO boundaries, the CDOT will provide necessary funding to DRCOG and NFR based upon a mutually agreeable course of action delineating tasks, schedule, and costs among the signatory agencies. The signatory agencies will look to the USEPA and USDOT to assure consistency with federal requirements regarding tasks. The CDOT will execute separate intergovernmental agreements with the NFRMPO and DRCOG detailing the specific work that will be done for the agreed-to compensation.

#### **F. Conformity Review – Procedural**

The agencies shall follow the interagency consultation process and procedures identified in Colorado Air Quality Control Commission Regulation No. 10 for sharing information and conducting review of transportation data, projections, and determining Transportation Conformity to the State Implementation Plan under the 8-hour ozone standard, and generally the process outlined in memoranda of agreement for Transportation Conformity evaluations by and between the CDPHE and the Denver Regional Council of Governments (1998) and with the North Front Range Transportation and Air Quality Planning Council (2003).

The DRCOG and NFR MPO shall provide forecasts for their respective areas as described in Section C. 1 and C.2. In cases where one Conformity finding is to be made for the overall 8-Hour Ozone Nonattainment (or Attainment/Maintenance) Area, and no sub-area emission budgets are to be used, the MPOs, in consultation with the other signatory parties and with USEPA and USDOT, shall sum the ozone precursor emissions from their respective areas for overall-Area totals of VOC and NO<sub>x</sub>, to determine whether forecasted emissions meet the appropriate Conformity test(s). In such cases, the MPOs jointly shall produce one Conformity Determination document for the overall 8-Hour Ozone Nonattainment (or Attainment/Maintenance) Area.

The APCD will perform independent emission budget tests and other applicable analyses for the overall Nonattainment (or Attainment/Maintenance) region and, as well as for the sub-areas described in C.1 and C.2 if sub-area budgets are to be used, within 30 days of receiving the final submittal of transportation data, although such data will be submitted to the APCD as early in the process as possible. The APCD may also assist with enhanced emissions forecasting for the Upper Front Range area, or provide other in-kind assistance to emissions forecasting efforts.

Assuming the APCD agrees with a Conformity Determination, it will recommend that the Air Commission comment formally via letter to the relevant MPO and to CDOT regarding its concurrence.

In the event that future sub-area emissions exceed a Conformity test or emission budget, the sub-area MPO shall immediately and diligently pursue actions, e.g., transportation plan and/or TIP amendment, that would bring projected emissions under budget (or in line with the Conformity test being used) and thus to conform to the SIP (and/or not threaten to increase the severity of the 8-Hour Area's nonattainment status). Such endeavor would be pursued as part of standard interagency process. If the sub-area were to fail to meet a Conformity test/make a positive Conformity Determination, all parties to this MOA shall confer on an emergency basis to review emission budgets and to consider the merits of the following actions, which may be needed to achieve or to re-establish Conformity:

- Potential revisions to transportation plans and/or transportation programs
- Potential modeling (by both MPO's) of the entire nonattainment (or Attainment/Maintenance) Area for a Conformity Determination, if allowed by the SIP
- Potential appeal (via the SIP process) for emission budget revisions
- Potential additional SIP revisions.

A course of action employing one or more of the above-listed actions shall be determined by the parties to this agreement. Parties may appeal to the USDOT and USEPA for guidance in establishing Conformity.

#### **G. Dispute Resolution**

Any protracted disagreements between consulting parties reviewing a Conformity Determination shall be elevated to the Commission, per the provisions in AQCC Regulation No. 10. Any continuing dispute that devolves or threatens to devolve into a situation of official non-conformance of transportation plans with the State Implementation Plan may be elevated to the Governor, just as a disputed Conformity Determination may be elevated to the Governor, as provided in AQCC Regulation No. 10 and at 40 CFR Section 93.105(d).

#### **H. Termination of Agreement**

This agreement shall be binding upon the signatory parties-until the 8-hour ozone area has achieved attainment status and maintains said status for a period of at least 20 years, unless the undersigned agencies revise or replace this MOA via unanimous, written agreement.

