

Adopted September 5, 2019

2045

Regional Transportation Plan





North Front Range
**Metropolitan
Planning
Organization**

2045 Regional Transportation Plan

Prepared by:

North Front Range Metropolitan Planning Organization

419 Canyon Ave, Suite 300

Fort Collins, CO 80521

Adopted:

September 2019

Effective Date:

October 2019 – October 2023

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Acknowledgements

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RESOLUTION NO. 2019-21

**OF THE NORTH FRONT RANGE TRANSPORTATION & AIR QUALITY PLANNING COUNCIL
ADOPTING CONFORMITY DETERMINATIONS FOR THE NORTH FRONT RANGE METROPOLITAN
PLANNING AREA FY2020-2023 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) AND THE FISCALLY
CONSTRAINED 2045 REGIONAL TRANSPORTATION PLAN (RTP) AND FOR THE NORTHERN SUBAREA OF
THE UPPER FRONT RANGE TRANSPORTATION PLANNING REGION 2040 RTP AND THE FY2019-2022
STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)**

WHEREAS, 23 CFR §450.324 requires development through continuing, cooperative, and comprehensive ("3C") multimodal transportation planning process of a fiscally constrained Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP) for Metropolitan Planning Organizations (MPOs); and

WHEREAS, the Planning Council as the MPO is the agency responsible for developing and amending the RTP and TIP; and

WHEREAS, portions of the cities of Fort Collins and Greeley are currently designated as maintenance areas for carbon monoxide (CO) for which the Planning Council performs conformity determinations; and

WHEREAS, the Planning Council through a Memorandum of Agreement (MOA) (2008) has agreed to perform ozone conformity determinations for the Northern Subarea of the Denver-North Front Range 8-hour ozone nonattainment area which includes the North Front Range metropolitan planning area and portions of Larimer and Weld counties outside the MPO contained in the Upper Front Range Transportation Planning Region (UFRTPR); and

WHEREAS, Section 93.110(a) of the conformity rule requires conformity determinations based on the most recent planning assumptions in force at the time of conformity analysis; and

WHEREAS, the planning assumptions for the Northern Subarea were updated prior to conformity analysis; and

WHEREAS, the air quality conformity determinations conducted on the NFRMPO's fiscally constrained 2045 RTP, the FY2020-2023 TIP, the 2040 Upper Front Range RTP, and the Colorado FY2019-2022 STIP using the 2045 planning assumptions were within the federally approved emissions budgets; and

WHEREAS, the Planning Council received no public comment opposing the finding of conformity during the public comment period or during the public hearing;

NOW, THEREFORE, BE IT RESOLVED the North Front Range Transportation & Air Quality Planning Council determines the fiscally constrained 2045 RTP, the FY2020-2023 TIP, the Upper Front Range 2040 RTP, and the Colorado FY2019-2022 STIP conform to the State Implementation Plan (SIP) demonstrating positive air quality conformity determinations and redeterminations.

Passed and adopted at the regular meeting of the North Front Range Transportation & Air Quality Planning Council held this 5th day of September 2019.


Kristie Melendez, Chair

ATTEST:


Suzette Mallette, Executive Director



RESOLUTION NO. 2019-23
OF THE NORTH FRONT RANGE TRANSPORTATION & AIR QUALITY PLANNING COUNCIL
ADOPTING THE FISCALLY CONSTRAINED 2045 REGIONAL TRANSPORTATION PLAN

WHEREAS, 23 CFR §450.324 requires development through continuing, cooperative, and comprehensive ("3C") multimodal transportation planning process of a fiscally constrained Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP) for Metropolitan Planning Organizations (MPOs); and

WHEREAS, pursuant to the legislation above, the North Front Range Transportation & Air Quality Planning Council (NFRT & AQPC) was designated by the Governor of the State of Colorado as the MPO responsible for carrying out the transportation planning process, and for developing and amending the RTP; and

WHEREAS, the Planning Council, in their responsibility as the Lead Planning Agency and a member of the 8-hour ozone nonattainment area, has made a positive air quality conformity determination on the 2045 RTP; and

WHEREAS, the transportation programming process shall address no less than a 20-year planning horizon as of the effective date. The effective date being established by the date of the conformity determination issued by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA); and

WHEREAS, the Planning Council approves the 2045 RTP and submits copies for informational purposes to the Governor;

NOW, THEREFORE, BE IT RESOLVED THAT the North Front Range Transportation & Air Quality Planning Council adopts the 2045 Regional Transportation Plan (RTP).

Passed and adopted at the regular meeting of the North Front Range Transportation & Air Quality Planning Council held this 5th day of September 2019.


Kristie Melendez, Chair

ATTEST:


Suzette Mallette, Executive Director



U.S. Department
of Transportation
**Federal Highway
Administration**

Colorado Division

October 17, 2019

12300 W. Dakota Ave., Suite #180
Lakewood, Colorado 80228
720-963-3000

Ms. Suzette Mallette
Executive Director, NFRMPO
419 Canyon Avenue, Suite 300
Fort Collins, CO 80521

Subject: Conformity Determination for the NFRMPO 2045 RTP

Dear Ms. Mallette:

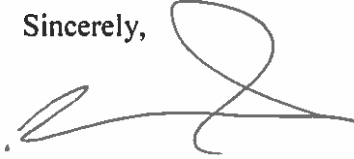
In accordance with the Clean Air Act of 1990, as amended, and 23 CFR 450, the U.S. Department of Transportation (USDOT) is required to make air quality conformity determinations of Regional Transportation Plans (RTP) and Transportation Improvement Programs (TIP) in non-attainment and maintenance areas. Consistent with the Federal Highway Administration (FHWA)/ Federal Transit Administration (FTA) Region 8 Memorandum of Agreement (MOA) for Transportation Planning Oversight, the FHWA Colorado Division office signs the letter on behalf of FTA Region 8.

On September 5, 2019, the North Front Range Metropolitan Planning Organization (NFRMPO) adopted an air quality conformity determination for the Fort Collins and Greeley urbanized areas for the 2045 RTP, as well as for the northern subarea of the Upper Front Range Transportation Planning Region (UFR TPR) 2040 RTP. The NFRMPO adopted the conformity determination in its capacity as the Metropolitan Planning Organization.

Based on our evaluation of the NFRMPO 2045 RTP conformity determination, in coordination with the Environmental Protection Agency (EPA), the Denver Regional Council of Governments (DRCOG), the NFRMPO, the Colorado Air Quality Control Commission, the Regional Air Quality Council and the Colorado Department of Transportation, we have determined that Fort Collins and Greeley urbanized areas have met the requirements of 40 CFR 51 and 93, 23 CFR 450, and 49 CFR 613 along with FHWA/FTA policies and guidance. Furthermore, the NFRMPO conformity determination is consistent with the 2008 DRCOG/NFRMPO 8-Hour Ozone MOA.

A conformity determination for the NFRMPO 2045 RTP is hereby made. We are also making a conformity redetermination for the northern subarea of the Upper Front Range TPR 2040 RTP. This conformity determination restarts the clock for conformity for the NFRMPO 2045 RTP. Our action is consistent with the FHWA/FTA Transportation Planning MOA.

Sincerely,

A handwritten signature in black ink, appearing to read 'John M. Cater', with a large loop at the end.

John M. Cater, P.E.
Division Administrator

By: Vershun Tolliver
Assistant Division Administrator

CC: Mr. Doug Rex, DRCOG
Ms. Barbara Kirkmeyer, Upper Front Range TPR
Mr. Rick Coffin, APCD
Ms. Marissa Gaughan, CDOT
Mr. Tim Kirby, CDOT
Mr. Michael Snow, CDOT
Ms. Ranae Tunison, FTA
Mr. Tim Russ, EPA



COLORADO
Department of Public
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

Ms. Suzette Mallette, Executive Director
North Front Range Metropolitan Planning Organization
419 Canyon Avenue, Suite 300
Fort Collins, CO 80521

September 19, 2019

The Colorado Air Quality Control Commission (AQCC) has reviewed your agency's conformity determinations for its Regional Transportation Plan (RTP) and FY2020-2023 Transportation Improvement Program (TIP). The AQCC agrees that the North Front Range Metropolitan Planning Organization's (NFRMPO) 2045 RTP and FY2020-2023 TIP, as of September 19, 2019, conform to the State Implementation Plan (SIP) and emissions budgets for ozone precursors and carbon monoxide.

The North Front Range Metropolitan Planning Organization's and the Air Pollution Control Division's analyses indicate that emissions budgets for these pollutants will not be exceeded in any of the project or plan horizon years. Therefore, the AQCC concurs with this conformity determination.

Should you have any questions regarding the AQCC's action, please contact Richard Coffin at the APCD, at 303-692-3127 or at richard.coffin@state.co.us.

Sincerely,

A handwritten signature in blue ink that reads "Chuck Grobe".

Chuck Grobe, Chair
Air Quality Control Commission

Cc: Tim Russ, U.S. EPA, Region 8
Bill Haas, FHWA
Steve Cook, DRCOG
Rose Waldman, CDOT
Richard Coffin, APCD



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List of Acronyms

#

3Cs – Continuous, Cooperative, and Comprehensive

A

AADT – Annual Average Daily Traffic

AADTT – Annual Average Daily Truck Traffic

ACS – American Community Survey

ADA – Americans with Disability Acts

AIP – Airport Improvement Program

APCD – Air Pollution Control Division

AQCC – Air Quality Control Commission

ASCSU – Associated Students of Colorado State University

ASCT – Adaptive Signal Control Technology

ASP – Airport Security Plan

ATCT – Air Traffic Control Tower

ATIS – Advanced Traveler Information System

AV – Autonomous Vehicles

AVL – Automatic Vehicle Locator

B

BATS – Berthoud Area Transportation Service/System

BFPD – Berthoud Fire Protection District

BMP – Best Management Practices

BOB – Building on Basics

BRT – Bus Rapid Transit

BUILD – Better Utilizing Investments to Leverage Development (*formerly TIGER*)

C

CAA – Clean Air Act

CASTA – Colorado Association of Transit Agencies

CAV – Connected and Autonomous Vehicles

CCTV – Closed Circuit Television Camera

CDBG – Community Development Block Grants

CDOT – Colorado Department of Transportation

CDPHE – Colorado Department of Public Health and Environment

CFC – Colorado Freight Corridor

CFP – Colorado Freight Plan

CMAQ – Congestion Mitigation and Air Quality

CMP – Congestion Management Process

CNG – Compressed Natural Gas

CNHP – Colorado Natural Heritage Program

CO – Carbon Monoxide

CO₂ – Carbon Dioxide

COLT – City of Loveland Transit

CPW – Colorado Parks and Wildlife

CRS – Citizens United for Rail Security

CSU – Colorado State University

CTC, also TC – Colorado Transportation Commission

C-TPAT – Customs-Trade Partnership Against Terrorism

CU-Boulder – University of Colorado at Boulder

CV – Connected Vehicles

CWA – Clean Water Act

D

DHS – Department of Homeland Security
DIA – Denver International Airport
DOLA – Department of Local Affairs
DOR – Department of Revenue
DOT – Department of Transportation
DR – Direct Recipients
DRCOG – Denver Regional Council of Governments
DTC – Fort Collins Downtown Transit Center
DTD – Division of Transportation Development (CDOT)

E

EA – Environmental Assessment
EEO – Equal Employment Opportunity
EIS – Environmental Impact Statement
EJ – Environmental Justice
EPA – Environmental Protection Agency
EV – Electric Vehicle

F

FAA – Federal Aviation Administration
FAC – Freight Advisory Council
FAR – Federal Aviation Regulation
FAST Act – Fixing America’s Surface Transportation Act (December 2015)
FASTER – Funding Advancements for Surface Transportation and Economic Recovery Act
FASTLANE – Fostering Advancements in Shipping and Transportation for the Long-Term Achievement of National Efficiencies
FEMA – Federal Emergency Management Agency

FHWA – Federal Highway Administration

FLEX – Fort Collins-Longmont Express

FMCSA – Federal Motor Carrier Safety Administration

FNC – Freight Northern Colorado

FNL – Northern Colorado Regional Airport, formerly Fort Collins-Loveland Municipal Airport

FONSI – Finding of No Significant Impact

FRCC – Front Range Community College

FTA – Federal Transit Administration

FY – Fiscal Year

G

GET – Greeley Evans Transit

GMA – Growth Management Area

GOPMT – Goals, Objectives, Performance Measures, and Targets

GPS – Global Positioning Satellite

GWR – Great Western Railway of Colorado

GXY – Greeley-Weld County Airport

H

HAWK – High-Intensity Activated Crosswalk beacon

HMP – Hazard Mitigation Plans

HOT – High-Occupancy Toll Lanes

HSIP – Highway Safety Improvement Program

HUD – US Department of Housing and Urban Development

HUTF – Highway Users Tax Fund

I

ICG – Interagency Consultation Group

IGA – Intergovernmental Agreement

ILS – Instrument Landing System

INFRA – Infrastructure for Rebuilding America Grant Program (*formerly FASTLANE*)

ISP – Colorado Integrated Safety Plan

ISTEA – Intermodal Surface Transportation Efficiency Act of 1991

ITS – Intelligent Transportation Systems

L

LCR – Larimer County Road

LEP – Limited English Proficiency

LOS – Level of Service

LUAM – Land Use Allocation Model

M

MAP-21 Act – Moving Ahead for Progress in the 21st Century Act (July 2012)

MaaS – Mobility as a Service

MOA – Memorandum of Agreement

MOU – Memorandum of Understanding

MOVES2014b – Motor Vehicle Emissions Simulator 2014

MP – Mile post

MPA – Metropolitan Planning Area

MPO – Metropolitan Planning Organization

MS4 – Municipal Separate Storm Sewer System

N

NAICS – National Industrial Classification System

NAAQS – National Ambient Air Quality Standards

NBI – National Bridge Inventory

NDB – Non-Directional Radio Beacon

NEPA – National Environmental Policy Act

NFR – North Front Range

NFRMPO – North Front Range Metropolitan Planning Organization

NFRT&AQPC – North Front Range Transportation and Air Quality Planning Council

NHPA – National Historic Preservation Act

NHPP – National Highway Performance Program

NHS – National Highway System

NHTSA – National Highway Traffic Safety Administration

NMP – Non-Motorized Plan

NO_x – Nitrogen Oxide

NPDES – National Pollution Discharge Elimination System

NPIAS – National Plan of Integrated Airport Systems

NPMRDS – National Performance Management Research Dataset

NTD – National Transit Database

NTSB – National Transportation Safety Board

O

OAA – Older American Act

OEM – Office of Emergency Management

OLI – Operation Lifesaver, Inc.

OSHA – Occupational and Safety Health Administration

P

PAB – Private Activity Bond

PASS – Passenger Assistance Security and Safety

PBPP – Performance Based Planning and Programming

PCA – Potential Conservation Areas

PDO – Property Damage Only

PEL – Planning and Environmental Linkages

PHMSA – Pipeline and Hazardous Materials Safety Administration

PIP – Public Involvement Plan

PM – Particulate Matter

PM – Performance Measure

PNR – Park-n-Ride

POP – Program of Projects

ppb – Parts per Billion

PSD – Poudre School District

PTDC – Professional Transit Driver Certification

PWQM – Permanent Water Quality Mitigation Pool

Q

QCEW – Quarterly Census of Employment Wages

R

RACT – Reasonably Available Control Technology

RAFT – Rural Alternative for Transportation

RAQC – Regional Air Quality Council

RBC – Regional Bike Corridors

RBP – Regional Bike Plan

RNMC – Regional Non-Motorized Corridor

RNMP – Rocky Mountain National Park

ROCC – Resource Operations Call Center

ROD – Record of Decision

ROW – Right-of-Way

RPP – Regional Priorities Program

RRIF – Railroad Rehabilitation and Improvement Financing

RSC – Regionally Significant Corridors

RTAP – Rural Transit Assistance Program

RTC – Greeley Regional Transit Center

RTC – Regional Transit Corridor

RTD – Regional Transportation District

RTDM – Regional Travel Demand Model

RTE – Regional Transit Element

RTP – Regional Transportation Plan

RWIS – Road and Weather Information Service

S

SAE – Society of Automotive Engineers

SAFETEA-LU – Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (August 2005)

SAINT – Senior Alternatives in Transportation

SGPI – Short-Grass Prairie Initiative

SHSP – State Highway Safety Plan

SIB – State Infrastructure Bank

SIP – State Implementation Plan

SOGR – State of Good Repair

SOV – Single Occupancy Vehicle

SPIRS – Strategic Plan for Improving Roadway Safety

SPMT – Standing Program Management Team

SRS – Senior Resource Services, also 60+ Ride

SSEPP – System Safety and Emergency Preparedness Plan

SSPP – System Safety Program Plan

STAC – Statewide Transportation Advisory Committee

STBG – Surface Transportation Block Grant

STC – South Transit Center

STIP – Statewide Transportation Improvement Program

SWC&FRPRC – Southwest Chief and Front Range Passenger Rail Commission

T

TA – Transportation Alternatives

TAC – Technical Advisory Committee

TAM – Transit Asset Management

TANF – Temporary Assistance for Needy Families

TAZ – Traffic Analysis Zone

TCM – Transportation Control Measures

TDM – Transportation Demand Management

TDP – Transit Development Program

TEA-21 – Transportation Equity Act for the 21st Century (June 1998)

TEL – Tolloed Express Lane

TIFIA – Transportation Infrastructure Finance and Innovation Act

TIGER – Transportation Investment Generating Economic Recovery

TIM – Traffic Incident Management

TIMP – Traffic Incident Management Plan

TIP – Transportation Improvement Program

TMA – Transportation Management Area

TNC – Transportation Network Company

TOC – Traffic Operations Center

TOD – Transit-Oriented Development

TPR – Transportation Planning Region

TRAC – Transit and Rail Advisory Committee

TriDS – Train Rider Identification Detection System

TSA – Transportation Security Administration

TSP – Transit Signal Priority

TTI – Travel Time Index

TTR – Travel Time Reliability

TTTR – Truck Travel Time Reliability

TZD – Toward Zero Deaths

U

UFR, also **UFRTPR** – Upper Front Range Transportation Planning Region

ULB – Useful Life Benchmark

UNC – University of Northern Colorado

UPRR – Union Pacific Railroad

UPWP – Unified Planning Work Program

USDOT – US Department of Transportation

USFWS – US Fish and Wildlife Service

UZA – Urbanized Area

V

V2I – Vehicle-to-Infrastructure Communication

V2V – Vehicle-to-Vehicle Communication

V2X – Vehicle to Everything

VA – Veterans Administration

VHF – Very High Frequency

VHT – Vehicle-Hours Traveled

VMS – Variable Message Sign

VMS – Vehicle Messaging Services

VMT – Vehicle Miles Traveled

VOC – Volatile Organic Compound

VOR – VHF Omni-Directional Range

W

WASHTO – Western Association of State
Highway and Transportation Officials

WCR – Weld County Road

Y

YOE – Year of Expenditure

0

Executive Summary



Purpose

The [2045 Regional Transportation Plan](#) (RTP) provides a long-range vision for the North Front Range regional transportation system and guides the implementation of multimodal transportation improvements, policies, and programs in the region. The North Front Range Transportation and Air Quality Planning Council (NFRMPO), also known as the NFRMPO, is responsible for long range regional transportation planning. The NFRMPO has undertaken this [2045 RTP](#) to extend the planning horizon for the region and to ensure FAST Act compliance.

The NFRMPO region has two air quality maintenance areas for carbon monoxide (CO): Fort Collins and Greeley. The entire NFRMPO region is also included in the nine county Denver-North Front Range 8-Hour Ozone Nonattainment area. Due to this air quality Nonattainment status, the NFRMPO is required to update its long-range transportation plan every four years.

Process

This planning process was conducted under the direction of the 17-member Planning Council, made up of one elected official from each member community, as appointed by that community, as well as a representative from the Colorado Department of Public Health and Environment's (CDPHE) Air Pollution Control Division (APCD) and the State Transportation Commission. The Planning Council's purpose is to provide local governments with the opportunity to direct regional transportation planning efforts and allocate federal funding to regional transportation priorities. Additionally, the Technical Advisory Committee (TAC) consists of staff from each member community, the Colorado Department of

Transportation (CDOT), CDPHE-APCD, and the Regional Air Quality Council (RAQC) who work together to provide technical recommendations to the Planning Council. This [2045 RTP](#) was developed by NFRMPO staff, with technical input from TAC.

Outcomes

As the region moves toward 2045, there will be significant population growth, with 88 percent more residents in 2045 than in 2015. Population and employment growth are occurring fastest in the North I-25 corridor resulting in 662 percent higher population in 2045 than in 2015. Other important demographic changes include:

- Employment will increase along the I-25 corridor by an estimated 27,000 jobs. The more developed and built out the community, the less population and employment growth is projected to occur.
- The anticipated population growth rate in the region (88 percent) outpaces the anticipated growth rate of jobs (67 percent). This imbalance will cause even more residents to commute outside of the region for employment.
- The percentage of residents age 65 and over will increase from 10 percent of the population in 2015, to 17 percent of the population by 2045. This demographic shift may mitigate growth in the number of residents traveling outside the region to employment.

It is critical to keep these demographic trends, the availability of future transportation funding, the need to maximize the current transportation system, and the future needs of the region's population in mind when planning for the future of the North Front Range's regional transportation system.

1

Introduction



The 2045 Regional Transportation Plan (RTP) is the long range vision for the North Front Range regional transportation system. The Planning Council is a 17-member transportation policy body consisting of elected or appointed officials from the member agencies. The 2045 RTP guides the implementation of multimodal transportation improvements, policies, and programs in the North Front Range Metropolitan Planning Organization (NFRMPO) region.

A. Background

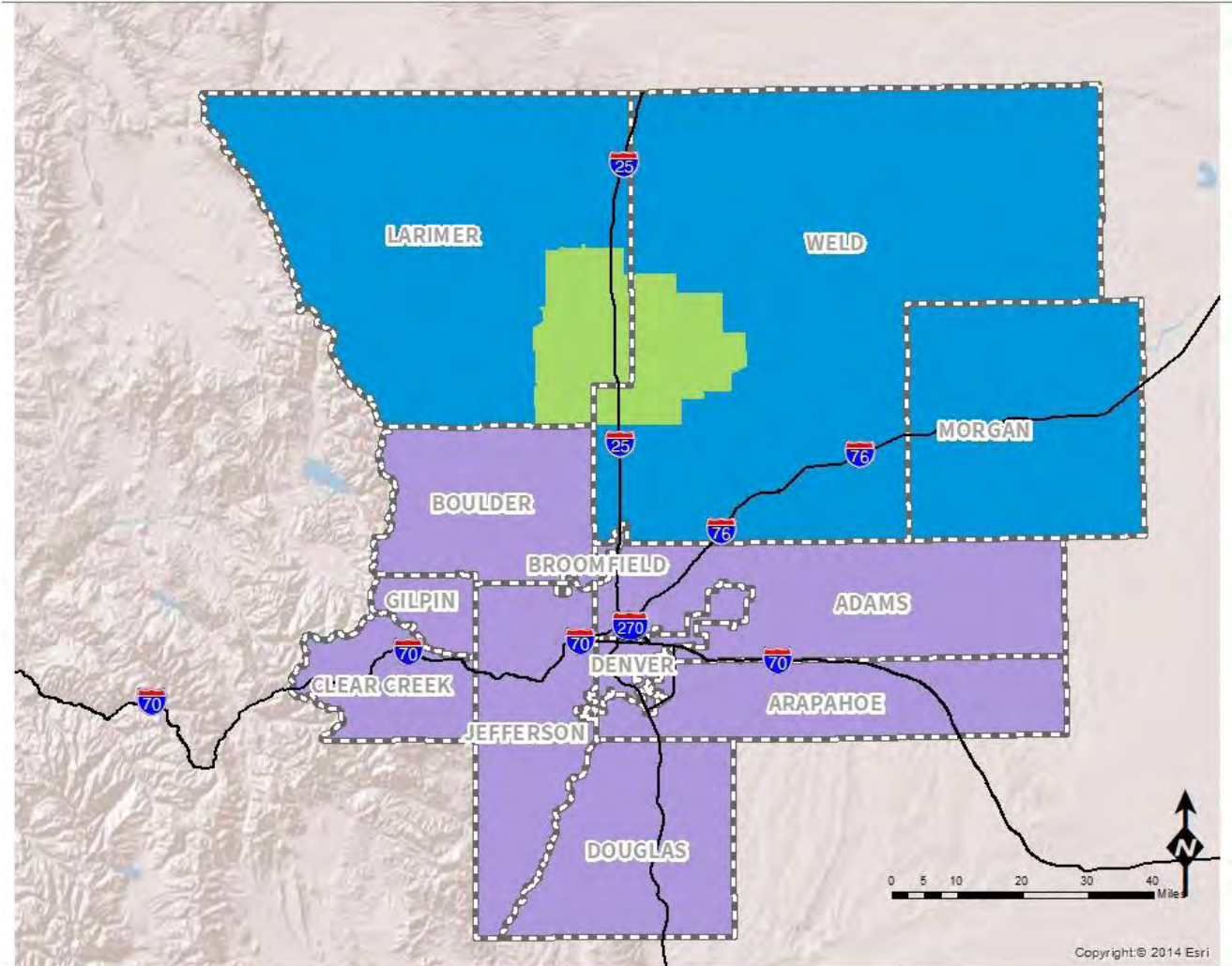
In 1991, Congress enacted the Intermodal Surface Transportation Efficiency Act (ISTEA), directing each state to prepare a multi-modal transportation plan. This directive was continued with the Transportation Equity Act for the 21st Century (TEA-21), the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Moving Ahead for Progress in the 21st Century (MAP-21), and most recently the Fixing America's Surface Transportation (FAST) Act, signed into law on December 4, 2015. The Colorado Department of Transportation (CDOT) has divided the State into 15 transportation planning regions (TPRs), including the North Front Range (NFR), each of which is required to prepare an RTP. These RTPs are used as the basis for CDOT's long range Statewide Transportation Plan.

The NFRMPO region, which is coterminous with the metropolitan planning area (MPA), is bordered on the east, west, and north by the Upper Front Range (UFR) TPR and by the Denver Regional Council of Governments (DRCOG) on the south. The NFR region includes 13 incorporated communities, including: the cities of Evans, Fort Collins, Greeley, and Loveland; the towns of Berthoud, Eaton, Garden City, Johnstown, LaSalle, Milliken, Severance, Timnath, and Windsor; and portions of unincorporated Larimer and Weld counties.

The North Front Range Transportation and Air Quality Planning Council (NFRT&AQPC), also known as the NFRMPO, is responsible for long range regional transportation planning. The NFRMPO has undertaken this current effort to extend the 2040 RTP planning horizon to the year 2045. The NFRMPO region has two air quality maintenance areas for carbon monoxide (CO): Fort Collins and Greeley. The entire NFRMPO region is also included in the nine county Denver-North Front Range 8-hour Ozone Nonattainment Area. Due to this air quality nonattainment status, the NFRMPO is required to update its long range transportation plan every four years.

This planning process was conducted under the direction of the NFRMPO Planning Council, composed of one representative from each of the 15 member governments, the Colorado Transportation Commission (CTC), and the Colorado Department Public Health and Environment's (CDPHE) Air Pollution Control Division (APCD). A Technical Advisory Committee (TAC), made up of representatives from the jurisdictions within the region, CDOT, CDPHE-APCD, and the Regional Air Quality Council (RAQC), make recommendations to the Planning Council. This 2045 RTP was developed by NFRMPO staff, with technical input from TAC.

Figure 1-1: NFRMPO Metropolitan Planning Area and Surrounding TPRs



Legend

- DRCOG
- Upper Front Range TPR
- County Boundary
- NFRMPO
- Interstates

May 2019
Sources: CDOT, NFRMPO



North's Front Range
Metropolitan
Planning
Organization

B. Planning Process

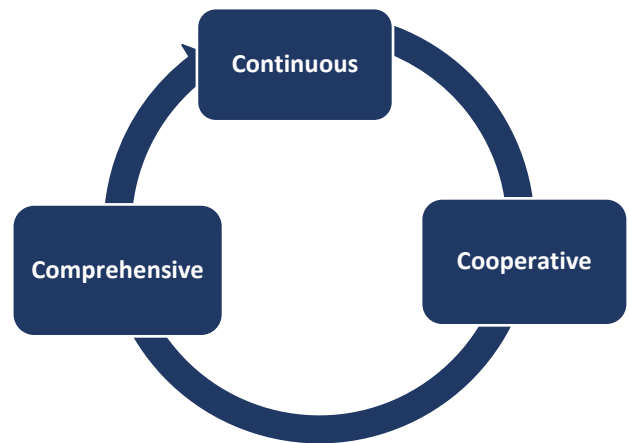
The NFRMPO develops its transportation plans and programs using the continuous, cooperative, and comprehensive (3C) planning process, as required by the Federal Highway Administration (FHWA) in 23 CFR § 450.306 and the Federal Transit Administration (FTA) in 49 CFR § 613.100. The 2015 FAST Act legislation is the current comprehensive federal legislation

addressing surface transportation and guides the long range planning process.

The FAST Act contains 10 planning factors that must be addressed by the 3C metropolitan transportation planning process. The relationships between the 2045 RTP and the planning factors are shown in **Table 1-1**.

FAST Act Planning Factors:

1. Support the **economic vitality** of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the **safety** of the transportation system for all motorized and non-motorized users;
3. Increase the **security** of the transportation system for motorized and non-motorized users;
4. Increase the **accessibility and mobility** of people and freight;
5. Protect and enhance the **environment**, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the **integration and connectivity** of the transportation system, across and between modes, for people and freight;
7. Promote efficient **system management and operation**;
8. Emphasize the **preservation** of the existing transportation system.
9. Improve the **resiliency and reliability** of the transportation system and **reduce or mitigate** stormwater impacts of surface transportation; and
10. Enhance **travel and tourism**.¹



This 2045 RTP is corridor-based and the projects included are those analyzed during the determination of conformity with air quality regulations for Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) budgets outlined in the Colorado State Implementation Plan (SIP). The vision plan and financial plan are at the corridor-level, with the exception of the first four years of the plan which includes the adopted FY2020-2023 Transportation Improvement Program (TIP). The TIP is the project programming list which must be included in CDOT's Statewide Transportation Improvement Program (STIP). A corridor based RTP provides greater flexibility for financial constraint and in project selection at the TIP level.

¹23 CFR 450.306:
<https://www.gpo.gov/fdsys/granule/CFR-2011-title23-vol1/CFR-2011-title23-vol1-sec450-306>

Table 1-1: NFRMPO Planning Factors

Chapter/Section	Economic	Safety	Security	Accessibility & Mobility	Environmental & Energy	Multimodal Connectivity	Management & Operations	Preserve the Existing System	Improve resiliency & reliability of system & reduce stormwater	Enhance travel & tourism
1 Introduction				X		X	X	X		
2-1 Existing Conditions		X	X	X		X	X	X	X	X
2-2 Socio-Economic Profile				X		X				
2-3 Performance-Based Planning	X	X		X	X	X	X	X	X	X
2-4 Environmental Profile	X	X	X	X	X	X	X	X	X	X
2-5 Safety and Resiliency		X	X	X	X	X	X	X	X	X
3-1 Technology	X	X	X	X	X	X	X	X	X	X
3-2 Vision Plans	X	X	X	X	X	X	X	X	X	X
3-3 2045 Forecast and Scenarios	X	X	X	X	X	X	X	X	X	X
3-4 Fiscally Constrained Plan	X	X	X	X	X	X	X	X	X	X
3-5 Plan Projects	X	X	X	X	X	X	X	X	X	X
4 Public Outreach	X			X						
5 Implementation	X	X	X	X	X	X	X	X	X	X

C. Values, Visions, Goals, and Objectives

As a part of this Plan, and to comply with the requirements in the FAST Act, NFRMPO staff, TAC, and the Planning Council developed Goals, Objectives, Performance Measures, and Targets, adopted on October 4, 2018. A more in-depth discussion of these can be found in **Chapter 3**.

VISION STATEMENT:

We seek to provide a multi-modal transportation system that is safe, as well as socially and environmentally sensitive for all users that protects and enhances the region's quality of life and economic vitality.

Goals and Objectives

Goal 1: Economic Development and Quality of Life

Foster a transportation system that supports economic development and improves residents' quality of life

- Objective 1: Conform to air quality requirement.
- Objective 2: Maintain transportation infrastructure and facilities
- Objective 3: Increase investment in infrastructure

Goal 2: Mobility

Provide a transportation system that moves people and goods safely, efficiently, and reliably

- Objective 4: Reduce number of severe traffic crashes
- Objective 5: Reduce congestion
- Objective 6: Improve travel time reliability

Goal 3: Multi-Modal

Provide a multi-modal system that improves accessibility and transportation system continuity.

- Objective 7: Support transportation services for all, including the most vulnerable and transit-dependent populations
- Objective 8: Increase mode share of non-single occupancy vehicles (SOV) modes
- Objective 9: Develop infrastructure that supports alternate modes and connectivity

Goal 4: Operations

Optimize operations of transportation facilities.

- Objective 10: Optimize the transportation system
- Objective 11: Enhance Transit Service in the NFR region
- Objective 12: Reduce project delivery time frame

D. Other Plans and Studies

During the development of this 2045 RTP, several regional transportation planning efforts influenced its development. Numerous transportation studies have been or are being prepared by individual counties, cities, and towns within the NFRMPO, all of which served as input for this Plan. Brief descriptions of some of the regional plans and studies follow; however, this is not an exhaustive list.

North I-25 Environmental Impact Statement (EIS)

The North I-25 Environmental Impact Statement (EIS) began in fall 2003. The study analyzed potential environmental impacts, identified mitigation measures, and prepared the environmental decision document required under the National Environmental Policy Act (NEPA). The study addressed roadway widening, upgrades, new alignments, interchange modifications, and transit alternatives between Denver Union Station and Northern Colorado. A Record of Decision (ROD) was signed by FHWA in December 2011. ROD 2 was signed in September 2015, ROD 3 was signed in June 2016, ROD 4 was signed in April 2017, and ROD 5 was signed in December 2017.

2017 Coordinated Public Transit/Human Service Transportation Plan (Coordinated Plan)

The 2017 Coordinated Public Transit/Human Services Transportation Plan (Coordinated Plan) brings together representatives from human service agencies and transit agencies to set strategies, goals, and objectives for the two Mobility Committees within the NFRMPO region over the next four years. Bringing groups who serve older adults and adults with disabilities together with the transit agencies allows for each agency to better serve those in need. SAFETEA-LU and subsequent transportation legislation requires Coordinated Plans to identify the transportation needs of individuals with

disabilities, older adults, and people with low incomes; provide strategies for meeting those needs; and prioritize transportation services for funding and implementation. The Coordinated Plan was adopted in December 2017.

2045 Regional Transit Element (RTE)

The NFRMPO Planning Council approved the 2045 Regional Transit Element (RTE) in November 2018. The 2045 RTE replaces the 2040 RTE and is part of this 2045 RTP. The purpose of the 2045 RTE is to guide the development of regional transit in the NFRMPO. Corridors were recommended for the study of future transit and are discussed in **Chapter 3, Section 2: Vision Plans**.

2016 Non-Motorized Plan (NMP)

The 2016 Non-Motorized Plan (NMP) provides a consolidated summary of existing bicycle and pedestrian infrastructure in the NFRMPO region, provides the 15 member communities tools to support their non-motorized planning activities, positions the NFRMPO communities to pursue state and federal funding opportunities, and fulfills federal requirements to address bicycle and pedestrian planning as a component of the 2045 RTP. The NMP was adopted by the NFRMPO Planning Council in February 2017.

Colorado State Freight and Passenger Rail Plan

The CTC adopted the Colorado State Freight and Passenger Rail Plan in August 2018. The Plan proposes strengthening rail coordination, addressing freight rail needs and issues,

advancing Front Range Passenger Rail, integrating planning processes, and enhancing economic connections. Implementation activities include ongoing action and partnership on priority strategies, creation of the Freight Rail Committee of the Freight Advisory Council (FAC), integration into future planning efforts, continued partner involvement through the State Transportation Advisory Committee (STAC), FAC, Transit & Rail Advisory Committee (TRAC), and the Southwest Chief and Front Range Passenger Rail Commission (SWC&FRPRC), and support for communications and education efforts through Colorado Delivers.

Colorado Freight Plan

The Colorado Freight Plan (CFP) was completed by CDOT in 2019 and guides improvements and investments on the freight systems and supports Colorado's vision of a safe, efficient, coordinated, and reliable system for the movement of goods. The CFP integrates highway, rail, air, intermodal, and pipeline policies and strategies. The CFP addresses issues

such as aviation, passenger rail, transportation system management and operations, transportation safety, and other freight specific studies and analyses. Ongoing freight planning and implementation efforts will be supported by the FAC and public agency and private industry partners.

Freight Northern Colorado (2019)

The NFRMPO developed Freight Northern Colorado (FNC) to guide the improvement of the overall freight system within Northern Colorado. FNC provides a holistic view of freight and industry in the region. The overarching goal of FNC is to enhance the safety, mobility, and air quality of regional freight movements by creating a comprehensive freight system review within Northern Colorado. FNC provides an overview of the current freight system, analyzes the system's performance, and summarizes major trends emerging regionally, nationally, and internationally in freight.

E. Public Participation Process

The 2045 RTP reflects community input on the issues and concerns for the transportation future of the North Front Range region. Multiple opportunities for feedback were implemented into the 2045 RTP. During the 2045 RTP development, NFRMPO staff used a variety of public involvement tools to gather input, as set out in the NFRMPO's 2019 Public Involvement Plan (PIP). The NFRMPO reached out to those who live, work, recreate, and/or spend time in the region, and established a regional plan for the future based on feedback received. Public outreach is explored in further detail in **Chapter 4**.

Process

Staff divided the outreach process into three phases corresponding to the needs of the plan. As the 2045 RTP was developed, the outreach methods evolved. The phases included:

- 1) **Plan Development** – staff engaged the public for community concerns, needs, and issues with the existing transportation system. Activities included online and in-person surveys, public meetings, and public events.
- 2) **Public Review** – The public provided feedback as staff completed draft chapters of the 2045 RTP. Activities included releasing chapters as part of the TAC packet, which is posted on the NFRMPO website.
- 3) **RTP Adoption and Conformity Determination** – After a 30-day public comment period for the Plan and public hearing for the Air Quality conformity determination, the 2045 RTP was adopted by the Planning Council. Dates of these Planning Council meetings and the conformity determination were posted on the NFRMPO's social media sites and website.

Public Involvement Strategies

As outlined in the 2019 PIP, the public was notified of and involved in the development of the Plan through:

- Posting on the NFRMPO's [website](#), [Twitter](#), and [blog](#);
- Attendance and presentations at local meetings and events throughout the region.
- Publication of events, dates, and updates in the quarterly [On the Move](#) Newsletter;
- Creation of the [2045 RTP website](#); and
- the [Community Remarks website](#).

The NFRMPO used a variety of online tools to reach out to the public, ensuring up-to-date and interactive tools were made available.

- Events and meetings were posted as they were scheduled and were tweeted on the NFRMPO's Twitter account (@NFRMPO).
- The NFRMPO posted draft chapters, meeting schedules, and contact information on its website. The website was updated often to ensure the most current information was available.
- The Community Remarks site allowed the public to provide comments on a Google Maps-based website and “vote up” and “vote down” comments, which streamlined comments and provided additional interactivity.

Air Quality Conformity

The NFRMPO issued a public hearing notice in regional newspapers and on the NFRMPO website on August 1, 2019 to meet the 30-day notice requirement for air quality conformity. All Transportation Plans in nonattainment and maintenance areas are required to demonstrate air quality conformity, including the RTP and TIP. The boundaries and pollutants for air quality conformity in the NFRMPO are detailed in **Chapter 2**.

The Planning Council opened the public hearing on September 5, 2019 for public comment; there were no public comments during the hearing. After the hearing, the Council approved **Resolution 2019-21** making a positive air quality conformity determination for the 2045 RTP and FY2020-2023 TIP. The Air Quality Control Commission (AQCC) concurred with the Council adoption on September 19, 2019. FHWA and FTA concurred with the air quality conformity determination, effective October 17, 2019.

F. Summary

The 2045 RTP is the culmination of a regional 3C planning effort. The regional transportation system is intended to strengthen the region's mobility and accessibility for all residents. A system which does not provide this enhancement will not be effective in improving the quality of life for residents and ensuring the economic vitality of the region. NFRMPO staff used a variety of outreach tools from the PIP to collect input from the public about regional transportation priorities and issues. The feedback received was reviewed, categorized, and integrated into the 2045 RTP. The Planning Council Resolutions adopting the 2045 RTP and the Air Quality Conformity Determination are included at the beginning of this document.

2

Existing Conditions





2

Section 1

NFRMPO System

A. Roadway Network

The roadway network provides the backbone for the transportation system in the North Front Range region. In addition to serving vehicular traffic, such as cars and trucks, it also provides infrastructure for transit service and non-motorized users.

Functional Classification

The roadway network is comprised of a hierarchy of facilities defined by how they serve the mobility and access needs of the users. Mobility is the efficient movement of people and goods, while access is the movement of people and goods to and from specific locations. As mobility increases on a roadway, access decreases; and conversely, as access increases, mobility decreases.

The functional classification of each roadway reflects the level of mobility and access provided by the roadway and its role in the regional system. There are three functional classification systems used in the region:

- 1) CDOT maintains the functional classification system used to determine federal-aid eligibility of roads based on the Federal Highway Administration's (FHWA) [Highway Functional Classification Concepts, Criteria and Procedures](#).²
- 2) Many local governments maintain a functional classification system to plan for access, ultimate number of lanes, and/or right-of-way (ROW) requirements.
- 3) The 2015 Regional Travel Demand Model (RTDM) identifies a facility type for each road, which is similar to functional

classification. The facility type is used to look up speed, capacity, and volume delay parameters. Local roads are not specifically identified in the model. Rather, traffic on local roads is represented through centroid connectors, which link neighborhoods to the modeled street system.

Each of the roadway facility types used in the 2015 RTDM are identified in the following section.

Interstate

All routes which comprise the Interstate Highway system are considered Interstate highways. Interstates are designed with mobility and long-distance travel in mind. I-25 is the only Interstate highway in the North Front Range region.

Freeway and Expressway

Freeways and expressways have directional travel lanes, which are usually separated by some type of physical barrier, and their access and egress points are limited to on- and off-ramp locations or a very limited number of at-grade intersections. Freeways and expressways are designed and constructed to maximize their mobility function, and abutting land uses are not directly served by them.

Principal Arterial

Principal Arterials serve major activity centers, the highest traffic volume corridors, and longest trip demands. Principal Arterials interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving urban areas and movements through the urban area. They serve demand for intra-area travel

²http://www.fhwa.dot.gov/planning/processes/state_wide/related/highway_functional_classifications/fca_uab.pdf

between the central business district and outlying residential areas.

Minor Arterial

Minor arterials collect and distribute traffic from principal arterials, freeways, and expressways to streets of lower functional classification and, in some cases, allow traffic to directly access properties. They serve secondary traffic generators such as community business centers, neighborhood shopping centers, multifamily residential areas, and traffic between neighborhoods. Access to land use activities is generally permitted, but should be consolidated, shared, or limited to larger-scale users. Minor arterial street spacing is recommended to be at half-mile intervals.

Collector

Collectors serve traffic circulation in residential and commercial/industrial areas. They distribute and channel trips between Local Roads and Arterials. The cross-section of a collector street

may vary widely depending on the scale and density of adjacent land uses and the character of the local area. Left turn lanes sometimes occur on collector streets adjacent to non-residential development. Collector streets are generally two lanes, but sometimes have four-lane sections.

Ramp

Ramps connect controlled-access highways to the surrounding roadway network.

Frontage Road

Frontage roads are similar to minor arterial or collectors but serve a specific purpose in providing local access adjacent to a freeway or expressway. **Table 2-1** summarizes these classifications and provides examples of roads within the North Front Range region. The lane mileage provided represents the lane mileage included in the 2015 RTDM and does not include all of the lane miles in the region.

Table 2-1: Facility Type in the NFRMPO Model

Functional Class	Lane Mileage (2015)	Regional Examples
Interstate	109	Interstate 25 (I-25)
Freeway and Expressway	204	US Route 85 (US85)
Principal Arterial	618	State Highway (SH) 392
Minor Arterial	746	SH14 east of I-25
Collector	1,173	Weld County Road 52, Larimer County Road 14
Ramps	17	I-25 Entrance and Exit Ramps
Frontage Road	60	I-25 Frontage Road
Total	2,928	

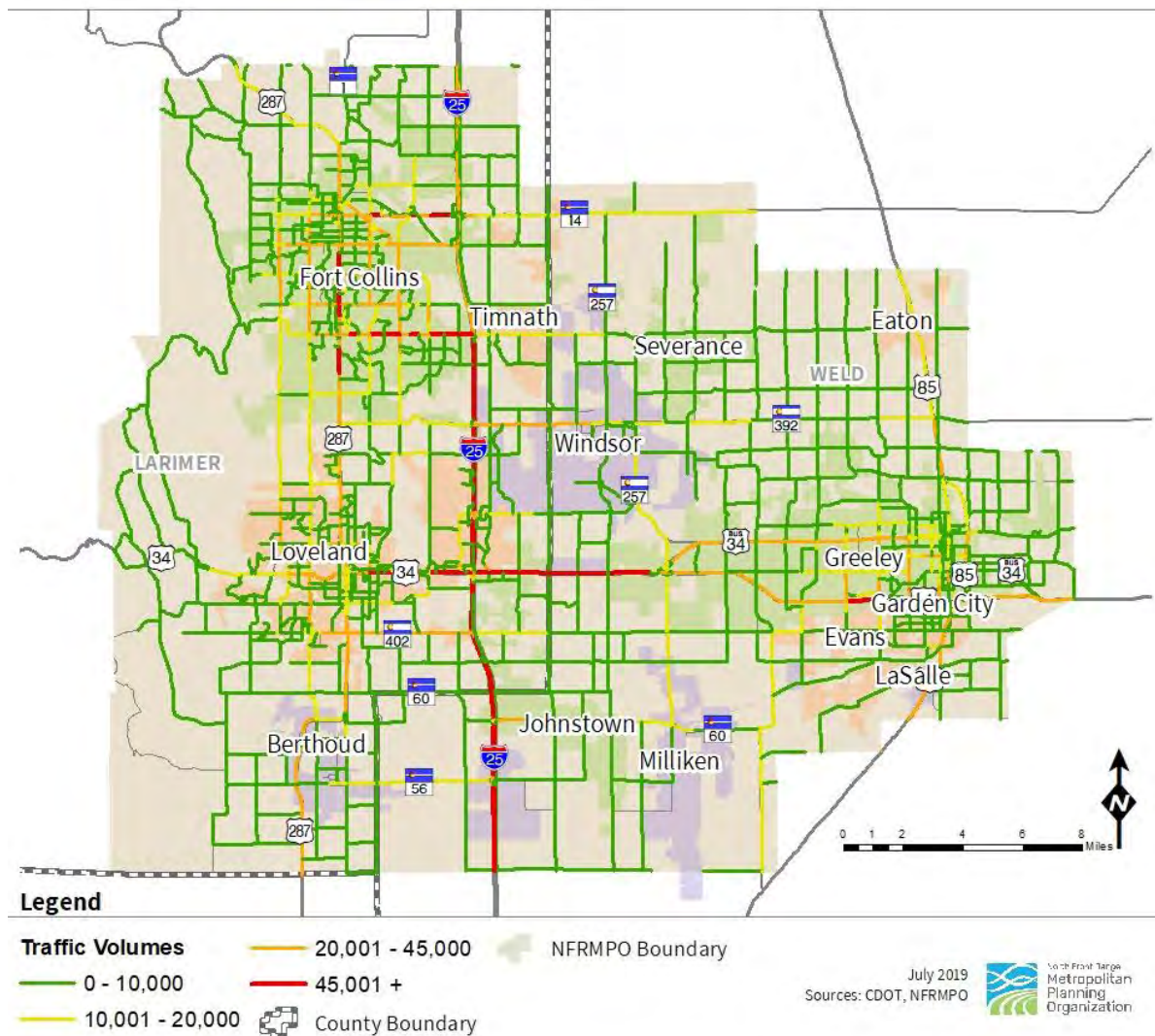
Source: North Front Range 2015 Base Year Regional Travel Demand Model

Existing Daily Traffic Volumes

Figure 2-1 shows the 2015 daily traffic volumes modeled by the 2015 RTDM. The highest traffic volumes are located along the major routes within the region. I-25, Harmony Road, US34,

and US287 have the highest traffic volume in the region with over 45,000 daily trips respectively. Most collectors have fewer than 10,000 trips per day.

Figure 2-1: 2015 Average Daily Traffic Volumes

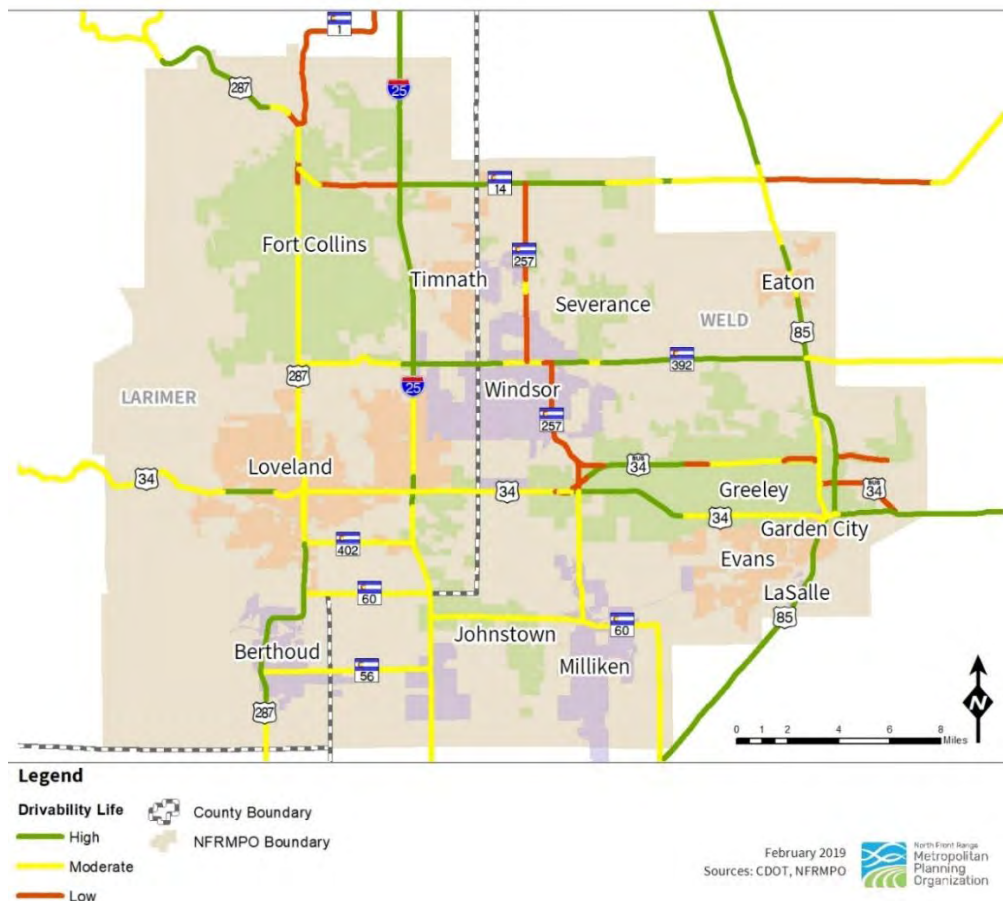


Roadway Surface Condition

CDOT assesses pavement condition annually in terms of Drivability Life, which measures how long a highway segment will have acceptable driving conditions based on an assessment of pavement smoothness, surface cracking, rutting, and safety.³ There are three categories: High Drivability Life will have acceptable driving conditions for more than 10 years; Moderate Drivability Life will have acceptable driving conditions for four to 10 years; and Low Drivability Life will have acceptable driving conditions for fewer than four years.

The Drivability Life on CDOT’s system is shown in **Figure 2-2**. As of 2018, 34.3 percent of the state highway system in the region had a high drivability life, 52.4 percent had a moderate drivability life, and 13.3 percent had a low drivability life. A variety of construction projects have improved roadway surface condition since 2015, including projects on US85, US287, SH56, and SH60. Additional projects have improved surface condition that are not yet reflected in the 2018 Drivability Life ratings, such as the SH14 resurfacing project completed in 2018.

Figure 2-2: 2018 State Highway Drivability Life



³ CDOT 2014 Transportation Deficit Report, 2014.

<https://www.codot.gov/library/AnnualReports/2014-annual-transportation-deficit-report.pdf>

Special Roadway Corridors

Roadways are categorized by their regional and national significance and by their scenic or historic value. Multiple roadways within the NFRMPO region are included as part of the National Highway System (NHS) due to their significance and one highway is considered scenic and historic.