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



3/14/08

Paul Tourangeau, Director, Air Pollution Control Division, CDPHE

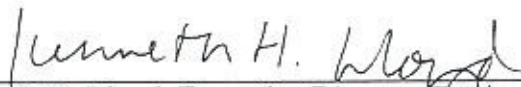
Date



3/14/08

Jennifer Finch, Director, Transportation Development Division, CDOT

Date



3/14/08

Kenneth H. Lloyd, Executive Director, Regional Air Quality Council

Date



3/24/08

Robert D. Masden, Weld County Commissioner,  
Chairman, Upper Front Range TPR

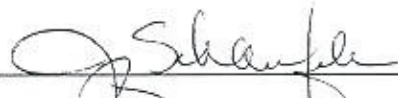
Date



3/20/08

Cliff Davidson, Executive Director, North Front Range MPO

Date

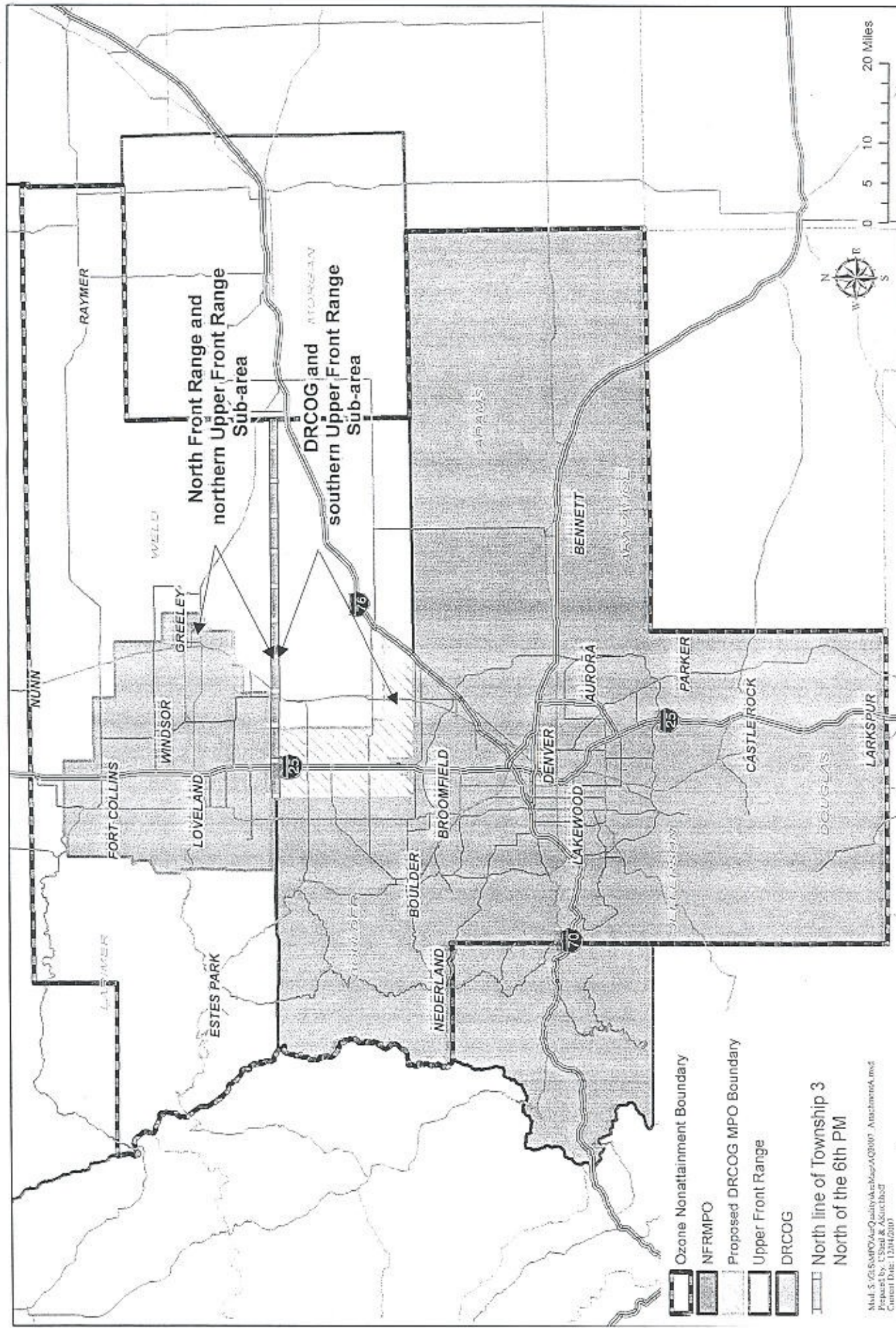


3/14/08

Jennifer Schaufele, Executive Director,  
Denver Regional Council of Governments

Date

# **Attachment A:** **8-Hour Ozone Nonattainment Area** **and Sub-areas**



**Appendix B: Memorandum of Agreement – Transportation  
Conformity Evaluations Conducted Under the 8-Hour Ozone  
Standards (2022)**

# MEMORANDUM OF AGREEMENT

FOR

## TRANSPORTATION CONFORMITY EVALUATIONS CONDUCTED UNDER THE 8-HOUR OZONE STANDARDS

BY AND BETWEEN

THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT,  
THE REGIONAL AIR QUALITY COUNCIL,  
THE COLORADO DEPARTMENT OF TRANSPORTATION,  
THE UPPER FRONT RANGE TRANSPORTATION PLANNING REGION,  
THE NORTH FRONT RANGE TRANSPORTATION AND AIR QUALITY  
PLANNING COUNCIL (a.k.a. the North Front Range MPO), AND  
THE DENVER REGIONAL COUNCIL OF GOVERNMENTS

September 22, 2022

### **Abbreviations Guide**

APCD – Air Pollution Control Division  
AQCC – Air Quality Control Commission  
CDPHE – Colorado Department of Public Health and Environment  
CDOT – Colorado Department of Transportation  
DRCOG – Denver Regional Council of Governments  
MOA – Memorandum of Agreement  
MPA – Metropolitan Planning Area  
MPO – Metropolitan Planning Organization  
NFR – North Front Range  
NFRT& AQPC – North Front Range Transportation & Air Quality Planning Council (NFRMPO)  
NO<sub>x</sub> – Nitrogen Oxides  
RAQC – Regional Air Quality Council SIP – State  
Implementation Plan  
UFR – Upper Front Range  
TIP – Transportation Improvement Program  
TPR – Transportation Planning Region  
USDOT – United States Department of Transportation  
USEPA – United States Environmental Protection Agency  
VOC – Volatile Organic Compounds

### **Terminology**

Consulting parties – Those agency parties involved in data and document review for the purposes of making or commenting on a Conformity Determination. Includes the Air Quality Control Commission, USDOT and USEPA, who are not signatory parties to this MOA.

Signatories/Signatory parties – The parties signatory to this document. This group of six agencies does not include USDOT or USEPA.



On-road motor vehicle – Refers to cars, trucks, buses, motorcycles, vans, and other motorized vehicles that use public highways, streets, and roadways; to be distinguished from motor vehicles that may be designed for off-road use, e.g., all-terrain vehicles, and from agricultural and construction equipment.

## **A. Background and Purpose**

The U.S. Environmental Protection Agency (USEPA) has designated two areas (*See map, Attachment A*) inclusive of the Denver Metro Area and portions of both the North Front Range Metropolitan Planning area and the Upper Front Range (UFR) Transportation Planning Region (TPR) as nonattainment under both the 2008 and 2015 8-hour ozone standards. The nonattainment designation became effective November 20, 2007 under the 1997 8-Hour ozone standard. On May 21, 2012, the same area was designated nonattainment for the 2008 8-Hour ozone standard. On August 3, 2018, the same area was designated nonattainment under the 2015 8-Hour ozone standard, with the remaining portion of Weld County being designated as nonattainment and added to the area under the 2015 8-hour ozone standard effective December 30, 2021. The UFR TPR is not represented by a Metropolitan Planning Organization (MPO) as it comprises a largely rural area. Furthermore, the UFR TPR lacks the expertise and wherewithal to provide or purchase transportation and modeling forecasts as part of the Conformity Determination process for the 8-Hour ozone area.

Federal Transportation Regulations at 23 CFR 450.314 (c) state that where a metropolitan planning area does not include an entire nonattainment area or maintenance area:

*“there shall be a 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 or maintenance area. The agreement must also indicate how the total transportation-related emissions for the nonattainment or maintenance area, including areas outside the MPA, will be treated for the purposes of determining conformity in accordance with EPA’s transportation conformity rule (40 CFR Part 93, Subpart A). The agreement shall address policy mechanisms for resolving conflicts concerning transportation-related emissions...(and) (d): In nonattainment or maintenance areas, if the MPO is not the designated agency for air quality planning...there shall be a written agreement between the MPO and the designated air quality planning agency describing their respective roles and responsibilities for air quality related transportation planning. (e) If more than one MPO has been designated to serve an urbanized area there shall be written agreement among the MPOs, the State(s), and the public transportation operator(s) describing how the metropolitan transportation planning processes will be coordinated to assure the development of consistent metropolitan transportation plans and TIPs across the MPA boundaries....”*

Similarly, USEPA regulations at 40 CFR 93.105 and 51.390 require states to create consultation procedures in the State Implementation Plan (SIP) whereby MPO representatives, state and local air quality planning agencies, state and local transportation agencies and other organizations must consult with each other and with USEPA and U.S. Department of Transportation (USDOT) regarding development of (SIPs, transportation plans, transportation improvement programs (TIPs), and Conformity Determinations.

This Memorandum of Agreement (MOA) is designed to allow for and to guide cooperative transportation planning in conformance with State air quality plans, and related review and analysis in the pursuit of transportation Conformity Determinations associated with the 8-Hour ozone SIP(s).

This MOA supersedes the prior agreement between the parties dated March 14, 2008.

#### **B. Conformity Determinations Prior to/In Lieu of the Establishment of On-Road Motor Vehicle Emission Budgets**

For any conformity determination that must be completed prior to the establishment of on-road motor vehicle emission budgets for the applicable standard and nonattainment area, one or more Conformity Determinations for the nonattainment or maintenance area of concern must follow the procedures at 40 CFR 93.109(c)(2).

The Denver Regional Council of Governments (DRCOG) and the North Front Range MPO (NFRMPO) shall perform transportation emissions forecasting for the respective areas described in Section C.1 and C.2 for Conformity Determinations, regardless of whether emission budgets have been established, and regardless of whether overall nonattainment or maintenance area emission budgets or sub-area emission budgets are used.

#### **C. Motor Vehicle Emission Budgets for the 8-Hour Ozone Nonattainment (or Maintenance) Area and Sub-Areas**

In the SIP development process, the Air Pollution Control Division (APCD), the NFRMPO, DRCOG, and the Regional Air Quality Council (RAQC) shall work together to propose overall area motor vehicle emission budgets (MVEBs) for volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) for the 8-hour ozone nonattainment or maintenance area(s). Said budgets must be adopted by the Air Quality Control Commission (AQCC) and affirmed via USEPA adequacy determinations to become viable for use in Conformity Determinations.

Sub-area emission budgets for ozone precursors under the 8-Hour ozone standards may also be proposed to the AQCC for the following two sub-areas:

1. The combined areas of the Denver Metro Region and the southern portion of the UFR TPR as designated nonattainment by USEPA (see Figure 1), i.e., the area south of the north line of Township 3 north of the 6<sup>th</sup> Principal Meridian; said line is the southern boundary of the North Front Range MPO extended to the east line of Weld County. For this sub-area, the budgets for NO<sub>x</sub> and VOC shall be proposed during SIP development for the federal 8-Hour ozone standards, as appropriate, by the RAQC with input from the APCD, CDOT, DRCOG, and UFR TPR to be considered for adoption by the AQCC.
2. The combined areas of the North Front Range MPO area and the northern portion of the UFR TPR, as designated nonattainment by USEPA, i.e., the area north of the north line of Township 3 north of the 6<sup>th</sup> Principal Meridian; said line is the southern boundary of the North Front Range MPO extended to the east line of Weld County. This sub-area has two delineations: one for the 2008



8-Hour ozone standard and another for the 2015 8-Hour ozone standard; however, the preceding description applies to both delineations. For this sub-area, the budgets for NO<sub>x</sub> and VOC shall be proposed during SIP development for the federal 8-Hour ozone standards by the RAQC, with input the APCD, CDOT, NFRMPO and UFR TPR, to be considered for adoption by the AQCC.

Sub-area budgets, agreed to by the signatories and approved by the AQCC, may be used to measure the conformity of plans and programs for the respective areas, once determined adequate by the USEPA.

Sub-areas as described above, and Conformity procedures described in this document shall remain the same when and if either or both 8-Hour Nonattainment Areas are re-designated an “Attainment/Maintenance Area”.

#### **D. Granting of Authority, Responsibilities**

The UFR TPR lacks the expertise and wherewithal to provide or purchase transportation and modeling forecasts as part of the Conformity Determination process for the 8-Hour ozone area. By this agreement:

1. DRCOG agrees to provide transportation forecasts and make Conformity Determinations for the area described in Section C.1 above. The area includes the DRCOG MPO area and other 8-Hour ozone nonattainment areas within the DRCOG TPR, as well as a portion of the nonattainment areas of the UFR TPR.
2. NFRMPO agrees to provide transportation forecasts and make Conformity Determinations for an area described in Section C.2 above. The area includes NFRMPO 8-Hour ozone nonattainment areas as well as portions of the nonattainment areas of the UFR TPR.
3. The UFR TPR authorizes DRCOG and the NFRMPO to prepare transportation forecasts and make Conformity Determinations for the relevant nonattainment areas of the UFR TPR as described in Section C of this document.
4. The agreed-upon transportation forecasting authorities shall continue for the 8-Hour Ozone Area after it is re-designated “Attainment/Maintenance” status by USEPA.

#### **E. Compensation to MPOs for Additional Responsibilities**

Funding will be needed for transportation forecasting and to perform Conformity Determinations for the UFR TPR areas of concern. CDOT has the responsibility to fund required Conformity Determinations and associated transportation modeling efforts for areas outside of the MPOs.

As forecasting and modeling work for the UFR TPR will extend beyond the MPO boundaries, CDOT will provide necessary funding to DRCOG and NFRMPO based upon a mutually

agreeable course of action delineating tasks, schedule, and costs among the signatory agencies. The signatory agencies will look to the USEPA and USDOT to assure consistency with federal requirements regarding tasks. CDOT will execute separate intergovernmental agreements (IGAs) with the NFRMPO and with DRCOG detailing the specific work that will be done for the agreed-to compensation.

#### **F. Conformity Review – Procedural**

The agencies shall follow the interagency consultation process and procedures identified in Colorado AQCC Regulation No. 10 for sharing information and conducting review of transportation data, projections, and determining Transportation Conformity to the SIPs under the 8-Hour ozone standards, and generally the process outlined in the MOA for Transportation Conformity Evaluations by and between the CDPHE, RAQC, DRCOG, and NFRMPO, which was executed in 2015.

DRCOG and NFRMPO shall provide forecasts for their respective areas as described in Section C. 1 and C.2. In cases where one Conformity finding is to be made for the overall 8-Hour Ozone Nonattainment (or Attainment/Maintenance) Area, and no sub-area emission budgets are to be used, the MPOs, in consultation with the other signatory parties and with USEPA and USDOT, shall sum the ozone precursor emissions from their respective areas for overall-Area totals of VOC and NO<sub>x</sub>, to determine whether forecasted emissions meet the appropriate Conformity test(s). In such cases, the MPOs shall jointly produce one Conformity Determination document for the overall 8-Hour Ozone Nonattainment (or Attainment/Maintenance) Areas.