National Highway System (NHS)

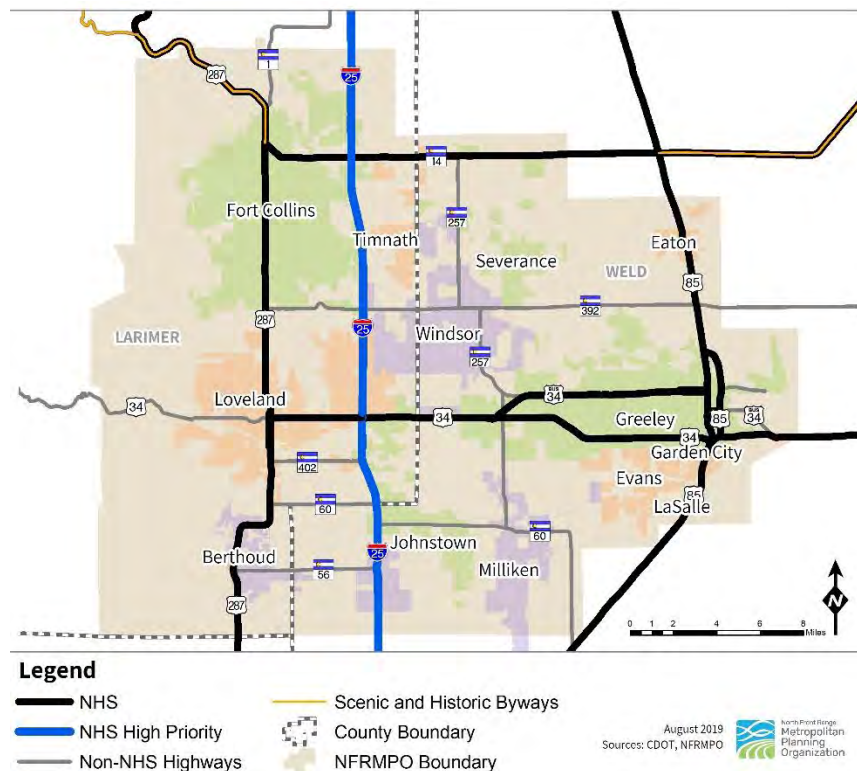
The NHS consists of roadways important to the nation’s economy, defense, and mobility, including interstate highways and portions of the principal arterial system. Approximately 132 miles of NHS roadways are located within the NFRMPO region, as shown on **Figure 2-3**. FHWA has designated High Priority Corridors as a focus for improvements to enhance mobility for trade

(both domestic and international) and to promote economic development. Camino Real, the High Priority Corridor in the North Front Range region, extends from Mexico to Canada via I-25 through Colorado.

Scenic and Historic

The State of Colorado has identified more than 2,000 miles of roadway as Scenic Byways. The Cache la Poudre: North Park (SH14 and US287) is the only designated Scenic Byway within the NFRMPO region. Approximately seven miles of this byway are within the northern portion of the region. The route follows US287 from the Cache La Poudre River northwest as shown in **Figure 2-3**.

Figure 2-3: National Highway System and Scenic and Historic Byways



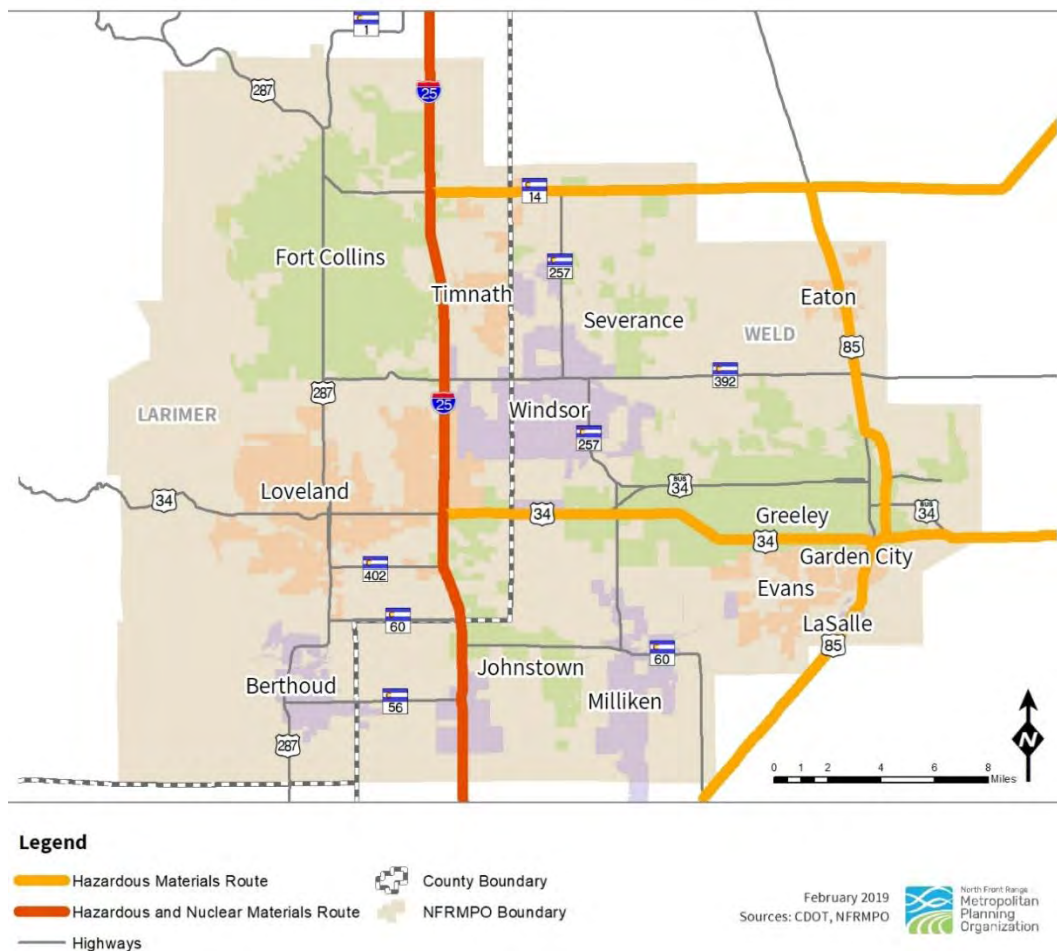
Hazardous and Nuclear Materials

Due to safety reasons, the transportation of hazardous and nuclear materials is limited to designated roadways.

Figure 2-4 illustrates the roadways in the region the State of Colorado has designated for the

transportation of hazardous and nuclear materials. As shown, four routes are designated for transporting hazardous materials (I-25, SH14, US34, and US85), while one route is designated for transporting nuclear materials (I-25). Federal and State regulations prohibit these materials from being transported using other routes.

Figure 2-4: Hazardous and Nuclear Materials Routes



Bridge Conditions

Major strides have been made to fix and repair bridges within the State using federal, State, and local funding. The Funding Advancements for Surface Transportation Economic Recovery Act (FASTER) program designates State funds for safety improvements, bridge repairs, and transit

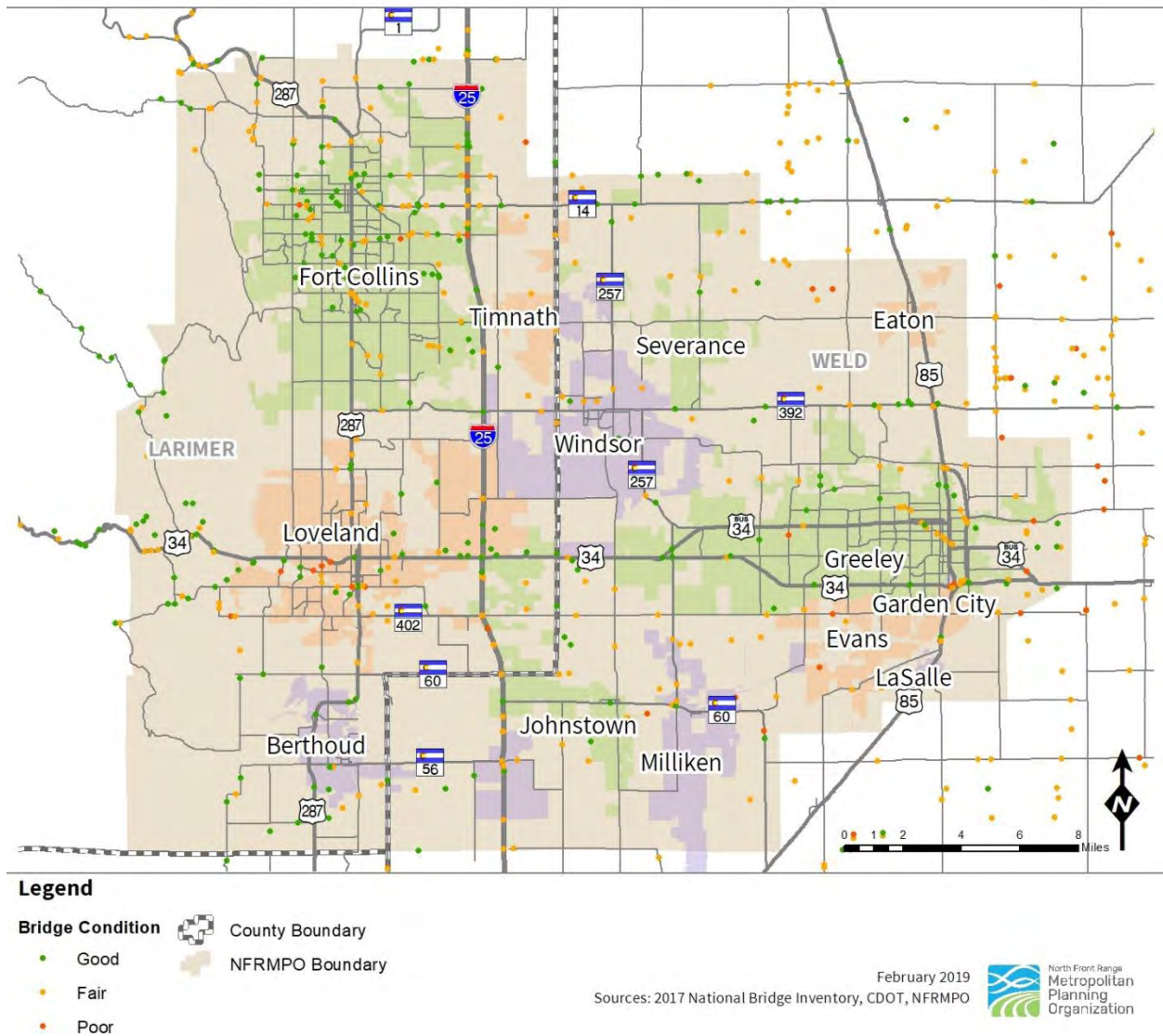
expansion. Working with CDOT, local governments within the region have invested a variety of resources and funds into fixing bridges.

FHWA produces an annual National Bridge Inventory (NBI), which is the result of surveying

the condition of bridges across the country. Bridges are rated as Good, Fair, or Poor. Of the 503 bridges located within the North Front Range region, 221 are rated Good (43.9 percent), 252 are rated Fair (50.1 percent), and 30 are rated

Poor (6.0 percent). **Figure 2-5** displays bridges by their condition rating in the North Front Range region as of 2017. Additional information on bridge condition on NHS facilities is available in the System Performance Report (**Appendix C**).

Figure 2-5: Bridge Condition



B. Regionally Significant Corridors

The concept of Regionally Significant Corridors (RSCs) was first used in the 2030 RTP to focus limited transportation dollars on the corridors most significant to the region. Corridors were updated, affirmed, and carried forward in successive RTPs. The criteria used to identify RSCs were updated in this RTP, resulting in slight modifications to the RSCs. Since the 2045 RTP is corridor-based, the RSCs set the stage for the overall Plan.

An RSC in the North Front Range Metropolitan Planning Organization (NFRMPO) is defined as:

An important link in a multi-modal, regional network comprised of existing or new transportation corridors that connect communities and/or activity centers by facilitating the timely and safe movement of people, goods, information, and services.

The following criteria were used to identify RSCs:

1. Includes all Interstates, US Highways, and State Highways
 - ▶ Colorado Department of Transportation (CDOT) requires a corridor vision be developed for all state highways as part of the regional transportation plan. Since

this is required by CDOT, and most state highways, US highways, and Interstate highways are regional in nature, this was established as the first criteria.

2. Includes all other roadways that meet the following criteria:
 - a. The roadway is eligible to receive federal aid⁴
 - b. The roadway goes through more than one governmental jurisdiction or connects to an activity center⁵ by 2045
 - c. It is anticipated that by 2045 all segments of the roadway designated as an RSC will be built and paved
 - d. The roadway serves regional traffic as determined by local knowledge

The RSCs are organized by alpha/numeric order from Interstate, US Highway, State Highway, Larimer County Road (LCR), Weld County Road (WCR), and then the remaining corridors. **Table 2-2** describes the 28 RSCs whose numbers correspond to the locations in **Figure 2-6**. A vision plan for each RSC, Regional Transit Corridor (RTC), and Regional Non-Motorized Corridor (RNMC) is included in **Chapter 3**.

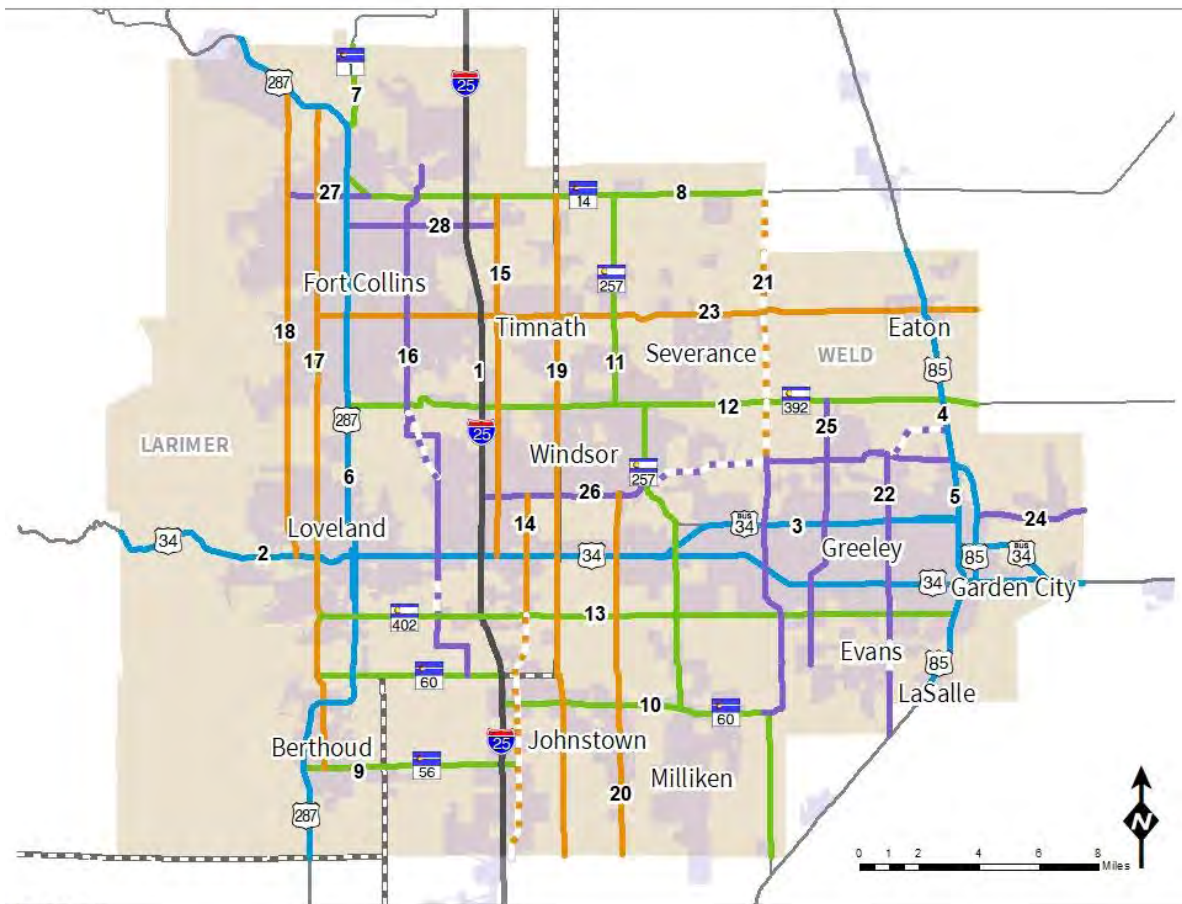
⁴ Federal-aid-eligible highways include the Interstate System, the rest of the National Highway System (NHS), and all other public roads not classified as local roads or rural minor collectors by the State Department of Transportation (DOT) - 23 CFR §470

⁵ Activity Centers include higher education main campuses, all major medical centers, regional airports, major business and industrial parks, and major commercial centers and corridors.

Table 2-2: Regionally Significant Corridors

RSC	Name	Description
1	I-25	Northern MPO boundary to southern MPO boundary
2	US 34	Western MPO boundary to eastern MPO boundary
3	US 34 Business Route	US 34 MP 102 on the west to US 34 MP 115.5 on the east
4	US 85	Weld CR 70 on the north to Weld CR 48 on the south
5	US 85 Business Route	US 34 on the south to US 85 on the north
6	US 287	Northern MPO boundary to southern MPO boundary, includes Berthoud Bypass
7	SH 1	Northern MPO boundary to US 287 on the south
8	SH 14	US 287 on the west to eastern MPO boundary
9	SH 56	US 287 on the west to the RSC 14 extension on the east
10	SH 60	US 287 on the west to the southern MPO boundary
11	SH 257	SH 14 on the north to SH 60 on the south, includes offset in Windsor
12	SH 392	US 287 on the west to US 85 on the east
13	SH 402 / Freedom Parkway	Larimer CR 17 on the west to US 85 on the east
14	Larimer County Road (LCR) 3 / Weld County Road (WCR) 9.5	Crossroads Boulevard on the north to southern MPO boundary
15	LCR 5	SH 14 on the north to US 34 on the south
16	LCR 7 / LCR 9 / Timberline Road	Vine Drive on the north to SH 60 on the south
17	LCR 17 / Shields Street / Taft Avenue	US 287 on the north to SH 56 on the south
18	LCR 19 / Taft Hill Road / Wilson Avenue	US 287 on the north to US 34 on the south
19	WCR 13	SH 14 on the north to southern MPO boundary
20	WCR 17	Crossroads Boulevard Extension on the north to southern MPO boundary
21	WCR 27 / 83rd Avenue / Two Rivers Parkway	SH14 on the north to SH 60 on the south
22	WCR 35 / 35th Avenue	O Street on the north to US 85 on the south
23	WCR 74 / Harmony Road	LCR 17 on the west to the eastern MPO boundary
24	8th Street	US 85 on the west to the eastern MPO boundary
25	59th Avenue / 65th Avenue	SH 392 on the north to 54th Street on the south
26	Crossroads Boulevard / O Street	I-25 on the west to US 85 on the east
27	Mulberry Street	LCR 19 on the west to Riverside Avenue (SH 14) on the east
28	Prospect Road	US 287 on the west to LCR 5 on the east

Figure 2-6: NFRMPO 2045 Regionally Significant Roadway Corridors



Legend

- Existing Interstate
- Existing US Highway
- Existing State Highway
- Existing County Road
- Existing Other
- Proposed County Road
- - - Proposed Other
- County Boundary
- NFRMPO Boundary

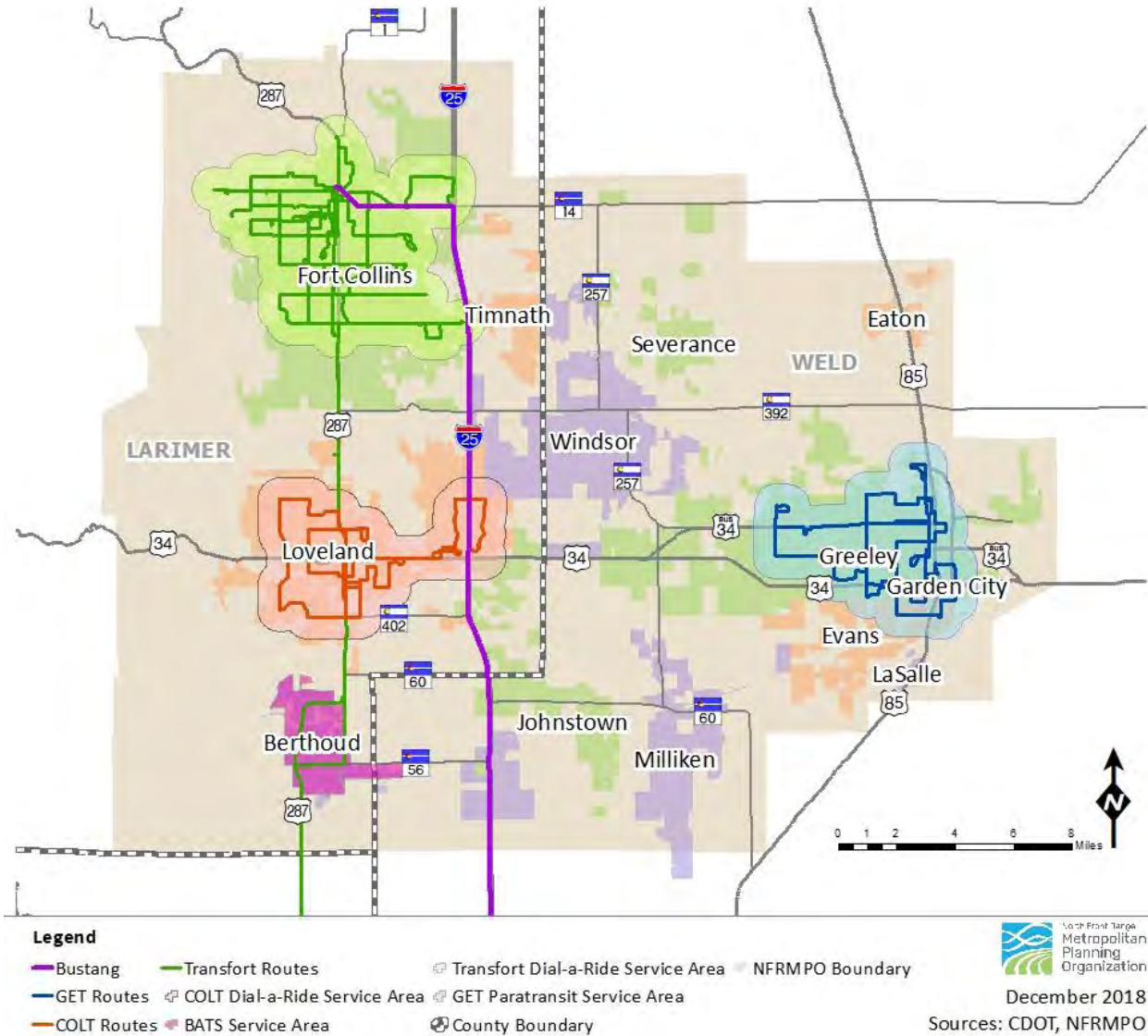
July 2019
 Sources: CDOT, NFRMPO


C. Transit System

The NFRMPO region is home to three municipally-operated fixed-route systems, one regional route operated by CDOT, one municipally-operated demand response system, and several private and/or non-profit services.

These services are explored in more detail in the [2045 Regional Transit Element \(RTE\)](#). **Figure 2-7** shows the relation of fixed-route and paratransit systems operated and/or funded by municipalities.

Figure 2-7: Public Transportation Providers in the NFRMPO Region



Regional Trends

Transit trends vary throughout the region, as Berthoud Area Transportation System (BATS), Greeley Evans Transit (GET) and Transfort saw increases in ridership between 2013 and 2017, while City of Loveland Transit (COLT) saw decreases. **Figure 2-8** shows the ridership trends for each publicly-funded transit service in the region between 2013 and 2017. Operating expenses for the publicly-funded transit systems are shown for the same time period in **Figure 2-9**.

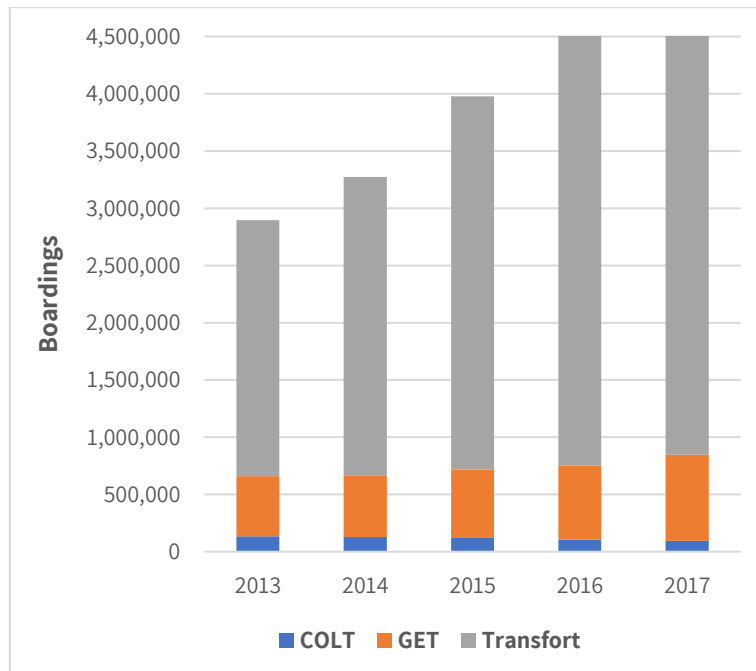
Trends between increased operating expenses and ridership are correlated. Transfort saw a large increase (82 percent) in operating expenses due to investments in the MAX corridor, FLEX, and CSU routes. GET saw an increase of 28 percent due to additional service after the 2016 service redesign, and COLT saw a 21 percent

increase. BATS saw the smallest increase at eight percent.

Fare revenue decreased for all agencies except Transfort. Transfort saw a steady growth in fare revenue between 2013 and 2017 (116.7 percent). COLT had a 12.8 percent decrease, GET had a 14.4 percent decrease, and BATS had a 30.2 percent decrease.

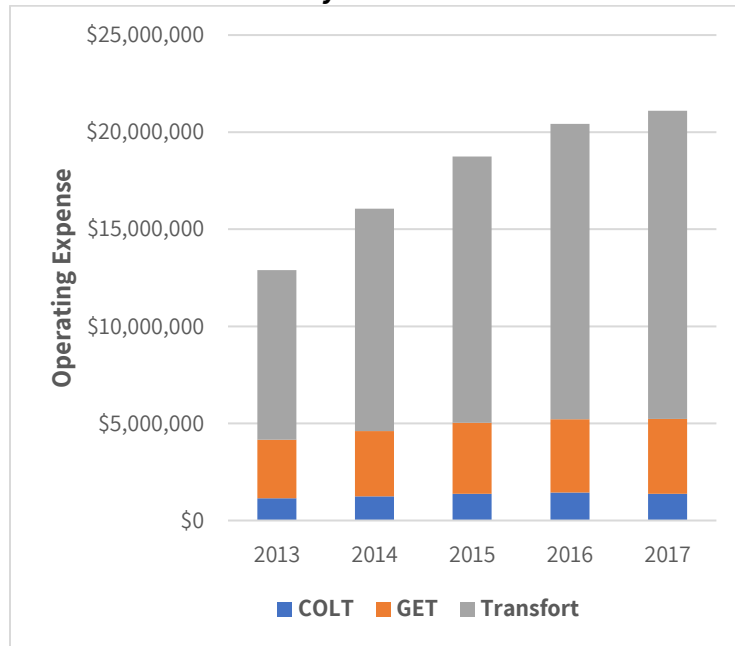
As shown in **Figure 2-10**, fares did not increase for any of the agencies between 2013 and 2017, so decreases in ridership may account for less revenue at COLT. BATS does not have a required fare for older adults, instead operating on a donation basis for riders over 60 – an increase in older adult riders may decrease overall fare recovery. Additional trends are explored in more depth in the [2045 RTE](#).

Figure 2-8: Ridership Trends on Publicly-Funded Transit Systems 2013-2017



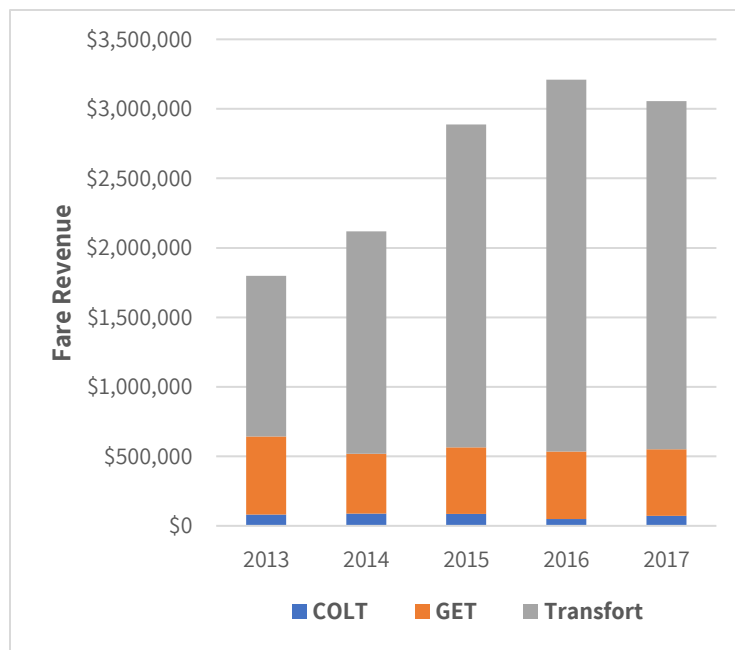
Note: BATS is also considered a publicly-funded transit system; annual boardings were too few to accurately display here.

Figure 2-9: Operating Expenses Trends on Publicly-Funded Transit Systems 2013-2017



*Note: BATS annual operating expenses were too few to accurately display here.
Source: NTD, City of Loveland Transit, City of Greeley – GET, Transfort, 2018*

Figure 2-10: Fare Revenue for Publicly-Funded Transit Systems 2013-2017



*Note: BATS fare revenue expenses were too few to accurately display here.
Source: NTD, City of Loveland Transit, City of Greeley – GET, Transfort, 2018*

BATS

BATS provides demand-response service outside of the Berthoud town limits throughout the week and operates fixed trips on certain days of the week. On Mondays, BATS transports riders to Longmont between 8:00 a.m. and 11:30 a.m. Tuesday through Thursday, BATS transports riders to Loveland between 8:00 a.m. and 11:30 a.m., with additional service to Loveland provided on Thursday between 11:30 a.m. and 3:00 p.m. BATS service was reduced in 2013 due to budget cuts, leading to a reduction in ridership; however, service has been supplemented by Rural Alternatives for Transportation (RAFT). System performance measures are shown in **Table 2-3**.

Table 2-3: BATS Performance Measures

Performance Measures	Total
Cost per Operating Hour	\$37.36
Passengers per Operating Hour	2.73
Cost per Passenger Trip	\$24.65
Subsidy per Passenger Trip	\$23.62
Farebox Recovery	4.19%
Ridership per Capita	0.88
Cost per Capita	\$21.60

Source: Town of Berthoud, 2018

COLT

COLT provides fixed-route service and paratransit within Loveland. The Loveland Public Works Department operates the fixed-route system, which runs between 6:38 a.m. and 7:48 p.m. Monday through Friday, and between 8:38 a.m. and 5:48 p.m. on Saturdays. No service is operated on Sundays or holidays. Prior to November 2018, there were three routes, each with hourly headways. As of November 2018, service operates on five routes, one running to

each quadrant of the City and one operating along US287. Two of these routes now operate every half-hour, and the remaining three continue to operate on one-hour headways.

Paratransit service transitioned from a municipally-run service to a contracted Dial-a-Ride service in April 2018. Prior to this transition, COLT directly provided paratransit service using COLT drivers and vehicles for the entire Loveland Growth Management Area (GMA). Following this transition, paratransit users within $\frac{3}{4}$ -miles of a fixed-route service may use Dial-a-Ride or Dial-a-Taxi service. Dial-a-Ride must book the ride between 14 days and 24-hours in advance and must be ADA Paratransit eligible. Dial-a-Taxi is a program using Federal Transit Administration (FTA) \$5310 funds to provide ADA Paratransit-eligible users the ability to use a taxi for eligible rides inside and outside of the COLT service area.

In 2017, COLT carried 105,917 passengers on the fixed-route system, which is a decrease from 142,803 in 2013. The system has a productivity of 7.1 passengers per hour, which is a decrease from 2012 (10.3 riders per hour). System performance measures are shown in **Table 2-4**.

Table 2-4: 2017 COLT Performance Measures

Performance Measures	Total
Cost per Operating Hour	\$118.12
Passengers per Operating Hour	7.05
Cost per Passenger Trip	\$16.76
Subsidy per Passenger Trip	\$16.09
Farebox Recovery	4.0%
Ridership per Capita	1.58
Cost per Capita	\$26.56

Source: NTD, 2018.

GET

The City of Greeley operates transit on behalf of itself, the City of Evans, and the Town of Garden City through purchase of service agreements. GET operates a variety of services, including fixed-route, paratransit, and Call-N-Ride. GET updated its route structure in January 2016, with routes switching from loops to linear routes and route names from colors to numbers. As of January 2016, GET has eight routes, including the UNC Boomerang. Depending on the route, service is generally provided between 6:00 a.m. and 8:17 p.m. on weekdays, and from 6:45 a.m. to 6:27 p.m. on Saturdays. No fixed-route service is available on Sundays.

Paratransit service provides door-to-door service for persons who qualify under the ADA. Service is provided Monday through Friday, 6:00 a.m. to 7:00 p.m., and Saturdays from 7:00 a.m. to 5:00 p.m. Rides cost \$3.00 per trip. Outside of these hours, GET provides a Call-N-Ride service Monday through Saturday, after regular fixed-route service ends, until 9:00 p.m. and on Sundays from 7:45 a.m. to 1:45 p.m. Costs are the same as paratransit. System performance measures are shown in **Table 2-5**.

Table 2-5: 2017 GET Performance Measures

Performance Measures	Total
Cost per Operating Hour	\$72.99
Passengers per Operating Hour	14.29
Cost per Passenger Trip	\$5.11
Subsidy per Passenger Trip	\$4.49
Farebox Recovery	12.13%
Ridership per Capita	6.51
Cost per Capita	\$33.22

Source: NTD, 2018

Transfort

Transfort is the largest transit service provider in the NFRMPO region, providing local and regional fixed-route services, bus rapid transit (BRT),

school-subsidized routes, and paratransit. Transfort operates 22 routes spanning 5:23 a.m. to 12:13 a.m. Monday through Friday, 5:48 a.m. to 12:16 a.m. on Saturdays, and 8:03 a.m. to 7:26 p.m. on Sundays. Some routes operate for school trips or late-night service only.

Paratransit service is contracted through the Dial-a-Ride program. The Dial-a-Ride program provides door-to-door paratransit to individuals who meet minimum service requirements of the ADA. Service is provided from 6:00 a.m. to 11:00 p.m. Monday through Saturday and 8:00 a.m. to 7:00 p.m. on Sundays and Holidays. Riders pay \$2.50 per one-way trip. Rides can be booked between 24-hours and 14 days in advance. In addition to Dial-a-Ride, Transfort Dial-a-Ride users can use Dial-a-Taxi. Like the program in Loveland, Dial-a-Taxi uses FTA \$5310 funds to provide ADA Paratransit-eligible riders the ability to use a taxi for eligible rides both inside and outside of the service area.

In 2017, Transfort carried more than 4.33M passengers on the fixed-route system, which increased from 2.27M passengers in 2013. The system has a productivity of 29.8 riders per hour, which is a slight increase over 2012 (29.2 riders per hour). Overall, riders are made up of CSU students (57 percent), older adults and individuals with disabilities (12 percent), and youth (4 percent); the remaining riders do not fall into a special category. System performance measures are shown in **Table 2-6**.

Table 2-6: 2017 Transfort Performance Measures

Performance Measures	Total
Cost per Operating Hour	\$108.60
Passengers per Operating Hour	29.78
Cost per Passenger Trip	\$3.65
Subsidy per Passenger Trip	\$3.07
Farebox Recovery	15.8%
Ridership per Capita	30.12
Cost per Capita	\$109.83

Source: NTD, 2018

Regional Service

Transit is provided on two key Regionally Significant Corridors (RSC): US287 (FLEX) and I-25 (Bustang). Both services have been successful and continue to see investments. Ridership trends for these two services are shown in **Figure 2-11**. Because Bustang began service in July 2015, no data is available prior to then.

FLEX

Transfort operates the FLEX service along US287 in Larimer and Boulder counties. The FLEX service has two routes:

- Fort Collins to Longmont, which runs from the South Transit Center (STC) in Fort Collins to Loveland, Berthoud, and Longmont with local stops along the way; and
- Fort Collins to Boulder, which runs from the Downtown Transit Center in Fort Collins along the MAX guideway to the STC, then makes express stops to Loveland, Longmont, and along the Diagonal Highway (SH119) to Boulder.

Service between Fort Collins and Longmont is operated Monday through Saturday on an hourly frequency. Additional service is provided on weekdays during the peak hours. Northbound service begins around 6:45 a.m. and ends around 8:00 p.m. while southbound service begins

around 5:45 a.m. and ends around 6:45 p.m. On weekends, service is provided hourly southbound from 6:24 a.m. to 7:22 p.m. and northbound from 6:48 a.m. to 8:19 p.m. Saturday service operates primarily between the South Transit Center and the Loveland Food Bank, with four trips to Longmont in each direction.

FLEX between Fort Collins and Boulder began in 2016 and operates Monday through Friday, with four southbound trips at 6:00 a.m., 1:15 p.m., 3:25 p.m., and 5:20 p.m., and five northbound trips at 7:09 a.m., 8:09 a.m., 3:15 p.m., 5:30 p.m., and 7:20 p.m. No service is provided on Saturdays or Sundays.

FLEX ridership generally increased between 2013 and 2017, with the extension to Boulder being a contributor. The additional services connected two major universities (CSU and CU-Boulder), extended the route farther into Fort Collins, and provided additional services.

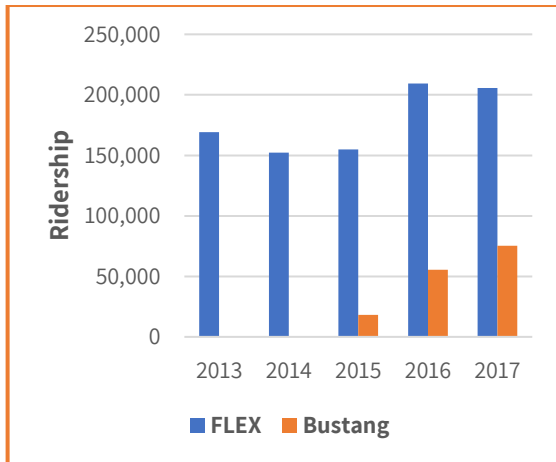
Bustang

CDOT introduced the Bustang service in July 2015. Currently, three routes operate out of Denver Union Station. The North Line connects the Downtown Transit Center (DTC) and Harmony Road Transfer Center in Fort Collins and the Loveland/Greeley Park-n-Ride to Downtown Denver. The West Line provides service to and from Grand Junction, while the South Line serves Colorado Springs and Monument. Bustang Outrider provides additional services from some cities to smaller and more rural towns and cities. Currently, no Bustang Outrider services are available from the NFRMPO region.

The North Line runs daily; six round trips Monday through Friday; the RamsRoute, which runs when CSU is in session with a trip from the CSU Transit Center to downtown Denver on Fridays

and returning on Sundays; and two roundtrips per day on Saturdays and Sundays. Intraregional service is not available, meaning riders must ride between Northern Colorado and Denver.

Figure 2-11: Regional Transit Ridership 2013-2017



Sources: CDOT, Transfort, 2018.

Transit Updates since 2040 RTP

COLT Investments

- **Paratransit** – COLT’s paratransit service contracted its service with Transfort’s contractor, reduced service area from the GMA to the federally mandated 3/4-mile buffer from the fixed-route system and reinvested the savings into the fixed-route system.
- **Transit System Redesign** – COLT redesigned its routes in November 2018, creating five separate routes. The new routes are easier to understand, create easier connections between routes, and allow for more user flexibility.
- **New transfer center** – The City of Loveland has purchased land to build a permanent transit center at US287 and 37th Street. The new transfer facility will feature indoor and outdoor amenities, improving customer experience.

GET Investments

- **Regional Transportation Center** – GET built the new Regional Transportation Center at its headquarters north of downtown Greeley. The new facility connects GET buses with Express Arrow buses at a transit center including restrooms, customer service, indoor waiting area, and vending machines.
- **Regional Route Study** – Greeley led the way to plan for the Poudre Express, a new regional route connecting Fort Collins and Greeley via Windsor. Service is tentatively expected to begin in January 2020 after GET successfully obtained State grants and local funding.
- **Ride Free with ID** – Greeley expanded its Ride Free with ID program to all youth in Greeley. The success of the program has caused a spike in ridership for GET and has improved students’ ability to participate in school events, clubs, and sports.
- **Game-day Service** – GET has partnered with Transfort to provide buses and drivers for stadium events at CSU’s new on-campus stadium.
- **Paratransit and Call-N-Ride** – A shuttle service was added to connect the Greeley Mall with the new UHealth Greeley Hospital.

Transfort Investments

- **365-Day Service** – Transfort operates transit on five routes on Sundays and holidays. Additional funding was obtained from the Associated Students of Colorado State University (ASCSU), CSU, and Fort Collins.
- **Game-day Service** – CSU opened its new, on-campus stadium in 2017 and Transfort has been a large part of its game-day Transportation Demand Management (TDM) plan.

- **FLEX to Boulder** – Because of a Congestion Mitigation & Air Quality (CMAQ) grant obtained from the Denver Regional Council of Governments (DRCOG), the FLEX service was extended to Boulder. Service operates between downtown Fort Collins and the University of Colorado-Boulder campus on weekdays. The CMAQ grant expired at the end of 2018, and local community partners agreed to continue funding the service.

Volunteer, Private, and Specialized Transit

Transit service is provided by services beyond just the municipally-operated services. These services are operated by senior centers, non-profits, and for-profit agencies. **Figure 2-12** shows the boundaries of the major transit services: Heart&SOUL Paratransit, RAFT, Senior Alternatives in Transportation (SAINT), and Senior Resource Services (SRS). Heart&SOUL Paratransit and SRS both provide service throughout the entirety of Weld County.

Heart&SOUL Paratransit

Heart&SOUL Paratransit specializes in transportation for seniors and adults with disabilities in Larimer and Weld counties. Heart&SOUL provides customized transportation, including door-through-door service and works with numerous hospices, living facilities, Innovage, as well as major local hospitals. They are able to provide transportation to and from procedures requiring anesthesia and a reliable escort. Heart&SOUL operates from 5:00 a.m. to 12:00 a.m., seven days a week. Reservations should be made at least 24-hours in advance but may be scheduled the same day if the ride is urgent. Schedulers are available between 8:00 a.m. and 5:00 p.m., seven days a week.

RAFT

RAFT is a volunteer transportation non-profit offering door-to-door, on-demand services to eligible seniors (60+) and adults (18+) with disabilities residing within the Berthoud Fire Protection District (BFPD). Trips are made from the BFPD to Berthoud, Loveland, and Longmont. The program operates under Berthoud Golden Links, Inc., a charitable organization. Reservations are taken Monday through Friday from 8:00 a.m. to 5:00 p.m. at least three days prior to the requested trip and must be within the current month or the next month. Rides are offered 8:00 a.m. to 4:00 p.m., Monday through Friday. Drivers are allowed a 10-minute window before and after the scheduled pick-up time. A Para van is available for users requiring a wheelchair-accessible vehicle. Otherwise, volunteer drivers use their own vehicles.

SAINT

SAINT is a volunteer transportation service within, but not between, Fort Collins and Loveland. SAINT drivers use their own vehicles to provide mobility to seniors over 60 and adults (18+) with disabilities. SAINT staff recruits volunteers, schedules rides, and provides a mileage allowance and extra insurance to drivers. SAINT operates from 8:15 a.m. to 4:00 p.m. Monday through Friday. Reservations must be made at least three days in advance and must be scheduled for the current or following month. Schedulers are available between 8:00 a.m. and 12:00 p.m., Monday through Friday.

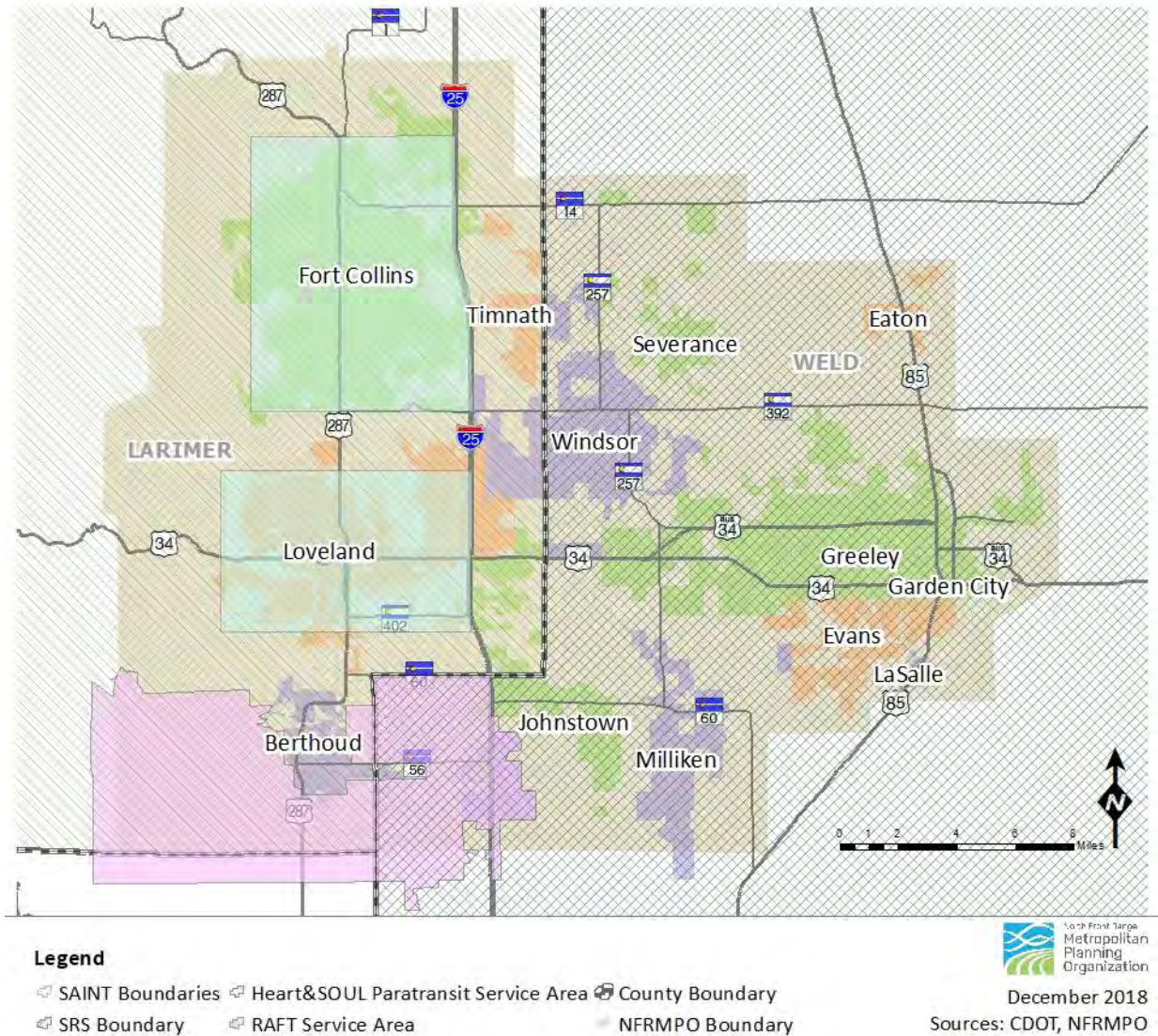
SRS

Senior Resource Services (SRS), now known as 60+ Ride, is a volunteer transportation service in Weld County. SRS drivers use their own vehicles to provide mobility to seniors over the age of 60. SRS staff recruits volunteers, schedules rides, and provides a mileage allowance and extra

insurance to drivers. SRS operates from 9:00 a.m. to 4:00 p.m. Monday through Friday. Reservations should be made at least 14 days in advance, with the exception of minivan

transportation to non-medical appointments in the Greeley Evans area being accepted up to 3:30 p.m. the day before the requested ride, space allowing.

Figure 2-12: Volunteer Transit Service Areas



VanGo™

VanGo™ is an NFRMPO program whereby commuters beginning and ending in similar locations share a van. Vanpool members pay a monthly fee which covers the costs of the administration of the program, fuel,

maintenance, and insurance. Tolls and parking are covered by the commuters themselves. As of April 2019, VanGo™ operated at a 90 percent occupancy with 269 passengers on 50 routes. Routes operate primarily from Fort Collins,

Loveland, and Greeley to downtown Denver, Lakewood, Interlocken, and Boulder County. The VanGo™ fares are calculated using a zone system. There is a total of 13, 20–square mile service areas, with VanGo™ currently serving 10 of the areas. Fares are computed according to the number of zones in the vanpool’s route. Fares range between \$98 and \$362 per month per rider.

Intercity Transit

Express Arrow

Express Arrow provides service between Buffalo, Wyoming and Denver. The daily service travels through Greeley, providing daily service between Greeley and Denver, and Cheyenne, Casper, and Buffalo, WY. The service leaves Greeley going north at 2:15 p.m. and heads south at 3:00 p.m. Tickets between Greeley and Denver and between Greeley and Cheyenne cost \$16 each way. More information is available at www.expressarrow.com.

El Paso – Los Angeles Limousine Express

The El Paso-Los Angeles Limousine Express, Inc., operates in the US85 corridor and has two departures per day from Greeley to Denver. The ultimate destinations for these services are Albuquerque, New Mexico, and El Paso, Texas. The charge for a one-way fare is \$15.00 for adults and \$10.00 for children. The scheduled departures from Greeley are at 5:45 a.m. and 5:00 p.m. The Greeley terminal is located at 2410 8th Avenue in the Agency Boutique Seis Rosas. The Denver terminal is located at 2215 California Street, a few blocks from the Denver Bus Station. More information is available at www.eplalimo.com.

Greyhound

Greyhound does not operate its own service within the NFRMPO region. Instead, Greyhound provides information on its website about Bustang (between Fort Collins and Denver) and Express Arrow (between Greeley and Denver, and Greeley and Buffalo, WY). This improves information for riders and can make it easier to book longer distance bus services.

D. Bicycle and Pedestrian System

2016 Non-Motorized Plan

The NFRMPO adopted the 2016 Non-Motorized Plan (NMP) on February 2, 2017. The purpose of the Plan is to:

- Fulfill the federal requirement to address bicycle and pedestrian planning as a component of the RTP;
- Provide a consolidated summary of the existing bicycle and pedestrian infrastructure, data, and design standards throughout the region;
- Provide the NFRMPO’s 15 member governments with tools to support their local non-motorized planning and accommodation initiatives; and
- Position the NFRMPO communities to pursue state and federal funding opportunities.

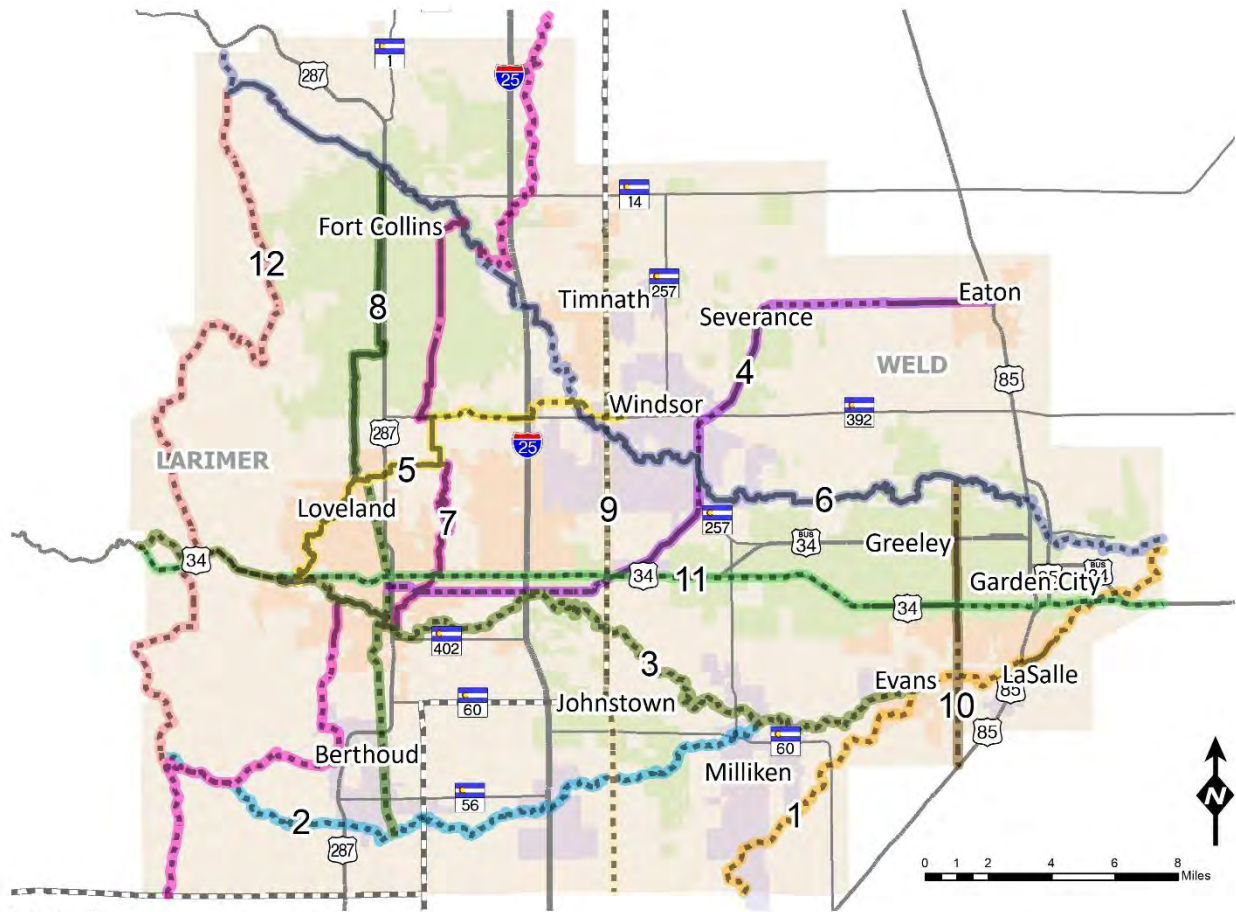
The 2016 NMP updates and affirms the vision established in the 2013 Regional Bicycle Plan (RBP). The 2013 RBP identified existing facilities within the region, as well as 12 regional bicycle corridors which could serve as main routes for bicycle travel between and through local communities as well as connections to areas adjacent to the region. The 2016 NMP refers to these corridors as Regional Non-Motorized Corridors (RNMCS) to acknowledge their capacity to accommodate pedestrian travel as well.