The APCD will perform independent emission budget tests and other applicable analyses for the overall Nonattainment (or Attainment/Maintenance) region and, as well as for the sub-areas described in C.1 and C.2, if sub-area budgets are to be used, within 30 days of receiving the final submittal of transportation data, although such data will be submitted to the APCD as early in the process as possible. The APCD may also assist with enhanced emissions forecasting for the UFR TPR area or provide other in-kind assistance to emissions forecasting efforts.

Assuming the APCD agrees with a Conformity Determination, it will recommend that the AQCC comment formally via letter to the relevant MPO and to CDOT regarding its concurrence.

In the event future sub-area emissions exceed a Conformity test or emissions budget, the sub-area MPO shall immediately and diligently pursue actions, e.g., transportation plan and/or TIP amendment, that would bring projected emissions under budget (or in line with the Conformity test being used) and thus to conform to the SIP (and/or not threaten to increase the severity of the 8-Hour Area's nonattainment status). Such endeavor would be pursued as part of standard interagency process. If the sub-area were to fail to meet a Conformity test/make a positive Conformity Determination, all parties to this MOA shall confer on an emergency basis to review emission budgets and to consider the merits of the following actions, which may be needed to achieve or to re-establish Conformity:

1. Potential revisions to transportation plans and/or transportation programs;
2. Potential modeling (by both MPOs) of the entire nonattainment (or Attainment/Maintenance, once it is re-designated) Area for a Conformity Determination, if allowed by the SIP;
3. Potential appeal (via the SIP process) for emission budget revisions; and/or
4. Potential additional SIP revisions.

A course of action employing one or more of the above-listed actions shall be determined by the parties to this agreement. Parties may appeal to the USDOT and USEPA for guidance in establishing Conformity.

#### **G. Dispute Resolution**


Any protracted disagreements between consulting parties reviewing a Conformity Determination shall be elevated to the AQCC, per the provisions in AQCC Regulation No. 10. Any continuing dispute that devolves or threatens to devolve into a situation of official non-conformance of transportation plans with the SIP may be elevated to the Governor, just as a disputed Conformity Determination may be elevated to the Governor, as provided in AQCC Regulation No. 10 and at 40 CFR Section 93.105(d).

#### **H. Termination of Agreement**

This agreement shall be binding upon the signatory parties until the 8-Hour ozone area has achieved attainment status and maintains said status for a period of at least 20 years, unless the undersigned agencies revise or replace this MOA via unanimous, written agreement.

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


**Lisa McGovern**

 Digitally signed by Lisa McGovern  
Date: 2022.09.30 10:51:51 -06'00'

Lisa McGovern, Director, Procurement and Contracts, CDPHE

Date

**Rebecca White**

 Digitally signed by Rebecca White  
Date: 2022.10.05 10:28:40 -06'00'

Rebecca White, Director, Transportation Development Division, CDOT

Date


**Michael Silverstein**

Digitally signed by Michael Silverstein  
Date: 2022.10.06 15:39:33-06'00'

Mike Silverstein, Executive Director, RAQC

Date


**Scott James**

 Digitally signed by Scott James  
Date: 2022.12.06 10:15:23 -07'00'

Scott James, Chair, UFR TPR

Date


**Douglas W. Rex**

 Digitally signed by Douglas W. Rex  
Date: 2022.10.11 12:22:02 -06'00'

Doug Rex, Executive Director, DRCOG

Date

**Suzette Mallette**

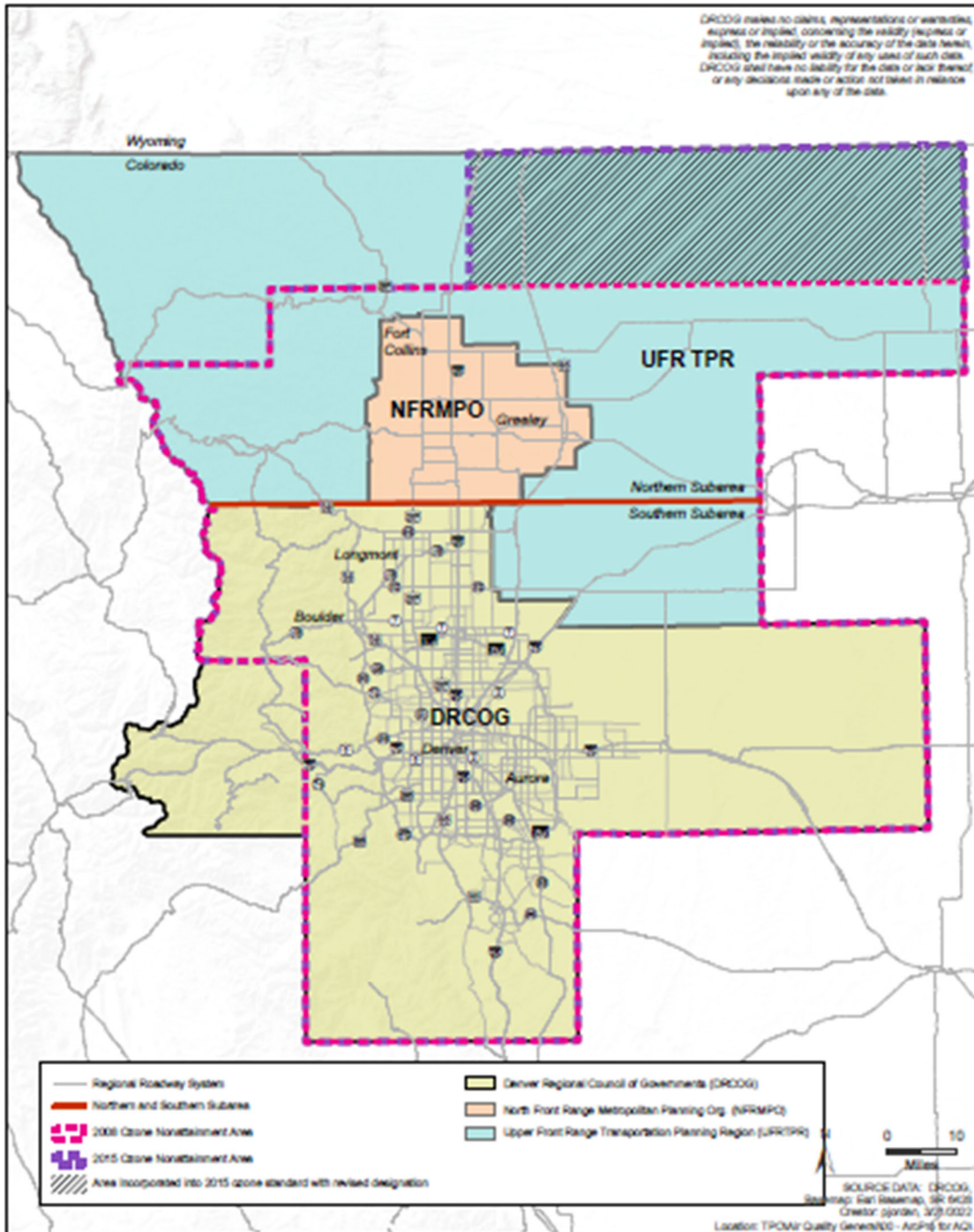
 Digitally signed by Suzette Mallette  
Date: 2022.09.30 14:27:57 -06'00'