While certain segments of the RNMCS exist today, much of the network remains conceptual. One of the goals outlined in the plan is for the NFRMPO to provide local assistance in the planning and funding of these corridors. **Figure 2-13** and **Table 2-7** list locations of the 12 RNMCS as outlined in the NMP.

Table 2-7: Regional Non-Motorized Corridors


Corridor Number	Corridor Name
1	South Platte/American Discovery Trail
2	Little Thompson River
3	Big Thompson River
4	Great Western/Johnstown/Loveland
5	North Loveland/Windsor
6	Poudre River Trail
7	Front Range Trail (West)
8	BNSF Fort Collins/Berthoud
9	Johnstown/Timnath
10	Greeley/LaSalle
11	US 34 Non-motorized
12	Carter Lake/Horsetooth Foothills Corridor

Figure 2-13: NFRMPO 2045 Regional Non-Motorized Corridors (RNMCs)



Legend

- | | | |
|--|---|---------------------|
| 1: South Platte/American Discovery Trail | 7: Front Range Trail (West) | — Existing RNMC |
| 2: Little Thompson River | 8: BNSF Fort Collins/Berthoud | - - - Proposed RNMC |
| 3: Big Thompson River | 9: Johnstown/Timnath | ▣ County Boundary |
| 4: Great Western/Johnstown/Loveland | 10: Greeley/LaSalle | ▭ NFRMPO Boundary |
| 5: North Loveland/Windsor | 11: US 34 Non-motorized | |
| 6: Poudre River Trail | 12: Carter Lake/Horsetooth Foothills Corridor | |

August 2019
 Sources: CDOT, NFRMPO  North Front Range Metropolitan Planning Organization

Existing Non-Motorized Facilities

Facilities identified in the [2016 NMP](#) include sidewalks, off-street shared-use paths, on-street bicycle lanes, and on-street bicycle routes. The following are common definitions of these facilities:

- **Sidewalk** – an off-street hard surface path designed for foot traffic. These facilities are accessible to pedestrians and sometimes bicyclists and other non-motorized users.
- **Shared-Use Path** – an off-street hard or soft surface path designed to be used by commuters and recreationalists. These facilities are wider than a typical sidewalk and are accessible to bicyclists, pedestrians, equestrians, and other non-motorized users.
- **Bicycle Lane** - an on-street bicycle facility delineated by pavement markings and

signage for the use of bicyclists. Typically located on roadways with a classification of collector and above.

- **Bicycle Route** – an on-street bicycle facility, delineated by signage only. These facilities tend to be located on lower volume residential streets or in semi-rural areas and are typically not included in the official inventory of non-motorized facilities.

The 2019 facilities shown in **Figure 2-14**, **Figure 2-15**, **Figure 2-16**, and **Figure 2-17** were identified and updated from the NFRMPO [2016 NMP](#), local Master Street Plans and Standards, as well as existing local bicycle and pedestrian plans. They were further refined during discussions with individual local governments. **Table 2-8** shows the miles of non-motorized facilities that currently exist in the region.

Table 2-8: Existing Non-Motorized Facility Miles

Community	Sidewalks	Shared-Use Paths	Bicycle Lanes	Bicycle Routes
Berthoud	44.2	1.5	1.1	-
Eaton	37.4	3.1	-	-
Evans	104.7	8.1	1.4	-
Fort Collins	1,044.5	119.8	347.7	42.5
Greeley	2.5	-	-	-
Garden City	514.6	47.5	116.8	26.8
Johnstown	106.1	8.6	-	-
LaSalle	13.2	-	-	-
Loveland	660.3	19.7	159.7	16.6
Milliken	40.7	3.3	-	-
Severance	3,071.6	366.8	754.9	130.7
Timnath	28.4	6.0	0.6	-
Windsor	273.2	42.1	48.99	45.67
Larimer County (Unincorporated)	47.4	94.04	56.9	-
Weld County (Unincorporated)	22.98	4.4	-	-
TOTAL	3,071.6	366.8	754.9	130.7

Source: NFRPMO Inventory

Figure 2-14: Sidewalks

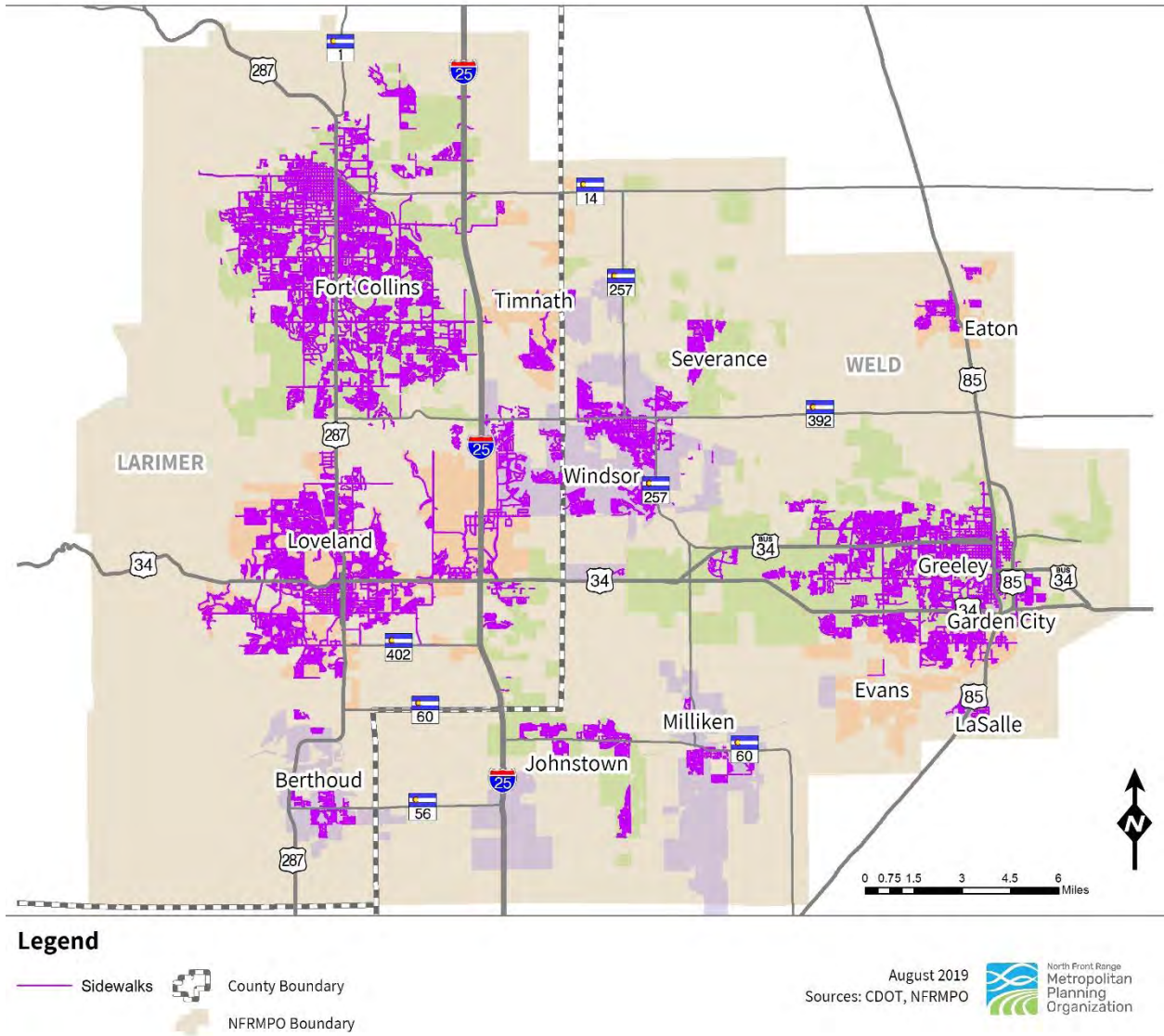
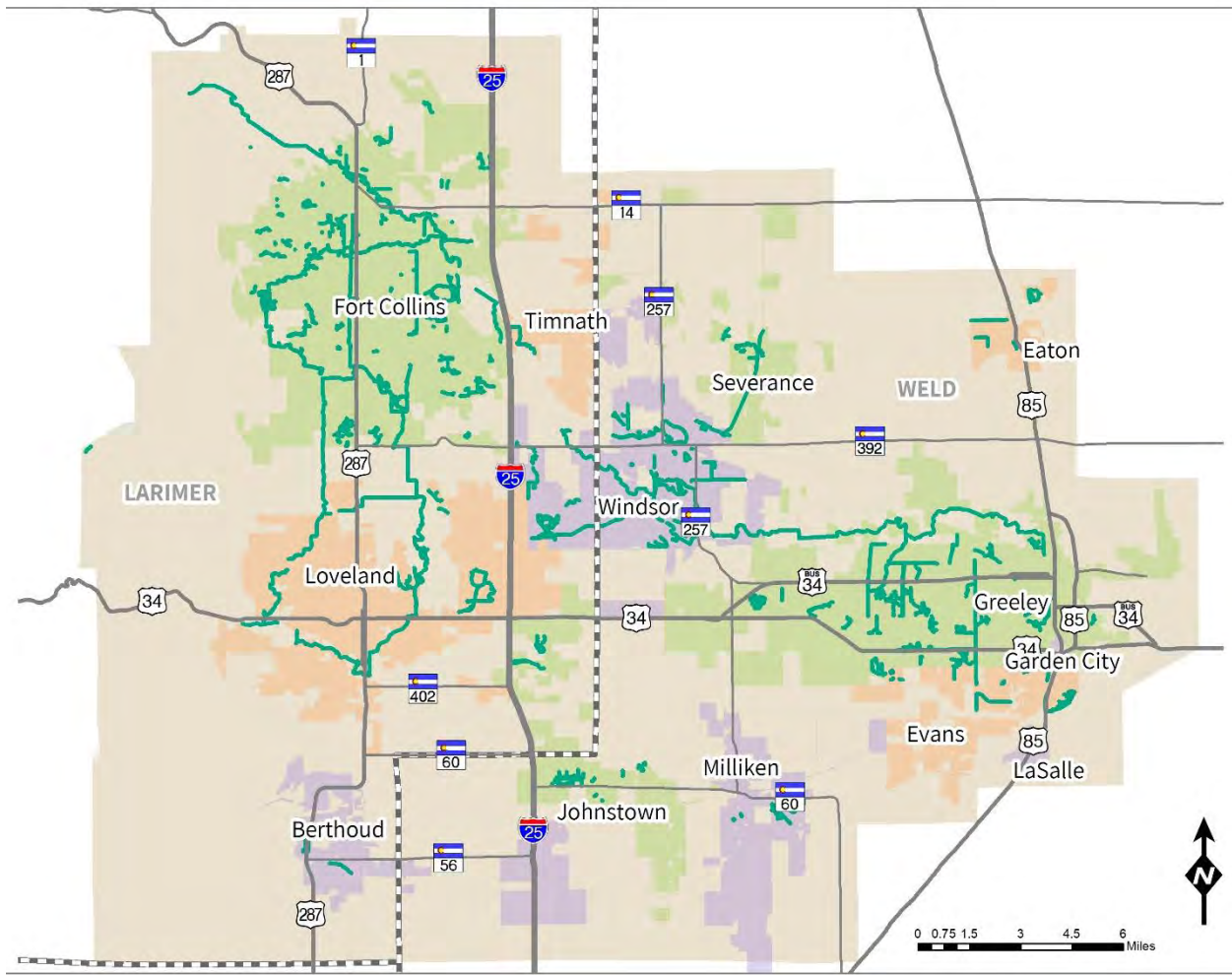


Figure 2-15: Shared-Use Paths

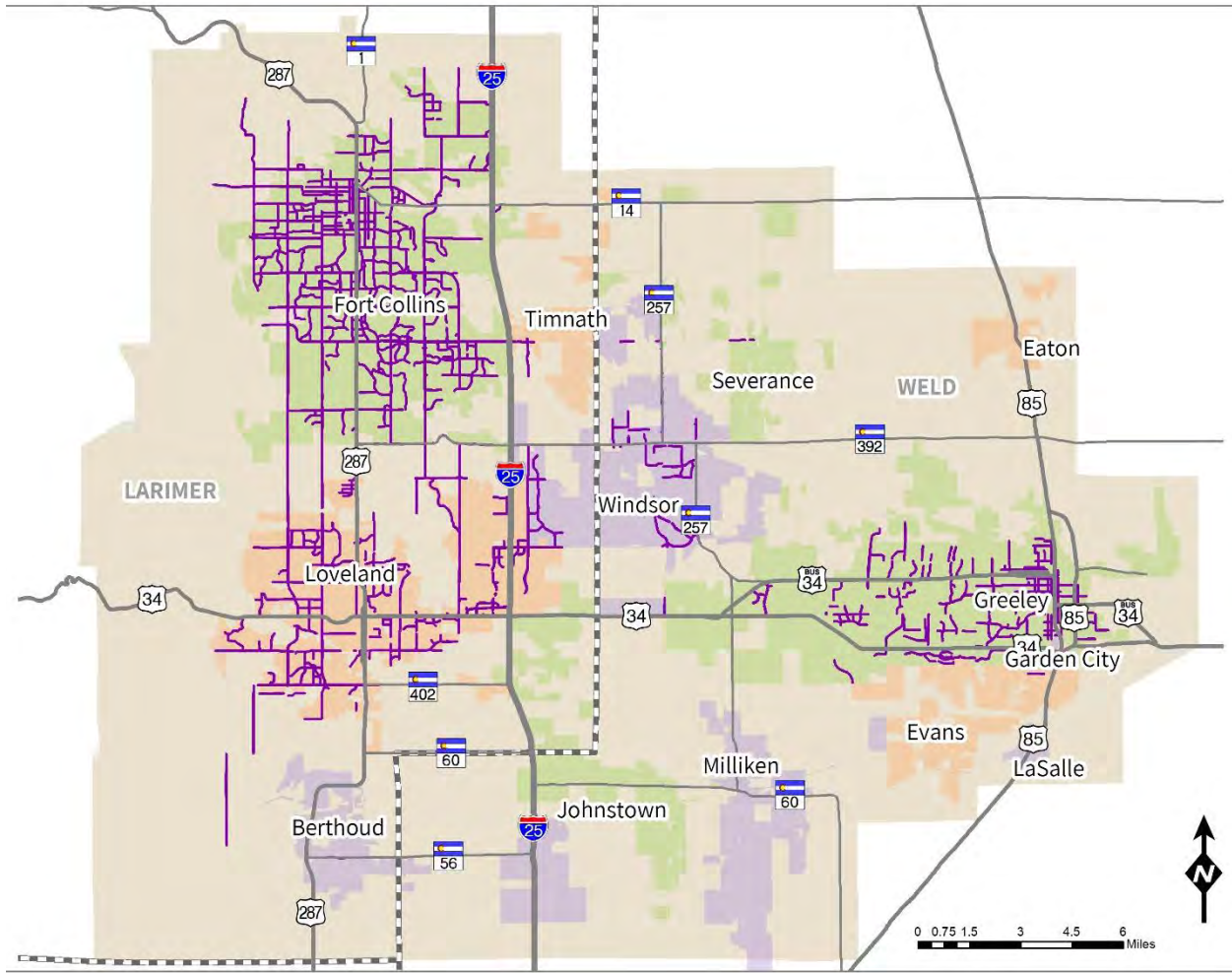


Legend

- Shared-Use Paths
- County Boundary
- NFRMPO Boundary

August 2019
 Sources: CDOT, NFRMPO North Front Range Metropolitan Planning Organization

Figure 2-16: Bicycle Lanes

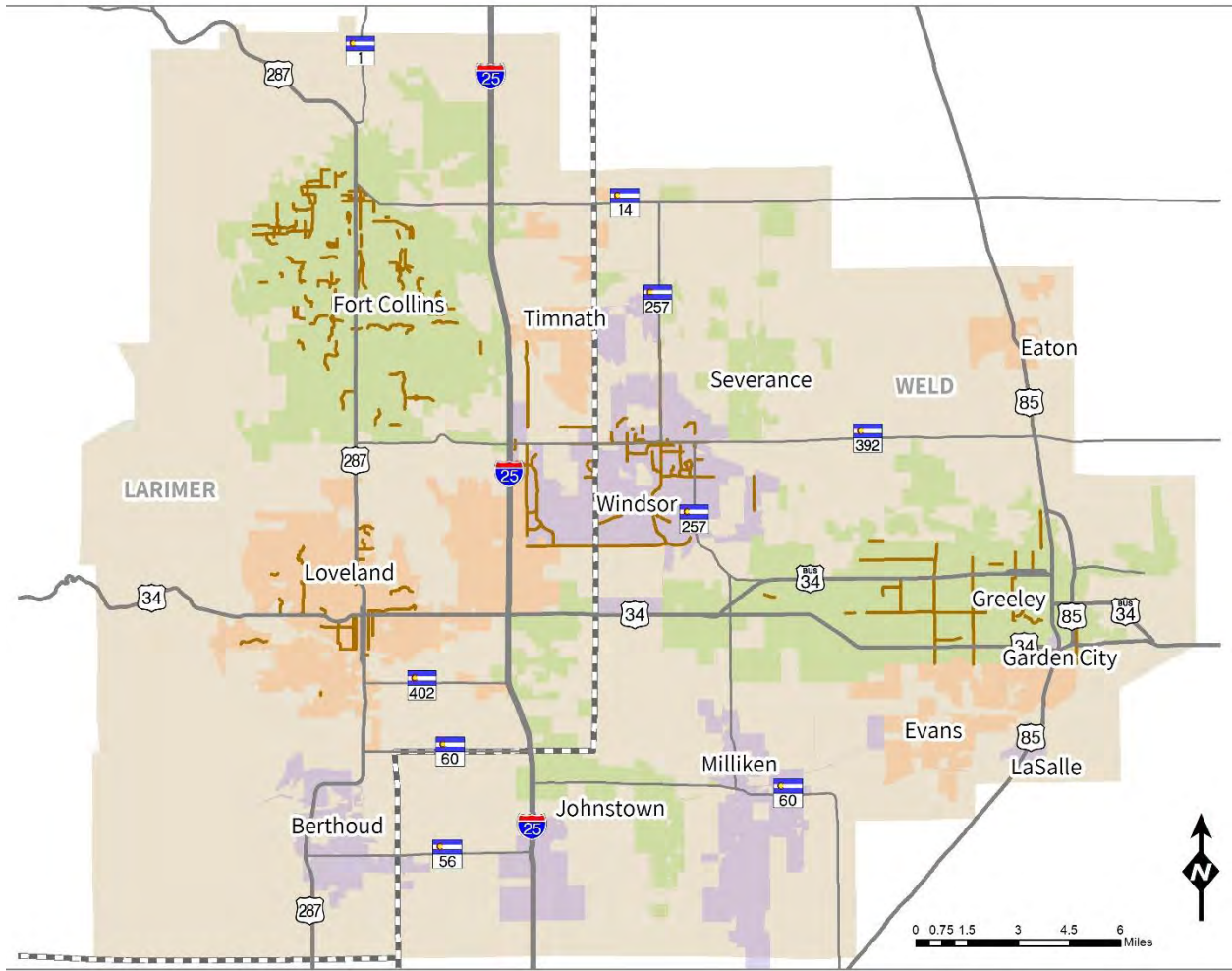


Legend

- Bicycle Lanes
-  County Boundary
-  NFRMPO Boundary

August 2019
 Sources: CDOT, NFRMPO  North Front Range Metropolitan Planning Organization

Figure 2-17: Bicycle Routes



Legend

-  Bicycle Routes
-  County Boundary
-  NFRMPO Boundary

August 2019
 Sources: CDOT, NFRMPO  North Front Range Metropolitan Planning Organization

Non-Motorized Counter Locations

Several agencies and organizations in the NFRMPO region and CDOT document non-motorized facility performance through permanent counting devices. There are currently 41 devices installed permanently across the non-motorized network, 24 of which are located on RNMCs. There are also several temporary counters placed periodically at strategic locations to collect short-duration counts.

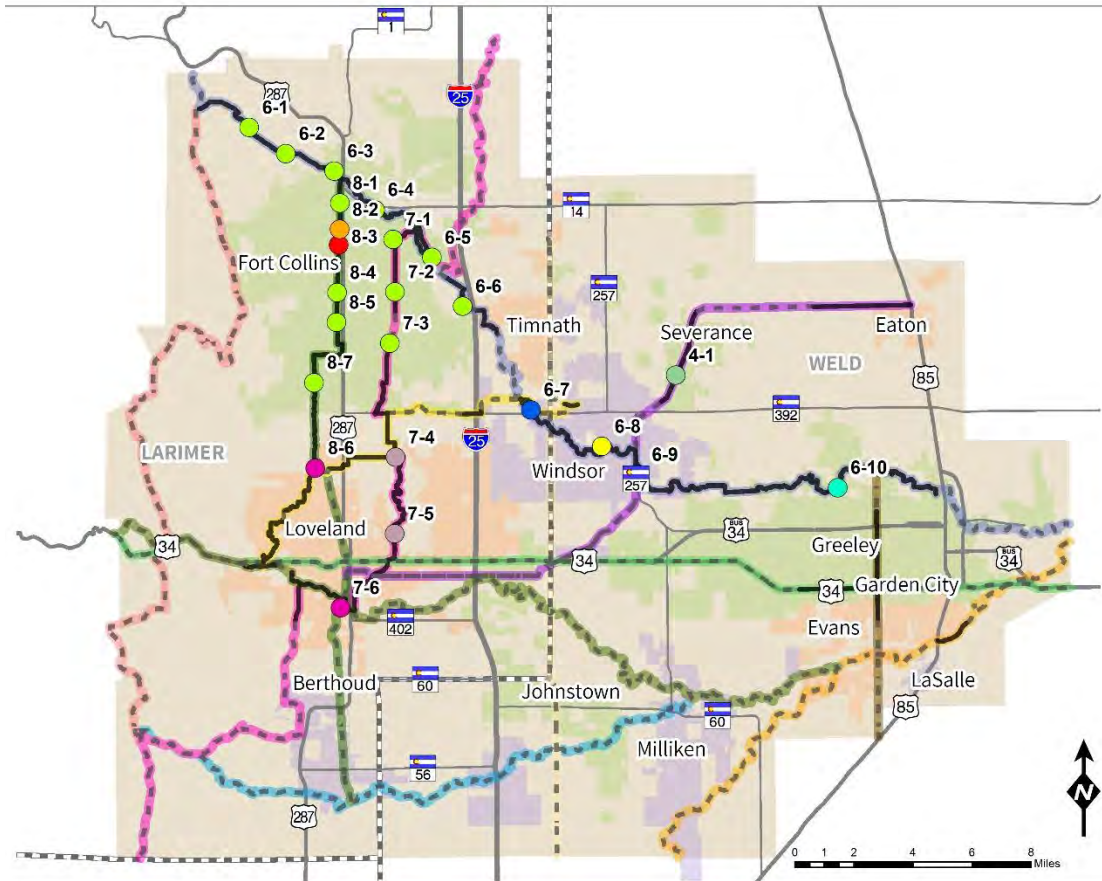
Monitoring trail usage helps the NFRMPO member agencies understand local and regional non-motorized travel patterns and how they are impacted by factors such as temperature, precipitation, time of day, special events, and weekdays vs. weekends. Many of the counters in the region distinguish between pedestrians and bicyclist and capture direction of travel and speed. Others simply capture total volume.

Currently, staff from Colorado Parks & Wildlife (CPW), CSU, the cities of Fort Collins, Greeley,

and Loveland, the towns of Eaton, Severance and Windsor, Larimer County, and the NFRMPO all monitor non-motorized travel patterns using permanent and/or temporary counters. CDOT also operates a counter in the region and has purchased access to the Strava Metro dataset of bicycle and pedestrians travel patterns from users of the Strava app. This data is especially helpful in identifying popular routes among recreational cyclists. Additionally, the City of Fort Collins recruits volunteers to conduct manual counts of non-motorized travelers throughout the City.

Figure 2-18 shows the permanent count devices installed along the RNMCs. The ID numbers in **Figure 2-18** correspond to those in **Table 2-9**, which summarizes average daily usage trends at these locations in 2018.

Figure 2-18: 2018 Non-Motorized Counters on Regional Non-Motorized Corridors



Legend

Regional Counters

- CDOT
- Colorado Parks & Wildlife
- Colorado State University
- Fort Collins
- Great Western Trail Authority / Severance
- Greeley
- Larimer County
- Loveland
- Windsor

- Existing Regional Trail
- - - Future Regional Trail
- 1: South Platte/American Discovery Trail
- 2: Little Thompson River
- 3: Big Thompson River
- 4: Great Western/Johnstown/Loveland
- 5: North Loveland/Windsor

- 6: Poudre River Trail
- 7: Front Range Trail (West)
- 8: BNSF Fort Collins/Berthoud
- 9: Johnstown/Timnath
- 10: Greeley/LaSalle
- 11: US 34 Non-motorized
- 12: Carter Lake/Horsetooth Foothills Corridor

- ▭ County Boundary
- ▭ NFRMPO Boundary

February 2019
Sources: CDOT, NFRMPO



Table 2-9: Average Daily Non-Motorized Count Volumes - 2018

Counter ID	Counter Location	RNMC	Average Daily Volume 2018
4-1	Great Western Trail @ Severance Middle School	4	63
6-1	Poudre Trail @ Butterfly Bridge	6	287
6-2	Poudre Trail @ Taft Hill Road	6	510
6-3	Poudre Trail @ Lee Martinez Park	6	452
6-4	Poudre Trail @ Lemay Ave	6	310
6-5	Poudre Trail @ CSU Environmental Learning Center	6	421
6-6	Poudre Trail @ Rigden Reservoir	6	78
6-7	Poudre Trail @ River Bluffs Open Space	6	191
6-8	Poudre Trail @ Oxbow Natural Area	6	344
6-9	Poudre Trail @ SH 257	6	261
6-10	Poudre Trail @ Rover Run Dog Park	6	160
7-1	Spring Creek Trail @ Edora Park	7	386
7-2	Power Trail @ Horsetooth Rd	7	373
7-3	Power Trail @ Southridge Golf Course	7	227
7-4	Loveland Rec Trail @ Boyd Lake North End	7	69
7-5	Loveland Rec Trail @ Boyd Lake South End	7	360
7-6	Loveland Rec Trail @ Fairgrounds Park	7	64*
8-1	Mason Trail @ Magnolia St	8	389*
8-2	Mason Trail @ Pitkin St	8	1,798
8-3	Mason Trail @ Spring Creek Trail	8	1,471
8-4	Mason Trail @ Horsetooth Rd	8	323
8-5	Mason Trail @ Harmony Rd	8	220
8-6	Long View Trail @ Sunset Vista Natural Area	8	271
8-7	Long View Trail @ Trilby Rd	8	161

* = Bicycles Only

Source: CDOT, CPW, CSU, City of Fort Collins, Town of Windsor, NFRMPO

E. Freight

FHWA estimates by 2045 the nation's transportation system will handle cargo valued at more than \$39T, compared to \$19.1T in 2015.⁶ Volume, in tons, will increase by more than 42 percent over 2015 levels by 2045 from 17.8B to 25.3B respectively. These large increases in freight movement will place even greater demands on the nation's transportation system. It is critical for transportation planning agencies throughout the country to integrate freight considerations into their long-range planning processes. It is clear a variety of strategies are needed to address the challenges surrounding the projected growth of freight transportation.

Truck Freight

As part of the State Highway Freight Plan, CDOT identified Colorado Freight Corridors (CFC) throughout the State with input from the freight industry and other key stakeholders. The CFCs represent the routes that are most critical to facilitating the movement of goods into, out of, and within Colorado. Within the region, these corridors are: I-25; US34; US85; US287; and SH14. The corridors are shown in **Figure 2-19**. A large amount of freight is moved by truck through the region.

Table 2-10 shows the commodity flows in all of Larimer and Weld counties for 2010 and predicted for 2040. Total tonnage moved through the region is expected to increase by 63.6 percent by 2040. Long-haul freight truck traffic is concentrated on major routes

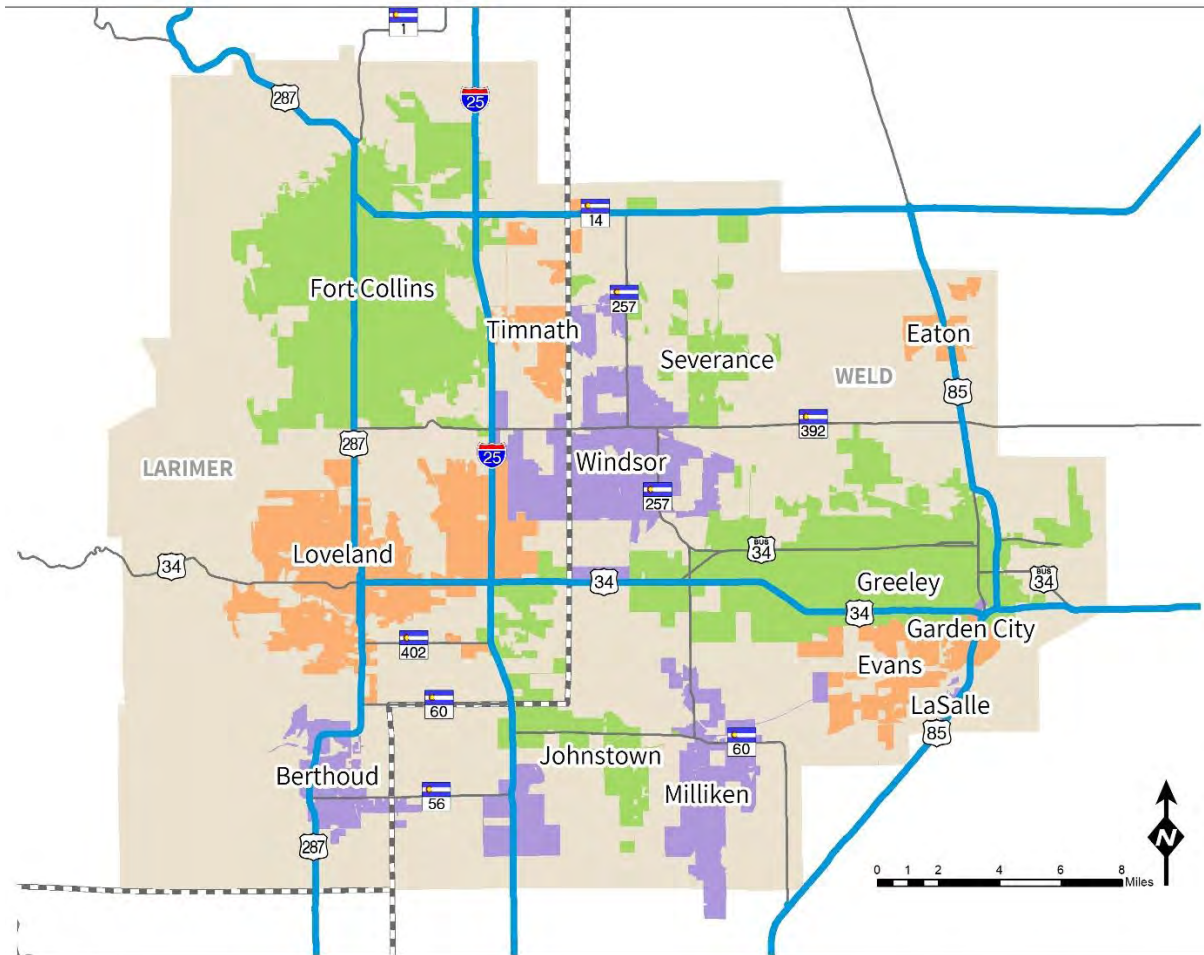
connecting metropolitan areas, ports, border crossings, and major hubs.

The most heavily used truck routes in the region are I-25, US34, US85, US287, and SH14. **Figure 2-20** shows the existing level of truck traffic from the RTDM, using natural breaks in the data set. The numbers provided are total flows, or the total number of trucks in both directions per day. As shown, I-25 carries the heaviest volume of truck traffic, followed by US85 and US34. The Fort Collins Port of Entry, located south of Prospect Road on I-25, recorded a total of 1,116,537 trucks in 2017, an increase of nearly 14 percent from 2014. The Port of Entry recorded a total of 960,759 trucks in 2014, with 215,999 passing through the Port itself.

⁶ FHWA Freight Facts and Figures 2017:

https://www.bts.gov/sites/bts.dot.gov/files/docs/FFF_2017_Full_June2018revision.pdf

Figure 2-19: Colorado Freight Corridors



Legend

-  Freight Corridors
-  County Boundary
-  NFRMPO Boundary

February 2019
Sources: CDOT, NFRMPO

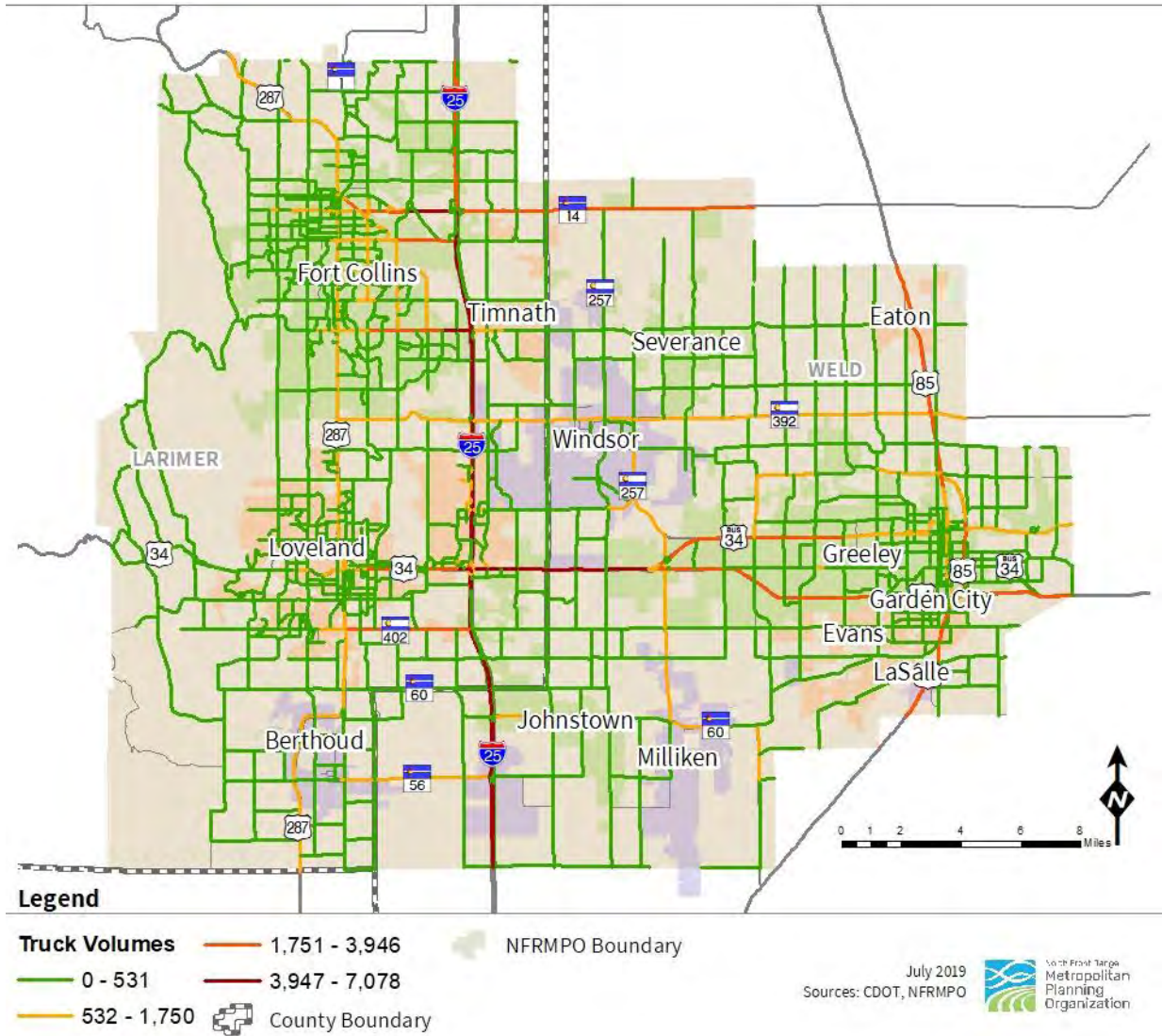


Table 2-10: Existing Commodity Flows, Larimer and Weld Counties – 2015 and 2045

Direction	2015		2045	
	Tonnage (Millions of Tons)	Value (2015 US Dollars in Billions)	Tonnage (Millions of Tons)	Value (2015 US Dollars in Billions)
Inbound	13.4	\$13.39	22.25	\$24.83
Internal	8.04	\$1.96	10.06	\$3.34
Outbound	22.41	\$8.87	34.2	\$19.98
Total	43.85	\$24.22	66.51	\$48.15

Source: Transearch, 2015.

Figure 2-20: Existing Truck Traffic on the Highway System



Source: 2015 NFRMPO RTDM

Freight Rail

Rail freight in the region is primarily moved on the BNSF Railway and Union Pacific Railroad (UPRR) lines, which carry between two and 17 trains per day. In 2015, freight railroads originated 314,144 carloads of commodities and terminated 474,018 carloads within Colorado.

Railroads are classified according to the annual gross operating revenue from the railroad operations. A Class I Railroad is a railroad that

has an operating revenue of at least \$457.9M in 2016 dollars. A Class II Railroad, also known as a regional railroad, has an operating revenue between \$36.6M and \$457.9M.

A Class III Railroad, also known as a regional or shortline railroad, has annual operating revenue of less than \$36.6M and typically services a small number of towns or businesses or performs short haul trips between larger railroad lines.

Both BNSF Railway and UPRR are classified as Class I Railroads and the Great Western Railway is considered a regional/Class III, or shortline railroad. These railroads are described in more detail in the following section and shown in **Figure 2-21**.

Union Pacific Railroad (UPRR):

UPRR is a Class I Railroad which has several rail lines in the North Front Range region. The north-south line runs from the Denver metro region through the North Front Range to Wyoming, generally following the US85 Corridor. The majority of the east-west line of the UPRR runs between Milliken and LaSalle, with a switching yard in LaSalle, and from Milliken into Fort Collins. There is an average of 17 trains per day on the UPRR.

BNSF Railway

BNSF is a Class I Railroad which travels the length of the NFRMPO region, passing through Fort Collins, Loveland, and Berthoud, parallel to US287, with a switch yard in Fort Collins. An average of six trains operate per day on the BNSF line.

Great Western Railway of Colorado (GWR)

GWR is a shortline railroad. GWR operates a total of 80 miles of track and interchanges with both BNSF and UPRR. The company operates freight between Loveland and Johnstown, with spur lines to Milliken and Longmont. Another line connects north from Kelim (east of Loveland) to Windsor, Greeley, and Fort Collins. GWR also owns a branch line from Johnstown to Welty

(just west of Johnstown). GWR serves a diverse customer base including the Great Western Industrial Park. GWR is managed by OmniTRAX.

Freight Commodities

Table 2-11 and **Table 2-12** show the originated and terminated rail freight in Colorado in 2015. Coal is the largest commodity, making up nearly one third of rail freight in Colorado.

Table 2-11: Colorado Originated Rail Freight (2015)

Commodity	Percent of Total	Carloads
Coal	35%	109,400
Other/Unknown	30%	92,900
Intermodal	14%	45,000
Crude Oil	10%	32,600
Glass and Stone	6%	17,800
Food Products	5%	16,400

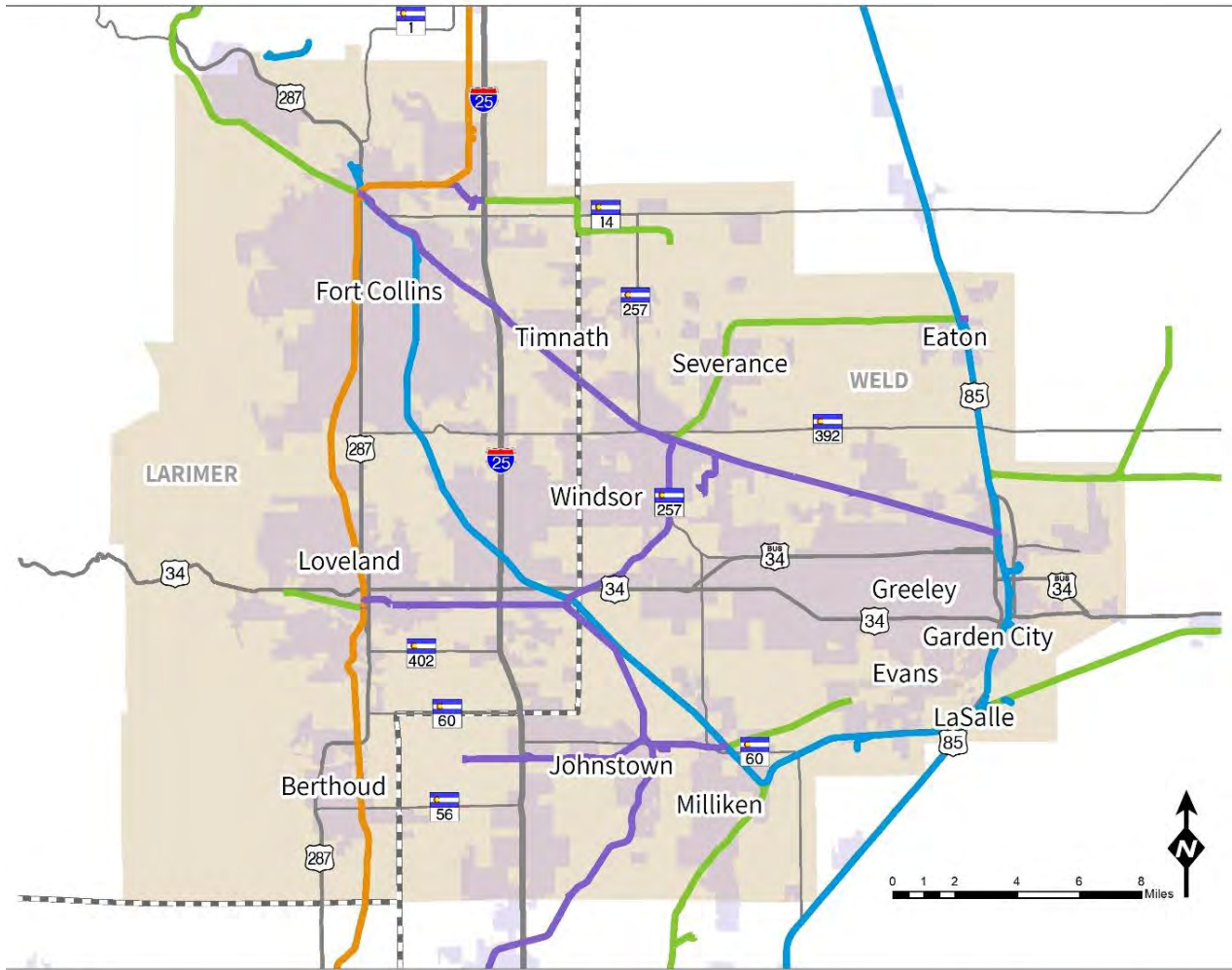
Source: Association of American Railroads, Rail Fast Facts, 2017.

Table 2-12: Colorado Terminated Rail Freight (2015)

Commodity	Percent of Total	Carloads
Coal	30%	140,600
Intermodal	29%	138,700
Nonmetallic	22%	105,400
Transportation	9%	41,100
Glass and Stone	6%	30,100
Other/Unknown	4%	18,100

Source: Association of American Railroads, Rail Fast Facts, 2017.

Figure 2-21: Regional Rail by Owner



Legend

- BNSF Railway
- Union Pacific Railroad
- Great Western Railway
- Abandoned Rail Line
- County Boundary
- NFRMPO Boundary

February 2019
Sources: CDOT, NFRMPO



F. Intelligent Transportation System (ITS)

ITS strategies use technology to improve mobility, increase safety, and reduce delays. ITS improves the existing roadway system's operations in a cost-effective manner. This Section identifies the plans guiding ITS in the NFR region followed by examples of strategies that are currently being implemented in the region. The guiding document for ITS in the region is the CDOT Region 4 ITS Strategic Implementation Plan⁷ and its companion document, the CDOT Region 4 ITS Architecture Plan⁸. Both ITS Plans were completed in 2011 through the combined efforts of CDOT, NFRMPO, DRCOG, Eastern Transportation Planning Region, Upper Front Range Transportation Planning Region (UFR TPR), transit agencies, law enforcement and emergency management agencies, and local jurisdictions. The ITS Strategic Implementation Plan identifies the most critical needs, recommended deployment time frames, and potential funding sources. The ITS Architecture Plan is a technical document that addresses federal requirements and describes procedures for carrying out the Strategic Implementation Plan.

CDOT is developing the Smart Mobility Regional Plan and an updated Architecture, which will replace the two ITS Plans currently in effect. The Smart Mobility Regional Plan will identify applications that could be implemented in specific locations or regionwide to improve mobility through technology solutions.

Another source for information on the ITS system is the 2019 Congestion Management Process (CMP), which identifies a range of approaches for managing congestion including ITS, TDM, Traffic Incident Management (TIM), and increasing capacity.

Many ITS strategies have been implemented in the North Front Range region. The following is a non-exhaustive list of strategies along with specific examples from the region.

Adaptive Signal Control Technology (ASCT)

ASCT dynamically changes signal timing based on volumes and platoons. By receiving and processing data from sensors to optimize and update signal timing settings, ASCT can determine when and how long lights should be green. ASCT help improve the quality of service that travelers experience on our local roads and highways.

Example: In 2016, CDOT began using adaptive signals on portions of the US34 Bypass and US85 corridors in Greeley.

Advanced Traveler Information System (ATIS)

The Advanced Traveler Information Systems applications provide for the collection, aggregation, and dissemination of a wide range of transportation information. The includes traffic, transit, road weather, and work zone data, which can be presented using mobile devices, web portals, 511 systems, and variable message signs.

⁷ CDOT Region 4 Intelligent Transportation Systems Strategic Implementation Plan, 2011, http://www.cotrip.org/content/itsplans/CDOT%20Region%204%20ITS%20Strategic%20Implementation%20Plan_06-30-11.pdf.

⁸ CDOT Region 4 Intelligent Transportation Systems Architecture Plan, 2011, http://www.cotrip.org/content/itsplans/CDOT%20Region%204%20ITS%20Architecture_08-31-2011.pdf.

Example: CDOT’s COTRIP website (www.cotrip.org) provides travel alerts, road conditions, speeds, and road work advisories for the entire State. Using this website, residents can use the State’s available ITS information to choose the best routes, best mode, or view any detours. CDOT also provides a smart phone app, CDOT Mobile, which provides real-time travel information. Travelers can also sign up for text messages and emails which provide similar updates.

Fiber-optic Communications

Fiber technology uses pulses of light through an optical fiber to carry information for still and live feed cameras as well as connecting to the permanent Variable Message Signs (VMS). In the future, fiber will enable Vehicle-to-Everything (V2X) connected vehicle technology, allowing communication between connected vehicles and surrounding infrastructure.

Example: CDOT has installed fiber along I-25 and US34 and is continuing to expand the connected vehicle environment along I-25.

Ramp Metering

Signals at on-ramps dynamically control the number of vehicles entering the freeway to increase efficiency on the freeway.

Example: In 2017, CDOT installed ramp meters at the northbound and southbound on-ramps

to I-25 at SH392 and the southbound on-ramp to I-25 at Harmony Road.

Road Weather Information Systems (RWIS)

RWIS monitors weather conditions and impacts on pavement conditions. Information can be presented through a public-facing website or mobile application.

Example: CDOT maintains RWIS sensors in several locations in the region and provides current road and weather conditions online at www.cotrip.org and through the 511 information call line.

Traffic Operations Center (TOC)

A TOC is a central command center which allows traffic engineers to monitor traffic signals, closed-circuit television (CCTV), and remote data sensors to analyze and manage traffic in real-time.

Example: The cities of Fort Collins, Greeley, and Loveland each have a TOC.

Transit Signal Priority (TSP)

TSP extends traffic signal green time if a transit vehicle is approaching in order to improve operations.

Example: Transfort’s MAX BRT has signal priority at some intersections along the Mason Street Corridor.

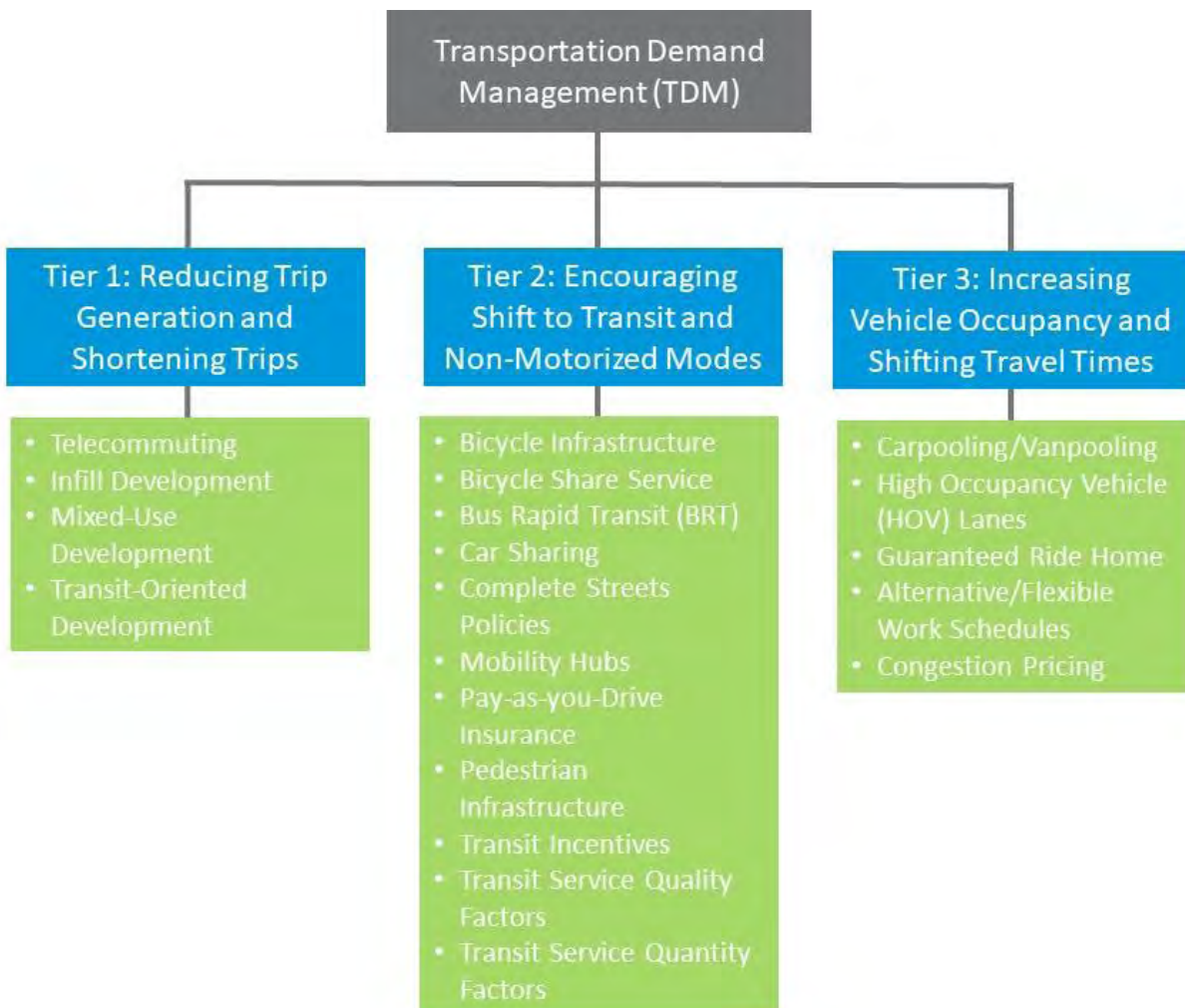
G. Transportation Demand Management Program (TDM)

TDM strategies are actions which improve transportation system efficiency by altering transportation system demand rather than through roadway capital expansion.

The following section highlights several types of TDM strategies being implemented in the NFRMPO region, with examples from various communities. Strategies are categorized into

three Tiers, shown in Figure 2-22. Tier 1 includes strategies that most directly reduce congestion by shortening, reducing, or circumventing the need for trips. Tier 2 includes strategies that increase the availability and access to non-motorized modes and transit. Tier 3 includes auto-oriented TDM strategies that limit Single Occupant Vehicle (SOV) trips during peak travel times.

Figure 2-22: Travel Demand Management Tiers



Tier 1: Reducing Trip Generation and Shortening Trips

Telecommuting

Working from home reduces the frequency of employees needing to commute to an employment location.⁹ Many employers across the NFRMPO region offer telecommuting options to their employees.

Infill Development

A type of redevelopment which optimizes existing infrastructure investments in previously built areas already served by transportation, potable water, wastewater, utilities, etc.

Example: [The Foundry](#) development in downtown Loveland is bringing a movie theater, apartments, a hotel, retailers, a community plaza, and parking to an area previously occupied by less-dense land uses.