Suzette Mallette, Executive Director, NFRMPO

Date

## Attachment A

**Figure 1. Planning Organizations Involved in Denver Metro/North Front Range 8-Hour Ozone Nonattainment Areas**



## **Appendix C: NFRMPO 2019 Base Year Regional Travel Demand Model Description**

## Introduction

The NFRMPO 2019 Base Year (BY) Regional Travel Demand Model (RTDM) is a four-step travel model incorporating trip generation, trip distribution, mode choice, and trip assignment. The model was updated in 2019 to incorporate updated traffic counts, freight data, land use data, and various modeling improvements. The 2019 BY RTDM replaces the 2019 BY RTDM developed in 2019.

The 2019 BY RTDM was calibrated using data from the *NFRMPO Household Survey*, 2010 and the *NFRMPO On-Board Transit Survey*, 2009. The household survey was used to develop the trip generation rates, trip length frequency distributions, and auto occupancy rates. The onboard survey was used in combination with the household survey to produce mode share targets. Detailed information on the modeling process, inputs, and procedures is documented in the North Front Range 2019 Base Year Regional Travel Model Documentation which is available at <https://nfrmpo.org/modeling/>.

Roadway volumes were validated using traffic count data collected between 2015 and 2019. Transit ridership was calibrated to match boarding counts on the transit systems in the region at the system level.

To facilitate modeling of the entire ozone nonattainment area, the model was expanded to cover additional portions of Larimer and Weld counties not within the NFRMPO boundary. The majority of this additional area is very sparsely populated. The expanded area includes the Estes Park area, which is heavily influenced by seasonal tourist activity. To best reflect the unique nature of the Estes Park area, an additional lodging-based trip purpose was included. In addition, the Estes Park area was modeled to represent summer conditions rather than school-season conditions due to the heavily seasonal nature of the area. The remainder of the modeling area remains reflective of an average weekday when school is in session.

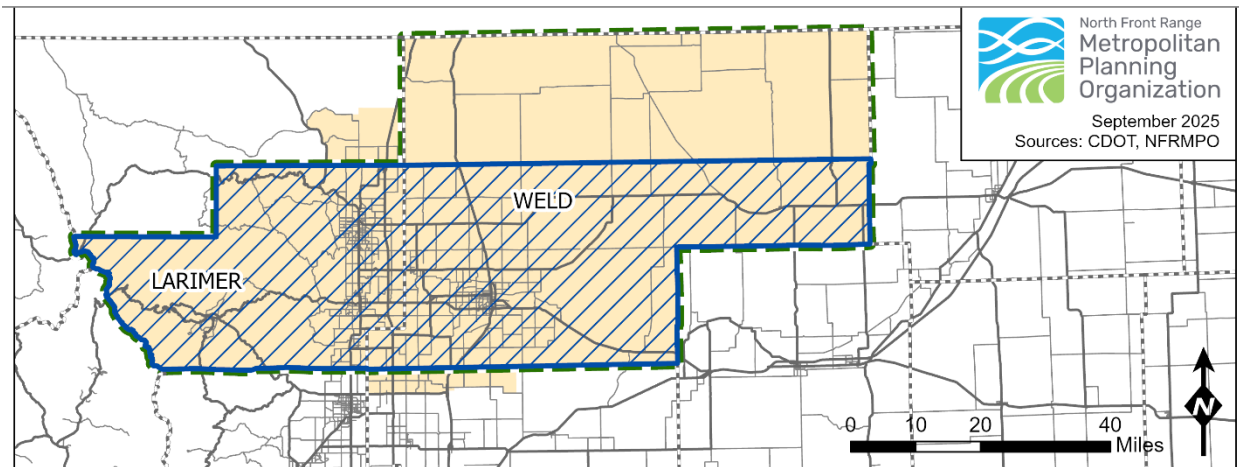
The model incorporates a traffic analysis zone (TAZ) structure developed based on existing land use and roadway conditions, future land use, and staff comments from member governments. For the Northern Subarea, the TAZ structure includes 1,238 internal zones and 20 external stations. **Figure 5** depicts the complete TAZ structure, slightly larger than the 8-Hour Ozone Nonattainment Northern Subarea. The RTDM has a base year of 2019 and forecast years of 2026, 2030, 2040, and 2050.

## Demographic Development Estimation

Socio-economic data is the input activity-based information that provides the foundation for trip-making in the RTDM. Data is recorded for basic, retail, medical, and service employment types and for households by income groups and household sizes. Data for the Estes Park area also includes lodging information to better represent tourist/visitor

trips. Employment data is used in the RTDM primarily as generators of trip attractions. Household data is used in the RTDM primarily as a generator of trip productions. The NFRMPO develops and maintains a Census Block-based land use allocation model (LUAM) which distributes total households and employment at the Block level, which then aggregates to the TAZ level. The LUAM uses the household and employment control totals for the region developed by the Colorado State Demography Office (SDO).


**Figure 5: TAZ Structure**




### Legend

#### Boundaries

 County Boundaries

 Traffic Analysis Zones (TAZs)

 Northern Subarea - 2008 Standard

 Northern Subarea - 2015 Standard

## Roadway and Transit System

Roadway and transit networks contain basic input information for use in the model and represents real-world conditions to the greatest extent possible. The roadway network contains over 8,400 links defined according to facility type, area type, speeds, capacities, etc. The roadway network is used to distribute trips and route transit and automobile trips. The roadway network was prepared based on data from the NFRMPO and from scheduling/phasing of projects in the RTP and TIP. The NFRMPO also collaborated with local jurisdictions as necessary to verify construction and opening dates. The model contains base year, interim year, and forecast year transit route systems based on information provided by Transfort, City of Loveland Transit (COLT), Greeley Evans Transit (GET), and CDOT. Transit networks are categorized into local, express, and Bus Rapid Transit (BRT) service.

## Trip Generation



The trip generation module estimates trip productions and attractions based on zonal attributes (e.g. population, households, income, employment, etc.). Productions and attractions are generated for each TAZ and balanced by trip purpose at the regional level. Cross-classified trip rates are applied in the model to represent trip-making characteristics that vary by household size and income. Generally, trip rates increase as household size and income increase. The model includes the following trip purposes:

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

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

The model represents two types of external travel. Through trips are represented by the EE trip purpose and were estimated using traffic count data and information from the Statewide Travel Model developed by CDOT. Trips with one end inside the modeling area and another outside of the modeling area are referred to as Internal-External/External-Internal (IE/EI) trips. These trips are included in the primary model trip purposes described previously. At external stations, the number of IE/EI trips by purpose is based on traffic count data and analysis of the *NFRMPO Household Travel Survey* data.