Mixed-Use Developments

A development strategy blending two or more use types into a development meant to be pedestrian-friendly. The development could combine residential, commercial, cultural, institutional, and/or industrial uses.

Example: [The Foundry](#) development in downtown Loveland (see [Infill Development](#)). Transit-Oriented Development

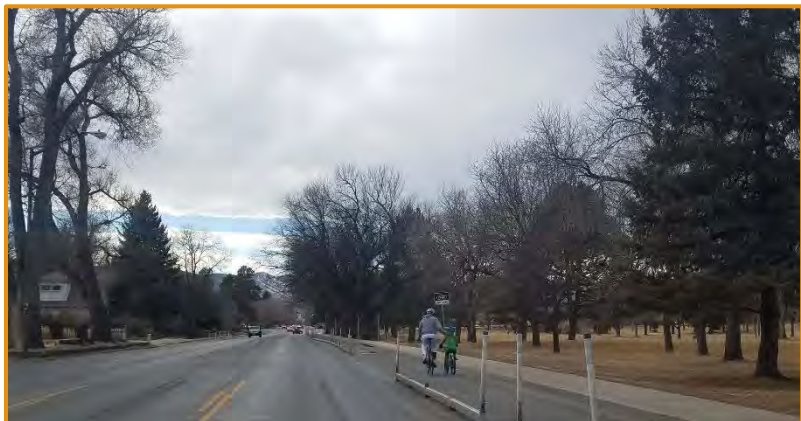
A pattern of development characterized compact, mixed-use, walkable, specifically at a density high enough to support transit.

Example: The City of Fort Collins has developed a [Transit-Oriented Development \(TOD\) Overlay Zone](#) focus growth around the MAX BRT system along the Mason Street corridor.

Tier 2: Encouraging Shift to Transit and Non-Motorized Modes

Bicycle Infrastructure

Infrastructure improvements such as on-road or separated bicycle facilities encourage bicycle travel by increasing safety. Bicycle infrastructure has been implemented to varying degrees across the NFRMPO region.



⁹ Reference Sourcebook for Reducing Greenhouse Gas Emissions from Transportation Sources. Chapter 5 Transportation Demand Management Strategies. U.S. Department of Transportation, Federal Highway Administration. Updated 3/24/15.

http://www.fhwa.dot.gov/environment/climate_change/mitigation/publications_and_tools/reference_sourcebook/page05.cfm#s1

Bicycle Share Service

Bicycle share services offer a fleet of bicycles for short-term use, typically through an automated, self-service bike check-out process. Service can require check-out/returns at designated stations (docks) or may allow “dockless” check-out/returns at other locations.

Example: [Pace Bike Share](#) operates in the City of Fort Collins with several public and private partners, offering both docked and dockless check-out/returns. UNC’s [Blue Cruiser Bike Program](#) offers free bike rental to all UNC students.

Bus Rapid Transit (BRT)

BRT can be thought of as an above ground subway or a rubber-tired light rail system with the added benefit of having greater operating flexibility and lower costs. BRT is “an integrated

system of facilities, equipment, services, and amenities that improves the speed, reliability, and identity of bus transit.”¹⁰ BRT systems often have dedicated right-of-way lanes, signal priority, station platforms level with the bus floor accelerate passenger boarding time and allow wheelchairs and strollers to easily roll on or off the bus.

Example: [Transfort MAX](#) has dedicated lanes, frequent service (15-minute headways), raised station platforms, and signal priority at some intersections.

Car Sharing

Participants pay to rent vehicles on a per-trip basis allowing the costs of operating a vehicle to be spread among many users.

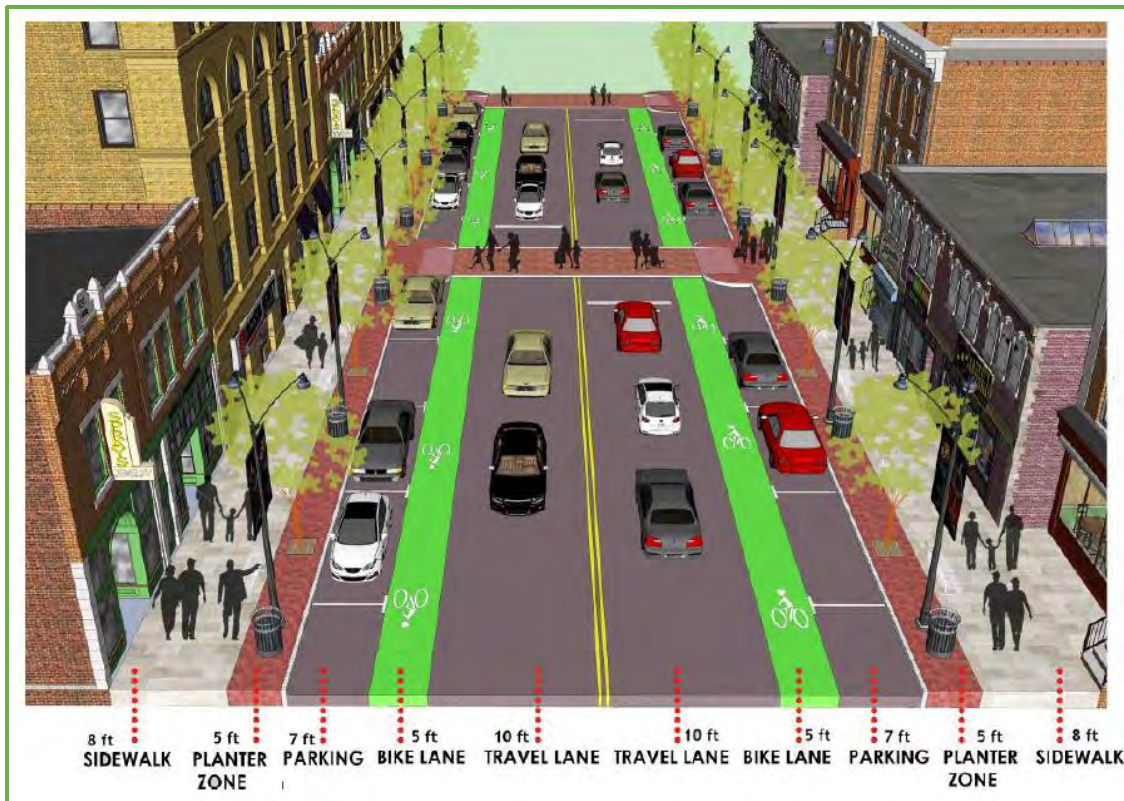
Example: [Zipcar](#) operates at several locations around CSU’s main campus.



Transfort MAX station. Image credit: City of Fort Collins

¹⁰ TCRP Report 118. Bus Rapid Transit Practitioner’s Guide. Transportation Research Board. 2007. Washington, D.C.

http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_118.pdf



Complete Streets Diagram. Image Credit: City of Elizabeth, New Jersey

Complete Streets Policies

Streets designed to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. The adoption of a Complete Streets policy by communities encourages the routine design and operation of the entire right of way to enable safe access for all users.

Example: The City of Fort Collins has a Complete Streets policy ensuring bicycle lanes and sidewalks are a part of newly constructed streets.

Mobility Hubs

In conjunction with parking pricing, designated parking for carpooling, vanpooling, transit riders, etc. can further incentivize transit and ridesharing by ensuring convenient parking where parking spaces are otherwise limited.

Parking Pricing or Parking Restrictions

Parking Management includes time of day restrictions such as before 10:00 a.m. or allows the price for parking to fluctuate to ensure a certain percentage of parking spaces are vacant. Parking pricing is the price associated with the use of a parking space. Parking management and pricing must be used in conjunction with other strategies to prove effective.

Example: CSU offers parking permits and metered parking to discourage students from driving to campus.

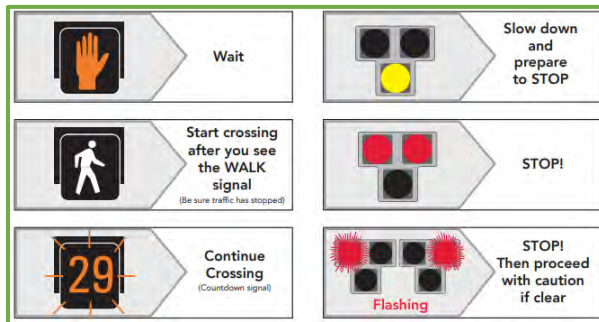
Pay-as-You-Drive Insurance

Vehicle insurance premiums vary according to the number of miles driven. This gives drivers who drive less an opportunity to pay a lower variable cost rather than a higher, fixed-cost insurance.

Pedestrian Infrastructure

Improving pedestrian infrastructure can enhance safety, ensure ADA compliance, and boost the overall pedestrian experience, encouraging more people to make more trips on foot.

Example: Greeley recently installed a High-Intensity Activated crossWalk (HAWK) beacon at a trail crossing on 20th Street to safely assist pedestrians in crossing the street.



HAWK beacon user guide. Image credit: City of Greeley

Transit Incentives

Incentives may be offered to students, employees, or residents to help reduce or eliminate the cost of transit to the user through free or discounted public transportation passes, employer-provided subsidies, or pre-tax payroll reductions.

Example: [Transfort PassFort](#) allows businesses to receive passes at a bulk rate of \$50, 68 percent savings compared to the \$154 regular annual pass.

Transit Service Quality Factors

Service quality factors address transit stop amenities, off-board fare collection, on-board cleanliness, bus scheduling information, station and in-route safety, and customer service.

Example: GET's [Route Shout App](#) and Transfort's [RideTransfort App](#) help riders find routes, bus arrival times, and other information. COLT is currently developing a similar service.

Transit Service Quantity Factors

Service quantity factors address increasing service hours including Sunday service, reducing the time between transit vehicles, reducing transfer time, prioritizing transit vehicles at traffic signals, and focusing routes on high density corridors or locations.

Example: In 2017, Transfort added "[365 Service](#)" to select routes, creating transit service every day of the year, including Sundays and holidays.

Tier 3: Increasing Vehicle Occupancy and Shifting Travel Times

Carpooling/Vanpooling aka ridesharing

Ridesharing is two or more people traveling in a vehicle to their destination.

Example: [VanGo™ Vanpool Services](#) accommodates commuters riding to or from similar origins and destinations in the NFRMPO region.



High Occupancy Vehicle (HOV) Lanes

HOV lanes incentivize ridesharing by offering travelers who rideshare a less congested travel lane.

Example: Upon completion, the [I-25 Express Lanes](#) will allow North I-25 travelers to enter the Express Lanes free of charge if there are three or more people in the vehicle if they have a switchable HOV transponder.

Guaranteed Ride Home

Used to supplement an employee's mode choice, the Guaranteed Ride Home service provides a free or inexpensive taxi for emergencies for those employees who rideshare.

Example: [VanGo™ Vanpool Services](#) provides access to transportation when unscheduled emergencies, illnesses, or schedule changes prevent rides from taking their scheduled van home.

Alternative/Flexible Work Schedules

Flexible work schedules reduce demand during peak-travel periods by allowing workers to commute during off peak hours. Many employers across the NFRMPO region offer flexible work schedules to their employees.

Congestion Pricing

According to [Transit and Congestion Pricing, A Primer](#), congestion pricing uses the power of the market to reduce waste associated with traffic congestion. Travelers who choose to use the transportation system during peak periods are charged an additional usage fee. Depending on size of the fee, drivers have an incentive to shift their travel time, mode, or route. There are five main types of pricing strategies:

- 1) **Variably priced lanes:** Variable tolls on separated lanes within a highway, such as express-toll lanes or High Occupancy Toll (HOT) lanes.
- 2) **Variable tolls on entire roadways:** Both on toll roads and bridges, as well as on existing toll-free facilities during rush hours.
- 3) **Zone-based (area or cordon) charges:** Either variable or fixed charges to drive within or into a congested area within a city.
- 4) **Area-wide charges:** Per-mile charges on all roads within an area that may vary by level of congestion.
- 5) **Pricing that does not involve tolls:** This includes innovative parking-pricing strategies (e.g., surcharges for entering or exiting a parking facility during or near peak periods) and a range of parking cash-out policies, in which cash is offered to employees in lieu of subsidized parking.

H. Aviation Facilities

Two airports categorized in the National Plan of Integrated Airport Systems (NPIAS) currently operate within the NFRMPO region: Northern Colorado Regional Airport and Greeley-Weld County. Each of the two operating facilities is described in more detail in the following sections. **Figure 2-23** shows the location of the two regional airports.

Northern Colorado Regional Airport

The Northern Colorado Regional Airport (FNL) is one of 12 commercially certified airports in the State. This certification establishes minimum operational standards and procedures the Airport is required to follow to safely accommodate commercial airline activities, although the airport does not currently have commercial service. The Airport has two runways and has equipment that allows for aircraft to operate in all weather conditions including times of poor visibility. The FNL Airport operates 24-hours a day, seven days a week and is designed to accommodate airline aircraft such as the Airbus A-320, and Boeing 737 series, however it primarily supports general and corporate aviation activities.

The Airport is home to 245 based aircraft including single-engine aircraft, multi-engine aircraft, jet aircraft, and helicopters. On average, the Airport supports 95,000 flight operations including air carrier, private charter, corporate, air ambulance transport, aerial fire suppression, flight training, military, and general aviation usage per year. An estimated 7,000 inbound and outbound flight passengers used the Airport in 2017 via airline charter services. The Airport also hosts diverted airline aircraft intending to land at

Denver International Airport (DIA) when weather conditions temporarily suspend the ability for aircraft to land there safely. According to the CDOT Division of Aeronautics Economic Impact Study conducted in 2013, activity from FNL employed 826 people with a total annual economic impact estimated to be \$129.4M.

In 2007, the Airport Master Plan was completed to evaluate existing and future aviation facilities and demands. The plan is currently in the process of being updated and covers a 20-year time horizon and predicts future aviation and general development needs. Sections of the plan include an inventory of existing conditions, forecasts of aviation activities, capacity analysis and future facility requirements and expansion, a development plan, environmental analysis and impacts, financial impact analysis, and future development needs and layout plans. Plans call for runway 15/33 to be expanded to 9,500 feet in length and 150 feet in width to more safely accommodate the current design aircraft.

The Airport is home to the innovative Remote Air Traffic Control Tower Project. This project is a joint effort between the State of Colorado, the Federal Aviation Administration (FAA), and the Northern Colorado Regional Airport and will provide a cost effective air traffic control system at a lower price than a traditional tower using next generation camera and radar technologies. The new system is expected to be operational and certified by the FAA in 2020.

Greeley-Weld County Airport

The Greeley-Weld County Airport (GXY) is a Major General Aviation airport with two runways: 10/28 and 17/35. Runway 10/28 is 5,801 feet long and 100 feet wide. This runway has an asphalt

surface and medium intensity runway lighting. Runway 17/35 is 10,000 feet long and 100 feet wide. This runway also has an asphalt surface with medium intensity runway lighting. The airport is equipped with Very High Frequency (VHF) Omni-Directional Range (VOR), Instrument Landing System (ILS), Global Positioning Satellite (GPS), and Non-Directional Radio Beacon (NDB) as navigation aids.

In 2014, the airport had 145,000 annual operations including jet aircraft, helicopter, general aviation, and military usage. According to the CDOT Division of Aeronautics, approximately 23,000 passengers arrive at the airport annually.¹¹ In 2013, the airport employed

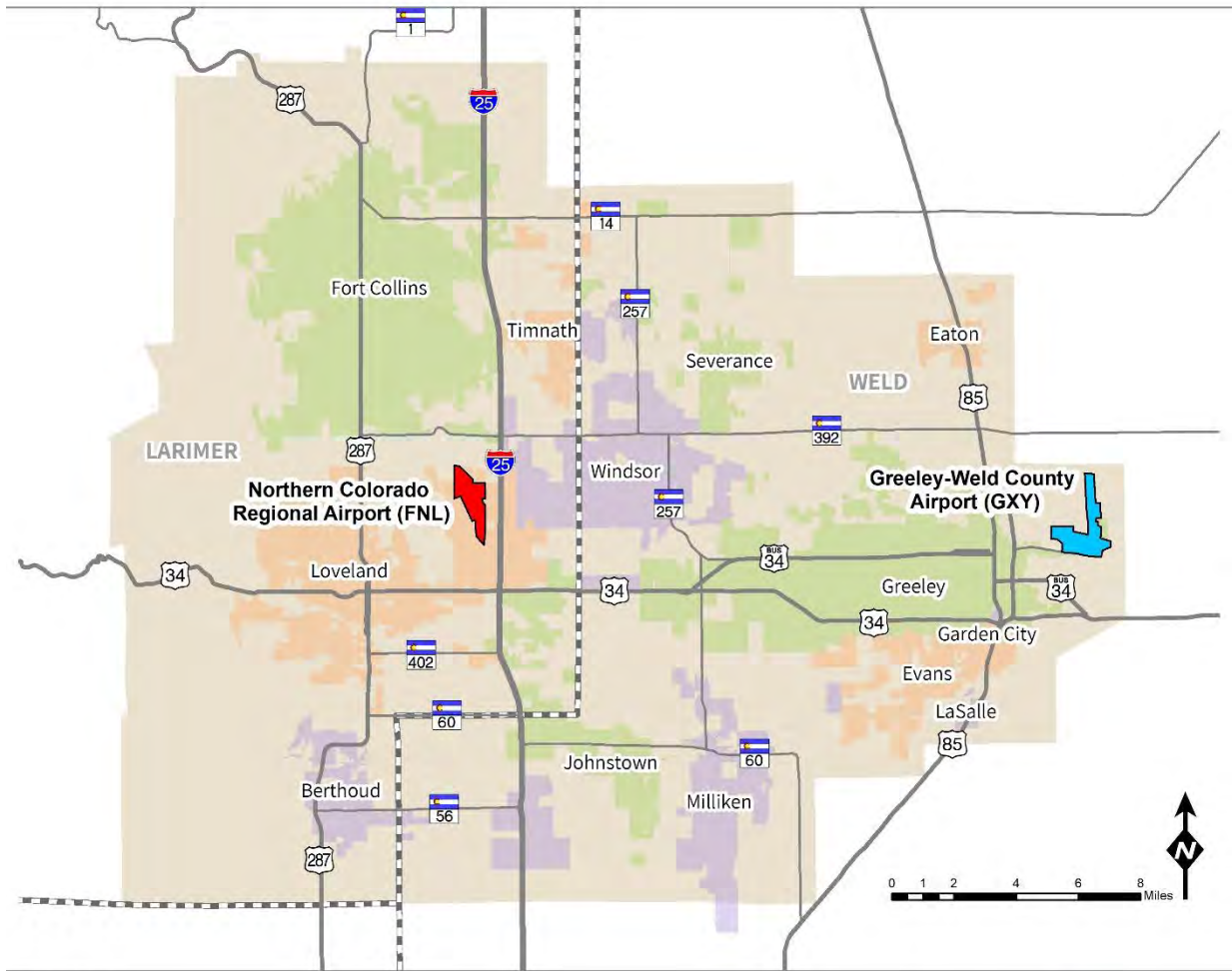
672 people with a total payroll of approximately \$30.8M.¹² The total economic impact of the airport (including direct, indirect, and induced impacts) is estimated to be \$94.1M. The airport also has a total of 224 total based aircraft including single-engine aircraft, multi-engine aircraft, jet aircraft, and helicopters.

In early 2004, a master plan was completed to identify future planning needs and improvements. The plan covers a 20-year time horizon and includes airport zoning, runway layout and expansion, airport terminal and hangar expansion, land use, noise mitigation, and utility layout plans.





¹¹ CDOT Economic Impact Study for Colorado Airports, 2013

¹² Airport Data, www.gxy.net/airport-data, 2015

Figure 2-23: Aviation Facilities



Legend

-  Northern Colorado Regional Airport (FNL)
-  Greeley-Weld County Airport (GXY)
-  County Boundary
-  NFRMPO Boundary

February 2019
 Sources: CDOT, NFRMPO  North Front Range Metropolitan Planning Organization



2

Section 2

Socio-Economic Profile



WOOD PARK

A. Population

The population within the North Front Range has grown rapidly since the 1980s. As shown in **Table 2-13**, each jurisdiction has outpaced the State’s annual growth rate between 1980 and 2017, with the exception of LaSalle. The fastest growing communities (Severance, Timnath, Johnstown, Windsor, and Milliken) are all located along major transportation corridors. These

communities are expected to see continued rapid growth given their access to the I-25 corridor and access to agricultural and manufacturing jobs. Between 1980 and 2017, Weld County grew at a slightly higher rate compared to Larimer County, owing largely to the smaller base-year population.

Table 2-13: Historical Population Trends by Annual Growth Rate 1980-2017

	1980	1990	2000	2010	2017	Growth Rate
Severance	102	106	672	3,204	4,239	10.6%
Timnath	185	190	286	629	3,312	8.1%
Johnstown	1,535	1,579	4,459	9,987	15,825	6.5%
Windsor	4,277	5,062	10,256	18,768	26,319	5.0%
Milliken	1,506	1,605	3,040	5,634	6,913	4.2%
Evans	5,063	5,876	10,448	18,651	20,975	3.9%
Berthoud	2,362	2,990	5005	5,127	6,828	2.9%
Eaton	1,932	1,959	2783	4,384	5,197	2.7%
Loveland	30,215	37,357	51,893	67,033	76,797	2.6%
Fort Collins	65,092	87,491	12,0236	144,888	164,810	2.5%
Garden City	123	199	346	235	246	1.9%
Greeley	53,006	60,454	78,559	93,262	104,947	1.9%
LaSalle	1,929	1,803	1,852	1,967	2,324	0.5%
Weld County	123,438	131,821	183,076	254,230	304,435	2.5%
Larimer County	149,184	186,136	253,088	300,532	343,853	2.3%
Colorado	2,889,964	3,294,394	4,301,261	5,029,316	5,607,154	1.8%

Source: DOLA County and Municipal Population Timeseries

An Aging Population

The population within the North Front Range has been aging. **Figure 2-24** and **Figure 2-25** show the age distributions for Larimer County and Weld County, respectively. Both show a large share of population in the 55 to 65 year old cohort in 2017 shifted from the 30 to 40 year old cohort in 1990. This fundamental change in the region’s population composition will require a

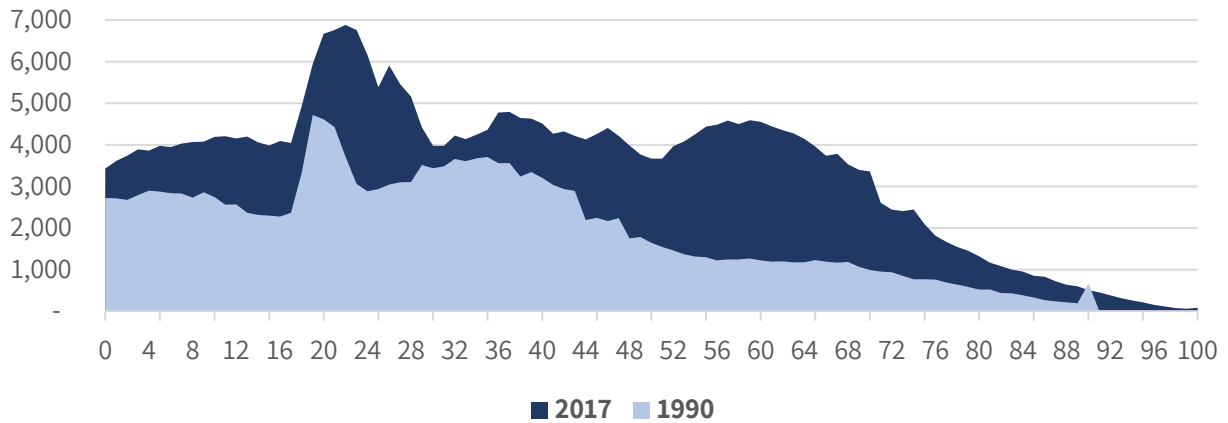
close examination of the transportation services available for older adults. The older adult population is explored in greater detail in the **Environmental Justice** section of this Chapter.

Compared to Weld County, Larimer County has a much larger percentage of its population in the 20 to 24 year old cohort, likely owing to Colorado

State University (CSU) and several community and technical colleges in the County. Weld County retains a much larger portion of its population in the 30 to 45 year old cohort, likely due to lower home values in Weld County.

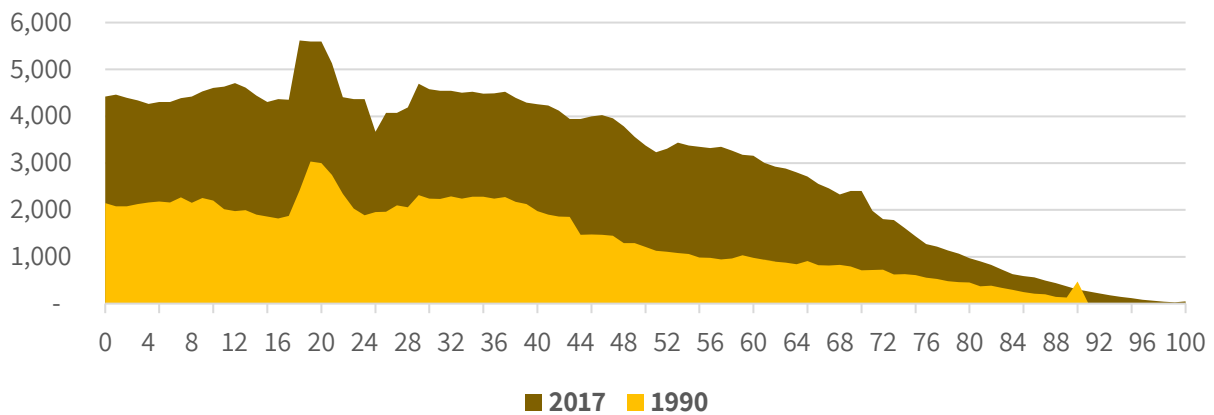
Attainable housing for new and young families may also explain the larger 0 to 20 year old cohort in Weld County, compared to Larimer County.

Figure 2-24: Larimer County Age Distribution for 1990 and 2017



Source: DOLA Single Year of Age Data

Figure 2-25: Weld County Age Distribution for 1990 and 2017



Source: DOLA Single Year of Age Data

Racial and Ethnic Diversity

Table 2-14 shows the percentage of the population for Larimer and Weld counties by race, regardless of ethnicity. In 2017, 91 percent of Larimer County residents and 88 percent of Weld County residents were White. Despite this overwhelming majority, the population has diversified over the past two decades, a trend expected to continue. In 2017, approximately 11.2 percent of Larimer County’s population was

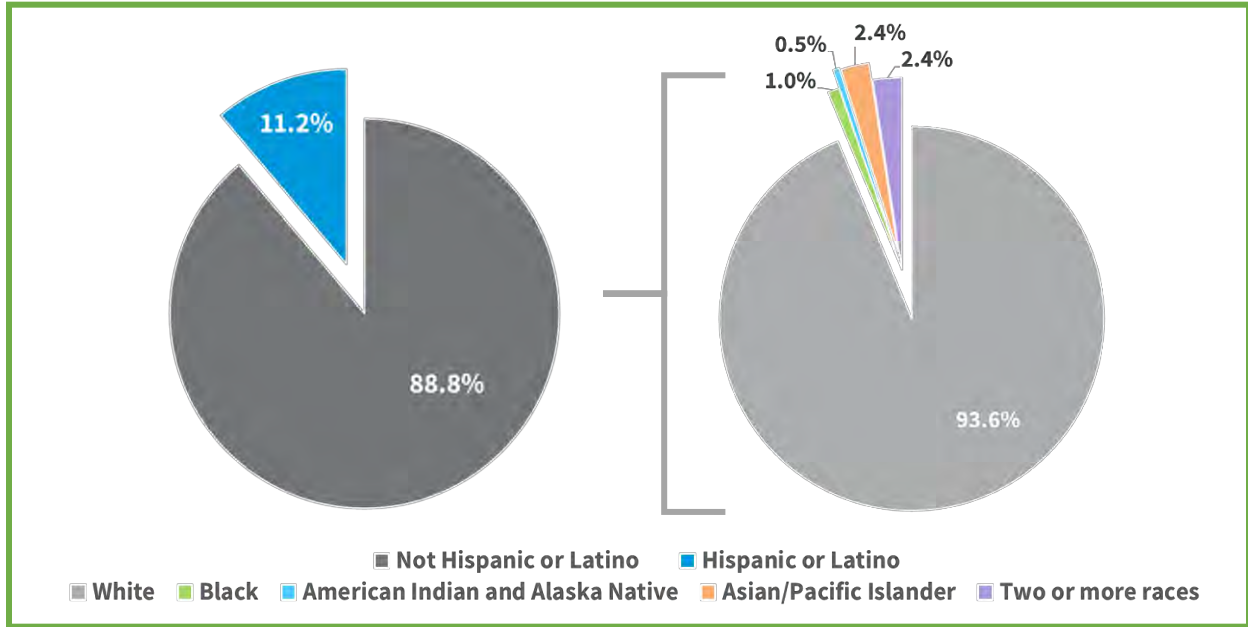
Hispanic or Latino, whereas 29 percent of the Weld County population was Hispanic or Latino, as shown in **Figure 2-26** and **Figure 2-27** respectively. Of the non-Hispanic portion of the population in both counties, only 6.4 percent were non-Hispanic, non-White. Minority populations are discussed in greater detail in the **Environmental Justice** section of this Chapter.

Table 2-14: Weld and Larimer County Population by Race (2017)

	Larimer County		Weld County	
	Estimate	Percent	Estimate	Percent
Total	330,976	*****	285,729	*****
White	302,008	91.2%	253,742	88.8%
Black or African American	3,053	0.9%	3,199	1.1%
American Indian/Alaska Native	2,130	0.6%	2,070	0.7%
Asian	6,797	2.1%	3,880	1.4%
Native Hawaiian and Other Pacific Islander	299	0.1%	259	0.1%
Some other race	6,251	1.9%	14,835	5.2%
Two or more races	10,438	3.2%	7,744	2.7%

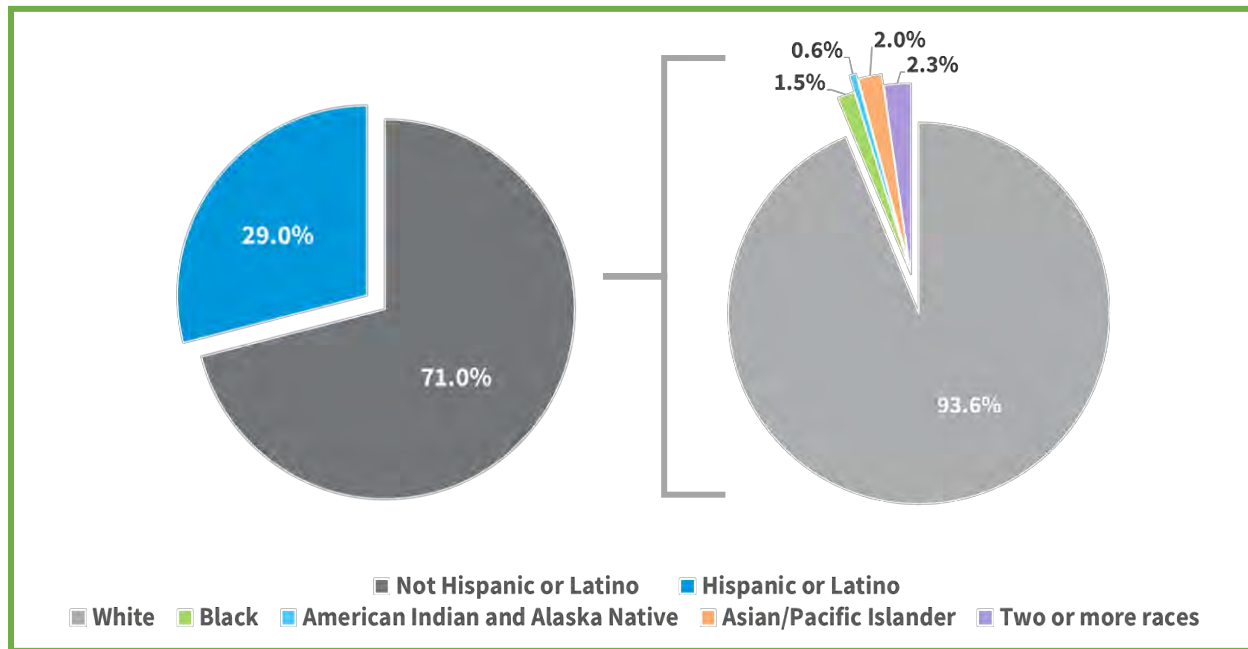
Source: 2013-2017 American Community Survey 5-Year Estimates

Figure 2-26: Larimer County Population by Hispanic/Latino and by Race



Source: 2013-2017 American Community Survey 5-Year Estimates

Figure 2-27: Weld County Population by Hispanic/Latino and by Race



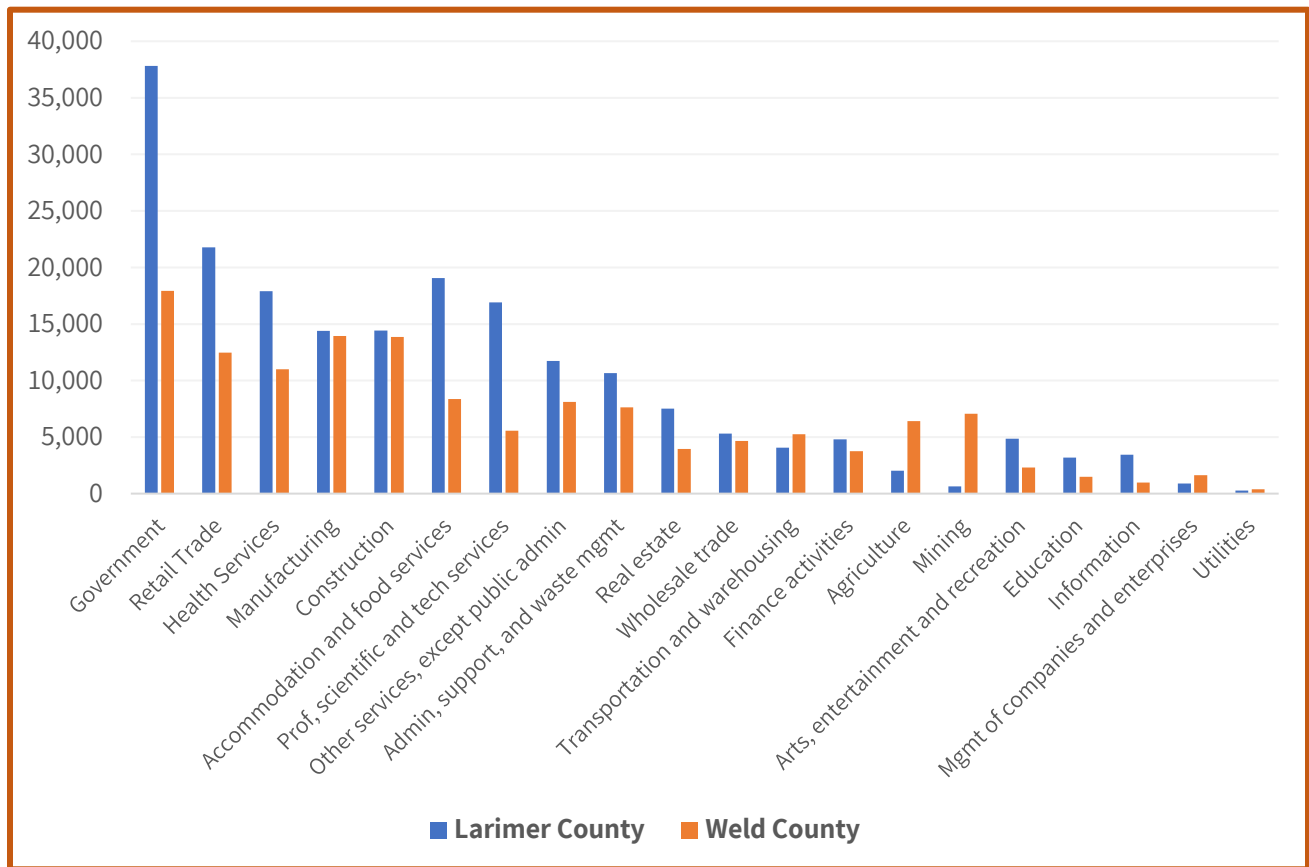
Source: 2013-2017 American Community Survey 5-Year Estimates

B. Economic Trends

Figure 2-28 shows the top 15 sectors of employment for Weld and Larimer counties. Both counties are dominated by the government sector, though the retail, health services, manufacturing, construction, and accommodation and food services sectors make up a large portion of remaining jobs between the two counties. While the counties share several similarities, there are many economic differences. Larimer County has a large portion

of professional, scientific and technical services, while some of Weld County's top sectors include mining and agriculture. Even some of the counties' shared sectors, such as manufacturing break down into much different subsectors. While the majority of manufacturing jobs in Larimer County are computers and electrical equipment, the majority of manufacturing jobs in Weld County are related to food and beverage products.

Figure 2-28: Top 15 Employment Sectors by County in 2017

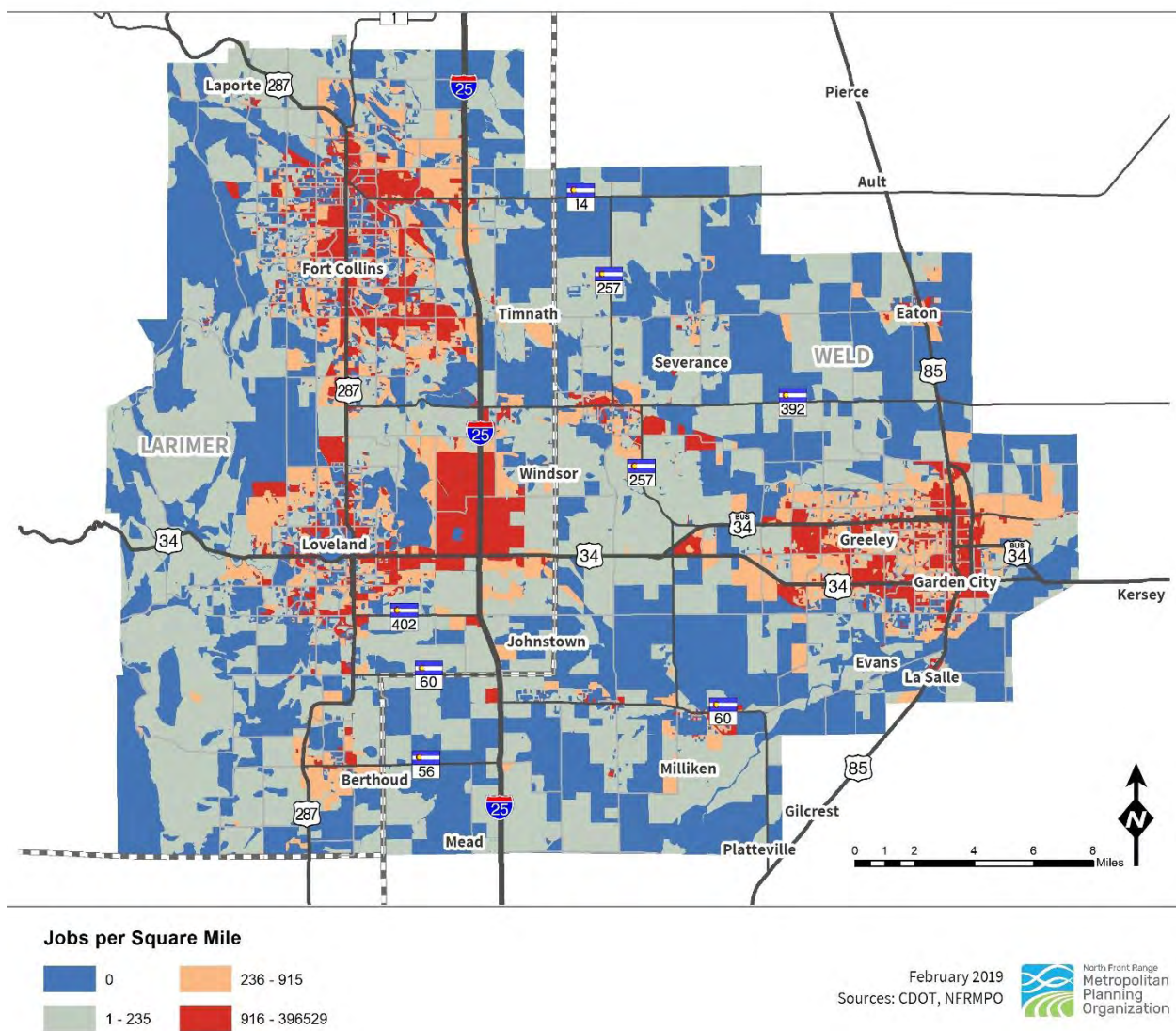


Source: DOLA State Demography Office Data Page, Jobs by Sector

As shown in **Figure 2-29**, the majority of employment remains centralized around major transportation corridors including I-25, US287, US34, US85, and SH14. Locations of major employment include downtown areas, the Harmony corridor, Windsor Industrial Park, and the US34/I-25 intersection. Major employers include Woodward Inc, UC Health Medical Center of the Rockies, McKee Medical Center, Northern

Colorado Medical Center, CSU, University of Northern Colorado (UNC), Aims Community College, and Front Range Community College (FRCC). The three largest employers in the region are the University of Colorado Health, CSU, and JBS Swift and Company. Together, these three organizations provide nearly 20,000 jobs within the North Front Range.

Figure 2-29: Employment Density, 2015



Source: 2015 Forecast, 2010 Base Year UrbanCanvas Land Use Allocation Model

C. Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations (1994)*, was enacted to reinforce Title VI of the Civil Rights Act of 1964. The Civil Rights Act states that, “no person in the United States shall, on grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” **Executive Order 12898** also states, “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

In May 2012, DOT issued an updated internal Order, *Actions to Address EJ in Minority Populations and Low-Income Populations (DOT Order)*. The DOT Order updates the Department’s original EJ Order, which was published April 15, 1997. The DOT Order continues to be a key component of the USDOT’s strategy to promote the principles of EJ in all DOT programs, policies, and activities.

Environmental Justice Analysis

Though **Executive Order 12898** defines environmental justice (EJ) populations as minority and low-income communities, the NFRMPO has expanded the definition to include additional populations, including persons with Limited English Proficiency (LEP), persons with disabilities, persons over the age of 60, and zero-car households. An expanded analysis including these additional groups will be presented in the

NFRMPO’s Environmental Justice Plan currently under development. The following sections provide an overview of the traditional and expanded EJ populations within the NFRMPO Planning Region.

An EJ analysis is completed for all location-specific individual projects included in or amended into the TIP and RTP. If a project is located in, within ¼ mile of, or adjacent to an area with a substantial EJ population, it is considered to be an EJ project. If it does not, it is considered to be Non-EJ. The benefits and burdens of each project must be examined individually, regardless of its EJ status. An overall analysis on projects in the TIP determines if it meets EJ requirements. The analysis process follows three guiding principles outlined in *DOT Order 5610.2(a)*:

1. To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations in relation to transportation improvements.
2. To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
3. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Under this DOT Order, an adverse effect means:

- Bodily impairment, infirmity, illness, or death;
- Air, noise, and water pollution and soil contamination;

- Destruction or disruption of man-made or natural resources;
- Destruction or diminution of aesthetic values;
- Destruction or disruption of community cohesion or a community’s economic vitality;
- Destruction or disruption of the availability of public and private facilities and services;
- Vibration;
- Adverse employment effects;
- Displacement of persons, businesses, farms, or non-profit organizations;
- Increased traffic congestion, isolation, exclusion, or separation of individuals within a given community or from the broader community;
- Denial of, reduction in, or significant delay in the receipt of benefits of USDOT programs, policies, or activities.

“disproportionately high and adverse effect on human health or the environment,” defined in *DOT Order 5610.2(a)* as:

- Being predominately borne by a minority population and/or low-income population, or
- Suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income populations.

All EJ analysis procedures are completed by NFRMPO staff.

Table 2-15 lists the benefits and burdens reviewed for EJ or Non-EJ projects. **Chapter 3, Section 5** includes an overall EJ analysis of regionally significant projects included in the FY2020-2023 TIP and 2045 RTP. This process may be re-evaluated as part of the NFRMPO’s upcoming Environmental Justice Plan.

An EJ analysis also includes a determination of whether the activity will result in a

Table 2-15: Environmental Justice Benefits and Burdens

Benefits	Decrease in travel time
	Improved air quality
	Expanded employment opportunities
	Better access to transit options and alternative modes of transportation (walking and bicycling)
Burdens	Bodily impairment, infirmity, illness, or death
	Air, noise, and water pollution, and soil contamination
	Destruction or disruption of man-made or natural resources, aesthetic values, or availability of public and private facilities and services
	Adverse impacts on community cohesion or economic vitality
	Noise and vibration
	Increased traffic congestion, isolation, exclusion, or separation

Minority and Low Income

The EJ Analysis currently looks at low-income and minority populations as shown in **Figure 2-30**. EJ populations – block groups which have a higher percent population of low-income and/or minority populations than the county or regional average – are located across the region.

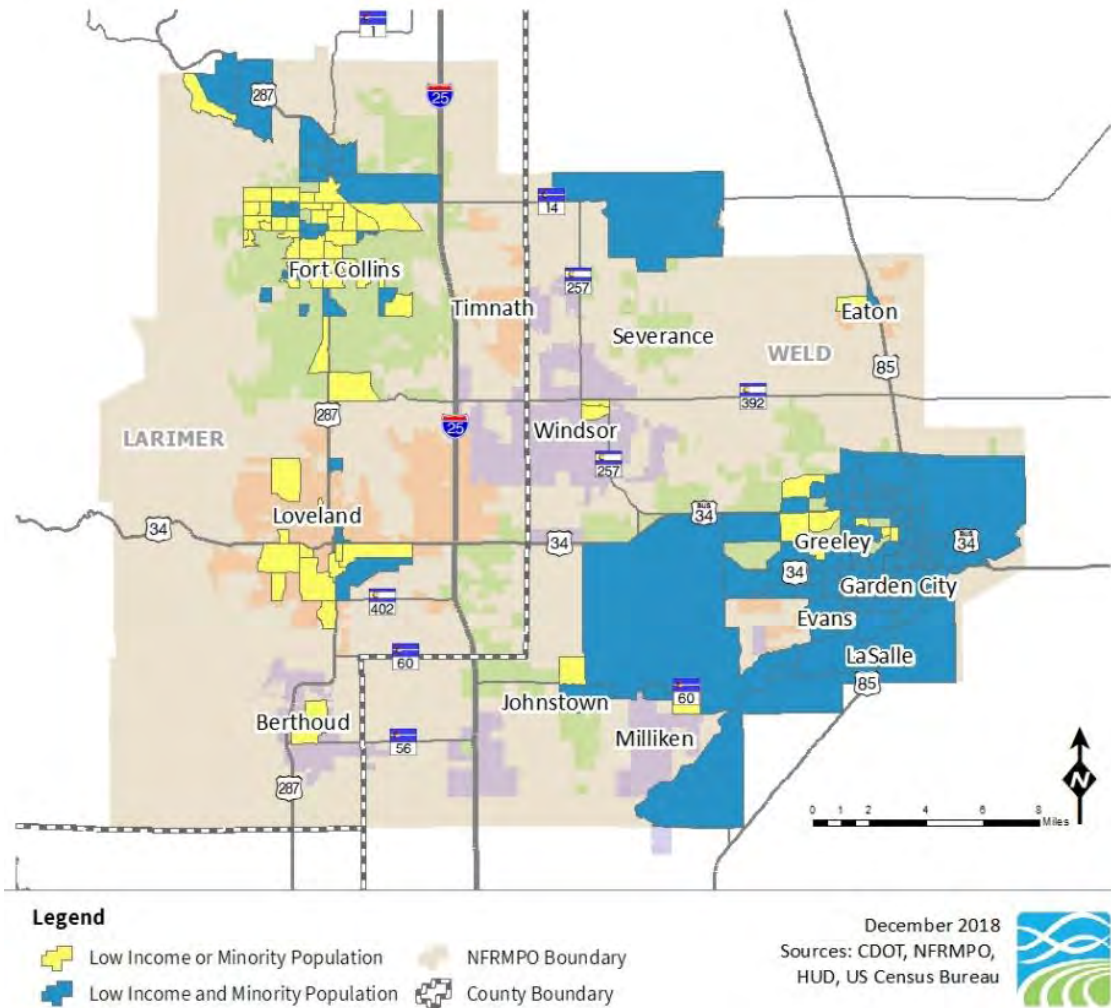
NFRMPO staff used the [CDOT National Environmental Policy Act \(NEPA\) methodology](#) and FY2018 US Department of Housing and Urban Development (HUD) county-specific Income thresholds by household size, to determine low-income thresholds for Larimer and Weld counties, respectively. Data for each block group is compared to the county average based on its average household size. If the block group has a higher percentage than the county threshold for that household size, it is considered to have an EJ population.

Minority status is based on 2013-2017 American Community Survey (ACS) data based on reported

race and ethnicity. The minority population includes all persons who do not identify as white non-Hispanic. Data for each block group is compared to the regional average. If the block group has a higher percentage than the regional average, it is considered to have an EJ population.

Areas in Fort Collins with higher low income and/or minority populations are clustered near CSU, and north and central Fort Collins. CSU maintains a highly diverse student group. Northeast Fort Collins is the location of the historic Tres Colonias neighborhoods. Greeley, Evans, and LaSalle are home to JBS, agricultural, and oil and gas jobs, which often attract immigrants. The area north of Timnath and Severance is predominantly agricultural, attracting seasonal migrants.

Figure 2-30: Low Income and Minority Populations in the NFRMPO Region



Limited English Proficiency (LEP)

LEP populations are defined by the US Census as individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English. *Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency*, requires recipients of federal funds to examine the services they provide and identify any need for services to LEP populations. LEP languages spoken in the region include Spanish,

Asian Languages, African Languages, Arabic, and other languages. **Table 2-16** shows the LEP language categories defined by the ACS, the population of the NFRMPO region who speak the language, and the percent of the regional population. The region maintains a relatively low LEP average (4.53 percent) as a proportion of its overall population. **Table 2-17** shows the Larimer and Weld counties breakdown of LEP populations within the North Front Range.

Table 2-16: LEP Languages and Population

	Speak Languages other than English	Percent of Population
Spanish	42,840	10.9%
Asian Languages	5,452	1.4%
Other Indo-European Languages	5,638	1.4%
Other Languages	2,210	0.6%
Total	56,140	14.30%

Source: 2013-2017 ACS 5-Year Estimates

Table 2-17: Percent of Population with LEP by Community

Geography	Total Pop. five years +	English Speakers Only	Pop. Speaking Language Other than English	LEP Population	% LEP Population
Larimer County	284,828	257,737	26,165	7,151	2.5%
Weld County	172,600	135,701	37,465	13,468	7.8%
NFRMPO Region	457,128	393,438	63,630	20,319	4.5%

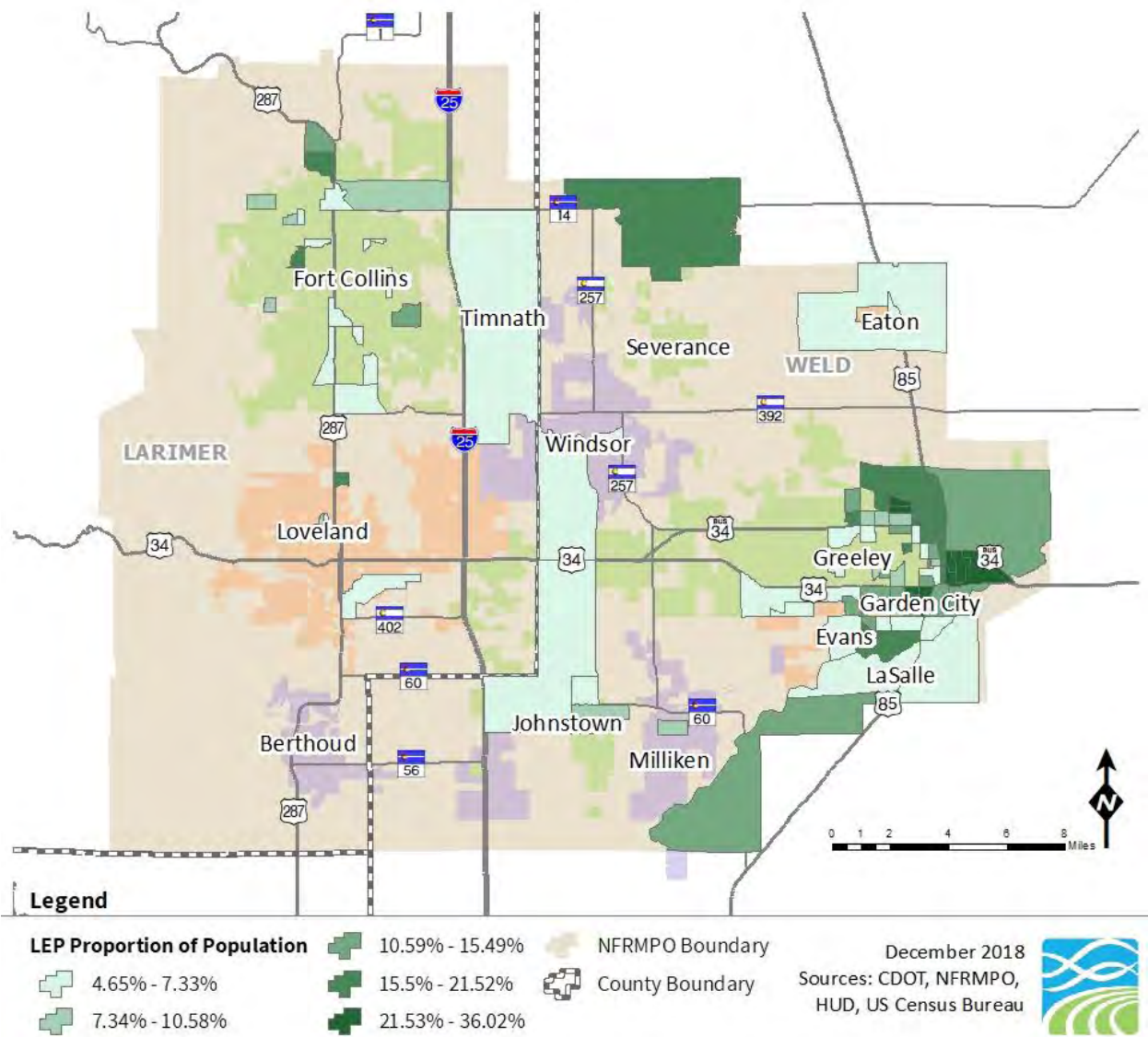
Source: 2013-2017 ACS 5-Year Estimates

*Note: "Data is based on the Block Groups that align with the NFRMPO boundary, not the full counties.

Census block groups with a moderate to high percentage of residents who are proficient in another language, but speak English “less than very well,” are considered supplemental EJ populations for the 2045 RTP. **Figure 2-31** shows the Census block groups with higher LEP

proportions as compared to the entire region. Some block groups are slightly over the regional average like in Timnath, while other block groups have nearly a third of their population identified as LEP.

Figure 2-31: Proportional LEP Map



Older Adult Population

For a variety of reasons, older adults will comprise an increasing proportion of the region’s population. Trends include the “baby boomer” population (individuals born between 1946 and 1964) hitting retirement age, migration, medical breakthroughs allowing people to live longer, and the desire to “age in place.”

Estimates from the Department of Local Affairs (DOLA) between 1990 and 2015 show steep

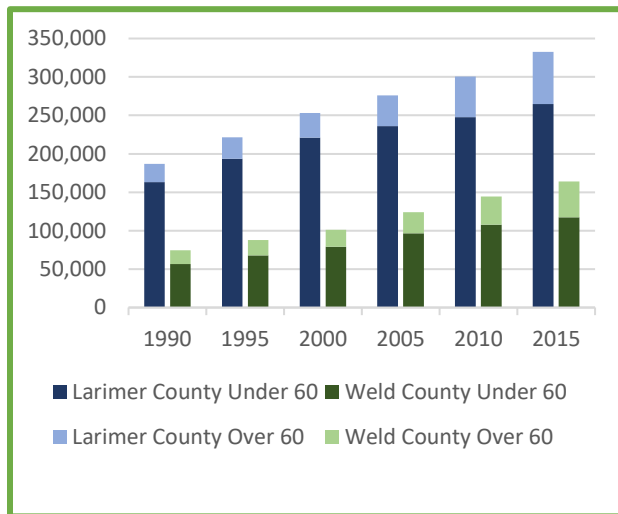
growth in the population over 60 living in Larimer and Weld counties. Between 1990 and 2015, the older adult population in Larimer and Weld counties grew by more than 173 percent. As shown in **Figure 2-32**, the proportion of adults over 60 has increased for both counties.

In 1990, 12.7 percent of Larimer County residents and 24.1 percent of Weld County residents were over the age of 60. By 2015, the percent of

Larimer County residents over 60 had increased to 20.5 percent and Weld County residents to 28.3 percent. Overall, the proportion of adults over 60 to the total population for the region has increased from 16.0 percent to 23.1 percent between 1990 and 2015.

The municipal breakdown of percent of the total population over the age of 60 is shown in **Table 2-18**. Municipalities range between 9.4 percent and 28.7 percent for percent of population over the age of 60.

Figure 2-32. Larimer and Weld County Older Adult Population Trends (1990-2015)



Source: DOLA, 2019

As shown in **Figure 2-33**, Larimer County residents aged 60 and above grew by 185 percent between 1990 and 2015. The 80 and above age group grew by 169 percent and the 75-79 age group also grew by 169 percent. The 60-64 and 65-69 age categories grew at 247 percent and 190 percent, respectively. As shown in **Figure 2-34**, Weld County residents over the age of 60 more

Table 2-18. Percent Older Adult Population

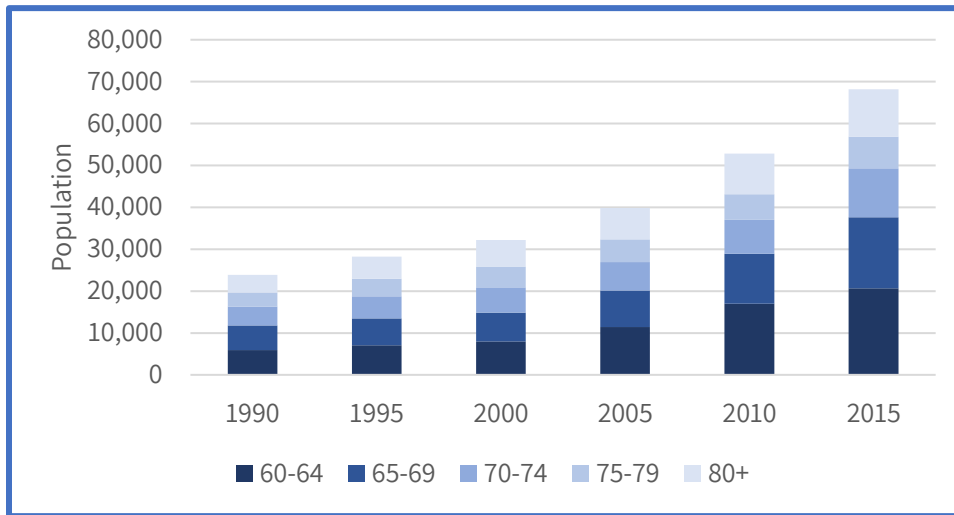
Community	Over 60	
	Percent	Actual
Garden City	28.7%	66
Loveland	24.6%	18,226
Eaton	20.9%	1,029
Windsor	19.6%	4,576
LaSalle	19.2%	529
Johnstown	18.9%	2,719
Berthoud	18.8%	1,129
Timnath	16.8%	408
Greeley	16.7%	16,802
Fort Collins	14.4%	22,957
Severance	12.7%	485
Milliken	12.2%	774
Evans	9.4%	1,868
Total	17.1%	71,568

Source: 2013-2017 ACS 5-Year Estimates

*Note: "Total" reflects sum of municipalities listed and does not include unincorporated Larimer and Weld Counties.

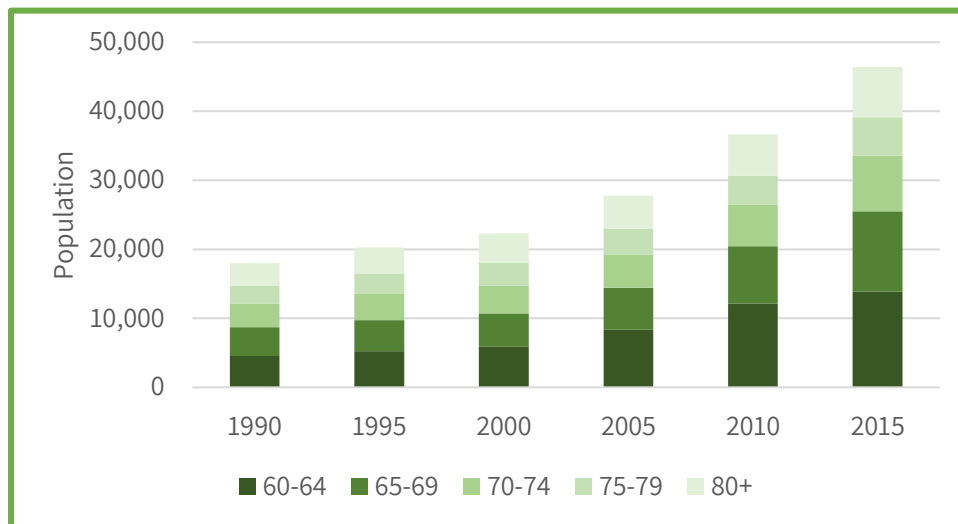
than doubled between 1990 and 2015, growing by 158 percent. Like Larimer County, Weld County residents aged 60-64 grew at the highest rate, increasing by 206 percent. Residents aged 65-69 grew by 179 percent and those aged 70-74 increased by 137 percent. Residents aged 75-79 and 80+ grew by 110.8 and 125 percent, respectively.

Figure 2-33: Larimer County Population Over 60 (1990-2015)



Source: DOLA, 2019

Figure 2-34: Weld County Population Over 60 (1990-2015)



Source: DOLA, 2019

Population with Disabilities

Census tracts with a moderate to high percentage of residents who are disabled are considered to be supplemental EJ populations within the region. Census tracts were selected as the unit of analysis due to limited data availability at smaller geographies.

The ACS defines the following disabilities:

- **Hearing difficulty:** defined as deafness or serious difficulty hearing;
- **Vision difficulty:** defined as blind or serious difficulty seeing;
- **Cognitive difficulty:** defined as having difficulty remembering, concentrating, or making decisions due to a physical, mental, or emotional problem;

- **Ambulatory difficulty:** defined as difficulty walking or climbing stairs;
- **Self-care difficulty:** defined as difficulty bathing or dressing; and
- **Independent living difficulty:** defined as difficulty doing errands alone due to a physical, mental, or emotional problem.

Table 2-19 shows the population with a disability under the age of 65 for each municipality and the percent of the

municipality’s population. Disabled populations face different transportation and mobility challenges which may increase the need for safety improvements in the roadway and pedestrian system, increased transit, paratransit, and demand-response transportation systems, and a higher need for mobility coordination efforts throughout the region. Additional information about existing and potential future transportation services are discussed in the [2045 RTE](#).

Table 2-19: Percent of Population with a Disability Rolling Average (2013-2017)

Community	Percent with a Disability	Population with a Disability	Total Population
Berthoud	12.7%	764	6,018
Eaton	12.7%	625	4,931
Evans	8.7%	1,741	19,967
Fort Collins	8.0%	12,654	159,150
Garden City	20.4%	47	230
Greeley	11.3%	11,128	100,760
Johnstown	7.4%	1,066	14,386
LaSalle	10.9%	299	2,754
Loveland	12.0%	8,856	74,125
Milliken	7.0%	446	6,362
Severance	7.0%	266	3,816
Timnath	5.2%	126	2,422
Windsor	6.8%	1,574	23,386
Total	9.5%	39,592	418,307

Source: 2013-2017 American Community Survey 5-Year Estimates

**Note: “Total” reflects sum of municipalities listed and does not include unincorporated Larimer and Weld Counties.*

Zero-Car Households

Zero-car households are self-reported households which do not currently have a vehicle. It does not acknowledge access to bicycles, work vehicles, or other autos. A plurality of residents in the NFRMPO region have access to two cars, while 3.5 percent of the population have no access to vehicles. This should be taken into consideration in planning

transportation options and when the NFRMPO plans outreach events in Fort Collins, Garden City, Greeley, LaSalle, and Loveland. These five communities have the highest number of residents with no access to a vehicle. A breakdown of the number of vehicles available per household in each community is shown in **Table 2-20**.

Table 2-20: Number of Vehicles Available

Community	Number of Vehicles Available			
	0	1	2	3 or more
Berthoud	0.9%	26.3%	42.2%	30.6%
Eaton	2.5%	25.1%	46.5%	25.9%
Evans	3.4%	26.7%	41.6%	28.4%
Fort Collins	4.8%	29.8%	42.4%	23.0%
Garden City	10.0%	50.8%	33.1%	6.2%
Greeley	6.3%	30.7%	37.9%	25.1%
Johnstown	1.2%	20.1%	45.2%	33.5%
Larimer County	4.1%	26.5%	42.2%	27.2%
LaSalle	5.8%	24.2%	32.4%	37.6%
Loveland	4.7%	28.5%	42.1%	24.8%
Milliken	0.0%	24.1%	33.9%	42.0%
Severance	1.9%	11.4%	52.1%	34.6%
Timnath	1.3%	11.2%	64.7%	22.7%
Weld County	3.8%	24.0%	40.3%	31.9%
Windsor	2.4%	21.1%	44.8%	31.7%

Source: 2013-2017 American Community Survey 5-Year Estimates

2

Section 3

Performance-Based Planning



A. Federal Performance Measures

The Moving Ahead for Progress in the 21st Century (MAP-21) Act and the Fixing America's Surface Transportation (FAST) Act move performance measurement to the center of the transportation planning process. Performance measures were established through federal rulemakings as were associated schedules and deadlines to adopt associated targets. States are required to set targets based on observed data and trends. Metropolitan Planning Organizations (MPOs) are required to establish their own or support the State's targets also based on observed data and trends. Performance measures and targets are described in further detail in the **Goals, Objectives, Performance Measures, and Targets (GOPMT) section**.

The Colorado Department of Transportation (CDOT), transit agencies, and the NFRMPO are required to develop performance-based plans and processes which align with federal goals. The NFRMPO develops GOPMT to fulfill performance-based planning requirements and to drive project selection as MPOs are required to report in their Transportation Improvement Programs (TIP) and Regional Transportation Plans (RTP) the projects selected move the region towards achieving the goals, based on the targets adopted. The GOPMT are developed during the Planning stage of Performance-Based Planning.

Once CDOT and transit agencies adopt their targets, the NFRMPO generally has 180 days to set targets. NFRMPO staff analyzes its own data and data collected from CDOT and transit agencies to make an informed decision about setting their own targets or adopting targets set

by the other agencies. For the 2045 RTP, the NFRMPO Planning Council elected to adopt targets by supporting the targets set by the state and the transit agencies.

The federal performance measures are categorized into five areas, though only four have targets currently set:

- **Performance Measure (PM) 1: Highway Safety**
 - Number of fatalities
 - Rate of fatalities per 100M Vehicle Miles Traveled (VMT)
 - Number of serious injuries
 - Rate of serious injuries per 100M VMT
 - Number of non-motorized fatalities and serious injuries
- **PM2: Bridge and Pavement Condition**
 - Percent of Interstate pavement in Good condition
 - Percent of Interstate pavement in Poor condition
 - Percent of non-Interstate National Highway System (NHS) pavement in Good condition
 - Percent of non-Interstate NHS pavement in Poor condition
 - Percent of NHS bridges in Good condition
 - Percent of NHS bridges in Poor condition
- **PM3: System Reliability**
 - Percent of person-miles traveled on Interstate system that are reliable
 - Percent of person-miles traveled on non-Interstate system that are reliable
 - Truck travel time Reliability (TTTR) Index
 - VOC reduction

- CO Reduction
- NOx Reduction
- **Transit Asset Management (TAM) Targets**
 - Percent revenue vehicles meeting or exceeding useful life benchmark (ULB)
 - Percent service vehicles meeting or exceeding ULB
 - Percent passenger and maintenance facilities rated below condition 3
- **Transit Safety Targets**, which include the number of fatalities and rate per total vehicle revenue miles, number of reportable injuries and rate per total vehicle revenue miles, number of reportable safety events and rate per total vehicle revenue miles, and mean distance between major mechanical failures. These targets are due to be adopted after the adoption of the 2045 RTP.

CDOT collects data for the NHS throughout the State and provides the NFRMPO with data at the Statewide and MPO-level as agreed upon in the 2018 Memorandum of Understanding (MOU). The MOU provides an expectation for CDOT to provide data on a regular schedule to allow the NFRMPO to make informed decisions in the transportation planning process. Based on the

data provided, the NFRMPO can elect to set its own targets or adopt the Statewide targets.

The NFRMPO adopted the targets on the following schedules:

- PM1 targets are adopted annually and submitted to CDOT. The 2015-2019 Highway Safety Targets were adopted by the NFRMPO Planning Council on February 7, 2019.
- PM2 and PM3 targets are adopted prior to the adoption of the RTP and will be submitted to CDOT. PM2 and PM3 targets were adopted by the NFRMPO Planning Council on September 6, 2018.
- TAM targets are adopted annually by the transit agencies and submitted to the NFRMPO. The NFRMPO Planning Council adopted the TAM targets for the region on November 1, 2018.
- Transit Safety targets must be set by transit agencies by July 20, 2020. The NFRMPO will adopt transit safety targets by July 20, 2021.

For more information about performance measures, schedules, and expectations, visit the [FHWA TPM website](#).

B. Goals, Objectives, Performance Measures, and Targets (GOPMT)

Starting with the 2040 RTP, the NFRMPO has adopted GOPMT to guide investments in the regional transportation system. With the final rulemakings being promulgated between 2016 and 2018, the NFRMPO has updated the region's GOPMT. NFRMPO staff worked with Technical Advisory Committee (TAC) members to update objectives and to draft new regional performance measures. These performance measures and targets are organized into four NFRMPO-specific goals, seven national goals, and 12 objectives.

Much of the GOPMT framework did not change between the 2040 RTP and the 2045 RTP. The NFRMPO, its member communities, and transit agencies continue to believe in the need to invest in infrastructure, reduce delays, improve access to non-Single Occupancy Vehicle (SOV) transportation, and ensure projects are delivered in a timely manner. NFRMPO Goals and Objectives are shown alongside the seven National Goals in **Table 2-21**.

Goals

Goals are the first step to supporting the vision statement. Goals address the key desired outcomes for the region. In the 2040 RTP, the NFRMPO used CDOT's and the federally-established goals as the basis for the regional goals. For the 2045 RTP, the NFRMPO worked with TAC to ensure these goals reflect the region's current expectations.

Objectives

Objectives are needed to support and accomplish the established goals. For the 2040 RTP, objectives had not been released at the national level; rather, NFRMPO staff used CDOT objectives and local data to determine appropriate objectives for each goal. These were taken to TAC for input and updated as needed.

Table 2-21: NFRMPO GOPMT Framework

Value Statement

We seek to provide a multi-modal transportation system that is safe, as well as socially and environmentally sensitive for all users that protects and enhances the region’s quality of life and economic vitality.

	Goal Area 1			Goal Area 2			Goal Area 3			Goal Area 4		
	Economic Development & Quality of Life			Mobility			Multi-Modal			Operations		
MPO GOAL	Foster a transportation system that supports economic development and improves residents’ quality of life			Provide a transportation system that moves people and goods safely, efficiently, and reliably			Provide a multi-modal system that improves accessibility and transportation system continuity			Optimize operations of transportation facilities		
NATIONAL GOALS	Infrastructure Condition			Safety			Infrastructure Condition			Congestion Reduction		
	Freight movement and economic vitality			Congestion Reduction			System Reliability			Freight Movement and Economic Vitality		
	Environmental Sustainability			System Reliability						Reduced Project Delivery Delays		
OBJECTIVES	Conform to air quality requirement	Maintain transportation infrastructure and facilities	Increase investment in infrastructure	Reduce number of severe traffic crashes	Reduce congestion	Improve travel time reliability	Support transportation services for all including the most vulnerable and transit-dependent populations	Increase mode share of non-single occupancy vehicles (SOV) modes	Develop infrastructure that supports alternate modes and connectivity	Optimize the transportation system	Enhance Transit Service in the NFR region	Reduce project delivery time frame

Performance Measures and Targets

Performance measures are a key part of the NFRMPO Call for Projects, [Transportation Improvement Program](#) (TIP), and [RTP](#). The NFRMPO has five categories of performance measures: Highway Safety; Bridge and Pavement Condition; System Performance; Transit Asset Management; and Regional Performance Measures. The first four are set by the USDOT, while the NFRMPO established its own performance measures based on regional priorities. The individual performance measures and trends are explored in **Appendix C: System Performance Report**. **Table 2-22** shows the

federally required roadway performance measures and targets. **Table 2-23** shows the federally required transit-related performance measures and targets. **Table 2-24** shows the regional performance measures and targets. Performance measures will be updated with each future [RTP](#) to ensure compliance with federal regulations and to ensure regional expectations are being met. Annually, Highway Safety targets are adopted by the NFRMPO and TAM targets are adopted by the transit agencies annually.

Table 2-22: Federal Roadway Performance Measures and NFRMPO Targets

Performance Measure	Statewide Target
Highway Safety	
Number of fatalities	644
Fatality rate per 100 million vehicle miles traveled	1.20
Number of serious injuries	2,909
Serious injury rate per 100 million vehicle miles traveled	5.575
Number of non-motorized fatalities and serious injuries	514
Bridge and Pavement Condition	
Percent of pavement on Interstate System in Good condition	47.0%
Percent of pavement on Interstate System in Poor condition	1.0%
Percent of pavement on non-Interstate System in good condition	51.0%
Percent of pavement on non-Interstate System in poor condition	2.0%
Percentage of NHS bridges in good condition	44.0%
Percentage of NHS bridges in poor condition	4.0%
System Reliability	
Percent of person-miles traveled on Interstate that are reliable	81.0%
Percent of person-miles traveled on non-Interstate NHS that are reliable	64.0%
Truck Travel Time Reliability Index	1.5
Total emissions reduction	105.000 kg/day VOC reduction 1,426.000 kg/day CO reduction 105.000 kg/day NOx reduction

Table 2-23: Transit Asset Management Performance Measures and NFRMPO Targets

Agency	Percent Revenue Vehicles Meeting or Exceeding Useful Life Benchmark	Benchmark (years)	Target
Transfort	Bus	15	25%
	Articulated Bus	17	
	Cutaway Bus	12	
	Automobile	10	
	Minivan	10	
	Truck/SUV	10	
GET	Bus	14	5%
	Cutaway (Fixed-Route)	7	10%
	Cutaway (Paratransit)	8	20%
Statewide Tier II	Bus	14	20%
	Cutaway Bus	10	7%-20%
	Automobile	8	50%
	Minivan	8	38%
Agency	Percent Service vehicles Meeting or Exceeding Useful Life Benchmark	Benchmark (years)	Target
Transfort	Automobile	10	25%
	Truck and other rubber-tire vehicles		
GET	Equipment	10	1%
Statewide Tier II	Automobile	8 to 14	28%
	Truck and other rubber-tire vehicles		
Agency	Percent Passenger and Maintenance Facilities Rated Below Condition 3	Target	
Transfort	Passenger Facility	25%	
	Passenger Parking		
	Maintenance		
	Administrative		
GET	Administrative	10%	
Statewide Tier II	Passenger Facility	19%	
	Passenger Parking		
	Maintenance		
	Administrative		

Table 2-24: Regional Performance Measures and Targets

Performance Measure	Regional Target
Population within publicly-operated paratransit and demand response service area within the NFRMPO boundary	≥ 75%
Non-motorized facility miles	↑ 50%
Percent of non-single-occupant vehicle (SOV) commuter trips	≥ 25%
Fixed-route revenue hours per capita within service areas	↑ 10%
Daily VMT per capita	≤ 24
Federally-funded projects within the NFRMPO boundary reported as financially inactive for more than three quarters	0
Travel Time index on RSCs	90% ≤ 1.5
Miles of fiber for connected roadways	250 miles

C. Progress of 2040 RTP GOPMT

The NFRMPO tracks data based on the 2040 RTP GOPMT. **Table 2-25** reports on progress for the 10 targets established in the 2040 RTP. Statuses with a green background have been achieved, while those in red have made progress toward or do not currently achieve the target. The data used is the most readily available but may not perfectly match data available from when the 2040 RTP was prepared. The best equivalent was used for comparison.

Table 2-25: 2040 RTP GOPMT Progress Report

Performance Measure	2040 Target	Status
Air quality conformity tests on plans and programs	Passes conformity	All NFRMPO conformity tests since the <u>2040 RTP</u> have passed conformity.
Number of facility samples with poor surface conditions	Reduce by 1%	The State Highway System saw a reduction from 110 miles to 29 miles of low-rated pavement.
Bridges with a sufficiency rating below 50.0	Less than 5 percent of bridges	6.0 percent of bridges in the NFRMPO region are rated as poor.
Five-year rolling average of serious injury and fatal crashes	No increases in crashes	The five-year rolling average increased from 169.3 to 216.8 in Larimer and Weld counties.
Regionally significant congested corridor with a travel time index of 2.5 times or less than free flow	Maintain at least 80%	99.9 percent of RSCs have a TTI of 2.5 or less.

Population and essential destinations within paratransit and demand response service area within the NFRMPO boundary	At least 85%	The current percentage is 65.1 percent.
Non-motorized facilities per capita	Increase by at least 2 percent	The NFRMPO population growth outpaced growth in non-motorized facilities.
Fixed-route revenue hours per capita within service areas	Increase by 30%	Revenue hours per capita increased by 25.1 percent between 2014 and 2017.
Transit service vehicles within useful life parameters established by FTA	Maintain 75%	20 percent of transit service vehicles were beyond ULB parameters set by FTA in 2017.
VMT growth per capita	Change in VMT should not exceed change in population	VMT grew by 12.9 percent while population grew at 7.7 percent.
Fixed-route ridership per capita within service areas	Increase by 10 percent	Ridership per capita has increased by 58.5 percent in the region since 2014.

D. Call for Projects

The programming stage of performance-based planning is carried out through the NFRMPO-administered Call for Projects in which federal funds are awarded for surface transportation projects. The NFRMPO awards funding from three federal programs: Congestion Mitigation and Air Quality Improvement (CMAQ), Surface Transportation Block Grant (STBG), and Transportation Alternatives (TA). These programs fund a wide variety of transportation projects, including bridges, major roadways, non-motorized transportation, transit, projects which reduce congestion and improve air quality, and environmental mitigation projects.

The FY2020-2023 TIP identifies projects programmed in the North Front Range region for the first four years of the 2045 RTP. The NFRMPO held two Calls for Projects to award funds for the FY2020-2023 TIP. Projects with funding in FY2020 and FY2021 were awarded during the 2016 Call for Projects and projects with funding in FY2022

and FY2023 were awarded during the 2018 Call for Projects.

Performance-based planning is an integral component of the Call for Projects. In 2016, submitted projects were scored and selected using the 2040 GOPMT adopted by the NFRMPO Planning Council on September 4, 2014. In 2018, submitted projects were scored and selected using the 2045 GOPMT adopted by the NFRMPO Planning Council on October 4, 2018. In addition, all CMAQ and STBG projects had to address at least one federally-required performance measure. By incorporating the GOPMT into the project selection process, the NFRMPO ensures selected projects will contribute toward achievement of the region's targets.

In total, \$34.4M federal funds were awarded through the two Calls for Projects, as shown in **Table 2-26**. Projects awarded through the Call for Projects are identified in the FY2020-2023 TIP

and online at <https://nfrmpo.org/tip/call-for-projects/>. Each project awarded funding supports at least one of the four goals included in the 2040 and 2045 GOPMT. **Figure 2-35** identifies the amount of federal funding awarded in support of each of the four goals. Projects

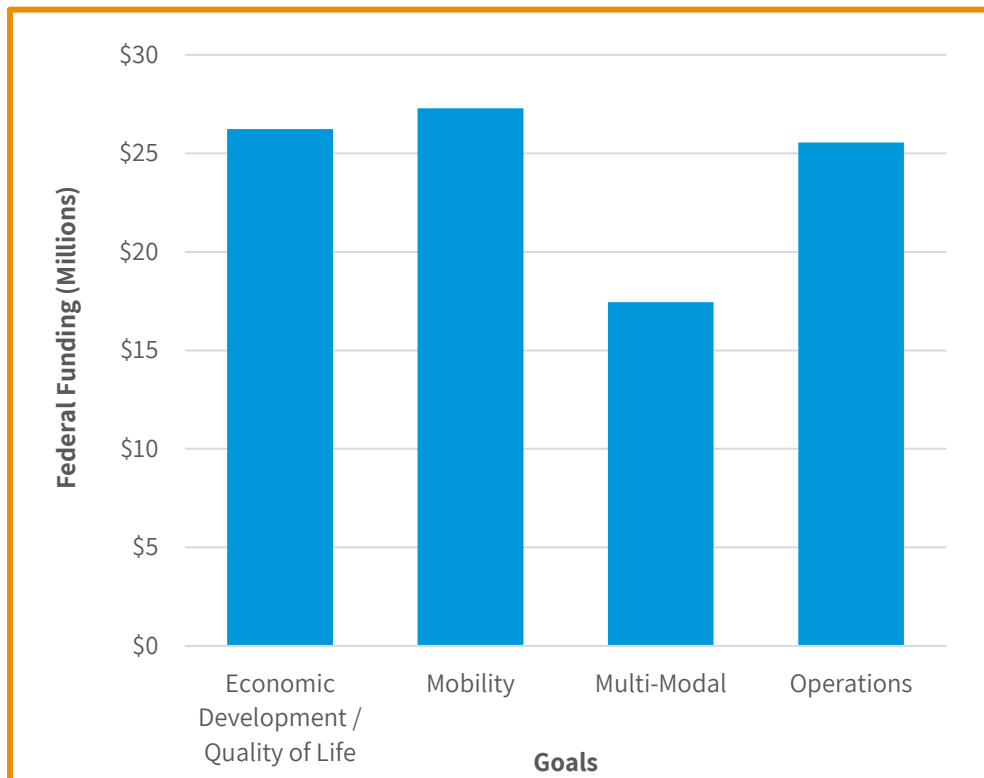
supporting the Mobility goal received the highest amount of funding, with \$27.3M, followed by Economic Development/Quality of Life at \$26.2M, Operations at \$25.6M, and Multi-Modal at \$17.4M.

Table 2-26: 2016 and 2018 Calls for Projects Award Summary

Funding Program	Federal Funding	Number of Projects
Congestion Mitigation & Air Quality Improvement (CMAQ)	\$19,012,654	13
Surface Transportation Block Group (STBG)	\$14,252,805	10
Transportation Alternatives (TA)	\$1,101,656	3
Total	\$34,367,115	25*

**The number of projects by funding program exceeds the total number of projects because one project received both STBG and TA funding.*

Figure 2-35. Project Funding by Goal, 2016 and 2018 Calls for Projects



Note: Most awarded projects contribute to multiple goals. The sum of federal funding contributing to each goal exceeds the total federal award amount of \$34.4M to comprehensively reflect the impacts of the awarded projects.

2

Section 4

Environmental Profile



Protecting and preserving the valued natural resources of Northern Colorado remains a top priority for the NFRMPO. When designing, evaluating, and constructing transportation projects, it is important to consider and mitigate potential impacts on the region's environmental systems and resources, both natural and man-made.

To the extent practicable, adverse environmental impacts should be avoided completely. If negative impacts cannot be avoided, mitigation techniques can help reduce or neutralize the overall environmental harm. Mitigation may include programs, policies, strategies, or actions targeted specifically at reducing the negative environmental impact of a transportation project.

The scale of the 2045 RTP is not designed to evaluate project-specific impacts; project-specific environmental impacts and mitigation strategies are governed through the National Environmental Policy Act (NEPA) and handled by CDOT and project sponsors. For more information, visit: <https://www.epa.gov/nepa>

Still, the following sub-sections may serve as an overview of the environmental resources contained within the North Front Range and general mitigation strategies intended to address potential adverse environmental impacts of transportation projects on agricultural systems, air quality, historic and archaeological sites, threatened and endangered species, and water and wetlands.

A. Agriculture

Agriculture in the North Front Range is a major contributor to the economic vitality of the region. With over 2.5 M acres of agricultural land, Weld County is one of the largest agricultural centers in Colorado. A large percentage of the

rural land under cultivation within the North Front Range region is irrigated by an intricate network of canals. These canals and their lateral ditches are crossed by streets, roads, highways, bike paths, sidewalks, and railroads.

These crossings can pose engineering, project scheduling, and funding/contractual challenges during the development and implementation of transportation projects. These risks are covered in more detail in **Chapter 2, Section 5**.

Additionally, the conversion of agricultural land for urban and transportation uses poses a challenge region-wide.

B. Air Quality

Transportation-related emissions are a major source of air pollutants, including Carbon Monoxide (CO), Ozone, and Particulate Matter (PM). In the past, portions of the region were in violation of the National Ambient Air Quality Standards (NAAQS) for CO. Fort Collins was designated nonattainment for CO in 1979 with their last violation in 1991. Greeley was designated nonattainment in 1977 with their last violation in 1988.

The North Front Range area is currently in violation of two Ozone standards and is designated as a Moderate Nonattainment Area for the 2008 Ozone NAAQS and a Marginal Nonattainment Area for the 2015 Ozone NAAQS.

In 1993, the Governor of Colorado designated the NFRT&AQPC as the lead air quality planning organization charged with managing air quality for the Greeley and Fort Collins CO Maintenance Areas. In July 2013, the Governor of Colorado designated the RAQC as the lead air quality planning agency for the entire Denver Metro/North Front Range Ozone Nonattainment Area.

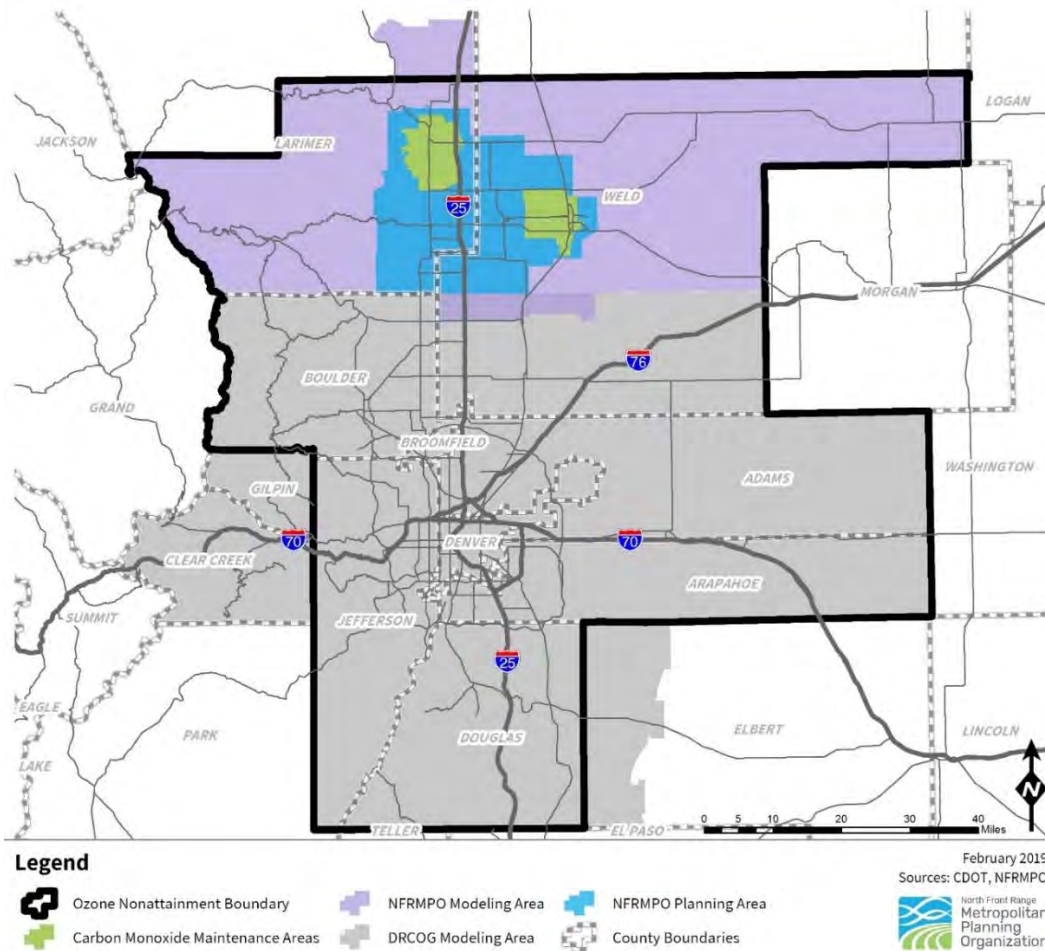
The NFRT&AQPC and the RAQC, in cooperation with the Colorado Department of Public Health and the Environment Air Pollution Control Division (CDPHE-APCD), Colorado Department of Transportation (CDOT), and local governments are responsible for development and implementation of transportation-related air quality planning projects within the NFRMPO Modeling Boundary, **Figure 2-36**.

A summary of the conformity documentation for the Greeley and Fort Collins CO Maintenance Plans and for the Denver-North Front Range

Ozone State Implementation Plan (SIP) is provided in **Appendix A**.

Across the region, strategies are being implemented to reduce emissions from transportation. Strategies include a regional vanpool program, regional transit planning, and coordination with the Bustang interregional bus service, funded by CDOT, along the I-25 Corridor between Fort Collins and Denver. The 2019 Congestion Management Plan (CMP) details the strategies available to help reduce VMT region-wide.

Figure 2-36: 8-Hour Ozone Non-Attainment and Carbon Monoxide Maintenance Areas



Energy

Significant oil and gas production has been underway in the region for most of the past

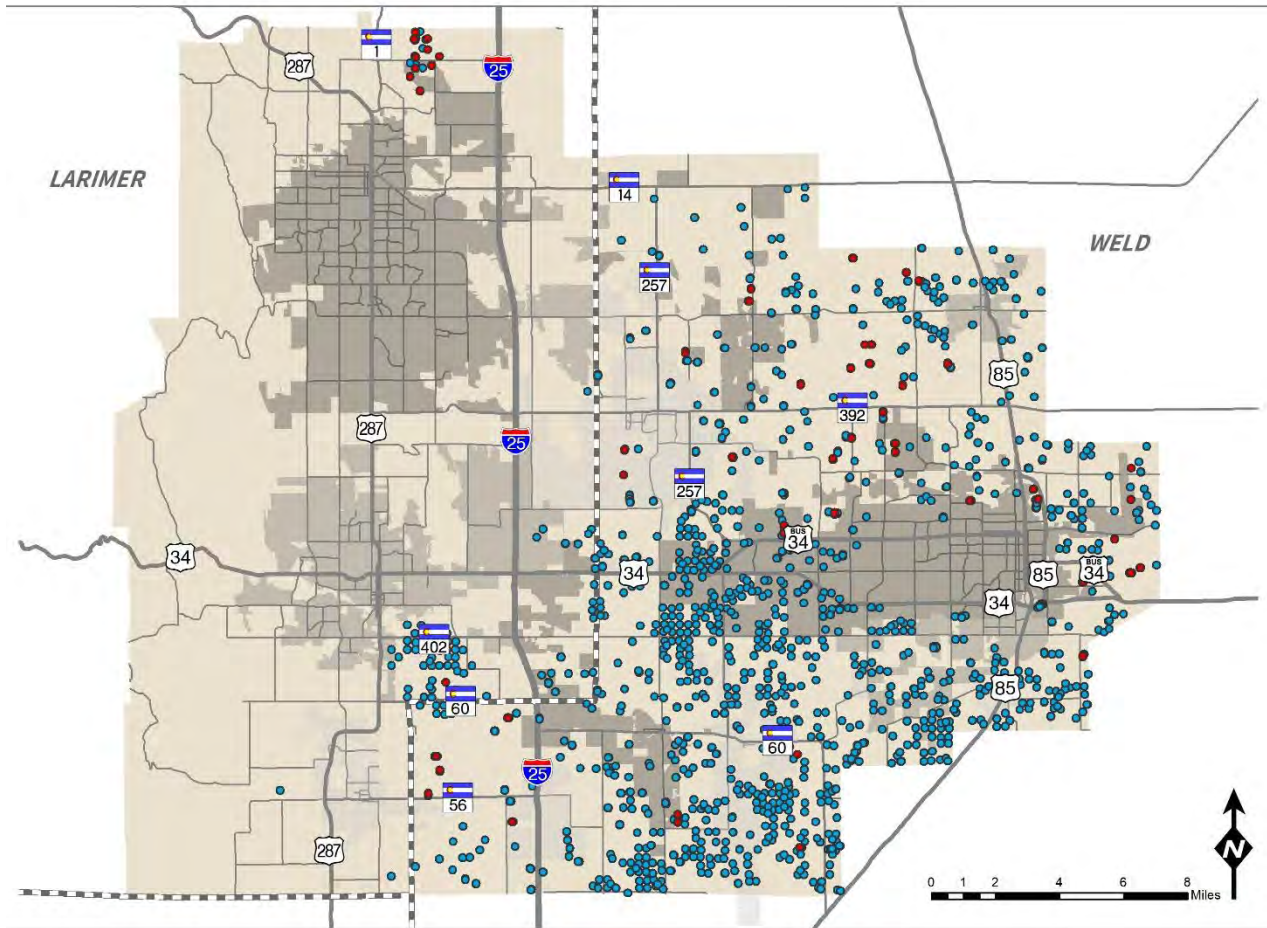
century. In fact, much of the economic growth in Weld County has been a result of the oil and gas

industry. In 2018, Weld County produced 157,710,006 barrels of oil out of 177,497,119 barrels produced Statewide.¹³ By comparison, Larimer County produced 4,024,049 barrels in 2018. **Figure 2-37** shows the 2,338 productive wells and the 376 developing wells within the NFRMPO planning area. The presence of a thriving oil and gas industry has impacted the region's air quality due to the emission of

gaseous pollutants from well production and midstream facilities. Additionally, while oil and gas pipeline capacity is increasing in the region, a large amount of petroleum is still being transported by truck, which results in emissions from heavy-duty vehicles. Only transportation-related emissions are considered as part of the NFRMPO air quality conformity modeling and analysis.

¹³ COGCC Data:
<https://cogcc.state.co.us/data.html#/cogis>

Figure 2-37: Active Oil and Gas Wells



Legend

- Developing Wells
- Producing Wells
- County Boundary
- NFRMPO Boundary

August 2019
Sources: Colorado Oil & Gas Conservation Commission (COGCC), NFRMPO



C. Historic and Archeological Sites

Section 106 of the National Historic Preservation Act (NHPA) outlines the process federal agencies and their designated representatives must follow when planning projects with the potential to affect significant historic and prehistoric properties. The Colorado State Register of Historic Places and the National Register of Historic Properties identify sites, areas, and

communities that reflect the State’s cultural heritage and resources. Areas and sites on the National Register of Historic Properties are automatically added to the Colorado State Register of Historic Places. **Figure 2-38** displays the sites located within the North Front Range planning boundary.

Additional sites may be added as deemed necessary with the help of historians or archaeologists. As each community grows, they must evaluate the potential impacts of transportation improvements on identified historic and archaeological sites.

For construction projects and many maintenance activities, a certified historian and an archaeologist conduct on-the-ground surveys to identify, record, and evaluate cultural resources for eligibility to the National Register of Historic Places. When significant sites are identified within a proposed project area, an interdisciplinary team determines how best to avoid the sites or minimize adverse impacts during construction.

2020 Colorado Statewide Preservation Plan

Colorado is required to update its Statewide Preservation Plan every 10 years. The underlying objective of this Plan is to safeguard places, traditions, cultural connections, and the richness of Colorado's heritage through education.¹⁴ The

2020 Colorado Statewide Preservation Plan lists six overall goals for historic preservation in the State that build off the overarching objective:

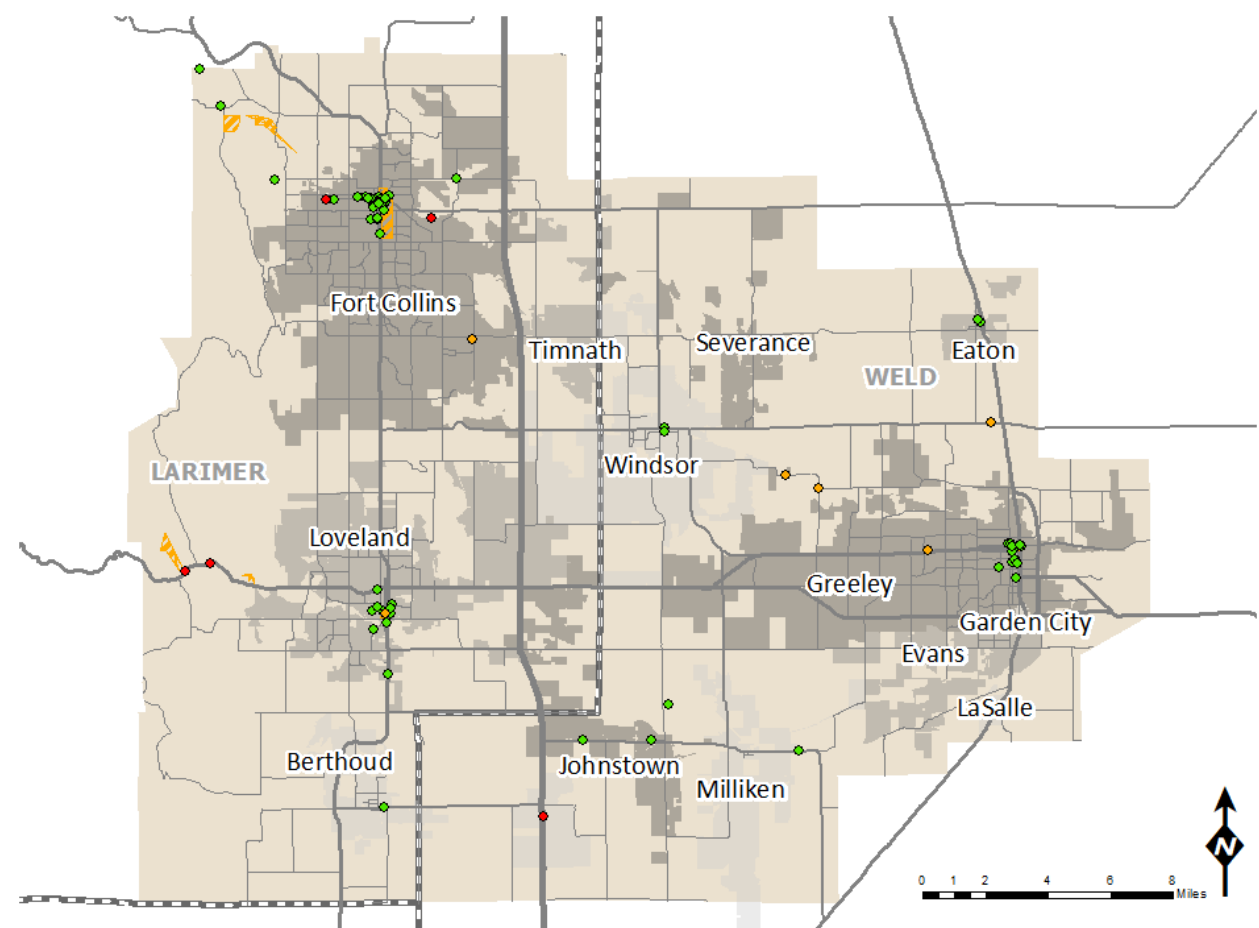
- 1.** Preserving the Places that Matter
- 2.** Strengthening and Connecting the Colorado Preservation Network
- 3.** Shaping the Preservation Message
- 4.** Publicizing the Benefits of Preservation
- 5.** Weaving Preservation Throughout Education
- 6.** Advancing Preservation Practices

Using this preservation plan as a guide, communities can make informed decisions about how transportation planning impacts historic preservation within the North Front Range. The Statewide Preservation Plan can be found online at the Office of Archaeology and Historic Preservation's website (historycolorado.org).

¹⁴

<http://www.historycolorado.org/sites/default/files/files/OAHP/Programs/StatePlan.pdf>, 2014

Figure 2-38: Historic Sites



Legend

- ◆ Historic Structure
- ◆ Historic Districts
- ◆ Historic Buildings
- Historic Districts
- County Boundary
- NFRMPO Boundary

September 2019
 Sources: Matt Stutts, Cultural Resources GIS, National Park Service, NFRMPO



D. Threatened and Endangered Species

The NFRMPO recognizes threatened and endangered bird, mammal, plant, and fish species inhabit Larimer and Weld counties. Animals identified as threatened in the region include the Canada Lynx, the North American Wolverine, the Preble’s Meadow Jumping Mouse, the Mexican Spotted Owl, the Piping Plover, and

the Greenback Cutthroat Trout. Endangered species inhabiting the North Front Range include the Least Tern, Whooping Crane, and the Pallid Sturgeon.¹⁵ Preserving and developing suitable habitat to support key species is central to maintaining the region’s valuable biodiversity. While the region does not contain any “critical

¹⁵<https://ecos.fws.gov/ipac/location/TBLTWAH64NHYFKFGJUFAF5BGUM/resources>

habitat,” defined as habitat essential for the conservation of threatened or endangered species, many threatened and important species live in or migrate through the North Front Range.

Figure 2-39 shows habitat for some of the region’s important species as identified by Colorado Parks and Wildlife (CPW).



Canada Lynx, Source: Flickr.

Additionally, the Colorado Natural Heritage Program (CNHP) identifies Potential Conservation Areas (PCA) Statewide. A PCA is an ecologically sensitive area depended upon by species, suites of species, or a natural community for its continued existence.¹⁶ **Figure 2-40** identifies these areas within the NFRMPO. These areas are the best estimate of the primary area required to support the long-term survival of targeted species or natural communities.

The size and configuration of a PCA is dictated by what species, communities, or systems the CNHP seeks to conserve at a given location. The PCAs do not necessarily preclude human activities, but the target species’ ability to function naturally might be greatly influenced by them, and the areas may require management to limit human use. The areas with “very high” and “high” biodiversity significance are generally found around Horsetooth Reservoir, Devil’s

¹⁶http://www.landscape.org/colorado/priorities/cnhp_pca/

Backbone, hogbacks, and along waterways in the foothills on the western edge of the region. The area along the South Platte River also has moderate biodiversity interest.

The Regionally Significant Corridors (RSCs) identified in **Chapter 2** have minimal contact with the PCAs, with the main contact points crossing over rivers. Proposed bicycle and pedestrian trails could potentially have more of an impact on the PCAs than RSCs, especially along the South Platte River because of its biodiversity interest.



Whooping Crane, Source: Flickr.

Short-Grass Prairie Initiative

In 2001 CDOT began the Short-Grass Prairie Initiative (SGPI), a partnership amongst the Nature Conservancy, United States Fish and Wildlife Service (USFWS), and other federal agencies, to protect up to 50,000 acres of the short-grass prairie in eastern Colorado. SGPI allows CDOT to offset project impacts by contributing to the creation of similar habitat elsewhere in the State that have been created through the SGPI. CPW is responsible for protecting and preserving the State’s fish and wildlife resources through conservation, recreation, and wildlife management activities.¹⁷

¹⁷ CPW, 2015 (<http://cpw.state.co.us/aboutus/>)

Colorado Senate Bill 13-40 requires any agency of the State to obtain wildlife certification from CPW when the agency plans construction in any stream or its bank or tributaries. Certification is

provided by CPW if the construction plans demonstrate appropriate mitigation measures to eliminate or diminish adverse effects to such streams or their banks or tributaries.