## Trip Distribution

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

## Mode Choice

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

## Traffic Assignment/Time-of-Day Analysis

The traffic assignment module loads vehicle trips onto the roadway network to estimate link specific traffic volumes. This is done for three time periods which cover the entire day: the PM peak period, AM peak period, and off-peak. Each of these trip tables is assigned to the roadway network using a capacity constrained equilibrium assignment procedure. The resulting traffic volumes from the four assignments are summed to estimate a 24-hour volume for each link in the network.

As part of the RTDM's 2019 base year development using the household survey and traffic count data, additional time-of-day parameters were developed to represent the variation of travel patterns throughout the day. The time-of-day assignment process uses the vehicle trip table in production/attraction format for the three time periods and divides it into eight time periods: AM peak, one AM shoulder hour, midday peak period, PM peak, three PM shoulder hours, and an off-peak period representing the remainder of the day. The mid-day and off-peak periods may be further divided into hourly volumes using percentages identified in the model documentation.

## Model Validation

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

The base year validation effort was conducted by comparing model results to observed traffic count data representative of 2019 (collected between 2015 and 2019). Transit ridership was validated to boarding counts on the transit systems in the region at the system level. The overall sum of model volumes is within two percent of the traffic counts on the same links. Model volume totals by facility type are within 8 percent of the sum of traffic counts for arterials and freeways and within 23 percent for collectors. The overall percent root mean square error (percent RMSE) is within 40 percent. Additional details on model validation is available in Section 12 of the RTDM Technical Report.

## **Speed Feedback**

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

## **Air Quality Modeling**

The Air Pollution Control Division (APCD) conducts the air pollutant emissions modeling using the Environmental Protection Agency (EPA) Motor Vehicle Emissions Simulator (MOVES) computer software, MOVES2014b. The NFRMPO, APCD, and other agencies work together in this effort, both to develop the modeling techniques, assumptions, and parameters, and reviewing the executed model runs. The RTDM outputs are one of the principal inputs to the air pollutant emissions model. The air pollutant emissions model estimates the amount of emissions of Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx) generated by motor vehicles. The results are then combined with numerous assumptions concerning meteorology and atmospheric chemical reactions to produce air pollutant concentration estimates. No dispersion modeling was conducted for this analysis; only emission estimates were calculated.

Inputs included the link vehicle miles traveled (VMT) and speeds from the transportation networks, vehicle fleet mix estimates from the Colorado Department of Transportation (CDOT) automatic traffic counters, maximum and minimum temperature, the ethanol content, and Reid Vapor Pressure (RVP) of the gasoline. The emissions model included adjustments for emission reduction credits from the federally approved Inspection and Maintenance (I/M) program. For the Northern Subarea the RVP was 7.8 psi and 10-15 percent by volume ethanol in all gasoline. The results reflect recent vehicle age distribution and mileage accumulation rates from the Mobile Sources program.

## **Appendix D: 8-Hour Ozone Northern Subarea Modeling Summary**

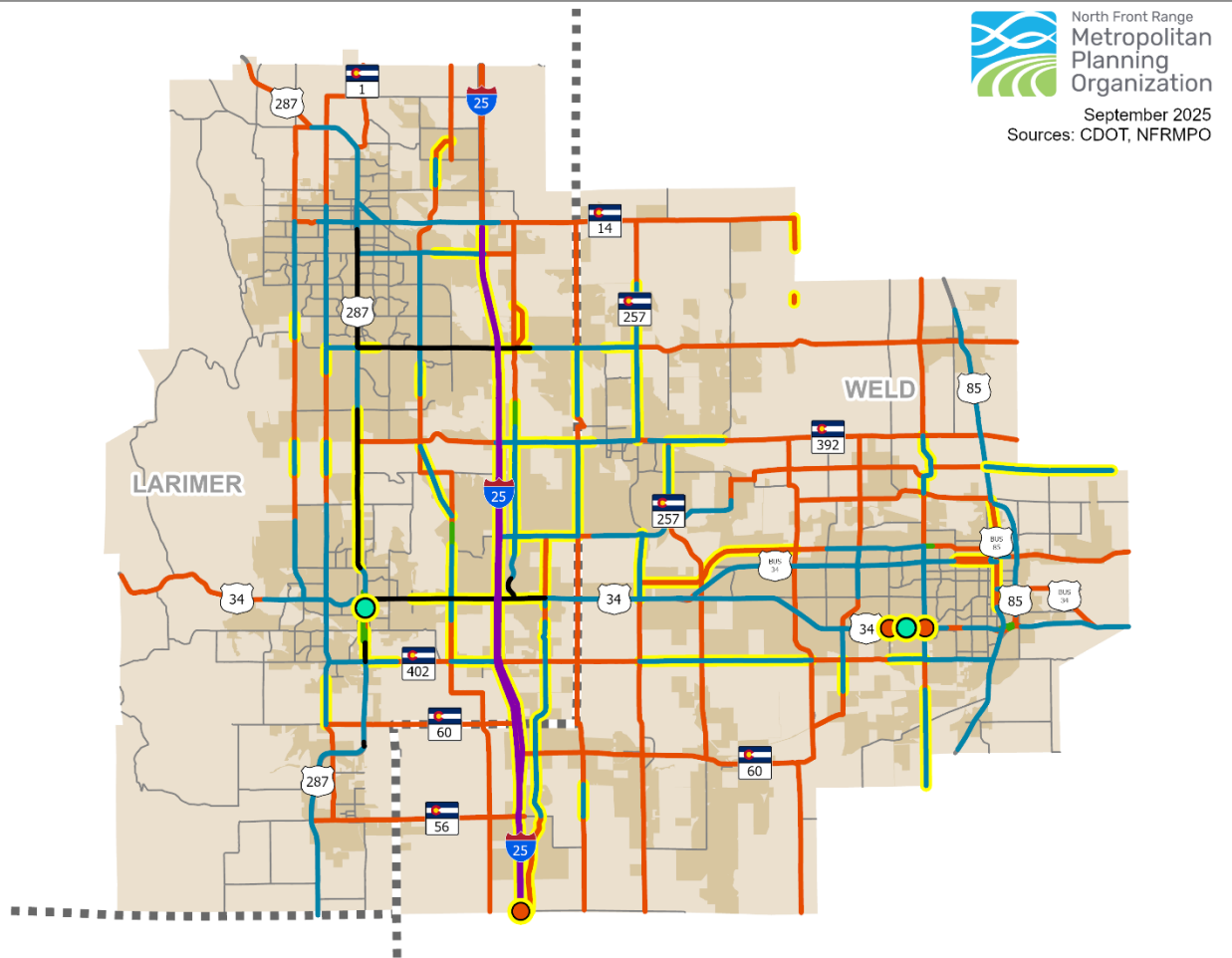
**Table 3: 8-Hour Ozone Northern Subarea Modeling Summary**