Figure 2-39: Wildlife Habitat for Important and Threatened Species

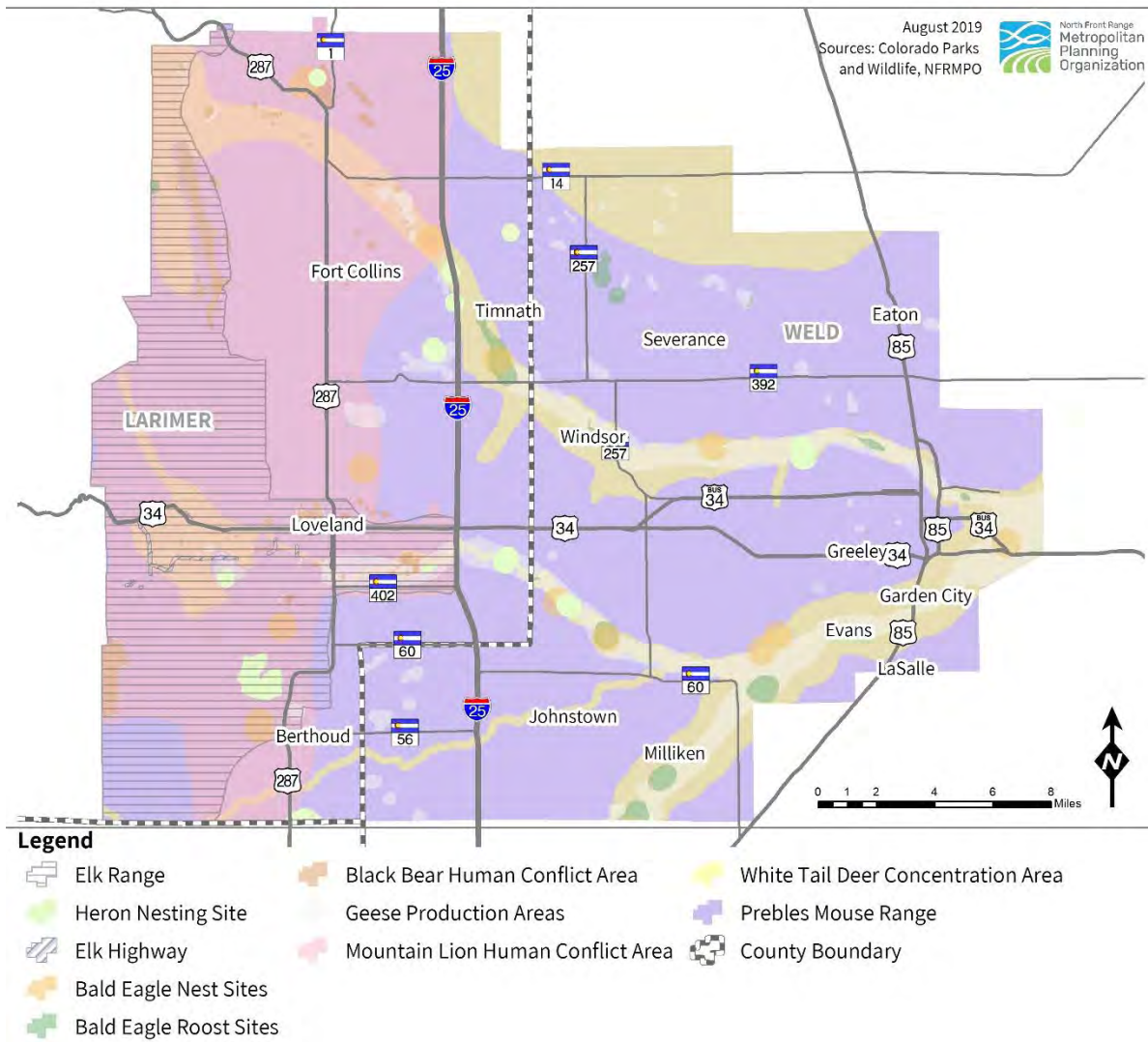
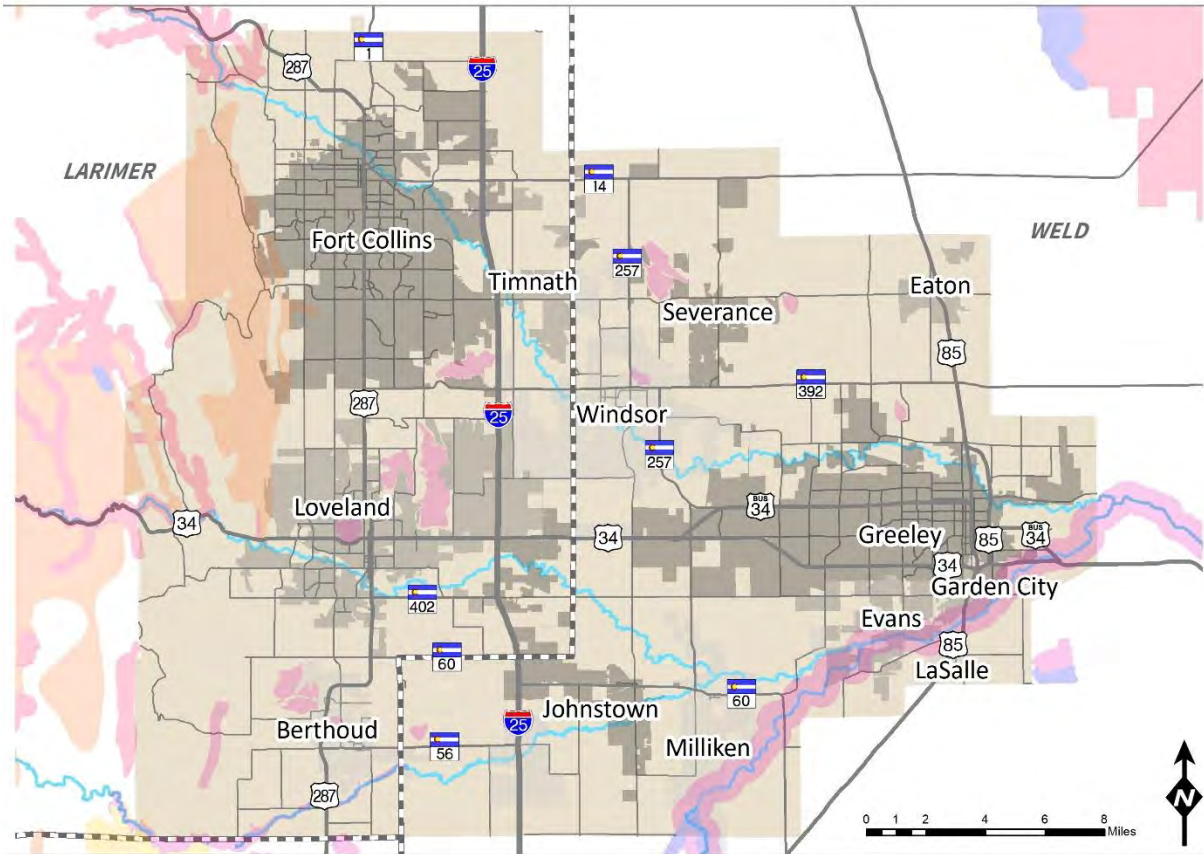


Figure 2-40: Potential Conservation Areas by Biodiversity Significance



Legend

Biodiversity Significance Rank

- B1: Outstanding Biodiversity Significance
- B2: Very High Biodiversity Significance
- B3: High Biodiversity Significance
- B4: Moderate Biodiversity Significance
- B5: General Biodiversity Interest

August 2019
Sources: Colorado Parks and Wildlife, NFRMPO



E. Wetlands, Water Features, and Water Quality

The North Front Range region is home to several major rivers and their tributaries, including the Cache la Poudre, Big and Little Thompson, and South Platte Rivers. Additionally, the region contains many lakes and reservoirs, including the Horsetooth and Windsor reservoirs, and Boyd, Carter, and Loveland Lakes. Two aquifers, Laramie and Laramie-Fox Hills, flow under the southeastern portion of the NFRMPO region. Wetlands are areas inundated or saturated by surface or ground water at a frequency or duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.¹⁸ In the North Front Range region, wetlands are commonly found adjacent to streams or rivers where the ground stays saturated. **Figure 2-41** shows the water features, wetlands, and aquifers within the region.

Waterbodies and wetlands are both protected under the Federal Clean Water Act (CWA). Under this act, the National Pollution Discharge Elimination System (NPDES) was created to develop water discharge standards to prevent pollution from entering the nation's waterways. The EPA oversees the CWA throughout the nation but has granted CDPHE this duty in Colorado. Though the two are covered under the same Federal regulations, mitigation strategies to avoid impacts differ greatly between the two.

Water Mitigation

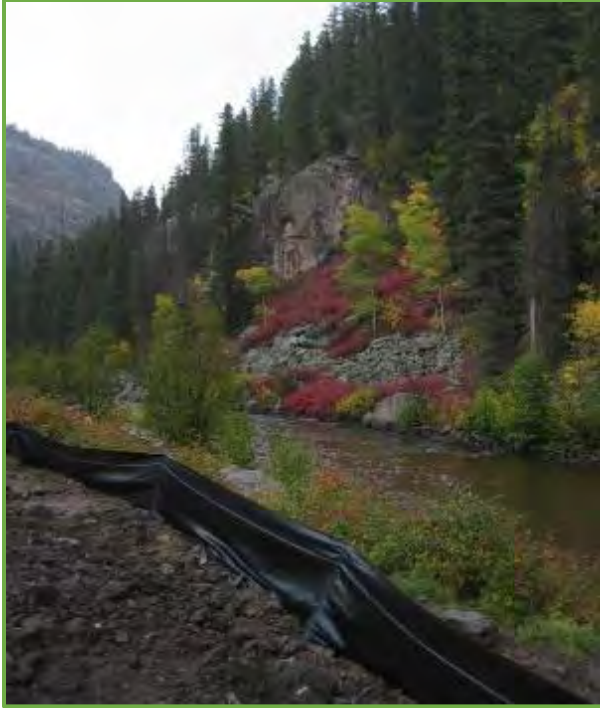
Furthermore, as water rolls off transportation infrastructure, it often carries pollutants left behind by motorists into nearby lakes, rivers, and streams. Even during the construction

phase, silt, dust, and other particulate matter may be carried into nearby waterbodies via runoff or even wind. In accordance with CDOT's Statewide Transportation Plan, mitigation strategies are used for any transportation projects posing a threat to water quality. Most commonly, a project will use one or several Best Management Practices (BMP) to avoid or control runoff.

BMPs may include retention and detention ponds to temporarily or permanently store stormwater; vegetated swales to slow the flow of runoff, allowing pollutants to filter out before entering nearby water bodies; and even newer technologies like permeable pavement. Silt fences are often used in the construction phase to help prevent particulate matter associated with construction from entering water bodies.

Additionally, CDOT works with local municipalities, permit holders, and private developers to construct and maintain watershed-scale water quality facilities. Using \$6.5M in a Permanent Water Quality Mitigation Pool (PWQM), CDOT will design and construct on-site PWQM control measures within CDOT's Municipal Separate Storm Sewer System (MS4) area.

¹⁸ EPA, 2015
(<http://water.epa.gov/lawsregs/guidance/wetlands/definitions.cfm>)



Silt fence used during CDOT construction. Source: CDOT

Wetland Mitigation

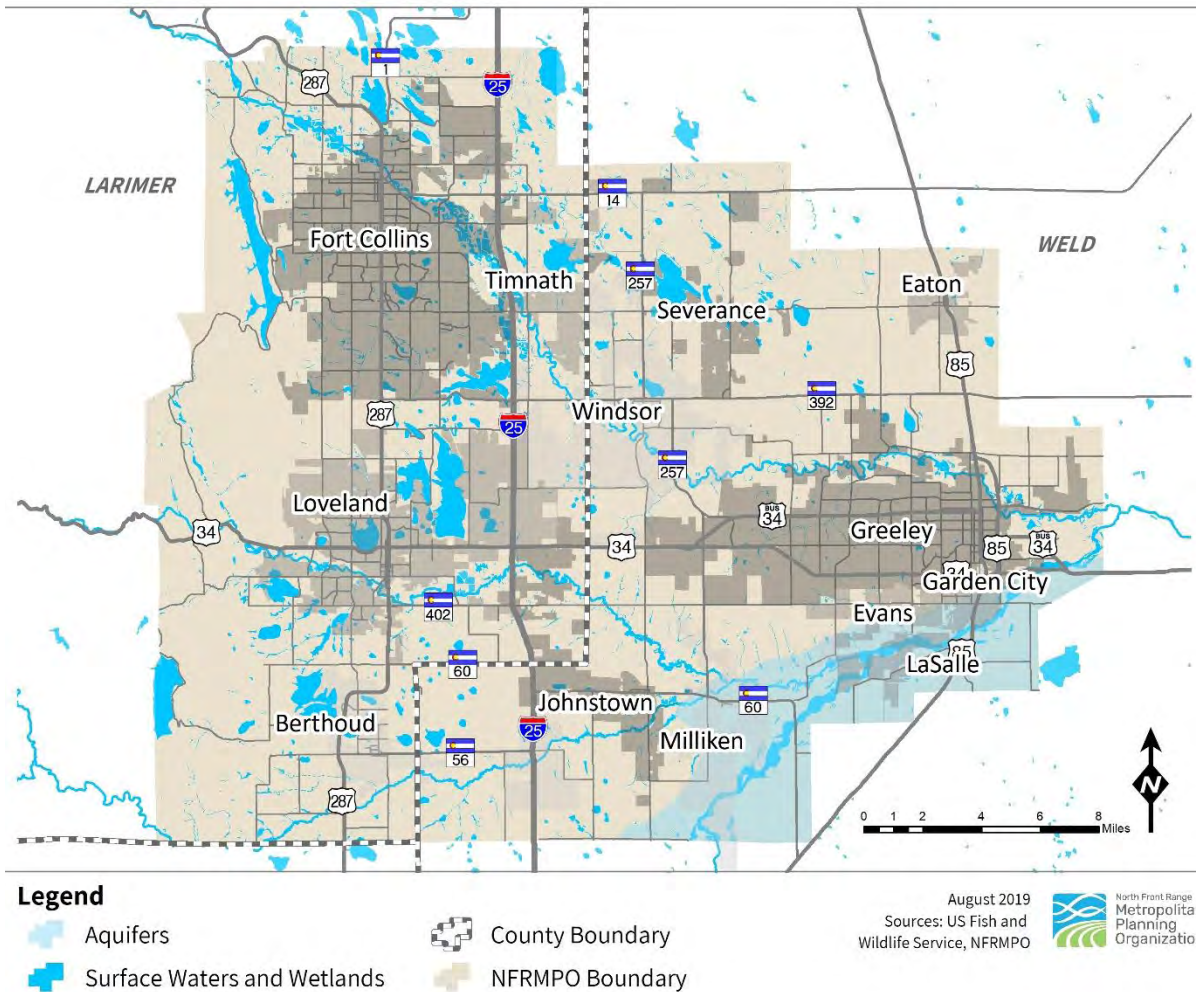
CDOT projects are required by federal law to first avoid and, if not possible, minimize impacts to wetlands. Where impacts are unavoidable, they must be mitigated. Preference must be given to the use of wetland banks where the project

impacts occur within the service area of an approved wetland bank. Use of wetland banks is not appropriate where locally important ecological functions should be replaced on-site. Outside of an approved wetland bank's service area, mitigation should be on-site or within the same watershed where the impacts are occurring.

As Colorado communities continue to grow, mitigating wetland impacts is becoming increasingly difficult and expensive. Anticipating and planning for future projects and operations to avoid and minimize impacts as much as possible is increasingly important, as is proactive identification of methods to mitigate unavoidable impacts.

CDOT is currently involved in the identification and development of proactive mitigation programs for wetlands. Current programs include the development of new wetland banks and cooperative partnerships with state, local, and federal agencies for the development of wetland enhancement and restoration programs.

Figure 2-41: Water Features



F. Planning and Environmental Linkages

Process and Guidance

The Federal Highway Administration (FHWA) defines the Planning and Environmental Linkages (PEL) process as a collaborative and integrated approach to decision-making that considers environmental, community, and economic goals early in the transportation planning process. The PEL process helps to streamline projects and shorten decision-making by building partnerships and identifying priorities prior to funding being available for a full NEPA process. Additionally, PELs allow non-transportation agencies, such as federal, state,

local, and tribal government resource agencies, to be an important part of the decision-making process. The PEL process uses information, analysis, and products developed during the planning stages to inform the environmental review, or National NEPA, process.

PEL studies are also used as tools to identify varying political needs and desires when a corridor spans multiple jurisdictions by combining efforts with multiple community technical experts and elected officials. CDOT has pursued several PEL studies within the region to improve efficiency, reduce environmental

impacts, and lower the costs of implementing transportation projects through the environmental review stages. Additional information on CDOT's PEL guidance can be found on the [CDOT website](#).

PEL Studies in the North Front Range Region

US34 PEL Study

The NFRMPO participated in the US34 PEL study as a member of the Technical Advisory Committee (TAC) and the Executive Committee. The TAC was comprised of representatives from communities along the US34 corridor, regional and local transportation planning staff, CDOT representatives, as well as members of special interest groups. The NFRMPO was used as a source of information and could be a source of funding in future calls for projects cycles as priorities along the corridor arise in member communities. The US34 PEL Study final report was released in January 2019 and can be found on the [CDOT website](#).

US85 PEL Study

The US85 PEL Study, completed in 2017, aimed to develop a vision for the US85 Corridor

between I-76 in Commerce City and the Town of Nunn. The study used considerations from the [US 85 Access Control Plan](#) and incorporated prioritization and implementation strategies for the different segments of the corridor. The US85 PEL process was a collaborative approach between CDOT, local community representatives, MPOs, and the public. The PEL Study also reviewed the environmental, economic, and developmental impacts of individual communities along the corridor to develop alternatives to address needs, funding, and project prioritization.

The NFRMPO participated in the US85 PEL study as a member of the TAC and the Executive Committee. The TAC was comprised of representatives from communities along the corridor, regional and local transportation planning staff, CDOT representatives, as well as members of special interest groups. The NFRMPO was used as a source of information and could be a source of funding in future calls for projects cycles as priorities along the corridor arise in member communities.

The US85 PEL Study can be found on the [CDOT website](#).



2

Section 5

Safety and Resiliency

A. NFRMPO's Role

As required by federal legislation, the NFRMPO has identified its role in regional transportation safety and security. As a planning agency, the NFRMPO acts in an informational capacity regarding safety and security of the transportation system in the region. The NFRMPO works with local agencies to ensure information is up-to-date and to make connections or hold trainings when necessary.

Partnerships

The NFRMPO acts in a supportive role for safety and security in the region. For example, the agency is a participant in the US85 and I-25 Traffic Incident Management (TIM) Standing Program Management Teams; supports local communities with applications for safety and security improvements; and ensures the transportation planning process is followed when amending projects into the Transportation Improvement Program (TIP).

Data Collection and Analysis

Regarding safety, the NFRMPO collects and analyzes data, which is used during the Call for Projects process. Safety data is used to track the

achievement of NFRMPO's Goals, Objectives, Performance Measures and Targets (GOPMT). Funding applicants must show an improvement in safety to receive funding for any transportation project in the region.

Outreach

The NFRMPO advertises major construction and safety issues in its print and social media. VanGo™ provides social media and newsletter updates for major incidents on commuting corridors. The NFRMPO uses its newsletter to show major construction in the region, including duration, project descriptions, and funding sources.



Congestion on Harmony Road due to incident ahead.

B. Safety

One of the core goals of the NFRMPO is to reduce the number and severity of crashes on transportation facilities within the region. Safety is considered at all levels of the system, including roads, transit, bicycle and pedestrian facilities, and at-grade railroad crossings. The NFRMPO considers the reduction in crash rates, improvement of at-grade crossings, and safer bicycle and pedestrian facilities during the Call for Projects phase of the TIP when selecting projects.

Successive federal transportation spending bills have shifted transportation planning focusing on safety for roads, non-motorized trails, transit, and railroads. The Fixing America's Surface Transportation (FAST) Act, the most recent and current authorization bill, continued the shift to additional federal spending for safety projects. The inclusion of additional requirements from the Americans with Disabilities Act (ADA) has also made aspects of the transportation system safer for those with disabilities. Additionally, emergency response organizations are collaborating at the scene of traffic incidents to improve safety and efficiency.

Crash Data

State, NFRMPO, and local government staff track vehicle crashes and identify roadway locations with high crash rates. The State compiles crash data from traffic accident reports completed by law enforcement officers across the State, including both highway and local road crashes. The State crash dataset does not include counter reports, which are required reports completed by drivers involved in a crash when a law enforcement officer is not on scene. Counter reports cannot be used for any crash involving loss of human life, injuries which are evident at the scene, drugs, or alcohol use. The State

geocodes crashes located on State facilities, while the NFRMPO geocodes crashes located on all other public roads. The crash trend analysis for the North Front Range region includes all officer-reported crashes from 2011 through 2017, though for some statistics data is only available through 2015 or 2016. The crash analysis may differ from local government estimates, which typically include counter reports.

Crash Trends

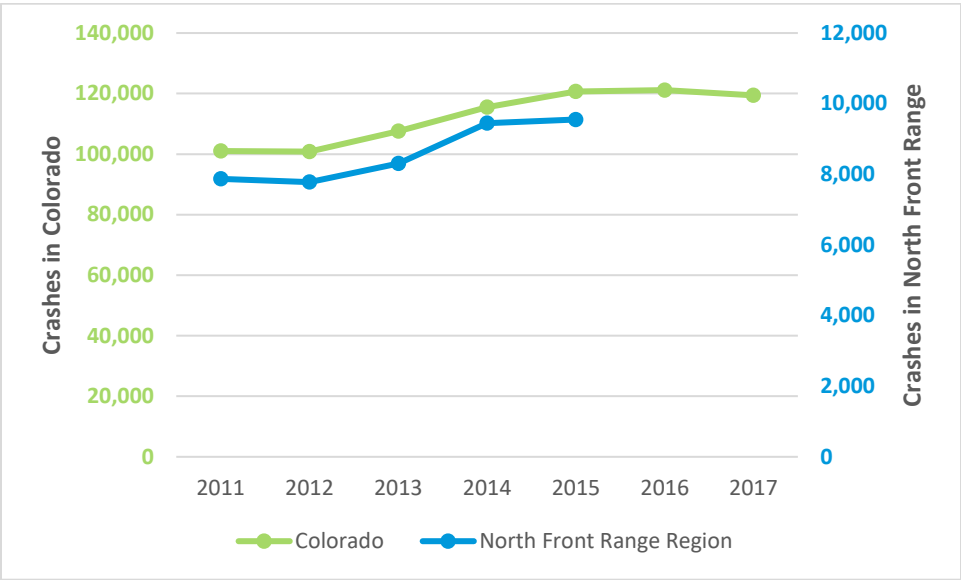
The number of crashes in Colorado increased every year from 2012 through 2016, with a slight decrease in 2017, as shown in **Figure 2-42**. Data for 2011 through 2015 for the North Front Range region shows a similar trend, with the number of crashes increasing every year from 2012 through 2015.

The number of serious injuries, which is defined as incapacitating injuries, across Colorado has fluctuated slightly between 2011 and 2016 as shown in **Figure 2-43**, with an average of 3,198 serious injuries due to traffic crashes per year. Statewide, the number of fatalities due to traffic crashes increased every year from 2011 through 2017, with an average increase of five percent per year.

Within the North Front Range region, the number of serious injuries and fatalities are both on the rise. Serious injuries increased from 179 in 2011 to 227 in 2015, while fatalities increased from 24 in 2011 to 57 in 2017, as shown in **Figure 2-44**.

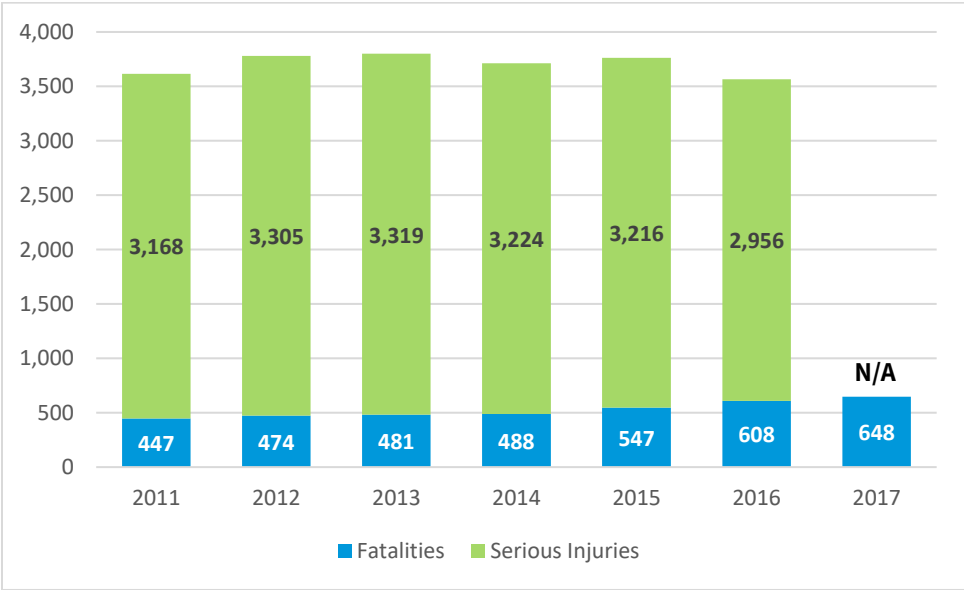
The locations of serious injury and fatal crashes from 2011 through 2015 in the North Front Range are identified in **Figure 2-45**. Serious injury and fatal crashes happen throughout the region, with a higher number of crashes occurring on major facilities such as I-25, US287, and US34.

Figure 2-42: Crashes in Colorado and the North Front Range Region, 2011-2017



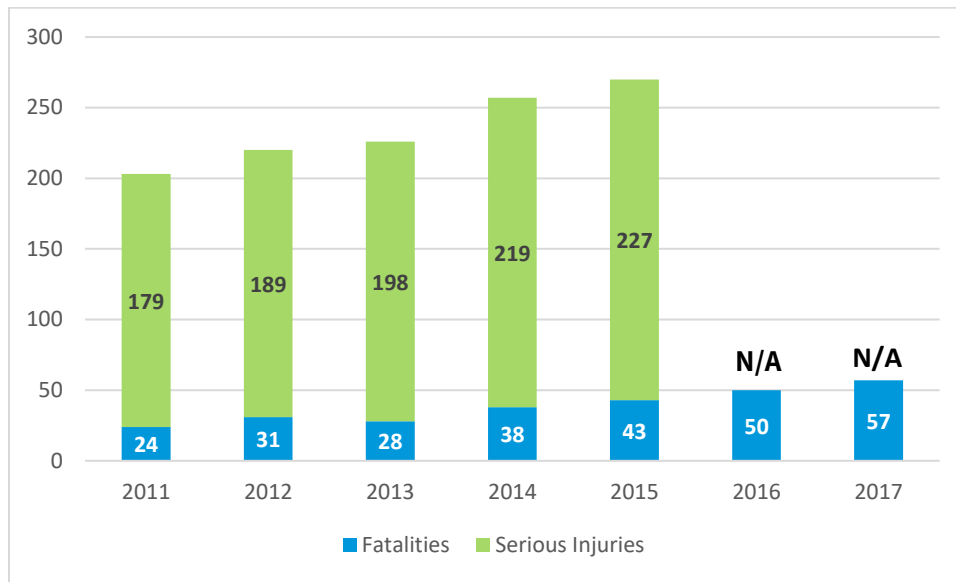
Source: CDOT, NFRMPO

Figure 2-43: Crash Serious Injuries and Fatalities in Colorado, 2011-2017



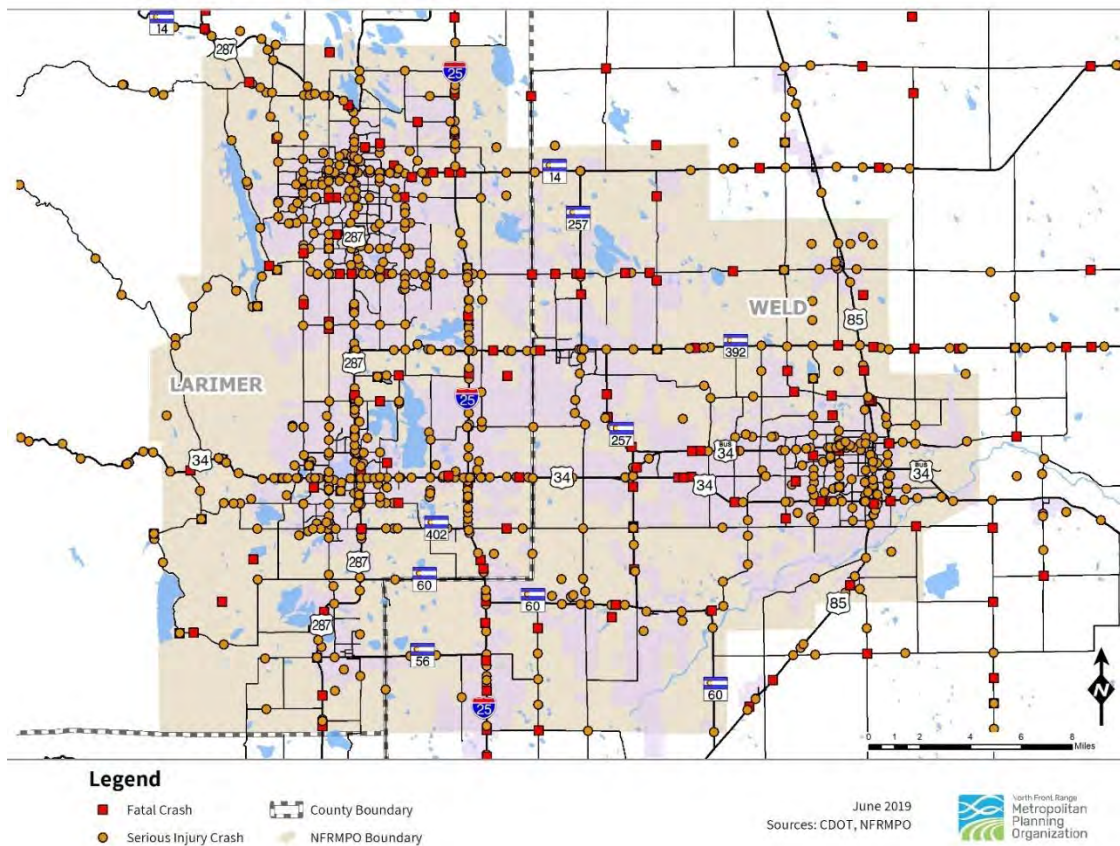
Source: CDOT, NFRMPO

Figure 2-44: Crash Serious Injuries and Fatalities in the North Front Range, 2011-2017



Source: CDOT, NFRMPO

Figure 2-45: Serious Injury and Fatal Crashes, 2011-2015



To evaluate the safety of truck travel on the roadway network, the percentage of overall crashes involving trucks was compared against the percentage of truck traffic on the region’s top 10 truck routes along with the truck crash rate per 100M vehicle miles traveled (VMT).

Table 2-27 displays Annual Average Daily Truck Traffic (AADTT), Annual Average Daily Traffic (AADT), and the percent of truck traffic along the heaviest-traveled corridors in 2015. Crash data

for the 2011-2015 time period displays the total number of crashes, truck crashes, and percent truck crashes to evaluate safety on routes with high truck traffic. As shown in **Table 2-27**, there is a correlation between the percent truck traffic and the percent truck crashes; however, some corridors have much higher truck crash percentages than can be explained by the percent truck traffic. The corridors with the highest truck crash rate per 100M VMT include US85 Business, US85, and SH14.

Table 2-27: Truck Traffic (2015) and Truck Crashes (2011-2015)

Roadway	Centerline Miles	2015			2011 - 2015			
		AADTT (Truck)	AADT (All Traffic)	Percent Truck Traffic	Total Crashes	Truck Crashes	Percent Truck Crashes	Truck Crashes per 100M VMT
I-25	27.1	5,292	63,267	8.4%	3,737	385	10.3%	12
US287	32.5	397	21,714	1.8%	4,513	116	2.6%	9
US34	34.4	646	25,449	2.5%	2,647	123	4.6%	8
US34 Business	15.5	147	15,561	0.9%	1,786	51	2.9%	12
US85	16.3	1,010	15,247	6.6%	844	135	16.0%	30
US85 Business	4.4	148	10,008	1.5%	363	37	10.2%	46
SH14	14.2	753	13,478	5.6%	905	91	10.1%	26
SH56	7.0	113	7,082	1.6%	135	6	4.4%	7
SH60	19.8	162	6,394	2.5%	410	39	9.5%	17
SH257	18.6	332	7,822	4.2%	450	35	7.8%	13
SH392	21.3	290	9,940	2.9%	860	73	8.5%	19

Sources: CDOT and NFRMPO, 2017

Rail Safety

As discussed in **Chapter 2, Section 1**, the region has extensive railroad trackage operated by BNSF Railway, Union Pacific Railroad (UPRR), and Great Western Railway (GWR). Across the region there are 316 at-grade railroad crossings.

Table 2-28 lists the number of crashes at these

at-grade rail crossings. In the 10-year period between 2008 and 2018, 24 incidents between trains and passenger vehicles occurred at regional at-grade railroad crossings, with eight injuries and three fatalities.

Table 2-28: Railroad Crossing Crashes, 2008-2018

Crossing ID	City/Town	Roadway Name	Railroad	Crossing Protection	Number of Crashes	Number of Fatalities	Number of Injuries
804855W	Eaton	5th Street	UP	Cross Bucks	4	2	1
804852B	Eaton	CR 72	UP	Cross Bucks, Stop Signs	3	--	1
804856D	Eaton	CR 76	UP	Stop Signs	2	--	3
245033R	Loveland	Roosevelt Avenue	BNSF	Gates, Standard Flashing Light Signal	2	--	--
244647X	Fort Collins	Summit View	GWR	Gates, Standard Flashing Light Signal, Audible, Cross Bucks	1	--	--
921967R	Loveland	Boise Avenue	GWR	Highway Traffic Signals, Wigwags, Bells	1	--	--
804355Y	LaSalle	CR 48	UP	Cross Bucks, Stop Signs	1	--	--
244632H	Fort Collins	Plus Street	BNSF	Cross Bucks	1	1	--
245106Y	Windsor	CR 23	GWR	Cross Bucks	1	--	1
245032J	Loveland	Private Road	BNSF	Stop Signs	1	--	--
804501C	Fort Collins	CR 32	UP	Gates	1	--	--
804514D	Fort Collins	US 287	UP	Highway Traffic Signals, Wigwags, Bells	1	--	--
804363R	Evans	31 st Street	UP	Gates	1	--	--
804491Y	Milliken	CR 17	UP	Cross Bucks	1	--	1
244622C	Fort Collins	Horsetooth Road	BNSF	Gates, Cantilever Flashing Light Signal	1	--	1
804854P	Eaton	Collins Ave	UP	Gates, Standard Flashing Light Signal, Audible, Cross Bucks	1	--	--
804848L	Eaton	CR 70	UP	Cross Bucks, Stop Signs	1	--	--
Total					24	3	8

Freight Northern Colorado (FNC), the region's first Freight Plan, studies the impacts of truck and rail safety on the region's transportation network. Because rail and truck corridors intersect bicycle and pedestrian, transit, and travel corridors, freight safety impacts the entire regional transportation system.

BNSF Railway, GWR, and UPRR provide multiple programs to ensure track safety. BNSF Railway and UPRR staff inspect their routes multiple times per week for internal defects, track strength, undue stress on wheels, or preventable equipment failures.

Educating the public about safety near railroad tracks is an important undertaking for the railroads. UPRR and BNSF Railway provide safety grants, which can be used by communities to provide education about safety near railroads. Grants can be used for youth education activities, school or community safety days, community safety blitzes, and at-grade crossing educational enforcement activities. In addition to programs for the public, the railroads maintain a firm commitment to safety behind the scenes. The railroads provide safety and technical training for all employees. Employees are trained in the field, on the job, and at centralized training centers.

Operation Lifesaver Inc. (OLI) is a rail safety education non-profit organization established in 1972. The organization offers free rail safety education programs using a network of authorized volunteer speakers and trained speakers. OLI focuses on what it calls the three E's: education, enforcement, and engineering. By partnering with federal, state, and local government agencies, highway safety organizations, and the freight railroads, OLI reaches a wide population as rail transport

increases, becomes more efficient, and uses quieter trains.

Some jurisdictions within the region are working to ensure safety while creating Quiet Zones at some at-grade crossings in their communities. The FRA allows Quiet Zones, which are areas where trains proceed without sounding a warning horn unless it is an emergency, at crossings with gates, flashing lights, constant warning time devices, and power out indicators. In 2016, the Town of Windsor established a Quiet Zone throughout the downtown area after installing safety equipment at 13 at-grade crossings with federal TIGER grant funds. The City of Fort Collins is currently pursuing an exemption from the Quiet Zone rules for the downtown area due to intersection space constraints. The City of Greeley is in the process of creating Quiet Zones at 12 downtown railroad crossings.

Transit Safety

In 2017, the Federal Transit Administration (FTA) released the National Public Transportation Safety Plan required under MAP-21 and the FAST Act. The goal of the Plan is to improve the safety of all public transportation systems that receive Federal transit funds. The National Public Transportation Safety Plan identifies safety performance criteria for all modes of public transportation, defines "state of good repair" (SOGR), identifies minimum safety performance standards for public transportation vehicles and minimum safety standards to ensure the safe operation of the system, and a safety certification training program.

The National Public Transportation Safety Plan identifies the following transit safety performance measures:

- **Fatalities** – total number of reportable fatalities and rate per total vehicle revenue miles by mode
- **Injuries** – total number of reportable injuries and rate per total vehicle revenue miles by mode
- **Safety events** – total number of reportable events and rate per total vehicle revenue miles by mode
- **System reliability** – mean distance between major mechanical failures by mode

In May 2018, the FTA issued the Public Transportation Safety Program final rule, formally adopting the Safety Management Systems (SMS) approach to safety. As part of the final rule, the FTA can enforce compliance with Federal transit safety law. Consequences for noncompliance include mandating how funds can be spent, withholding funds, and imposing restrictions on a transit agency’s operations.

Each local transit agency must create their own Public Transportation Agency Safety Plan within one year of the effective date of a final rule issued by the FTA. These plans must include methods for identifying and evaluating safety risks throughout all elements of the system; strategies to minimize the exposure of the public, personnel, and property to hazards and unsafe conditions; a process and timeline for conducting an annual review and update of the Plan; performance targets based on the safety performance criteria and SOGR, assignment of an adequately trained safety officer reporting to the general manager; and a comprehensive staff training program for the operations personnel and personnel directly responsible for safety.

The Colorado Association of Transit Agencies (CASTA) partners with CDOT in use of the State’s apportioned Rural Transit Assistance Program (RTAP) program. These funds are used for safety

and training courses at the spring and fall CASTA conferences. In addition, CASTA is piloting a Professional Transit Driver Certification (PTDC) program, which will focus on defensive driving, Passenger Assistance Security and Safety (PASS), First Aid/CPR, safety, emergency and evacuation procedures, and workplace violence among other topics.

Statewide Initiatives

The NFRMPO works alongside and follows initiatives undertaken at the State level. There are two key components to the State’s approach to safety, including the Whole System Whole Safety initiative and the Towards Zero Deaths (TZD) goal.

CDOT’s Whole System Whole Safety initiative heightens safety awareness by taking a systematic statewide approach to safety by combining the benefits of CDOT’s programs that address driving behaviors, the built environment and operations. The goal is to improve the safety of Colorado’s transportation network by reducing the rate and severity of crashes and improving safety conditions for those traveling by all modes.

CDOT’s Strategic Highway Safety Plan (SHSP), approved in 2015, establishes the state’s TZD goal and identifies the important role of engineering, education, enforcement, and emergency medical services to accomplish it. The Plan notes in the 10 years between 2002 and 2012, traffic-related fatalities in Colorado dropped 36 percent and serious injuries declined

35 percent.¹⁹ To continue this decrease, the SHSP brought together a range of stakeholders to achieve TZD in eight emphasis areas: aging road users; bicyclists and pedestrians; impaired driving; infrastructure – rural and urban; motorcyclists; occupant protection; young drivers; and data.

To provide an up-to-date analysis of safety, every year CDOT publishes the Colorado Integrated Safety Plan (ISP). The ISP identifies the State’s goals, objectives, and strategies for improving traffic safety. The Plan presents different funding sources, the amounts allocated to each CDOT region, and potential projects/project types that could be funded. Every year CDOT studies the crash data, including number and severity, and further refines existing strategies to reduce and mitigate future crashes.

One major source of state funding for safety improvements is the Funding Advancements for Surface Transportation and Economic Recovery (FASTER) Road Safety Fund, which was approved by voters in 2009. This source of funding has been used throughout the region to enhance the safety of the regional transportation system. Safety projects include pavement resurfacing and culvert repairs, variable messaging signs, and bicycle-pedestrian facilities.

Within the region, the State is leading efforts on the North I-25 corridor and the US85 corridor to improve safety via TIM. The purpose of TIM is to detect and remove traffic incidents and restore traffic capacity as soon as possible through a planned and

coordinated effort. TIM activities are typically categorized into five overlapping functional areas:

- 1. Detection and Verification:** the determination that an incident of some type has occurred, and the determination of the precise location and nature of the incident.
- 2. Traveler Information:** The communication of incident related information to motorists who are at the scene of the incident, approaching the scene of the incident, or not yet departed from work, home, or other location.
- 3. Response:** The activation of a “planned” strategy for the safe and rapid deployment of the most appropriate personnel and resources to the incident scene.
- 4. Scene Management and Traffic Control:** the coordination and management of resources and activities at or near the incident scene, including personnel, equipment, and communication links and the process of managing vehicular traffic around the scene of the incident.
- 5. Quick Clearance and Recovery²⁰:** the safe and timely removal of a vehicle, wreckage, debris, or spilled material from the roadway and the restoration of the roadway to its full capacity.

The I-25 TIM effort led by CDOT covers I-25 from SH7 to the Wyoming State Line. The I-25 Traffic Incident Management Plan (TIMP), developed in 2012, guides the TIM effort and was developed with stakeholder participation from nine fire districts, 12 law enforcement agencies, 12 cities

¹⁹ Colorado Strategic Highway Safety Plan, CDOT, October 2014. <https://www.codot.gov/safety/safety-data-sources-information/safety-plans/colorado-strategic-highway-safety-plan> Accessed June 10, 2019.

²⁰ Best Practices in Traffic Incident Management. U.S. Department of Transportation. Federal Highway Administration. Emergency Transportation Operations. September 2010. <https://ops.fhwa.dot.gov/publications/fhwahop10050x/index.htm> Accessed 6/10/19.

and towns, three counties, CDOT, and WYDOT. The Plan emphasizes the need to create relationships between agencies and conversations between responders so there is a consistent and coordinated effort at the scene of an incident. To facilitate a continuing dialogue about best practices, CDOT holds regular Standing Program Management Team (SPMT) meetings and TIM trainings to enhance communication and improve TIM implementation on I-25.

The US85 TIM effort, which began in 2018, covers US85 from SH7 to the Wyoming State Line. CDOT is finalizing the Plan in 2019 with collaboration from law enforcement, fire districts, emergency management, public works, railroads, and other local agencies.

Moving Forward

Federal transportation planning guidelines promote safer transportation systems for all users. Colorado transportation planning guidelines promote TZD, a program the NFRMPO supports. As the region moves forward, the NFRMPO and local jurisdictions should work together to study safety issues in depth, promote coordination, and provide education opportunities. Specifically, recommendations to improve safety within the region could include:

- Inventory safety procedures in each jurisdiction to understand how a regional safety program could operate. Continue to study and address the safety needs within EJ areas.
- Study high-risk travel corridors for potential projects to improve safety, such as operational or capacity improvements on I-25.
- Promote coordination between the NFRMPO, jurisdictions, CDOT, FHWA, FTA, and other agencies to ensure increased safety as a consideration for road, transit, and bicycle and pedestrian transportation projects. Projects chosen should implement the 2045 GOPMT identified in **Chapter 2, Section 3.**
- Facilitate coordinated emergency responses through incident management. Ongoing efforts such as the I-25 Traffic Incident Management Plan and US85 Traffic Incident Management Plan bring a wide range of organizations together to promote coordination at incident locations, improving safety and operations.
- Explore educational programs like OLI to ensure the public understands how to stay safe near railroad tracks.

C. Congestion Management Process (CMP)

The safety of the transportation network is closely related to congestion, as congestion is one of the major contributors to crashes within the region while, in turn, crashes are one of the major contributors to congestion. Congestion is

defined as the build-up of vehicles on certain portions of the transportation system resulting in travel speeds that are slower than “free flow” speeds.²¹ To address congestion, the region uses the systematic process identified in the

²¹ Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation. FHWA Office of Operations. 12.4.2013. Accessed 3/29/19.

https://ops.fhwa.dot.gov/congestion_report/executive_summary.htm

Congestion Management Process (CMP). The CMP is updated with the same frequency as the RTP and was most recently updated in 2019. The 2019 CMP establishes a performance-based approach to address congestion within the region and integrates with the entire metropolitan planning process.

One of the major functions of the CMP is to guide the project selection process for the TIP. As federally required, any project proposed for inclusion in the TIP that adds general-purpose lanes must demonstrate demand and operational management strategies are insufficient to satisfy the need for additional capacity unless the project addresses an established bottleneck or is a safety improvement. If a roadway expansion project is deemed necessary, the CMP must identify all regional demand and operational management strategies to maintain the functional integrity and safety of the project into the future.

The 2019 CMP incorporates the congestion-related elements of the 2045 GOPMT, including the eight performance measures identified in **Table 2-29**. Half of the measures directly measure congestion, while the other half address factors that influence congestion and are considered indirect measures of congestion.

The 2019 CMP identifies congested RSCs using the three segment-level direct measures of

congestion, including Travel Time Index (TTI), Travel Time Reliability (TTR), and Truck Travel Time Reliability (TTTR). The congested Regionally Significant Corridors (RSCs) are identified in **Figure 2-46**.

Strategies to manage congestion are identified in the 2019 CMP and are categorized into six Tiers, ranked generally by efficacy of mitigating congestion. The strategies serve as a starting point for identifying potential projects oriented at reducing congestion, where appropriate, within the region's transportation system.

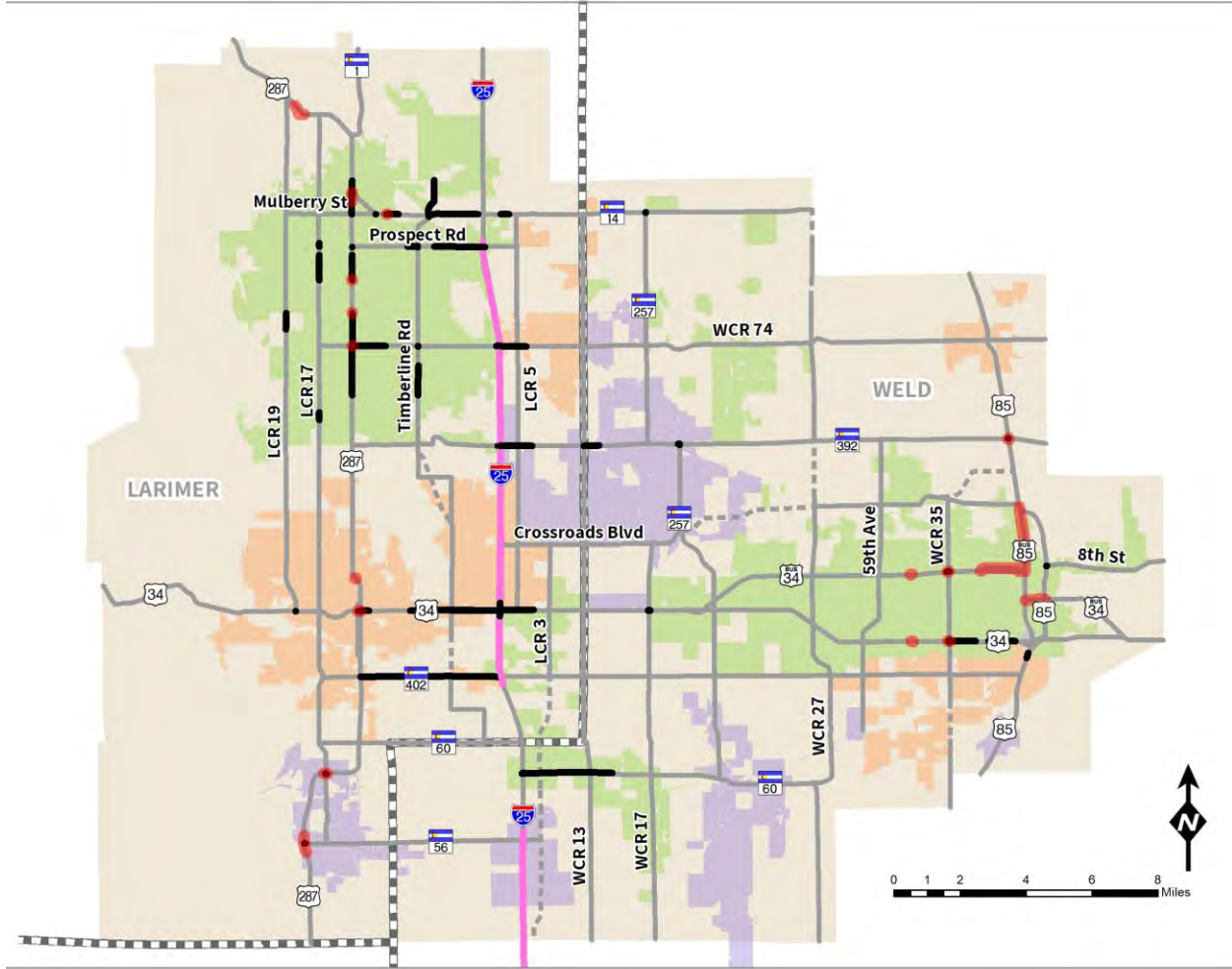
- **Tier 1:** Reducing trip generation and shortening trips
- **Tier 2:** Encouraging shift to alternative modes of transportation
- **Tier 3:** Increasing vehicle occupancy and shifting travel times
- **Tier 4:** Improving roadway operations without expansion, including Intelligent Transportation Systems (ITS)
- **Tier 5:** Traffic Incident Management (TIM)
- **Tier 6:** Roadway capacity

Effectively managing and even mitigating congestion in the North Front Range will require a multi-level, multi-jurisdictional approach. The 2019 CMP identifies recommendations, entities responsible for implementation, and possible funding sources for addressing congestion in the region.

Table 2-29: CMP Performance Measures

CMP Performance Measure	Description	Measure Type
Travel Time Index (TTI)	Ratio of average peak travel time to an off-peak (free-flow) standard. A value of 1.5 indicates that the average peak travel time is 50% longer than off-peak travel times.	Direct, Segment-level
Vehicle Miles Traveled (VMT) per Capita	Miles traveled by vehicles in a specified region over a specified time period. Calculated per person for all trips or for specific destinations including home, work, commercial, etc.	Direct, Regional-level
Travel Time Reliability (TTR)	Measures non-recurring delay for all vehicles by comparing the 80 th percentile travel time to the average (50 th percentile) travel time. A value of 1.5 or higher indicates the segment is not reliable. A corridor may be congested, but reliable if the congestion is consistent.	Direct, Segment-level
Truck Travel Time Reliability (TTTR)	Measures non-recurring delay for trucks by comparing the 95 th percentile travel time to the average (50 th percentile) travel time. A value of 1.5 or higher is considered unreliable.	Direct, Segment-level
Number of Crashes	The number of collisions involving one or more vehicles on public roads.	Indirect, Regional-level
Transit Ridership per Capita	The number of unlinked weekday trips per resident within each provider's service area. Measuring per capita helps account for population growth.	Indirect, Regional-level
Percent of non-Single Occupant Vehicle (SOV) commute trips	Percent of all commute trips completed by any mode other than SOV, including by transit, bicycle, walking, or carpooling.	Indirect, Regional-level
Percent NHS miles covered by fiber	Percent of NHS miles with fiber-optic cables installed and used for transportation management purposes.	Indirect, Regional-level

Figure 2-46: Congested Regionally Significant Corridors



Legend

- RSC - Existing
- RSC - Proposed
- TTI >= 1.5
- TTTR >= 1.5
- TTR >= 1.5
- County Boundary
- NFRMPO Boundary

July 2019
Sources: CDOT, NFRMPO



D. Hazards

The North Front Range region is susceptible to a wide range of natural hazards, including snowy and icy road conditions, wildfires, flooding, tornadoes, high winds, hail, and more. Parts of the region receive an average of 47 inches of snow annually, which can stick to roads and create dangerous driving conditions. Heavy flooding can cause significant damage to transportation infrastructure and strain

vulnerable parts of the system. The 2013 flood alone resulted in \$4B in damage to roads, bridges, and other infrastructure and property across the state, including \$280M on US34, and has taken years to replace or repair. Communities within or near designated floodplains are most susceptible to flood risks. As shown in **Figure 2-47**, the majority of NFRMPO communities are located near 500-year

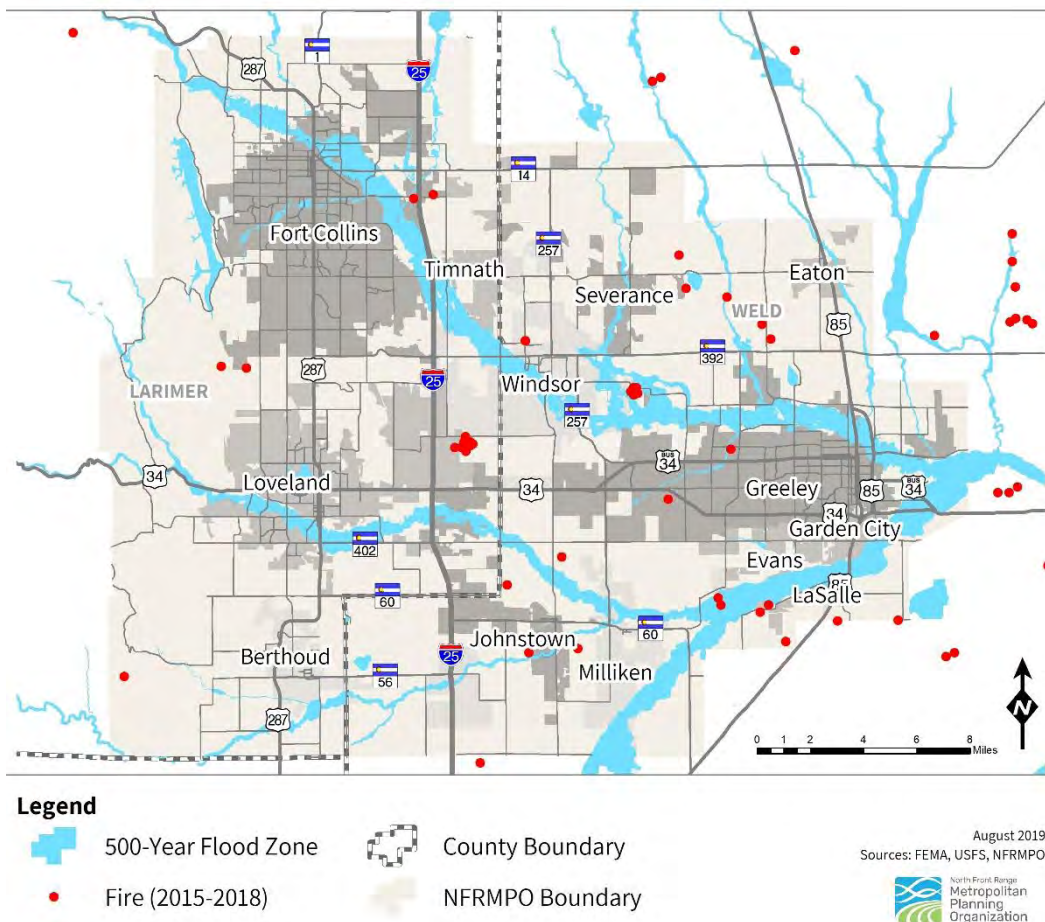
flood plains. These communities received heavy flooding in 2013.

Wildfires within the region may pose a significant risk to people and property, but even those outside of the region can have a significant impact on our air quality. Wildfires across the West during the summer months in 2018 significantly increased the concentration of particulate matter (PM) in the air. Increased concentrations of PM may cause or exacerbate respiratory health problems and may reduce visibility. **Figure 2-47** shows the location of wildfires between 2015 and 2018 in addition to

the 500-year flood zones in Larimer and Weld counties.

Mitigation and response to hazards like snowstorms occurs operationally at the state and local level. Local municipalities with a snow removal process prioritize their street networks, giving highest priorities to emergency routes, such as routes connecting hospitals, fire stations, police stations, and rescue squad units. Second priority is given to streets which carry the highest traffic volumes, followed by schools and bus routes. Residential streets are typically not plowed, but intersections may be sanded.

Figure 2-47: 500-Year Flood Zones and Fire Locations (2015-2018)



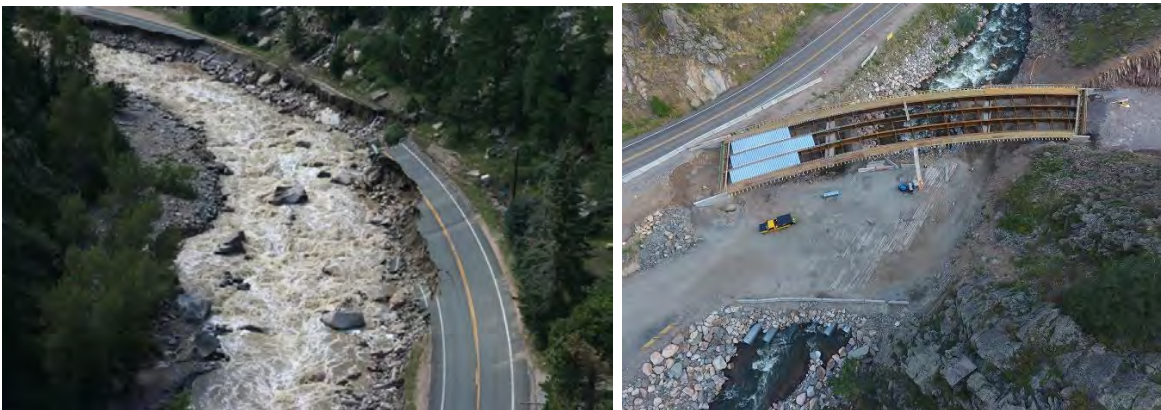
Response

Advanced Traveler Information Systems (ATIS) that communicate information to the public via smartphones, roadside infrastructure, or other means, are crucial to helping drivers make informed decisions when hazards are imminent. Larimer and Weld counties each have an Office of Emergency Management (OEM) tasked with planning for and responding to hazards and other emergencies, as well as helping communities recover from and mitigate hazards. Several other NFRMPO communities have similar offices, departments, or designated professionals.

TIM planning efforts between CDOT and local planning and law enforcement partners along the I-25 and US85 corridors have identified both local and regional detours for closures due to various factors and have strengthened partnerships for safer and more coordinated emergency response.

Recovery

Recovering from hazardous events can be a long, but ultimately rewarding process. Events such as floods often highlight the criticality and vulnerability of certain facilities and services throughout the transportation network. Recovery efforts are a chance to address weaknesses and mitigate impacts from the next event. Following the 2013 floods, several agencies have worked together to recover and improve the resilience of the transportation system. CDOT led the charge in repairing and improving US34 through the Big Thompson Canyon to help it withstand future floods. As part of the North I-25 expansion, CDOT will also raise the North I-25 bridges over the Cache La Poudre River to prevent future closures due to flooding. This multifaceted effort will also allow the Poudre River Trail to connect Timnath and Fort Collins under the interstate.



The images above show the immediate aftermath (left) of the 2013 floods on US34 in Big Thompson, as well as the recovery and mitigation efforts to realign the roadway out of the floodway (right). The reconstruction was named Best of the Best out of 820 construction projects nationwide by Engineering New Record. (Image credit: CDOT)

Mitigation

Communities such as Milliken, situated at the confluence of the Little Thompson and Big Thompson Rivers, partnered with the Colorado Department of Local Affairs (DOLA) and other stakeholders to revise their Land Use Code to ensure future development is resilient to natural hazards such as flooding and fires.

Planning partners are working through their transportation planning processes to identify facilities that are both critical to transportation and vulnerable to natural hazards. Currently, the NFRMPO, local agencies, and industry partners are working together with CDOT to build on the [2019 Truck Parking Assessment](#), in part to identify opportunities to address truck parking capacity and communication in emergency events such as the March 2019 bomb cyclone which hit Colorado's Front Range, as well as

other high wind and snow events that frequent the NFRMPO region and southern Wyoming.

In March 2019, CDOT Region 4 completed the [US34 PEL Corridor Operational Resiliency Analysis](#). The analysis identified short-term and long-term risks to US34's operational functionality and provides resiliency recommendations for various threats posed by impending growth. This type of analysis lays the groundwork for improved collaboration between public and private planning partners working to address both natural and manmade threats.

Hazard mitigation plans are required by the Federal Emergency Management Agency (FEMA) as a condition for receiving certain disaster recovery and mitigation funding. Larimer²² and Weld²³ counties each have multi-jurisdictional hazard mitigation plans prepared with extensive public and private stakeholder input.

E. Security

The NFRMPO identified its role in regional transportation security as informational regarding security of the transportation system in the region. The NFRMPO works with local agencies to ensure information is up-to-date and to make connections or hold trainings when necessary.

USDOT defines a transportation security incident as one resulting in a significant loss of life, environmental damage, transportation system disruption, or economic disruption in a particular area. Examples of environmental

security issues identified in the regional Hazard Mitigation Plans (HMP) include biological hazards; earthquakes; extreme weather; fires; floods, hazmat; and tornadoes. Overall transportation security incidents may include trespassing, vandalism, or terrorism.

This Section addresses how local agencies prepare for the aforementioned incidents and risks depending on the services they provide. Websites or other contact information are provided for up-to-date information.

²² [2016 Larimer County Multi-Jurisdictional Hazard Mitigation Plan](#)

²³ [2016 Weld County Multi-Jurisdictional Hazard Mitigation Plan](#)

Park-n-Rides (PNR)

Colorado Department of Transportation (CDOT)

- CDOT-maintained PNR locations in the NFRMPO region include: Harmony Transfer Center, SH392 PNR, US34 PNR, SH402 PNR, SH60 PNR, SH56 PNR, and Promontory PNR west of Greeley
- Each of the CDOT-maintained PNR locations has surveillance cameras with the exception of the SH56 PNR location
- Law enforcement officers regularly drive through the PNR lots
- Currently, there is limited parking in many of the lots along I-25

Website: <https://www.codot.gov/travel/parknride>

Transit Agencies

Berthoud Area Transportation System (BATS)

- Transit Safety and Security Plan (2003)
 - Driver Selection, Driver Training, Vehicle Maintenance, Drug and Alcohol Education Programs, Safety Data
- System Safety and Emergency Preparedness Plan (SSEPP)
 - Training policy, security and emergency protocol, contacts, and other preparedness guidelines. It is modeled after the CDOT prototype.
- Drivers for BATS have a complete background check performed, they must

pass a drug and alcohol screening and have the two previous years drug and alcohol records checked. Motor vehicle records are checked. Training on policies and procedures lasts approximately two weeks. Each driver has a cell phone for emergency purposes.

- Vehicles have first aid kits and a fire extinguisher
- Vehicles do not have cameras installed

Contact phone: (970) 344-5816

Website: <https://www.berthoud.org/departments/berthoud-area-transportation-system-bats>

Bustang (CDOT)

- Operated by Ace Express Coaches under contract to CDOT
- Driver training involves a multi-week training program that covers the Occupational Safety and Health Administration (OSHA) guidelines; Federal Motor Carrier Safety Administration Regulations (FMCSA); Customer Service; Hours of Service; Drug and Alcohol Screening; Passenger Safety; Vehicle Inspection; Fundamentals of Defensive Driving
- Drivers required to take annual qualification and recertification tests to maintain driving skills
- Vehicle safety includes required routine maintenance on all buses
- Safety inspections are performed whenever a vehicle is being maintained
 - Drivers inspect vehicles before departing Ace Express Coaches Line facilities
- Each bus has eight onboard cameras that record a week of video and can be monitored in real time using wireless internet (Wi-Fi) access

Contact phone: 800-900-3011

Website: <https://ridebustang.com/>

City of Loveland Transit (COLT)

- Emergency Operations and Security Plan (2007)
- Safety and security protocol based on Loveland Office of Emergency Management input and feedback
- All buses have a six-camera security system on-board
- The North Transfer Point is monitored by the Loveland Police Department
- Drivers prescreened before employment to verify they carry a Class B CDL or higher with proper endorsements, pass a background check, pass a pre-employment drug screen, and must have a clean driving record
- Drivers required to complete a defensive driving course; be certified in both CPR/AED and First Aid; attend all safety-related meetings and trainings required by the City of Loveland; submit to random testing for both drugs and alcohol; and have their driving records monitored

Contact Phone: (970) 962-2700

Website: <http://cityofloveland.org/transit>

Greeley Evans Transit (GET)

- Safety and Security Plan (2015), technical aspects updated annually with major planned update in 2019
- GET 5-10 Year Strategic Plan (2016)
- New driver training
 - Full tour of the facilities; and an explanation of procedures, the various transit shifts, chain of command, the pre-post trip log book, which is kept for a year, work related timekeeping, dress code; bulletin boards; the transit time book; safety board, a variety of informational training videos, sensitivity training handouts, drug/alcohol training, and transit communication codes; and the Standard Operating Procedures
 - Skills course to test driving skills, tablet training using RouteMatch, an automatic vehicle locator (AVL) system, fare collection system, wheelchair securement training, and mechanically assisted and manual wheelchair lift operation
 - Drivers must have final supervisor approval before they begin service
 - Background and driving checks performed in the initial hiring process
- Drivers must have current, personal automobile insurance in good standing in addition to insurance with GET for the transit vehicles
- Each year drivers are required to attend an eight-hour class on defensive driving techniques
- Drivers have a supervisor ride along at least twice a year. If a driver is involved in an incident, a supervisor will ride along on the next workday of operation
- GET Regional Transportation Center (RTC) facility has surveillance cameras, double lock doors, and proximity doors for identification cards for limited after-hours security access
- All GET buses have surveillance cameras on board. There are four to five cameras on each vehicle and the video from each bus is downloaded every night. New fixed-route buses have eight cameras.

Contact Phone: (970) 350-9287

Website: <https://greeleyevanstransit.com>

Transfort

- System Safety Program Plan (SSPP) – 2018
 - Outlines hazard management; contract management; bus rapid transit (BRT) guideway access management; accident/incident notification, investigation, and reporting; maintenance audits and inspections; training and certifications; emergency response procedures; employee safety program; procurement; compressed natural gas fuels (CNG) and safety; security; and an internal safety audit process
- New driver training consists of six to eight weeks of progressive training. Conditions of employment, defensive driving, customer service, emergency and security, and service operating policies are covered.
- Continuing education is a focus of the Transfort training programs
- Conditions of Employment Section lists Equal Employment Opportunity (EEO), Sexual Harassment, and Substance Abuse Rules that must be followed by all employees
- A Citywide ID program is in place for City employees, non-public facility visitors, and contractors
- Transfort-specific transit security officers have been commissioned by the Fort Collins Chief of Police
- All Transfort buses, including MAX and FLEX, have cameras on board
- All MAX bus stations and stops have security cameras and are well lit
- Transfort installed two security gates at the dispatch facility
- Transfort Operations Manual contains sections on the Severe Weather and Emergency Event Plan and the Safe Operator Plan

Contact Phone: (970) 221-6620

Website: <http://ridetransfort.com/>

Volunteer Transportation Providers

Senior Alternatives in Transportation (SAINT)

- Volunteer screening for SAINT includes: a motor vehicle driver background check; a criminal background check; confirmation of their personal automobile insurance; and an in-person interview in the SAINT office
- All vehicles involved in the SAINT program are owned by the volunteer
- No cameras or other special equipment in the vehicles
- No SAINT ‘road supervisor’, but clients have been willing to let SAINT staff know how the drivers are performing

Contact Phone: (970) 223-8604

Website: <http://www.saintvolunteertransportation.org/>

60+ Ride

- Two weeks advance notice is required to ensure the highest rate of ride fulfillment possible
- 60+ Ride also has one minivan, driven by staff, which provides transportation to non-medical appointments in the Greeley-Evans area Monday through Friday
- Drivers are subject to background checks, including from the Colorado Bureau of Investigations and individual counties

Contact Phone: (970) 352-9348

Website: <https://SRSweld.com>

RAFT

- Vehicles used in this program are personal automobiles driven by volunteers
- There are no cameras in the volunteer vehicles or in the van
- The volunteer driver requirements for RAFT include: having a current, valid driver’s license; a clean, safe and dependable vehicle; compliance with speed limit and traffic laws; authorization to obtain a copy of their driving record; a background check; must be 18 years of age or older, and if requested will submit to a drug test.
- Volunteer drivers must maintain the minimum automobile insurance required by Colorado State Law and proof of insurance must be provided to RAFT
- First Aid classes and defensive driving courses are not required, but recommended, reimbursement is offered to volunteers who complete either training.

Contact Phone: (970) 532-0808

Website: <http://berthoudraft.org/>

Vanpool Service

VanGo™ Vanpool Services

- System Security and Emergency Preparedness Plan (SSEPP)
 - Ensures security and emergency preparedness are addressed during all phases of system operation, including the hiring and training of agency personnel; the procurement and maintenance of agency equipment; the development of agency policies, rules, and procedures; and coordination with local public safety and community emergency planning agencies
 - Promotes analysis tools and methodologies to encourage safe system operations through the identification, evaluation, and resolution of threats and vulnerabilities, and the ongoing assessment of agency capabilities and readiness
 - Creates a culture which supports employee safety and security and safe system operations (during normal and emergency conditions) through motivated rules and procedures and the appropriate use and operation of equipment
- Annual safety meeting where vanpoolers have access to CDOT presentations on construction updates and operating in cone zones and presentations on a selected driving related topic (e.g. backing, safe driving distance, managing road rage)
- VanGo™ drivers and riders each have their own required application before they can begin using the service
- Drivers are required to undergo driving record checks and complete an online defensive driving course
- VanGo™ vehicles are based out of three locations: Fort Collins, Loveland, and Greeley Maintenance facilities
 - Each facility provides all the emergency equipment for the vans
 - Items in the vans include a fire extinguisher, emergency blankets, First Aid kit, snow shovel, reflective traffic triangles, and information on accident response
- There are no security cameras in the VanGo™ vans.

Contact Phone: (800) 332-0950

Website: <https://vangovanpools.org/>

Railroad Security

To identify incident locations on the railway system, the following information is needed when contacting the appropriate railroad:

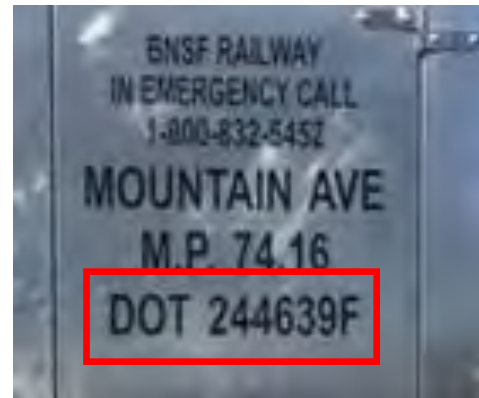
- Street/highway name;
- Nearest city/town;
- Railroad mile post (MP);
- Railroad subdivision; and
- Crossing/DOT Number (if available)

An example is shown in **Figure 2-48**.

BNSF Railway

- Fully certified State law enforcement officers who carry full police and arrest powers who conduct proactive, uniformed patrol to combat trespassing and cargo theft
 - K-9 units and the BNSF Police Canine team, which allows the BNSF Police to expedite train searches, discourage trespassers, and detect explosives
- Member of the Customs-Trade Partnership Against Terrorism (C-TPAT), which is a U.S. Customs Service and trade community endeavor to develop, enhance, and maintain effective security processes throughout the global supply chain
- Hazardous materials receive special identification and handling including waybill preparation, track and train list inventories, in-train placement checks, automatically updated train list entries and emergency response information
- BNSF tracks all sensitive shipments
- BNSF Community Awareness and Emergency Response Code
 - Developed by BNSF Railway through its work with multiple local agencies across the country
- First Responder Training at their Security and Emergency Response Training Center in Pueblo, Colorado
- ON GUARD is a BNSF employee program which encourages employees to report suspicious activities, individuals, or trespassers to BNSF's Resource Operations Call Center (ROCC)
- [Citizens United for Rail Security](#) (CRS) program encourages interested citizens and railway fans to participate in BNSF security training

Figure 2-48: Example DOT Number



Contact phone: (800) 795-2673

Contact website: www.bnsf.com

Union Pacific Railroad (UPRR)

- Police department with more than 200 Special Agents across their system
- Special Agents are certified State law enforcement officers who can arrest both on and off railroad property. Special Agents investigate trespassing, theft, threats of terrorism, and derailments
- K-9 unit with officers who have access to surveillance technology and investigative techniques in addition to relationships with local, State, and federal law enforcement agencies.
- UPRR partners with the U.S. Customs and Border Protection, U.S. Coast Guard, the Federal Bureau of Investigation, Central Intelligence Agency, the Department of Homeland Security, and the Transportation Security Administration on security efforts
- Member of the C-TPAT.
- Provides a surveillance network which can report the location and movement of hazardous cargo within seconds
- In partnership with constant track checks, UPRR can pinpoint and manage the locations of the trains to ensure products are being shipped safely and efficiently.
- Virtual-fencing pilot program around their facilities that triggers an alarm to the Response management Communication Center
- Developed the Train Rider Identification Detection System (TriDS), which can detect unauthorized train riders.

Contact website: www.up.com

Contact phone: (888) 870-8777

Great Western Railway of Colorado (GWR)

- Customer Safety Handbook (2018)
 - Provides recommendations, contact information, and explanations of what to do in an emergency.

Contact website: www.omnitrax.com

Contact phone: (303) 398-4500

Airport Transportation Security

Greeley-Weld County Airport

- Access controlled by computerized access control system
- Gates restrict vehicular access at key locations around the airport
- [Airport Security Plan](#) (ASP) outlines procedures and practices for authorized access to the airport
- Greeley Police Department has law enforcement jurisdiction at the airport
- Security cameras provide view of the terminal building aircraft parking apron

Contact Website: <http://www.gxy.net/>

Contact Phone: (970) 336-3000

Northern Colorado Regional Airport

- Security operations at the Northern Colorado Regional Airport are conducted by the Transportation Security Administration (TSA). The same level of security inspections, regulations, and restrictions used at major airports are in place at the Northern Colorado Regional Airport.
- Technology to assist aircrafts land safely include full ILS, VOR/DME, RNAV, CTAF: 122.7, and AWOS: 135.075
- The Remote Air Traffic Control Tower is the first FAA approved version in the US, expected to be active at the end of May 2019, which will convert the airport to Class D airspace at that time
- Airport property uses security gates which everyone who wishes to maintain access must submit to TSA's requirements for badging which includes an application with background check.

Contact Website: <http://www.fortloveair.com/>

Contact Phone: (970) 962-2850

Emergency Management

- [Larimer County Multi-Jurisdictional Hazard Mitigation Plan](#) (2016)
 - Partnership with the towns of Berthoud, Estes Park, Johnstown, Timnath, Wellington, and Windsor; the cities of Fort Collins and Loveland; and other special districts and organizations
 - Submitted to the State of Colorado, Division of Homeland Security and Emergency Management, and the Federal Emergency Management Agency
 - Updates mitigation actions, especially at the local community level.
- [Weld County Multi-Jurisdictional Hazard Mitigation Plan](#) (2016)
 - Partnership with the towns of Ault, Erie, Firestone, Frederick, Garden City, Gilcrest, Hudson, Keenesburg, Kersey, LaSalle, Mead, Milliken, Pierce, Platteville, Severance, and Windsor; the cities of Brighton, Dacono, Evans, Fort Lupton, and Greeley; as well as other special districts and organizations
 - Submitted to the State of Colorado, Division of Homeland Security and Emergency Management, and FEMA
 - Major goal to guide development away from high hazard areas and to improve hazard mapping to communicate risk
 - Focus on building partnerships and county-wide hazard mitigation strategy
- [READYColorado](#)
 - Funded using a grant from the Department of Homeland Security (DHS) to enhance preparedness and response capabilities
 - Assists in making a personal plan, a one-stop shop for local emergencies, and a list of tools residents can use to prepare for and mitigate the risks from natural disasters and emergencies. More information about the program can be found at www.readycolorado.com.

Vulnerability Assessment

FEMA defines vulnerability as “any weakness that can be exploited by an aggressor”.²⁴ To identify vulnerabilities, FEMA uses a multidisciplinary team including engineers, architects, security specialists, and subject matter experts. The team reviews and coordinates building plans, utilities, emergency plans, and interview schedules. Using this information, FEMA is able to assess potential damages and impacts on local buildings and transportation networks if an event were to occur. The analysis identifies vulnerabilities in the critical functions and critical infrastructure using a Vulnerability Assessment Checklist that rates them on a scale from “very low” (no weaknesses) to “very high” (extremely susceptible).

Cybersecurity

The downside to investments in transportation technology is the potential cybersecurity risks that follow. FHWA has acknowledged the risks and has highlighted certain concerns about connected transportation systems. The region should undertake a concerted effort to improve cybersecurity for its transportation system. Currently, the NFRMPO maintains its own cybersecurity policy applying to internal information; many local communities maintain their own policies as well. The region should make strides in improving cybersecurity issues, especially as hacks, ransoms, and other cybersecurity attacks have created major issues in Colorado.

²⁴ http://www.fema.gov/pdf/plan/prevent/rms/155/e155_unit_iv.pdf



3

**Future
Transportation
System**



3

Section 1

Technology



The rapidly evolving realm of transportation technology is poised to provide great benefits to the region's transportation system. Emerging technologies are helping travelers make better-informed decisions regarding how and when they will travel and the path they will take to get there. For instance, integrated planning and payment applications may facilitate multi-modal trips by providing information about the entire transportation system and allowing travelers to pay for different modes in one convenient location.

New technologies are also placing safety and mobility at the forefront of transportation innovation. As in-vehicle safety systems continue to advance, travelers are better protected. Meanwhile, technologies to provide enhanced mobility for persons with disabilities and the older adult population, such as safety systems for transit users with a disability, have continued to advance as well.

Though technology promises to provide significant enhancements to safety, mobility, and efficiency, its inherent uncertainty presents a significant challenge to long-range planning. Without knowing which technologies will last, which technologies are yet to come, and how these technologies will transform society, it is difficult to confidently develop plans and policies before these technologies hit the market. Still, given the enormous potential to positively impact transportation across the region, the NFRMPO remains dedicated to exploring and supporting technological progress with an eye toward maximizing benefits while minimizing unintended consequences.

A. Connected and Autonomous Vehicles (CAV)

Connected Vehicles (CV) and Autonomous Vehicles (AV) present some of the greatest opportunities and challenges in the realm of transportation planning today. Collectively referred to as CAVs, this emerging arena of technology is poised to transform the region's transportation network and operations and therefore, requires careful consideration.

Connected Vehicles (CV)

Connected Vehicles refers to the systems of technologies enabling the sharing of data between vehicles, known as vehicle-to-vehicle communication (V2V) and the sharing of roadway information with vehicles, known as vehicles-to-infrastructure communication (V2I). In general, the potential of vehicles to share or receive data from any technology system is referred to as vehicle-to-everything communication (V2X).

This ability to share data, or to communicate, means vehicles can receive real-time information about traffic and roadway conditions, resulting in potentially significant increases in safety. The positive benefits of

connected vehicles directly correlate with the number of vehicles on the road with the pervasiveness of V2X technology.

Already, the National Highway Traffic Safety Administration (NHTSA) has proposed rules to require V2V capabilities in new vehicles. And while policy will certainly help cement progress towards safety, the market is already responding to demand on its own; many auto manufacturers have begun including these capabilities in new vehicles.

It is important to recognize, even as policies change and the market evolves, that realizing the full benefit of these new technologies will require a tipping-point percentage of the fleet to

adopt and incorporate these communications technologies.

In addition to the adoption of in-vehicle communication systems, roadway infrastructure will also need to change to allow V2I communications. Fiber-optic connections provide uninterrupted high-speed connection and may help to service the growing demand imposed by emerging communications technologies.

In fact, developing a strong fiber-optic backbone is a high priority at the State level, as outlined in [CDOT's RoadX Program](#). The CDOT RoadX program was developed to address anticipated increases in congestion and travel delay by 2040 through the strategic and integrated implementation of transportation-oriented technologies. Connected vehicles and connected infrastructure is one of the core strategies of the RoadX program.

Autonomous Vehicles (AV)

The Society of Automotive Engineers (SAE) defines five levels of vehicle automation as shown in **Figure 3-1**. Level 1 Automation is present in most of the region's fleet today and includes features like cruise control. Level 2 Automation, with options like parking assist, lane assist, and driver assist, is also already on the market and becoming increasingly popular. Though Level 3 through Level 5 vehicles have been tested and employed to a limited extent, significant market penetration of these vehicles is likely more than a decade away.

Some automobile manufactures anticipate having Level 4 and Level 5 vehicles for sale in

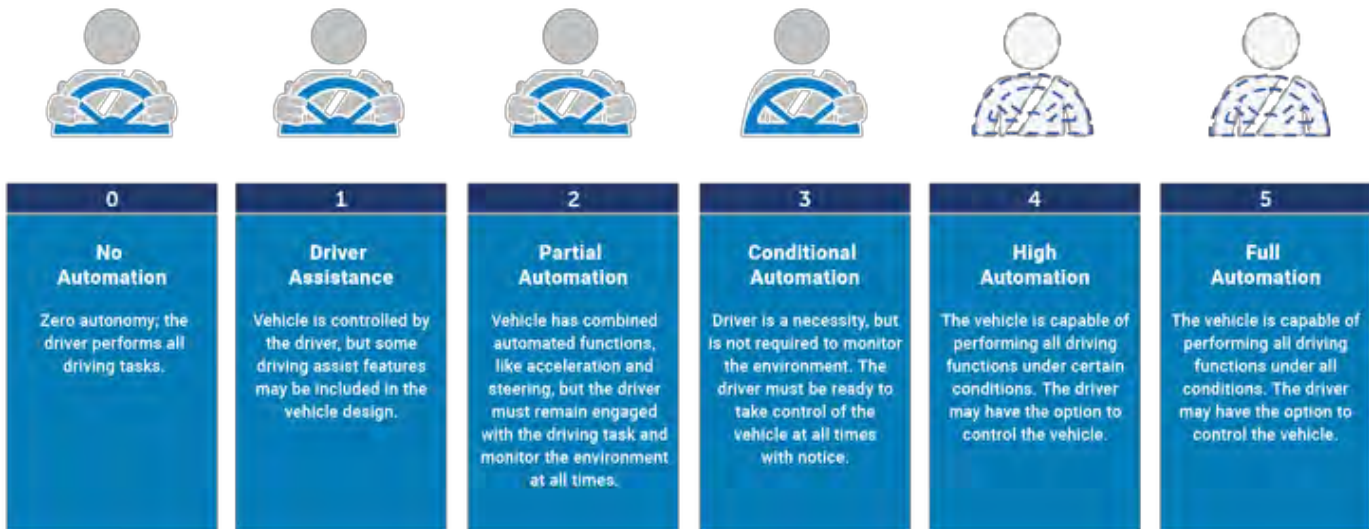
2020; however, potential costs, cyber security concerns, and general distrust of fully automated technology may initially serve as barriers to market penetration. Still, given the large advancement in technology, even over the past decade, the consideration of potential impacts on the transportation network is necessary.

Though Full Automation could dramatically enhance safety, mobility, and efficiency, especially when paired with CV technology, some travel models predict a significant penetration of Full Automation vehicles could actually lead to an increase in vehicle miles traveled (VMT), sprawl, or gridlock within urban cores.

With the ability to do other tasks while the vehicle is in motion, travelers may be willing to take much longer trips, which could lead to an increase in VMT and even promote sprawl as people are more willing to live further from their destinations. Other models predict Full Automation could prompt an increase in driverless ridesharing. While this could lead to a decrease vehicle ownership, without the appropriate policy and infrastructure in place, these automated vehicles may circulate continuously, potentially resulting in gridlock within the urban core.

Ensuring the benefits of CV and AV technology are reaped, while avoiding the associated negative consequences will require continued modeling, vigilant monitoring, and the flexibility and ability to react swiftly to emerging trends.

Figure 3-1: Society of Automotive Engineers (SAE) Automation Levels



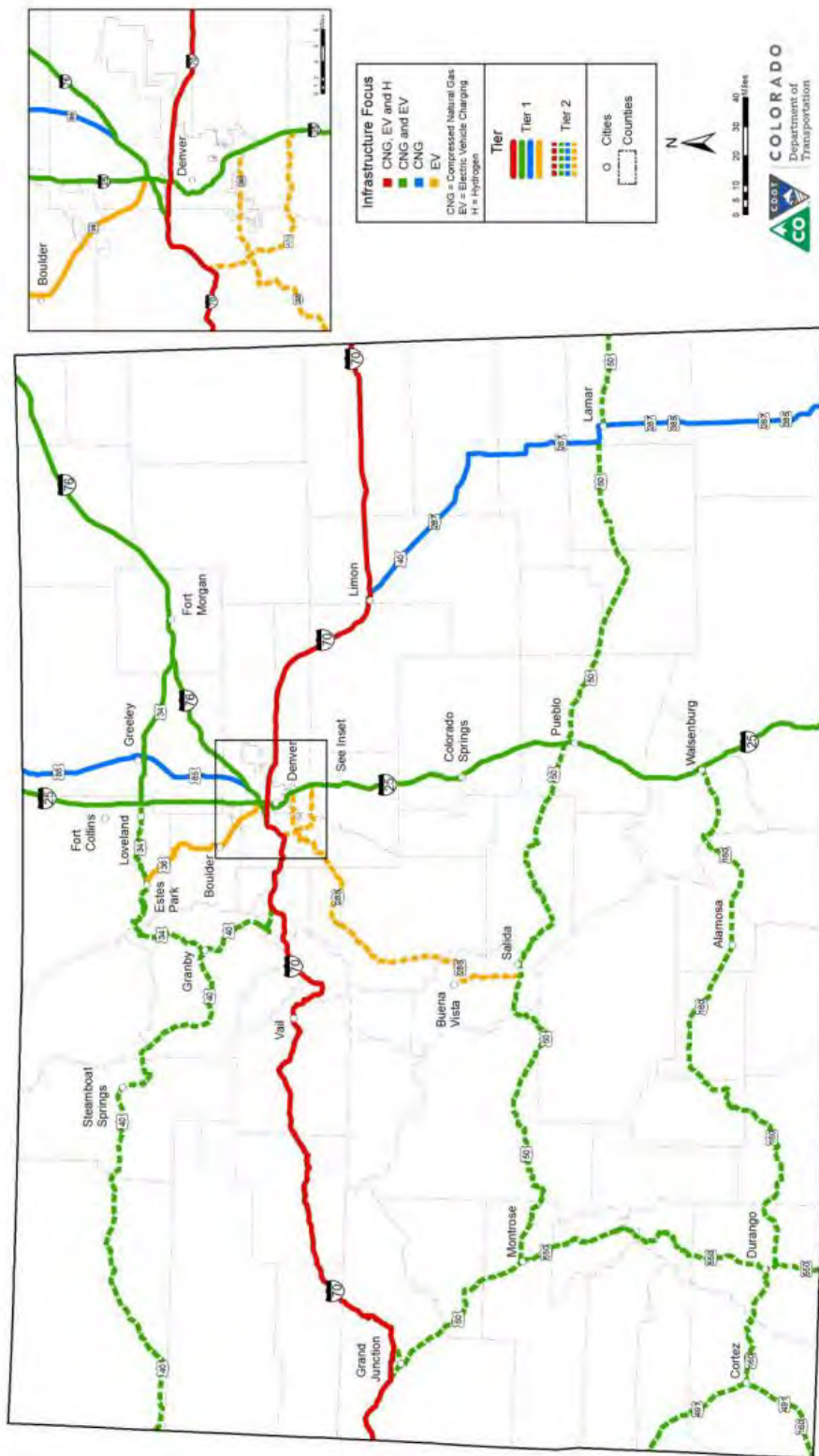
Source: FHWA, 2019

B. FAST Act Alternative Fuels Corridors

In 2016, CDOT collaborated with a working group made up of members from the Statewide Transportation Advisory Committee (STAC) to compile a list of CDOT nominations for FAST Act Designation of Alternative Fuel Corridors in the State of Colorado. The focus of this statewide network was to develop a convenient and sustainable alternative fuels market for compressed natural gas (CNG), electric (EV), hydrogen, and propane fuels that would provide flexible statewide travel as well as connections to adjacent states and the national transportation network.

Specifically, for the NFRMPO region I-25, US34, and US85 are part of the Tier 1 list of corridors in the State. Both I-25 and US34 are identified as CNG and EV focus corridors, while US85 is a CNG focus corridor. **Figure 3-2** shows the Alternative Fuels Corridors for Colorado. The goal of this corridor identification is to provide signage for alternative fuel vehicle owners travelling along the State’s highways to know where stations with their specific fuel needs are located throughout the state in an effort to reduce anxiety for drivers.

Figure 3-2: FAST Act Alternative Fuels Corridors



C. Mobility

The idea of mobility is growing beyond separate transportation silos with disparate information sources. New technology is making people aware of the options that exist beyond just a single-occupancy vehicle (SOV). Helping people understand their options can round out the first mile/last mile issue many transit agencies face, improve quality of life for residents and visitors, and can help transportation providers build partnerships and find efficiencies.

Shared Mobility

Shared mobility is a developing concept where transportation services and resources are shared among users, either concurrently or one after another.²⁵ Shared mobility can include bike- and scooter-sharing; carsharing; ridesharing and ridehailing; public transit; and microtransit. Additional options beyond just the SOV can make trips more efficient, reduce congestion, and provide options for people who cannot afford or do not want to own or maintain a car.

Currently in the NFRMPO region, Uber and Lyft offer on-demand service; Pace Bikeshare is available within Fort Collins; and ZipCar has vehicles located on Colorado State University's campus. Transfort and CDOT are pursuing the idea of mobility hubs, where travelers can transfer between modes at key locations throughout the City and State. The Kendall Parkway Park-n-Ride on I-25 in Loveland will be a first-in-the-State facility connecting local transit, regional transit, a Park-n-Ride, and non-motorized trail access. The Park-n-Ride will have an area for carsharing drop-offs and pick-ups.

Mobility as a Service

Alongside shared mobility, Mobility as a Service (MaaS) is meant to give people information about their available transportation options to make it easier to plan, pay for, and complete trips. MaaS relies on technology like a One-Call/One Click Center or a mobile app to improve the traveler's experience.

The Bustang mobile app allows users to download schedules, purchase tickets, see travel alerts, and track the bus. This type of app allows users to have one location for Bustang information.

The NFRMPO is partnering with local agencies to study the feasibility of a One-Call/One-Click center in Northern Colorado. The goal is to create a central location for information about mobility options in Larimer County and potentially allow users to book rides by calling, going to a website, or using an app. Having these options makes the technology more useful for older adults, rural residents, and individuals who do not own a smartphone.

²⁵ <https://sharedusemobilitycenter.org/what-is-shared-mobility/>

3

Section 2

Vision Plans



A. Regionally Significant Corridor Visions

Corridor visioning captures the current and future transportation characteristics of each Regionally Significant Corridor (RSC) solidifying its short- and long-term needs and priorities.

Each RSC, as defined in **Chapter 2** and shown in **Figure 3-3**, varies in its capacity to accommodate multiple travel modes, given its geographic and social environment and the priorities of the communities served by the corridor. Generally, each corridor facilitates regional travel from north to south or west to east. Many existing corridor segments have names which differ from the corridor name. This difference is defined for each jurisdiction the corridor passes through. The Visions provide a general description of each corridor's current and future travel modes, communities served, needs, and references to the documents guiding the RSC's vision.

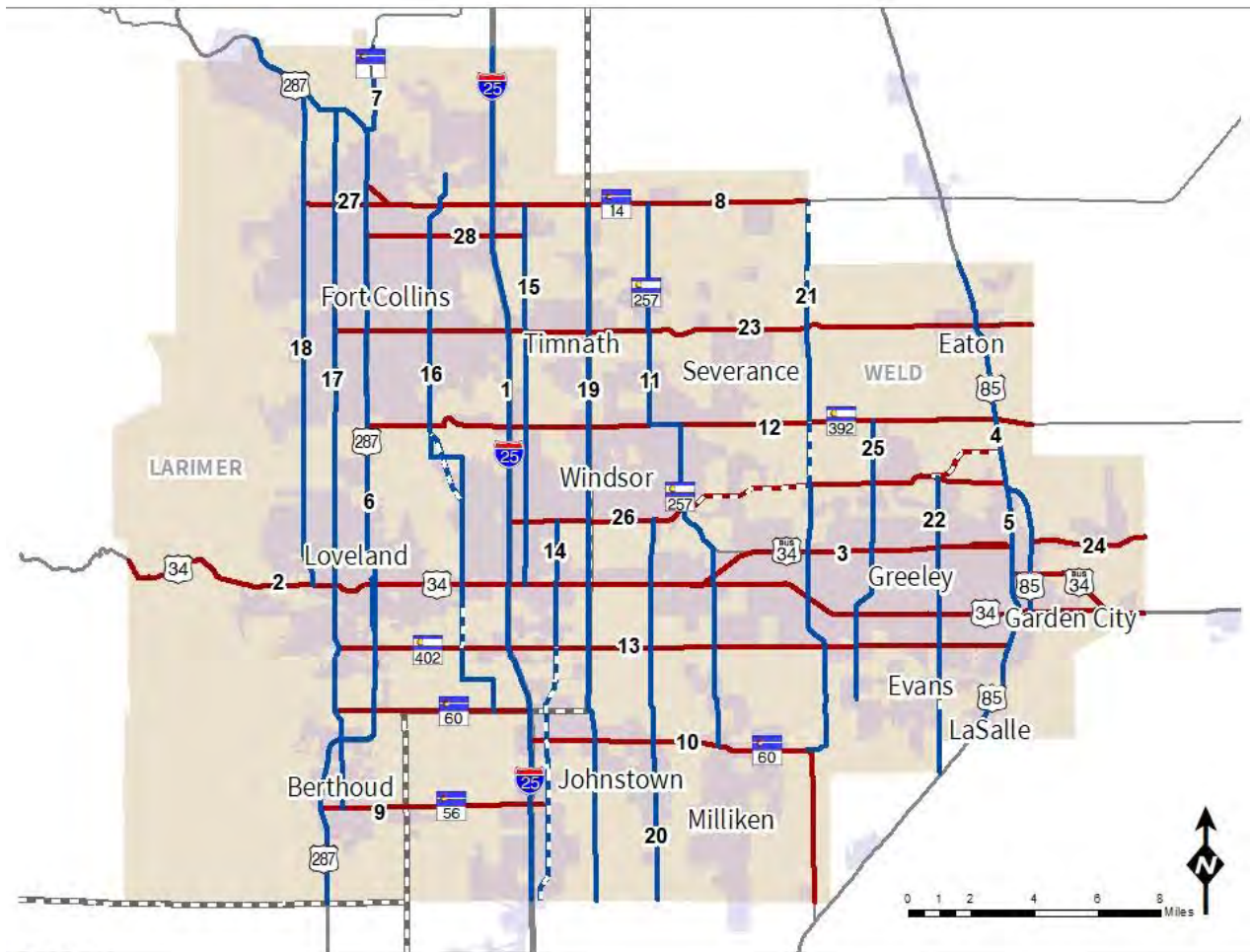
RSCs are important within the transportation planning process because they represent major multimodal corridors connecting communities

and/or activity centers and facilitate timely and safe movement of people, goods, information, and services. Additionally, each RSC must be eligible to receive federal-aid highway funding.





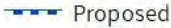

The North Front Range Metropolitan Planning Organization (NFRMPO) recognizes many corridors identified as regionally significant within the NFRMPO extend beyond the NFRMPO boundary. The NFRMPO makes an effort to coordinate with the adjacent Transportation Planning Regions (TPR), the Upper Front Range (UFR) TPR and the Denver Regional Council of Governments (DRCOG), in the development of Visions. The Visions in this Chapter are only for those portions within the NFRMPO boundary.

The following Visions are not a sole source for project implementation plans, but rather a general guide for communities to gauge current and future conditions on regional corridors. Fiscally constrained projects on the RSCs are listed in **Chapter 3, Section 4**.

Figure 3-3: Regionally Significant Corridors (RSCs)



Legend

- | | | |
|--|--|---|
| North-South RSCs | East-West RSCs |  County Boundary |
|  Existing |  Existing |  NFRMPO Boundary |
|  Proposed |  Proposed | |

July 2019
Sources: CDOT, NFRMPO



Performance Measures

The 2045 Goals, Objectives, Performance Measures, and Targets (GOPMT) (**Chapter 2**), and specifically the vision statement in **Chapter 1**, define the overall direction the region wishes to move towards and is an over-arching statement for all the corridor Visions:

“We seek to provide a multi-modal transportation system that is safe, as well as socially and environmentally sensitive for all users that protects and enhances the region’s quality of life and economic vitality.”

Each RSC vision addresses the investment priority for each of the five categories of performance measures included in the GOPMT, excluding Transit Asset Management (TAM) and Transit Safety. **Table 3-1** shows the investment need based on existing data for each of the RSCs.

Methodology for determining each of the investment needs is as follows:

- **Safety** – Crashes were geolocated for years 2011 through 2015 in the NFRMPO region based on data from CDOT and the Department of Revenue (DOR). Vehicle Miles Traveled (VMT) was calculated using the NFRMPO’s Regional Travel Demand Model (RTDM) and multiplied to get a reasonable five-year estimate. Once crashes and VMT were calculated then converted to crashes per 100M VMT, the median and third quartile were used to delineate the corridors with medium and highest investment needs.
- **Pavement Condition** - CDOT collects data on Drivability Life to determine roads with the highest needs for State facilities. Roads rated as poor were considered the highest need, while roads rated as fair determined the medium investment need. Local data was used where available for CDOT does not provide local facility data.
- **Bridge Condition** – Data from the National Bridge Inventory (NBI) was used to determine bridges in need of replacement. Like Pavement Condition, corridors where bridges were rated as poor were considered the highest need, while corridors with bridges rated as fair were considered a medium need.
- **Reliability** – Using Travel Time Index (TTI) data, the NFRMPO determined corridors where roads averaged a TTI of greater than 1.5. Of these, corridors between 1.5 and 1.9 were determined a medium investment need, while corridors with TTI over 1.9 were determined to be a high investment need.
- **Air Quality** was not determined on a corridor by corridor basis; rather, all corridors should consider positive impacts to air quality in their long-term visions.

Table 3-1: RSCs and Performance Measures

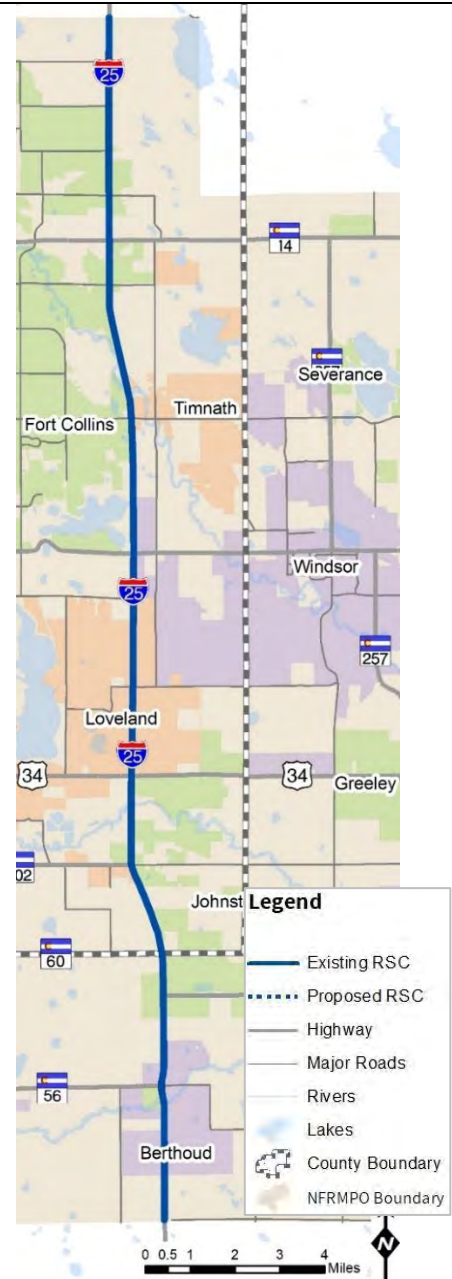
RS C	RSC Name	SAFETY	PAVEMENT CONDITION	BRIDGE CONDITION	RELIABILITY	AIR QUALITY
1	I-25	▲	▲	▲	▲	
2	US34	▲	▲	▲	▲	
3	US34 Business	▲	▲	▲	▲	
4	US85	▲	▲	▲	▲	
5	US85 Business	▲	▲	▲	▲	
6	US287	▲	▲	▲	▲	
7	SH1	▲	▲	▲	▲	
8	SH14	▲	▲	▲	▲	
9	SH56	▲	▲	▲	▲	
10	SH60	▲	▲	▲	▲	
11	SH257	▲	▲	▲	▲	
12	SH392	▲	▲	▲	▲	
13	SH402/ Freedom Parkway	▲	▲	▲	▲	
14	LCR 3	▲	▲	▲	▲	
15	LCR 5	▲	▲	▲	▲	
16	LCR 7 / LCR9 / Timberline Road	▲	▲	▲	▲	
17	LCR17 / Shields Street / Taft Avenue	▲	▲	▲	▲	▲
18	LCR19 / Taft Hill Road / Wilson Avenue	▲	▲	▲	▲	
19	WCR13	▲	▲	▲	▲	
20	WCR17	▲	▲	▲	▲	
21	WCR35 / 35th Avenue	▲	▲	▲	▲	
22	WCR74 / Harmony Road	▲	▲	▲	▲	
23	8th Street	▲	▲	▲	▲	
24	59th Avenue/65th Avenue	▲	▲	▲	▲	
25	83rd Avenue/Two Rivers Parkway	▲	▲	▲	▲	
26	Crossroads Boulevard/O Street	▲	▲	▲	▲	
27	Mulberry Street	▲	▲	▲	▲	
28	Prospect Road	▲	▲	▲	▲	
▲ = Highest Need ▲ = Medium Need ▲ = Lowest Need						

RSC #1: I-25

Vision Statement

The entire corridor is planned to be six-lanes, three-lanes in each direction, with managed, general purpose, and auxiliary lanes. Currently, the Colorado Department of Transportation (CDOT) provides transit service along the corridor connecting the region to the Denver Metropolitan area and beyond. The vision for RSC #1 is to increase mobility and to improve safety and system reliability as passenger and freight traffic volumes increase significantly. The communities along the RSC also envision transportation choices, connections to other areas, safety, system preservation, and intermodal connections. The RSC is and will remain the leading corridor for movement of commuters, tourists, freight, farm-to-market products, and hazardous materials.

The Larimer County Events Complex, Budweiser Events Center, access to major tourist and commercial destinations, and the Fort Collins Port of Entry are major regional destinations located along this RSC. The surrounding area is characterized by rural and suburban settings, with a few pockets transitioning to urban land uses. This RSC is a Federal Highway Administration (FHWA) - recognized Major Freight Corridor (Camino Real) on the Priority Freight Corridor Network and part of the Western Association of State Highway and Transportation Officials' (WASHTO) Western Transportation Trade Network.



Centerline Miles | 27.1

Jurisdictions

Unincorporated Larimer County, Fort Collins, Timnath, Windsor, Loveland, Johnstown, Unincorporated Weld County, and Berthoud

Connected Corridors

RSC | 2, 8, 9, 10, 12, 23, 26, 28

RNMC | 2, 3, 4, 5, 6, 7, 11

RTC | 1, 6, 7, 8, 10, 12

Related Plans

- ▶ [North I-25 Record of Decision 5, 2017](#)
- ▶ [North I-25 Record of Decision 4, 2017](#)
- ▶ North I-25 Record of Decision 1: Revision 2, 2017
- ▶ [North I-25 Record of Decision 3, 2016](#)
- ▶ [North I-25 Record of Decision 1, 2011](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)

Trends

	Metric	2015	2045
	<i>Average Daily VMT</i>	1,945,256	3,407,404
	<i>Average Daily Truck VMT</i>	280,932	453,899
	<i>Population living within ½ mile</i>	6,738	51,339
	<i>Jobs located within ½ mile</i>	17,925	44,923

RSC #2: US34

Vision Statement

The vision for RSC #2 is to increase mobility and to maintain system quality and improve safety. The communities along the RSC also value transportation choices, and connections to other areas. Future travel modes to be planned for include passenger vehicles, bus service, bus rapid transit, truck freight, and bicycles and pedestrians. Transportation Demand Management (TDM) strategies in the urban portions of Loveland and Greeley are important along this RSC. There is transit access to the City of Loveland Transit (COLT) system, the Greeley Evans Transit (GET) system, Bustang, and a Park-n-Ride lot. The transportation system in the area serves towns, cities, and destinations both along and outside of the RSC. Both passenger and freight traffic volumes are expected to increase significantly. The University of Northern Colorado (UNC) and Rocky Mountain National Park contribute to the activity on either end of this RSC. While the majority of the area surrounding the RSC is transitioning from agricultural to suburban, sections of the RSC through Loveland and Greeley are urbanized.

Centerline Miles | 34.4

Jurisdictions

Unincorporated Larimer County, Loveland (Eisenhower Boulevard), Johnstown, Unincorporated Weld County, Windsor, Greeley, Evans, and Garden City

Connected Corridors

RSC | 1, 3, 4, 5, 6, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25

RNMC | 1, 2, 3, 4, 5, 6, 7, 11

RTC | 4, 5, 6, 7, 8, 10, 11, 12

Related Plans

- ▶ [US 34 & US 85 Interchange Planning and Environmental Linkages \(PEL\) Study, ongoing](#)
- ▶ [US 34 Planning and Environmental Linkages \(PEL\) Study, 2019](#)
- ▶ [NFRMPO Non-Motorized Plan, 2016](#)
- ▶ [Loveland 2035 Transportation Plan, 2012](#)
- ▶ [North I-25 Record of Decision 1, 2011](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ [US 34 Environmental Assessment/FONSI, 2007](#)
- ▶ [US 34 Access Control Plan, 2003](#)
- ▶ [US 34 Corridor Optimization Plan, 2003](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	997,176	1,599,598
<i>Average Daily Truck VMT</i>	100,620	149,946
<i>Population living within ½ mile</i>	46,424	96,904
<i>Jobs located within ½ mile</i>	41,371	70,772



RSC #3: US34 Business Route

Vision Statement

The vision for RSC #3 is to increase mobility as well as to maintain system quality and improve safety. To account for increasing passenger volumes, future travel modes to be planned for include passenger vehicles, bus service, and bicycles and pedestrians. Users of this RSC support the movement of tourists, commuters, freight, and farm-to-market products while recognizing the environmental, economic, and social needs of the surrounding area. This corridor has access to the GET transit system and is a major west-east arterial for Greeley.

Centerline Miles | 15.5

Jurisdictions

Greeley (10th Street, 9th Street) and Unincorporated Weld County

Connected Corridors

RSC | 2, 4, 5, 11, 21, 22, 25

RNMC | 10

RTC | 8, 10, 11

Related Plans

- ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019
- ▶ [Business 34 Access Control Plan: SH 257 to 35th Avenue, 2012](#)
- ▶ [Greeley Transportation Master Plan, 2011](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ [US 34 Environmental Assessment/FONSI, 2007](#)
- ▶ US 34 Business Route Environmental Assessment, 2007
- ▶ [US 34 Access Control Plan, 2003](#)
- ▶ [US 34 Corridor Optimization Plan, 2003](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	269,806	450,171
<i>Average Daily Truck VMT</i>	22,533	33,081
<i>Population living within ½ mile</i>	36,296	50,660
<i>Jobs located within ½ mile</i>	27,843	38,659



RSC #4: US85

Vision Statement

The vision for RSC #4 is to increase mobility, maintain system quality and improve safety. Future travel modes to be planned for include passenger vehicles, bus service, truck freight, bicycles, pedestrians, and freight rail. As both passenger and freight traffic volumes are expected to increase, TDM could be effective along this RSC. Users of the RSC support the movement of commuters, freight, farm-to-market products, and hazardous materials while recognizing the environmental, economic, and social needs of the surrounding area.

The transportation system in the area primarily serves towns, cities, and destinations in the surrounding area, characterized by manufacturing, agriculture, commercial activity, and oil and gas activity, with main street characteristics through Eaton and LaSalle. RSC #4 provides interregional connections to the Denver metropolitan area to the south and Wyoming to the north, is part of the National Highway System, and is a segment of the international CanAm Highway extending from Mexico to Canada.