	2026 (First Horizon Year)	2050 (Last Horizon Year)
<b>Socioeconomic Data</b>		
Population	632,571	927,879
Employment	362,590	490,155
<b>VMT-Weighted Speed by Roadway Type</b>		
Interstate	75	75
Expressway	57	56
Principal Arterial	41	41
Minor Arterial	46	46
Collector	38	38
Ramp	51	48
Frontage Road	48	47
Centroid Connector	32	32
<b>Average</b>	<b>53</b>	<b>53</b>
<b>Daily VMT</b>		
Interstate	4,411,564	6,258,132
Expressway	2,375,501	3,283,076
Principal Arterial	4,431,636	6,237,063
Minor Arterial	3,463,207	5,323,776
Collector	1,546,447	2,361,873
Ramp	1287,260	180,653
Frontage Road	121,241	201,230
Centroid Connector	1,916,231	2,783,798
<b>Total</b>	<b>18,394,086</b>	<b>26,629,602</b>
<b>Lane Miles by Roadway Type</b>		
Interstate	323	356
Expressway	456	456
Principal Arterial	968	1,048
Minor Arterial	1,235	1,333
Collector	2,529	2,569
Ramp	24	25
Frontage Road	87	87
Centroid Connector	2,799	2,797
<b>Total</b>	<b>8,421</b>	<b>8,671</b>

Sources: NFRMPO 2019 RTDM, NFRMPO 2019 LUAM

## **Appendix E: Northern Subarea Regional Travel Demand Model Projects**

Figure 6: Fiscally Constrained Roadway Capacity and Infrastructure Projects



Legend

- |                                   |         |                  |
|-----------------------------------|---------|------------------|
| County Boundary                   | 2 Lanes | Interchanges     |
| NFRMPO Planning Area              | 3 Lanes | PNR/Mobility Hub |
| Fiscally Constrained Project      | 4 Lanes |                  |
| 2 General Purpose, 1 Express Lane | 6 Lanes |                  |

**Table 4: Fiscally Constrained RSC Capacity Projects, Staging Period A: 2024-2026**

Map ID	RSC	Project Name	Project Limits	Improvement Type
<b>A1</b>	1	I-25 Express Lane Segment 7&8	SH14 to SH402	Add tolled express lane in each direction and interchange reconstructions
<b>A2</b>	1	I-25 Express Lane Segment 6	SH402 to SH56	Add tolled express lane in each direction and interchange reconstructions
<b>A3</b>	2	US 34 Widening	Boyd Lake Ave. to Rocky Mountain Ave.	Widen from 4 lanes to 6 lanes
<b>A4</b>	3	10th St Mobility Enhancements	E of 23rd Ave to 10th Ave	Convert to Two-Way
<b>A5</b>	3	9th St Mobility Enhancements	E of 23rd Ave to 8th Ave	Convert to Two-Way
<b>A6</b>	12	SH-392 Widening	Highland Meadows Pkwy to Colorado Blvd	Widen from 2 lanes to 4 lanes
<b>A7</b>	13	SH 402 Widening	St. Louis to Boise	Widen from 2 lanes to 4 lanes
<b>A8</b>	13	WCR-54 / 37th St Widening	47th Ave to Stampede Dr	Widen from 2 lanes to 4 lanes
<b>A9</b>	14	LCR 3 Paving	US 34 to Crossroads Blvd	Paving Unpaved Road
<b>A10</b>	14	High Plains Blvd New Road	2500 ft N of LCR14 to LCR14	New 4 lane road
<b>A11</b>	14	High Plains Blvd Widening	Juniper to SH60	Widen from 2 lanes to 4 lanes
<b>A12</b>	14	High Plains Blvd New Road	SH60 to 2500 ft S of SH 60	New 4 lane road
<b>A13</b>	16	Timberline New Road 1	Giddings to Mountain Vista	New 2 lane road



Map ID	RSC	Project Name	Project Limits	Improvement Type
<b>A14</b>	18	Taft Hill Widening	Harmony to Brixton	Widen from 2 lanes to 4 lanes
<b>A15</b>	23	Harmony Road Widening	WCR-15 to SH-257	Widen from 2 lanes to 4 lanes
<b>A16</b>	26	Crossroads Blvd Widening	Centerra to LCR 3	Widen from 2 lanes to 4 lanes
<b>A17</b>	2	US 34 Widening	Centerra Pkwy. to LCR 3	Widen from 4 lanes to 6 lanes
<b>A18</b>	28	Prospect Widening	Summit View to I-25	Widen from 2 lanes to 4 lanes
<b>A19</b>	28	Prospect Widening	Sharp Point to Summit View	Widen from 2 lanes to 4 lanes

**Table 5: Fiscally Constrained RSC Capacity Projects, Staging Period B: 2027-2030**

Map ID	RSC	Project Name	Project Limits	Improvement Type
<b>B1</b>	1	I-25 Express Lane Segment 5	SH56 to WCR 38	Add tolled express lane in each direction and interchange reconstructions
<b>B2</b>	1	I-25 and WCR-38 Interchange	WCR-38 to WCR-38	New Interchange
<b>B3</b>	2	US 34 and 47th Interchange	47th Ave to 47th Ave	New interchange
<b>B4</b>	2	US 34 and 35th Interchange	35th Ave to 35th Ave	New interchange
<b>B5</b>	2	US 34 Mobility Hub at Centerplace	N/A	PNR

Map ID	RSC	Project Name	Project Limits	Improvement Type
<b>B6</b>	5	8th Avenue / US 85 Business Mobility Enhancements	O Street to 24th Street	Reduce from 4 lanes to 2 lanes
<b>B7</b>	11	SH-257 Widening	Walnut St to Eastman Park Dr.	Widen from 2 lanes to 4 lanes
<b>B8</b>	12	SH 392 Widening	WCR-19 to WCR-21	Widen from 2 lanes to 4 lanes
<b>B9</b>	12	SH-392 Widening	WCR-21 to WCR-23	Widen from 2 lanes to 4 lanes
<b>B10</b>	12	SH-392 Widening	Colorado Blvd to 17th Street	
<b>B11</b>	13	SH 402 Widening	Boyd Lake Ave to I-25	Widen from 2 lanes to 4 lanes
<b>B12</b>	14	High Plains Blvd Widening	US 34 to Ronald Reagan	Widen from 2 lanes to 4 lanes
<b>B13</b>	14	High Plains Blvd New Road	LCR20C to LCR18	Widen from 2 lanes to 4 lanes
<b>B14</b>	14	High Plains Blvd New Road	LCR16 to 2500 ft N of LCR14	New 4 lane road
<b>B15</b>	14	WCR-9.5 New Road	WCR 44 / SH 56 to WCR32	New 2 lane road
<b>B16</b>	15	Centerra Parkway Widening	Crossroads Blvd to 0.5 miles south	Widen from 2 lanes to 4 lanes
<b>B17</b>	15	LCR 5 Widening	LCR 30 to SH 392	Widen from 2 lanes to 4 lanes
<b>B18</b>	16	Boyd Lake Extension	SH 402 to LCR 20C	New 2 lane road
<b>B19</b>	19	LCR 1 Widening	Harmony Rd to South GMA	Widen from 2 lanes to 4 lanes

Map ID	RSC	Project Name	Project Limits	Improvement Type
<b>B20</b>	23	Harmony Road Widening	College to Boardwalk	Widen from 4 lanes to 6 lanes
<b>B21</b>	23	Harmony Widening	I-25 to LCR-1	Widen from 4 lanes to 6 lanes
<b>B22</b>	25	65th Avenue Widening	WCR-54/37th St to 49th St	Widen from 2 lanes to 4 lanes
<b>B23</b>	26	Crossroads Widening	LCR 3 to WCR 13	Widen from 2 lanes to 4 lanes
<b>B24</b>	26	WCR-66 Widening	US-85 to WCR-47	Widen from 2 lanes to 4 lanes

**Table 6: Fiscally Constrained RSC Capacity Projects, Staging Period C: 2031-2040**

Map ID	RSC	Project Name	Project Limits	Improvement Type
<b>C1</b>	6	US 287 / College Widening	Trilby to Carpenter / LCR 32	Widen from 4 lanes to 6 lanes
<b>C2</b>	6	US 287 Widening	29th St. to 71st St.	Widen from 4 lanes to 6 lanes
<b>C3</b>	6	US 287 Widening	LCR 32 / SH392 to LCR 30	Widen from 4 lanes to 6 lanes
<b>C4</b>	6	US 287 Widening	1st St / 2nd St to SH 402	Widen from 4 lanes to 6 lanes
<b>C5</b>	11	SH-257 Widening	Eastman Park Dr. to Crossroads	Widen from 2 lanes to 4 lanes
<b>C6</b>	11	SH-257 Widening	WCR-78 to WCR-74	Widen from 2 lanes to 4 lanes
<b>C7</b>	11	SH-257 Widening	WCR-74 to SH-392	Widen from 2 lanes to 4 lanes
<b>C8</b>	13	SH 402 Widening	US 287 to St. Louis	Widen from 2 lanes to 4 lanes

Map ID	RSC	Project Name	Project Limits	Improvement Type
<b>C9</b>	13	WCR-54 / 37th St Widening	WCR 17 to SH257	Widen from 2 lanes to 4 lanes
<b>C10</b>	14	High Plains Blvd New Road	LCR18 to LCR16	New 4 lane road
<b>C11</b>	14	High Plains Blvd New Road	2500 ft S of SH 60 to WCR46	New 4 lane road
<b>C12</b>	15	N Fairgrounds Ave Widening	Rodeo Rd. to 71st St. (CR 30)	Widen from 2 lanes to 4 lanes
<b>C13</b>	15	Timnath Bypass/Parkway New Road	N of LCR 40 to LCR 38	New 2 lane road
<b>C14</b>	16	Boyd Lake Widening 3	LCR 20C to US 34	Widen from 2 lanes to 4 lanes
<b>C15</b>	16	Timberline Widening 3	Mountain Vista to N of Vine	Widen from 2 lanes to 4 lanes
<b>C16</b>	17	LCR 17 Widening	LCR 32 to LCR 30	Widen from 2 lanes to 4 lanes
<b>C17</b>	17	LCR 17 Widening	CR 16/28th St SW to CR 14/SH 60	Widen from 2 lanes to 4 lanes
<b>C18</b>	17	Shields Widening	Harmony to Hilldale	Widen from 2 lanes to 4 lanes
<b>C19</b>	17	Taft Ave Widening 2	23rd St. SW to 28th St SW / LCR 16	Widen from 2 lanes to 4 lanes
<b>C20</b>	18	LCR 19 Widening	LCR 32 to LCR 30	Widen from 2 lanes to 4 lanes
<b>C21</b>	19	WCR-13 Widening	Kaplan Dr to Crossroads	Widen from 2 lanes to 4 lanes
<b>C22</b>	19	WCR-13 Widening	SH-392 to Kaplan Dr	Widen from 2 lanes to 4 lanes

Map ID	RSC	Project Name	Project Limits	Improvement Type
<b>C23</b>	20	WCR-17 Widening	WCR-62 / Crossroads to US-34	Widen from 2 lanes to 4 lanes
<b>C24</b>	21	WCR 27 New Road	SH 14 to WCR 74	New 2 lane road
<b>C25</b>	22	35th Ave New Road	49th Street to WCR 35 / WCR 394	New 4 lane road
<b>C26</b>	22	35th Ave Widening	WCR-394 to US-85	Widen from 2 lanes to 4 lanes
<b>C27</b>	29	4th St New Road	WCR 17 to 83rd Ave.	New 2 lane road
<b>C28</b>	22, 26	WCR-35 (35th Ave) Widening	SH 392 to O Street	Widen from 2 lanes to 4 lanes

**Table 7: Fiscally Constrained RSC Capacity Projects, Staging Period C: 2031-2040**

Map ID	RSC	Project Name	Project Limits	Improvement Type
<b>D1</b>	6	11th and US 287 Park and ride	N/A	PNR
<b>D2</b>	13	WCR-54 / 37th St Widening	SH 257 to 77th Ave / 83rd Ave/ Two Rivers Parkway	Widen from 2 lanes to 4 lanes
<b>D3</b>	14	High Plains Blvd New Road	WCR46 to WCR44	New 4 lane road
<b>D4</b>	16	New Road UP: LCR 11 to LCR 9	LCR 11 south of SH 392 to LCR 9 north of Valley Oak Dr	New 4 lane road
<b>D5</b>	19	WCR-13 Widening	WCR 46 to WCR 44	Widen from 2 lanes to 4 lanes

**Appendix F: Resolution 2025-# North Front Range Transportation &  
Air Quality Planning Council (NFRT&AQPC) Adoption**



## **Appendix G: APCD Conformity Concurrence**





## **Appendix H: U.S. Department of Transportation Conformity Finding**