Centerline Miles | 16.3

Jurisdictions

Unincorporated Weld County, Eaton, Greeley, Garden City, Evans, and LaSalle

Connected Corridors

RSC | 2, 3, 12, 13, 23, 24, 26

RNMC | 1, 4, 6, 10, 11

RTC | 1, 5, 11

Related Plans

- ▶ [US 34 & US 85 Interchange Planning and Environmental Linkages \(PEL\) Study, ongoing](#)
- ▶ US 85 Traffic Incident Management Plan (TIMP), 2019
- ▶ [US 85 Planning and Environmental Linkages \(PEL\) Study, 2017](#)
- ▶ US 85 Intersection Safety Analysis, 2012
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ [US 85 Access Control Plan, 1999](#)



Trends

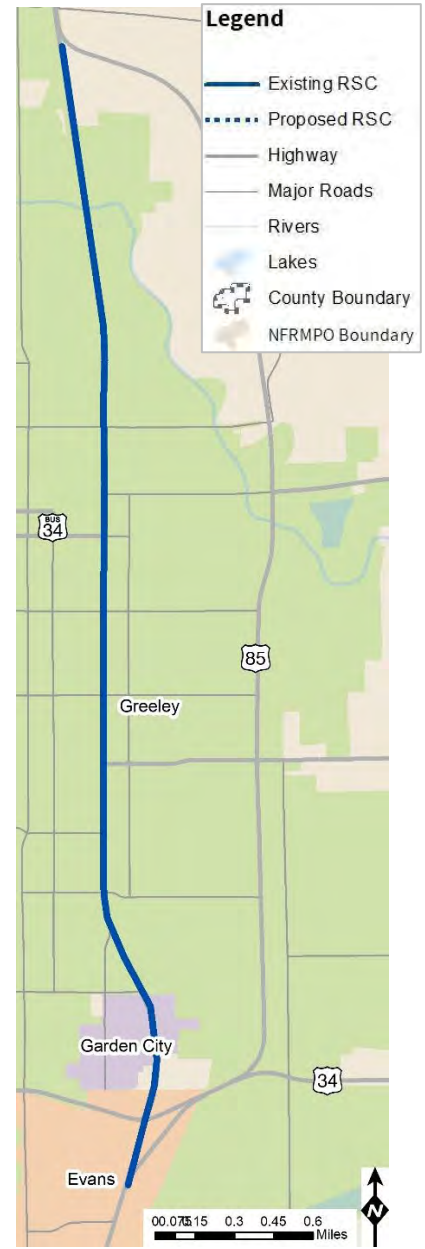
Metric	2015	2045
<i>Average Daily VMT</i>	300,826	464,492
<i>Average Daily Truck VMT</i>	31,897	45,321
<i>Population living within ½ mile</i>	19,490	22,010
<i>Jobs located within ½ mile</i>	21,243	28,187

RSC #5: US85 Business Route

Vision Statement

The vision for RSC #5 is to increase mobility as well as to maintain system quality and improve safety as both passenger and freight traffic volumes are expected to increase. Users of the RSC support the movement of commuters, freight, farm-to-market products, and hazardous materials to and through the RSC while recognizing the environmental, economic, and social needs of the surrounding area. Improvements to the bicycle and pedestrian infrastructure should be accommodated within the corridor as well.

The corridor is characterized by manufacturing, agriculture, commercial activity, and oil and gas activity, with main street characteristics through Greeley. The area surrounding this RSC is diverse and includes urban characteristics through the Greeley area. There is access to the GET transit system for this corridor.



Centerline Miles | 4.4

Jurisdictions

Greeley (8th Avenue), Garden City, and Evans

Connected Corridors

RSC | 2, 3, 4

RNMC | 6, 11

RTC | 5, 11

Related Plans

- ▶ [US 34 & US 85 Interchange Planning and Environmental Linkages \(PEL\) Study, ongoing](#)
- ▶ [US 85 Planning and Environmental Linkages \(PEL\) Study, 2017](#)
- ▶ US 85 Intersection Safety Analysis, 2012
- ▶ [US 85 Access Control Plan, 1999](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	73,085	97,755
<i>Average Daily Truck VMT</i>	4,642	5,443
<i>Population living within ½ mile</i>	16,831	17,730
<i>Jobs located within ½ mile</i>	27,377	34,808

RSC #6: US287

Vision Statement

The vision for RSC #6 is to increase mobility, maintain system quality, and improve safety as both passenger and freight traffic volumes are expected to increase significantly. Users of this RSC want to retain the character of the area, including the dedicated open space between Fort Collins and Loveland, while supporting the movement of commuters and freight to and through the RSC.

This RSC provides north-south connections within Fort Collins, Loveland, and Berthoud and connections south to the Denver metropolitan area and north to Laramie, Wyoming and I-80. US287 is an NHS facility and acts as a main street through both Fort Collins and Loveland and is an important corridor to both the COLT and Transfort transit systems.

Centerline Miles | 32.5

Jurisdictions

Unincorporated Larimer County (College Avenue, SH14), Fort Collins (College Avenue, SH14), Loveland (Cleveland Avenue, Garfield Avenue, Lincoln Avenue), and Berthoud

Connected Corridors

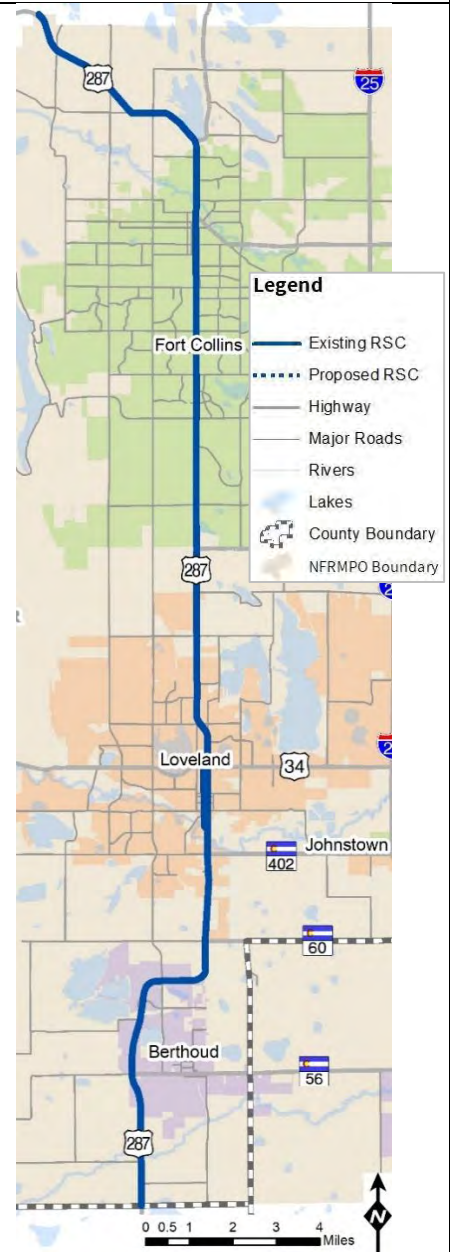
RSC | 2, 7, 8, 9, 10, 12, 13, 23, 18, 27, 28

RNMC | 2, 3, 4, 5, 6, 7, 8, 11

RTC | 1, 2, 4, 6, 9, 12

Related Plans

- ▶ [Fort Collins Transportation Master Plan, 2019](#)
- ▶ [US 287 Asset Inventory, 2017](#)
- ▶ [Loveland 2035 Transportation Plan, 2012](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ US 287 Environmental Assessment/FONSI, 2007
- ▶ [US 287 Environmental Overview Study, 2007](#)
- ▶ [US287 from SH1 to the LaPorte Bypass Environmental Assessment, 2004](#)
- ▶ [South College Avenue \(US 287\) Access Control Plan Update Report, 2002](#)
- ▶ [US 287 / SH 14 Access Management Report, 2000](#)



Trends

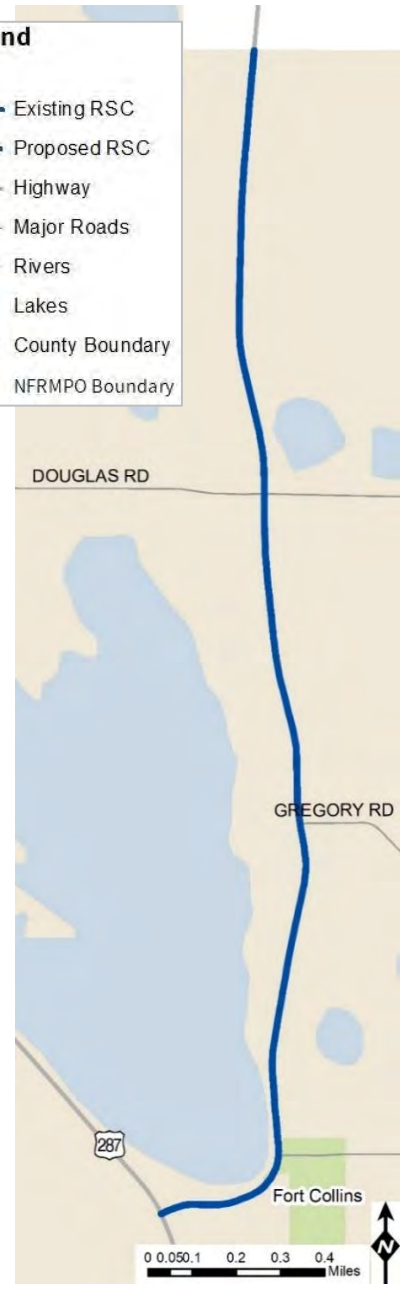
Metric	2015	2045
<i>Average Daily VMT</i>	855,677	1,129,037
<i>Average Daily Truck VMT</i>	21,946	48,102
<i>Population living within 1/2 mile</i>	51,917	75,290
<i>Jobs located within 1/2 mile</i>	54,255	68,173

RSC #7: SH1

Vision Statement

The vision for RSC #7 is to improve safety, increase mobility, and maintain system quality. The communities along the RSC also value transportation choices, connections to other areas, and safety. Future travel modes expected along this RSC include passenger vehicles, bus service, and bicyclists and pedestrians. Users of this RSC want to preserve the rural-residential character of the area and support the movement of commuters along the RSC while recognizing the environmental, economic, and social needs of the surrounding area.

This RSC serves as a local facility, provides commuter access, and makes north-south connections between Wellington and Fort Collins for a significant number of residents living, working, and shopping between the two communities. Land use along the RSC is primarily low-density residential. There are no planned improvements to this RSC, but growth along the corridor will necessitate multi-modal considerations.



Centerline Miles | 2.8

Jurisdictions

Unincorporated Larimer County (LCR15, Terry Lake Road), and Fort Collins (Terry Lake Road)

Connected Corridors

RSC | 6

RNMC | -

RTC | 2

Related Plans

- ▶ [Fort Collins Transportation Master Plan, 2019](#)
- ▶ [Larimer County Transportation Master Plan, 2017](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	21,946	38,101
<i>Average Daily Truck VMT</i>	250	382
<i>Population living within ½ mile</i>	2,978	3,033
<i>Jobs located within ½ mile</i>	1,008	1,079

RSC #8: SH14

Vision Statement

The vision for RSC #8 is to increase mobility as well as to maintain system quality and improve safety. The communities along this RSC also value transportation choices and connections to other areas. As passenger and freight traffic volumes increase, travel modes to be planned for include passenger vehicles, bus service, truck freight, and bicycles and pedestrians. TDM would likely be effective along this RSC. Users of this RSC support the movement of commuters, freight and hazardous materials while recognizing the environmental, economic, and social needs of the surrounding area. Future annexation and development will enhance the urban and suburban character of the corridor. Part of the NHS, this RSC is currently used as a connection for interregional and interstate freight and travelers to and from I-25 (RSC #1), US287 (RSC #6), and I-80. This RSC is an important route for the Transfort system.

Centerline Miles | 14.2

Jurisdictions

Fort Collins (Jefferson Street, Riverside Avenue, Mulberry Street), Unincorporated Larimer County (Mulberry Street), Unincorporated Weld County, and Severance

Connected Corridors

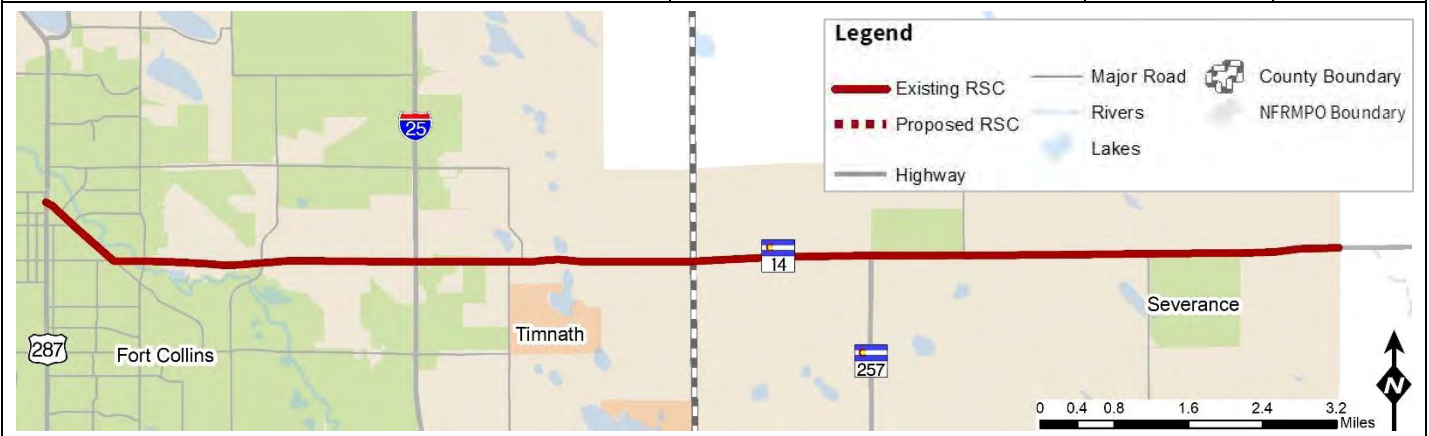
<i>RSC</i>	1, 6, 11, 15, 16, 21, 27
<i>RNMC</i>	6, 7
<i>RTC</i>	2, 3, 6, 9

Related Plans

- ▶ Fort Collins Transportation Master Plan, 2019
- ▶ North I-25 Record of Decision 1: Revision 2, 2017
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ [US 287 / SH 14 Access Management Report, 2000](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	265,437	458,405
<i>Average Daily Truck VMT</i>	35,198	48,159
<i>Population living within ½ mile</i>	9,335	20,017
<i>Jobs located within ½ mile</i>	20,538	24,987



RSC #9: SH56

Vision Statement

The vision for RSC #9 is to increase mobility as well as to maintain system quality and improve safety as both passenger and freight traffic volumes are expected to increase. Future travel modes to be planned for include passenger vehicle, bus service, and truck freight. The communities along the RSC value high levels of mobility, transportation choices, and connections to other areas, safety, and system preservation. Users of this RSC want to support the movement of commuters and freight to and through the RSC while recognizing the environmental, economic, and social needs of the surrounding area.

There has been TDM investment in the urban areas of Berthoud. This RSC provides important west-east connections in the southern portion of the region. The area surrounding this RSC is transitioning from agricultural to suburban, with the exception of downtown Berthoud. The western portion of the RSC has access to the FLEX route in Berthoud where connections can be made to COLT, Transfort, and Denver’s Regional Transportation District (RTD) system.

Centerline Miles | 7

Jurisdictions

Berthoud (LCR 8, Mountain Avenue, WCR44,) Unincorporated Larimer County, Unincorporated Weld County (WCR44), and Johnstown (WCR44, WCR15, WCR46)

Connected Corridors

RSC	1, 6, 14, 18
RNMC	2, 7, 8
RTC	6, 9

Related Plans

- ▶ [Berthoud Comprehensive Plan, 2014](#)
- ▶ [North I-25 Record of Decision 1, 2011](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ SH 56 Access Control Plan, 2009
- ▶ [Johnstown Transportation Master Plan, 2008](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	78,820	148,451
<i>Average Daily Truck VMT</i>	4,416	8,391
<i>Population living within ½ mile</i>	3,815	6,544
<i>Jobs located within ½ mile</i>	2,596	6,137



RSC #10: SH60

Vision Statement

The vision for RSC #10 is to maintain system quality and improve safety as both passenger and freight traffic volumes are expected to increase. Future travel modes to be planned for include passenger vehicle, bus service, and truck freight. Users of this RSC want to support the movement of commuters and freight to and through the RSC while recognizing the environmental, economic, and social needs of the surrounding area. TDM investment throughout portions of Johnstown and Milliken provide important connections along this corridor. The area surrounding this RSC is transitioning from agricultural to suburban. The RSC provides local area-wide access to higher functional class facilities and makes west-east connections within and between Johnstown, Milliken, and Berthoud.

Centerline Miles | 19.8

Jurisdictions

Unincorporated Larimer County (42nd Street SW, LCR14), Unincorporated Weld County, Johnstown (1st Street), and Milliken (Broad Street)

Connected Corridors

RSC | 1, 6, 11, 14, 16, 17, 19, 20, 21

RNMC | 1, 2, 7, 8, 9

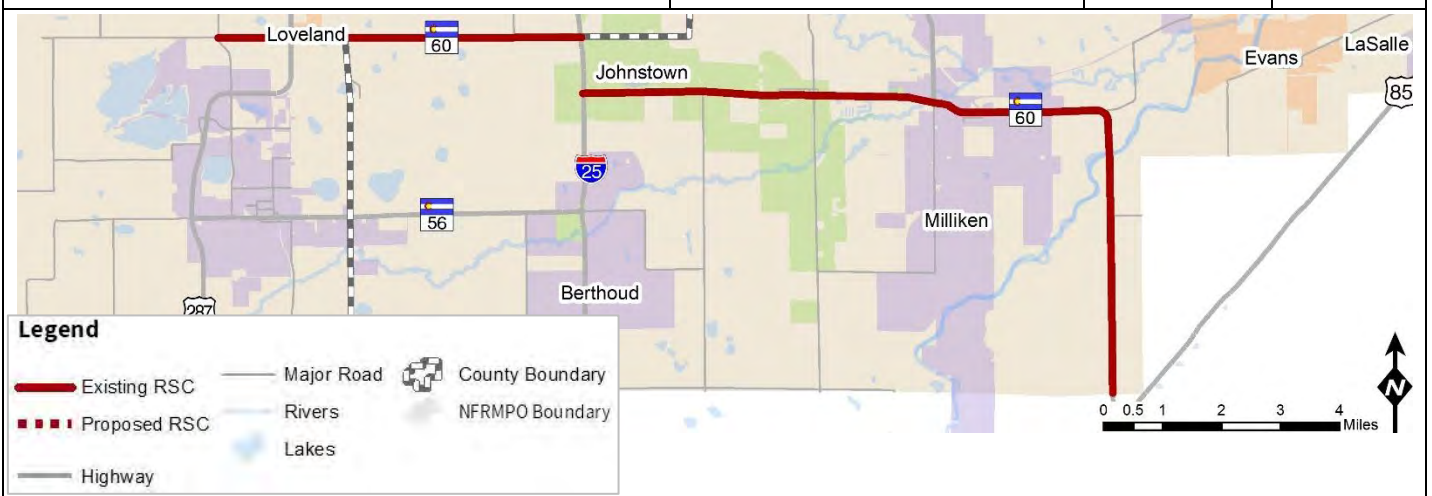
RTC | 6, 9

Related Plans

- ▶ [North I-25 Record of Decision 4, 2017](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ [Johnstown Transportation Master Plan, 2008](#)
- ▶ [Milliken Transportation Master Plan, 2008](#)
- ▶ [SH60 Environmental Overview Study, 2006](#)
- ▶ [SH60 Access Control Plan, 2006](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	210,861	441,851
<i>Average Daily Truck VMT</i>	7,941	18,335
<i>Population living within ½ mile</i>	14,121	20,429
<i>Jobs located within ½ mile</i>	4,105	7,497



RSC #11: SH257

Vision Statement

The vision for RSC #11 is to maintain system quality as well as to increase mobility and improve safety. Passenger traffic volumes are expected to remain relatively constant, while freight volume will increase. Communities in the area will continue to depend on manufacturing, agriculture, and residential development for economic activity in the area. TDM improvements along this corridor are important, especially through Windsor. Portions of the surrounding area are transitioning from rural and agricultural to suburban.

Centerline Miles | 18.6

Jurisdictions

Severance (WCR17), Unincorporated Weld County (WCR17, WCR21), Windsor (7th Street, SH392), Greeley (WCR21), and Milliken (WCR21)

Connected Corridors

RSC | 2, 3, 8, 10, 12, 13, 23, 26

RNMC | 2, 3, 4, 6, 11

RTC | 1, 3, 4, 8, 10, 12

Related Plans

- ▶ [Windsor Comprehensive Plan, 2016](#)
- ▶ [Severance Transportation Plan, 2015](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ [Greeley 2035 Comprehensive Transportation Plan, 2011](#)
- ▶ [Truck Traffic in the Northeastern Quadrant of the NFRMPO Region, 2010](#)
- ▶ [Johnstown Transportation Master Plan, 2008](#)
- ▶ [Milliken Transportation Plan, 2008](#)



Trends

Metric	2015	2045
<i>Average Daily VMT</i>	155,311	437,332
<i>Average Daily Truck VMT</i>	7,510	21,003
<i>Population living within ½ mile</i>	9,878	24,136
<i>Jobs located within ½ mile</i>	4,767	10,803

RSC #12: SH392

Vision Statement

The vision for RSC #12 is to increase mobility and maintain system quality and improve safety as both passenger and freight traffic volumes are expected to continue to increase. Users of this RSC support the movement of commuters, freight, and farm-to-market products in and through the RSC, while recognizing environmental (including preservation and minimization/mitigation of impacts to protected public open lands/natural areas), economic, and social needs. TDM improvements along this corridor provide benefits to commuters. This RSC is Main Street through Windsor, also traversing suburban, urban, and rural agricultural areas.

Centerline Miles | 21.3

Jurisdictions

Fort Collins (Carpenter Road, LCR32), Unincorporated Larimer County (Carpenter Road, LCR32), Windsor (LCR32, Main Street, WCR68), and Unincorporated Weld County (WCR68)

Connected Corridors

RSC | 1, 4, 6, 11, 15, 16, 19, 21, 25

RNMC | 4, 5, 6, 7, 9

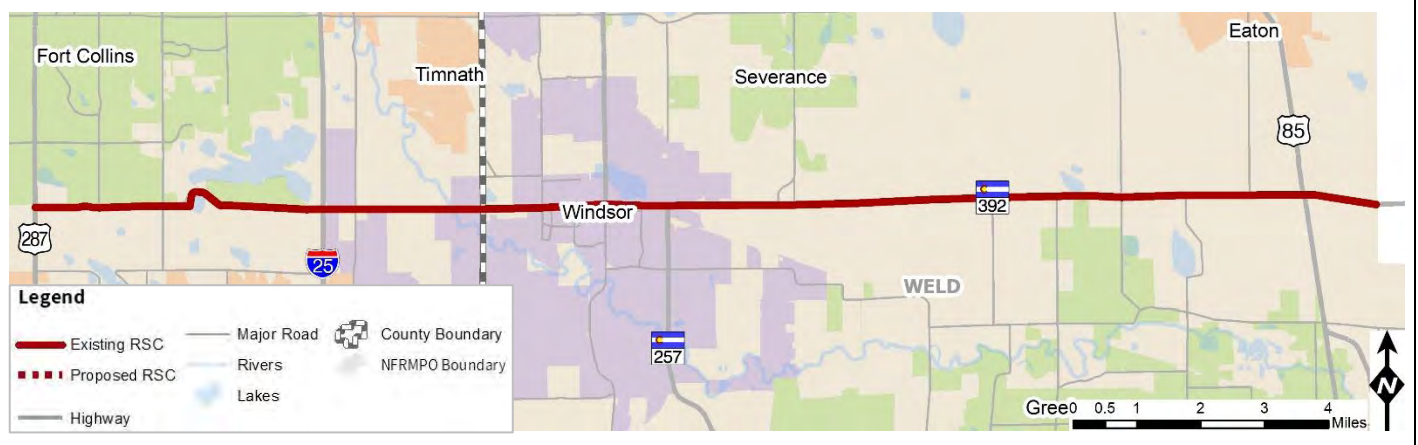
RTC | 3, 6, 8, 9, 11, 12

Related Plans

- ▶ Fort Collins Transportation Master Plan, 2019
- ▶ [North I-25 Record of Decision 4, 2017](#)
- ▶ [Windsor Comprehensive Plan, 2016](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ [SH392 Access Control Plan, 2006](#)
- ▶ [SH392 Environmental Overview Study, 2006](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	252,769	645,271
<i>Average Daily Truck VMT</i>	23,187	46,636
<i>Population living within ½ mile</i>	12,338	28,505
<i>Jobs located within ½ mile</i>	5,338	12,467



RSC #13: SH402 / Freedom Parkway

Vision Statement

The vision for RSC #13 is to increase mobility, maintain system quality, and improve safety as traffic increases significantly, making the corridor a major west-east connection for the southern half of the region. Future travel modes to be planned for include passenger vehicle, bus service, and bicycle and pedestrian facilities. Communities along the corridor value high levels of mobility, transportation choices, and connections to other areas, safety, and system preservation. This corridor provides commuter access and makes west-east connections between Loveland, Johnstown, Greeley, and Evans. The road is planned for expansion to a four-lane facility according to Evans, Greeley, and Loveland Transportation Plans, and the SH402 Environmental Assessment.

Centerline Miles | 21.2

Jurisdictions

Loveland (14th Street, LCR18), Unincorporated Larimer County (14th Street, LCR18), Johnstown (LCR18), Unincorporated Weld County (WCR54) Evans (37th Street), and Greeley (37th Street, WCR54)

Connected Corridors

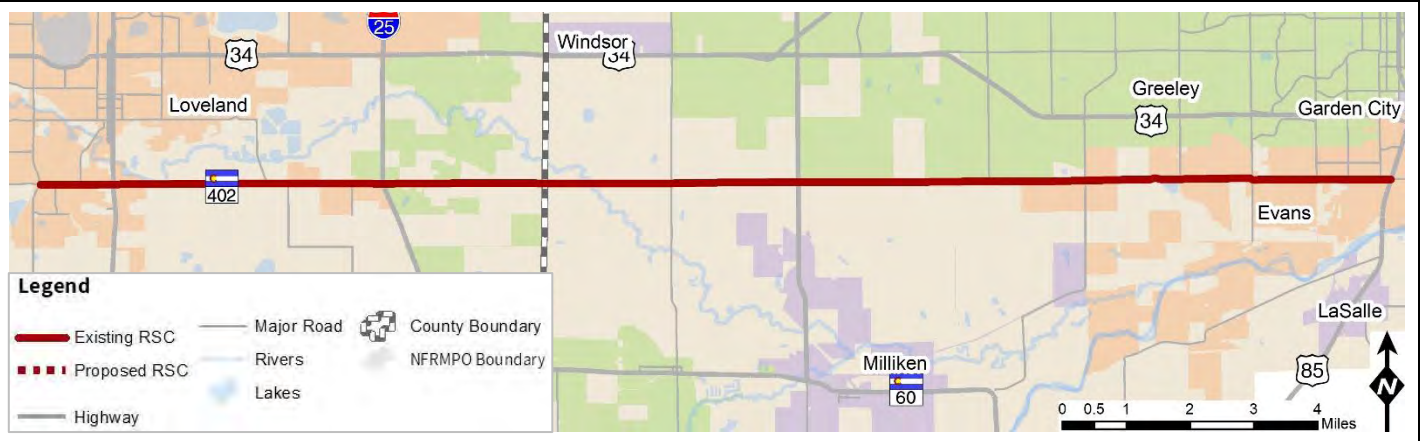
<i>RSC</i>	1, 4, 6, 11, 14, 16, 17, 19, 20, 21, 22, 25
<i>RNMC</i>	3, 9
<i>RTC</i>	6, 9, 11

Related Plans

- ▶ [Freedom Parkway Access Control Plan, 2018](#)
- ▶ [North I-25 Record of Decision 4, 2017](#)
- ▶ [Loveland 2035 Transportation Plan, 2012](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ [State Highway 402 FONSI, 2008](#)
- ▶ [State Highway 402 Environmental Assessment, 2007](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	249,560	574,440
<i>Average Daily Truck VMT</i>	13,267	28,082
<i>Population living within ½ mile</i>	21,512	34,146
<i>Jobs located within ½ mile</i>	7,144	14,842



RSC #14: Larimer County Road (LCR) 3 / Weld County Road 9.5

Vision Statement

The vision for RSC #14 is to increase mobility as well as to improve safety and maintain system quality as passenger traffic volumes are expected to remain relatively constant. Future travel modes could include passenger vehicle, bus service, and bicycle and pedestrian facilities. The RSC needs to support the movement of commuters and farm-to-market products. The RSC serves as a parallel arterial to I-25 (RSC #1), providing local access to areas transitioning from rural to suburban. Johnstown plans to extend this road south to Berthoud as a four-lane road.

Centerline Miles | Current = 4, Buildout = 12.1

Jurisdictions

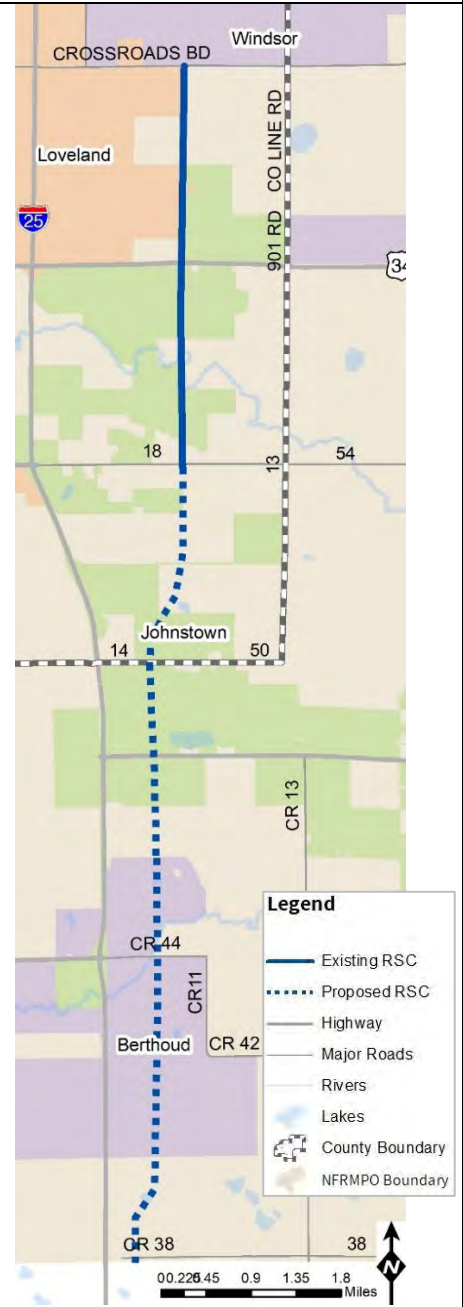
Windsor, Loveland, Unincorporated Larimer County, Johnstown, Unincorporated Weld County, and Berthoud

Connected Corridors

<i>RSC</i>	2, 9, 10, 13, 26
<i>RNMC</i>	2, 3, 4
<i>RTC</i>	4, 10, 12

Related Plans

- ▶ [Larimer County Transportation Master Plan, 2017](#)
- ▶ [Berthoud Comprehensive Plan Update, 2014](#)
- ▶ [Loveland 2035 Transportation Plan, 2012](#)
- ▶ [Johnstown Transportation Master Plan, 2008](#)



Trends

Metric	2015	2045
<i>Average Daily VMT</i>	2,347	67,769
<i>Average Daily Truck VMT</i>	54	1,020
<i>Population living within ½ mile</i>	723	22,276
<i>Jobs located within ½ mile</i>	1,984	2,369

RSC #15: Larimer County Road (LCR) 5

Vision Statement

The vision for RSC #15 is increased mobility, improved safety while maintaining system quality as both passenger and freight traffic volumes are expected to increase significantly. Future travel modes should include passenger vehicle, bus service, and bicycle and pedestrian facilities. TDM would be effective along this RSC. This area will continue to depend on manufacturing, high-tech industries, commercial activity, retail, and residential development for economic activity. The RSC will increasingly become a popular alternative to I-25 (RSC #1) for commuters. The Larimer County Fairgrounds and Events Complex, and the Centerra and 2534 developments are served by this RSC, contributing significantly to traffic. The surrounding area is transitioning from rural to suburban, with some small urban pockets.

Centerline Miles | 12

Jurisdictions

Unincorporated Larimer County, Timnath (Main Street), Fort Collins, Windsor (Fairgrounds Avenue), Loveland (Fairgrounds Avenue, Centerra Parkway), and Johnstown (Thompson Parkway)

Connected Corridors

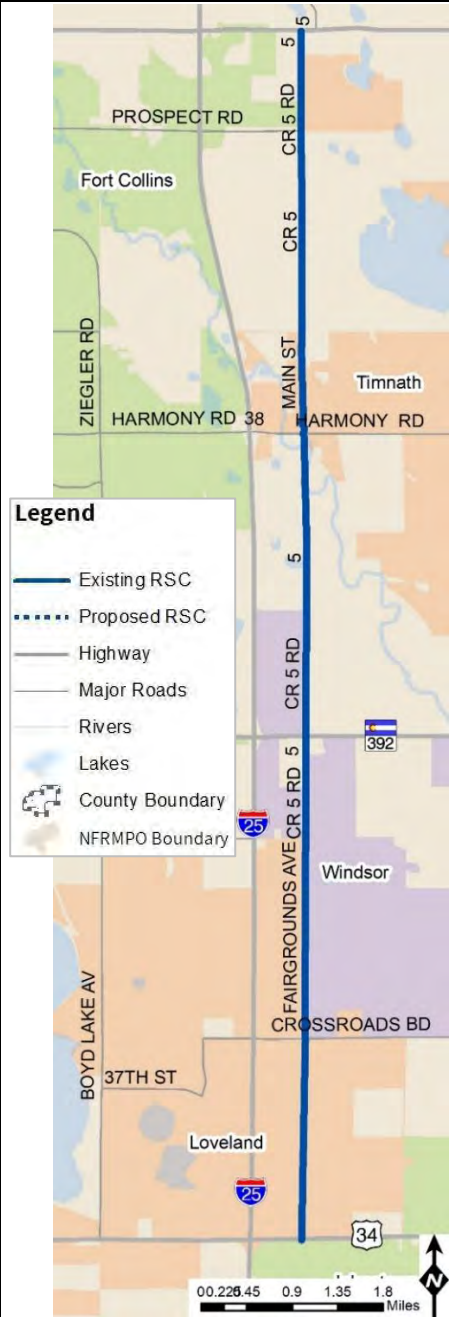
RSC | 2, 8, 12, 23, 26, 28

RNMC | 5, 6, 11

RTC | 1, 3, 4, 8, 10, 12

Related Plans

- ▶ [Larimer County Transportation Master Plan, 2017](#)
- ▶ [Windsor Comprehensive Plan, 2016](#)
- ▶ [Timnath Transportation Plan, 2015](#)
- ▶ [Loveland 2035 Transportation Plan, 2012](#)



Trends

Metric	2015	2045
Average Daily VMT	49,180	248,287
Average Daily Truck VMT	1,206	4,506
Population living within ½ mile	5,598	40,511
Jobs located within ½ mile	8,567	24,885

RSC #16: Larimer County Road (LCR) 7 / LCR 9 / Timberline Road

Vision Statement

The vision for RSC #16 is to increase mobility, improve safety, and maintain system quality as both passenger and freight traffic volumes increase. The communities along the RSC also value transportation choices, connections to other areas, and intermodal connections. The surrounding area will continue to depend on manufacturing, high-tech industries, commercial activity, retail, and residential development for economic activity. Upon completion, the RSC will support the regional movement of commuters.

This RSC provides access to the Northern Colorado Regional Airport (FNL), Centerra, and areas transitioning from rural to suburban. Individually, Timberline Road, LCR9E, and WCR7 serve as parallel local arterials west of I-25 (RSC #1). Realignment is planned for the section between Fort Collins and Loveland.



Centerline Miles	Current = 18, Buildout = 21.7
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Jurisdictions

Fort Collins (Summit View Drive, LCR11), Unincorporated Larimer County (Boyd Lake Avenue, LCR7, LCR11, LCR30), Loveland (Boyd Lake Avenue, LCR9, LCR30), Unincorporated Weld County (WCR7), and Berthoud (WCR7)

Connected Corridors

<i>RSC</i>	2, 8, 9, 10, 12, 13, 23, 28
<i>RNMC</i>	3, 4, 5, 6, 7
<i>RTC</i>	1, 4, 6, 10, 12

Related Plans

- ▶ Fort Collins City Plan, 2019
- ▶ [Larimer County Transportation Master Plan, 2017](#)
- ▶ [Berthoud Comprehensive Plan Update, 2014](#)
- ▶ [Loveland 2035 Transportation Plan, 2012](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	228,782	468,088
<i>Average Daily Truck VMT</i>	5,777	10,324
<i>Population living within ½ mile</i>	24,536	46,906
<i>Jobs located within ½ mile</i>	21,662	39,333

RSC #17: Larimer County Road (LCR) 17/ Shields Street / Taft Avenue

Vision Statement

Future travel modes to be planned for on RSC #17 include passenger vehicle, bus service, and bicycle and pedestrian facilities. As passenger volumes increase significantly, and freight traffic volumes remain relatively constant, communities along the RSC will continue to depend on commercial activity, residential development, Colorado State University (CSU), governmental agencies, as well as manufacturing and high-tech industries for economic activity. Users of this RSC want to retain the character of the area, including the dedicated open space between Fort Collins and Loveland, while supporting the movement of commuters and freight along the RSC and recognizing the environmental, economic, and social needs of the surrounding area. Transit service and TDM consideration are important along this RSC.

Centerline Miles | 22.2

Jurisdictions

Unincorporated Larimer County, Fort Collins (Shields Street), Loveland (Taft Avenue), and Berthoud

Connected Corridors

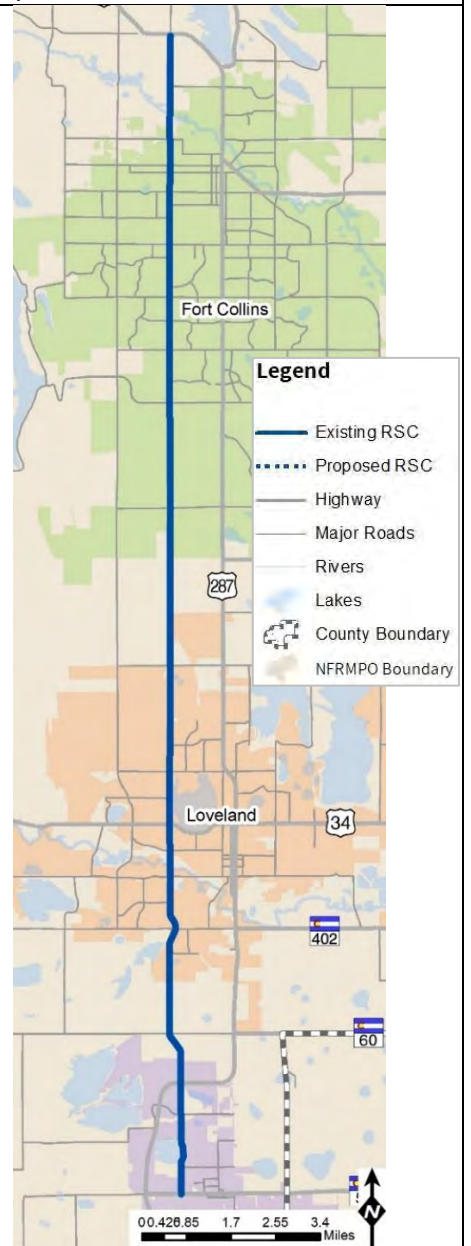
RSC | 2, 6, 9, 10, 13, 23, 27

RNMC | 5, 6, 7, 8, 11

RTC | 9, 10

Related Plans

- ▶ Fort Collins City Plan, 2019
- ▶ [Larimer County Transportation Master Plan, 2017](#)
- ▶ [Berthoud Comprehensive Plan Update, 2014](#)
- ▶ [Loveland 2035 Transportation Plan, 2012](#)



Trends

Metric	2015	2045
<i>Average Daily VMT</i>	364,295	472,361
<i>Average Daily Truck VMT</i>	5,509	8,383
<i>Population living within ½ mile</i>	60,093	74,988
<i>Jobs located within ½ mile</i>	15,641	22,433

RSC #18: Larimer County Road (LCR) 19 / Taft Hill Road / Wilson Avenue

Vision Statement

Future travel modes along RSC #18 will include passenger vehicle, bus service, truck freight, and bicycle and pedestrian facilities. As both passenger and freight traffic volumes are expected to increase significantly, the surrounding communities will continue to depend on commercial activity, residential development, as well as manufacturing and high-tech industries for economic activity. Users of this RSC want to retain the character of the area, including the dedicated open space between Fort Collins and Loveland, while supporting the movement of commuters and freight while recognizing the environmental, economic, and social needs of the surrounding area. Transit service and TDM consideration are important along this RSC.



Centerline Miles	15.7
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Jurisdictions

Unincorporated Larimer County, Fort Collins (Taft Hill Road), and Loveland (Wilson Avenue)

Connected Corridors

<i>RSC</i>	2, 6, 27
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<i>RNMC</i>	5, 11
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<i>RTC</i>	10
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Related Plans

- ▶ Fort Collins City Plan, 2019
- ▶ [Larimer County Transportation Master Plan, 2017](#)
- ▶ [Loveland 2035 Transportation Plan, 2012](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	227,296	281,587
<i>Average Daily Truck VMT</i>	4,670	7,426
<i>Population living within ½ mile</i>	32,760	32,618
<i>Jobs located within ½ mile</i>	10,040	12,402

RSC #19: Weld County Road (WCR) 13

Vision Statement

The vision for RSC #19 is primarily to increase mobility as passenger volumes are expected to increase while freight traffic volumes are expected to be relatively constant. Future improvements will better accommodate bicycle and pedestrian traffic. RSC #18 will play a large role in the north-south movement of traffic to and from some of the region's fastest-growing areas just east of the I-25 corridor (RSC #1). Paving the corridor south of Freedom Parkway (RSC #13) will improve this RSC's ability to accommodate regional travel.

Centerline Miles | 14.1

Jurisdictions

Unincorporated Larimer County (Colorado Boulevard, LCR1), Unincorporated Weld County (Colorado Boulevard), Timnath (Colorado Boulevard, Latham Parkway), Windsor (Colorado Boulevard), and Johnstown (LCR1, Colorado Boulevard, County Line Road)

Connected Corridors

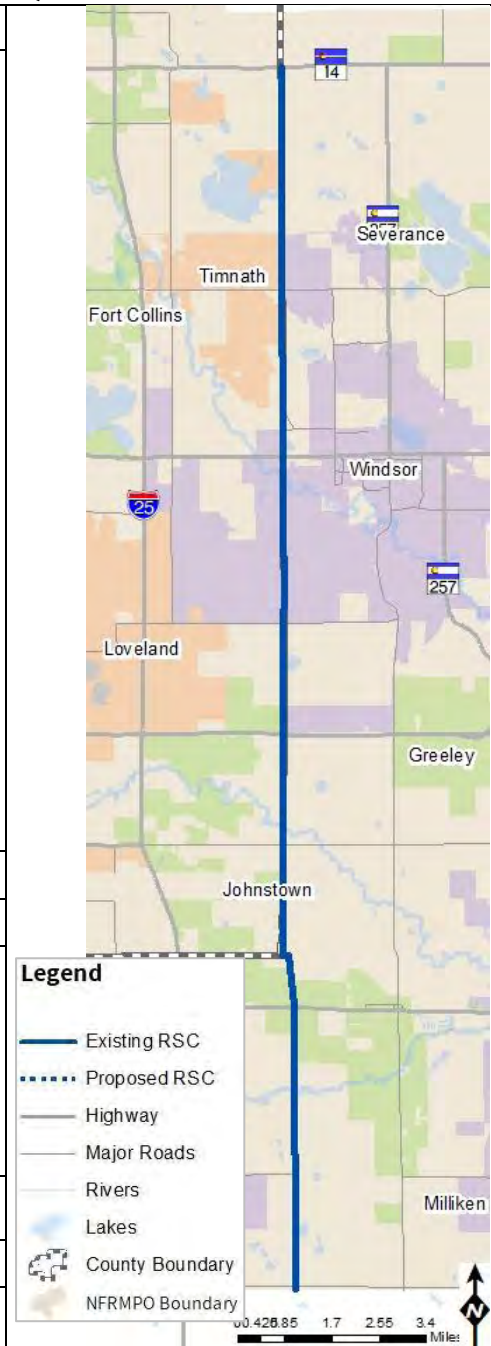
RSC | 2, 8, 10, 12, 13, 23, 26

RNMC | 2, 3, 4, 5, 6, 9, 11

RTC | 1, 3, 4, 8, 10, 12

Related Plans

- ▶ [Larimer County Transportation Master Plan, 2017](#)
- ▶ [Town of Windsor Comprehensive Plan, 2016](#)
- ▶ [NFRMPO Non-Motorized Plan, 2016](#)
- ▶ [Timnath Transportation Plan, 2015](#)
- ▶ [Weld County 2035 Transportation Plan, 2011](#)
- ▶ [Town of Johnstown Transportation Master Plan, 2008](#)



Trends

Metric	2015	2045
<i>Average Daily VMT</i>	46,326	274,681
<i>Average Daily Truck VMT</i>	1,109	4,622
<i>Population living within ½ mile</i>	5,142	28,406
<i>Jobs located within ½ mile</i>	1,160	4,037

RSC #20: Weld County Road (WCR) 17

Vision Statement

The vision for the RSC #20 is to maintain system quality as well as to increase mobility and improve safety. Future travel modes to be planned for in the RSC include passenger vehicle, bus service, bicycles, and truck freight as passenger traffic volumes are expected to increase, while truck freight volume will remain relatively constant. Communities along the RSC depend on manufacturing, agriculture, and residential development for economic activity. Users of this RSC support the movement of commuters and freight while recognizing the environmental, economic, and social needs of the surrounding area. From Main Street to WCR74, Windsor plans to expand the RSC to a four-lane road, while Greeley does not plan to add capacity. The area surrounding this RSC is transitioning from rural agricultural to suburban.

Centerline Miles | 12.1

Jurisdictions

Windsor (7th Street), Unincorporated Weld County, Greeley, Johnstown (Parish Avenue)

Connected Corridors

RSC | 2, 10, 13, 26

RNMC | 2, 3, 4

RTC | 10, 12

Related Plans

- ▶ [Windsor Comprehensive Plan, 2016](#)
- ▶ [Greeley 2035 Comprehensive Transportation Plan, 2011](#)
- ▶ [Weld County 2035 Transportation Plan, 2011](#)
- ▶ [Johnstown Transportation Master Plan, 2008](#)



Trends

Metric	2015	2045
<i>Average Daily VMT</i>	64,744	220,482
<i>Average Daily Truck VMT</i>	1,898	7,815
<i>Population living within ½ mile</i>	6,272	12,888
<i>Jobs located within ½ mile</i>	1,951	2,501

RSC #21: Weld County Road (WCR) 27 / 83rd Avenue / Two Rivers Parkway

Vision Statement

The vision for RSC #21 is to increase mobility, improve safety and maintain system quality as passenger traffic volumes and freight volumes are expected to increase. The surrounding area will continue to depend on commercial activity, residential development, and connections to other areas for economic activity. Users of this RSC support the movement of commuters while recognizing the environmental, economic, and social needs of the surrounding area.

The cities of Evans and Greeley plan to expand this road to four lanes. The RSC provides local and regional access and makes north-south connections between areas transitioning from rural to suburban. The RSC acts as a feeder to US85 (RSC #4), SH392 (RSC #12), and SH14 (RSC #8) with connections to the Denver metropolitan area.

Centerline Miles | 9.8

Jurisdictions

Greeley and unincorporated Weld County

Connected Corridors

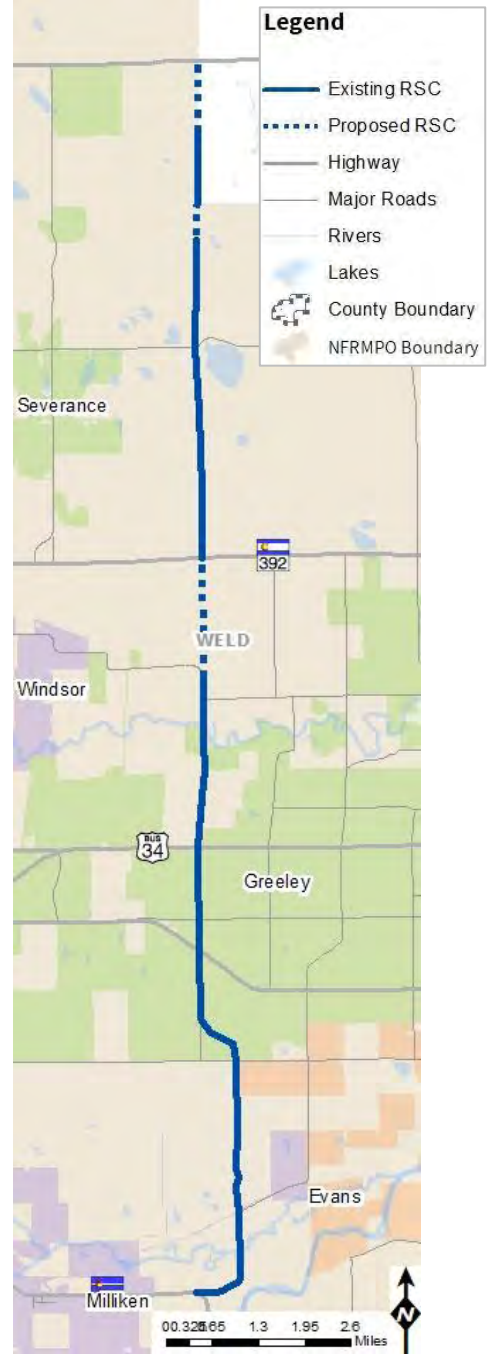
RSC | 2, 3, 8, 10, 12, 13, 23, 26

RNMC | 3, 6, 11

RTC | 3, 8, 10

Related Plans

- ▶ [Severance Transportation Plan, 2015](#)
- ▶ [Greeley 2035 Comprehensive Transportation Plan, 2011](#)
- ▶ [Weld County 2035 Transportation Plan, 2011](#)
- ▶ [Evans Transportation Plan, 2004](#)



Trends

Metric	2015	2045
<i>Average Daily VMT</i>	91,766	295,446
<i>Average Daily Truck VMT</i>	3,585	8,579
<i>Population living within ½ mile</i>	2,125	16,524
<i>Jobs located within ½ mile</i>	1,160	6,445

RSC #22: WCR 35 / 35th Avenue

Vision Statement

The vision for RSC #22 is to increase mobility. Future travel modes are planned to benefit passenger vehicles and truck freight. Additionally, the corridor could see improvements via Travel Demand Management (TDM) and bicycle and pedestrian improvements. Passenger traffic volumes are expected to increase around the intersection with RSC #2. Users of RSC #22 support the movement of commuters in and through the RSC, while recognizing the environmental, economic, and social needs of the surrounding area. Upon completion, the RSC will improve Greeley’s and Evans’ access to southbound US85 (RSC #4). Transit service is important along this corridor and there are plans for bicycle and pedestrian improvements.

Centerline Miles | 9.4

Jurisdictions

Greeley, Unincorporated Weld County (WCR35), and Evans

Connected Corridors

RSC | 2, 3, 13, 26

RNMC | 1, 6, 11

RTC | 3, 8, 10

Related Plans

- ▶ [NFRMPO Non-Motorized Plan, 2016](#)
- ▶ [Greeley 2035 Comprehensive Transportation Plan, 2011](#)
- ▶ [Evans Transportation Plan, 2004](#)



Trends

Metric	2015	2045
<i>Average Daily VMT</i>	89,776	196,038
<i>Average Daily Truck VMT</i>	1,397	4,741
<i>Population living within ½ mile</i>	20,746	22,517
<i>Jobs located within ½ mile</i>	6,816	9,486

RSC #23: WCR 74 / Harmony Road

Vision Statement

The vision for RSC #23 is to increase mobility as well as to maintain system quality and improve safety as both passenger and freight traffic volumes increase. Future travel modes to be planned for include passenger vehicle, bus service, freight trucks, and bicycle and pedestrian facilities. Users of this RSC support the movement of commuters, freight, and farm-to-market products in and along the RSC, while recognizing the environmental (including preservation and minimization/mitigation of impacts to protected public open lands/natural areas), economic, and social needs of the surrounding area.

This RSC serves as a local facility, provides commuter access, and a west-east connection between south Fort Collins, Timnath, Windsor, Severance, and Eaton. The area adjacent to the western portion of the RSC is urban, while the areas in the central and eastern portions of the RSC are transitioning from agricultural to suburban. The western portion of the RSC is an important link in the Transfort and Bustang transit systems.

Centerline Miles | 22.6

Jurisdictions

Fort Collins (LCR38), Timnath, Unincorporated Larimer County (LCR38), Windsor (WCR74), Unincorporated Weld County (WCR74), Severance (4th Avenue), and Eaton (WCR74, Collins St)

Connected Corridors

<i>RSC</i>	1, 4, 6, 11, 15, 16, 17, 19, 21
<i>RNMC</i>	4, 6, 7, 8, 9
<i>RTC</i>	1, 3, 6, 9, 11

Related Plans

- ▶ Fort Collins City Plan, 2019
- ▶ [Severance Transportation Plan, 2015](#)
- ▶ [Timnath Transportation Plan, 2015](#)
- ▶ [Eaton Transportation Plan, 2013](#)
- ▶ [Weld County 2035 Transportation Plan, 2011](#)
- ▶ [North I-25 Record of Decision 1, 2011](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	333,928	681,269
<i>Average Daily Truck VMT</i>	17,075	25,141
<i>Population living within ½ mile</i>	25,047	63,382
<i>Jobs located within ½ mile</i>	22,327	28,925



RSC #24: 8th Street

Vision Statement

The vision for RSC #24 is to increase mobility and maintain system quality for both passenger and freight traffic. The surrounding area is suburban and rural in nature. The RSC provides access to the Greeley-Weld Count Airport (GXY) as well as several manufacturing and industrial businesses. Formerly SH 263, the road was recently devolved from CDOT to the City of Greeley. Future improvements along the corridor will depend on the growth of GXY and the industrial/manufacturing district.

Centerline Miles | 3.6

Jurisdictions

Greeley and Unincorporated Weld County (WCR 60 ½)

Connected Corridors

RSC | 4

RNMC | 6

RTC | -

Related Plans

- ▶ [Greeley 2035 Comprehensive Transportation Plan, 2011](#)
- ▶ [2035 Weld County Transportation Plan, 2011](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	24,440	40,472
<i>Average Daily Truck VMT</i>	3,723	4,878
<i>Population living within ½ mile</i>	1,233	1,417
<i>Jobs located within ½ mile</i>	3,080	5,656



RSC #25: 59th Avenue / 65th Avenue

Vision Statement

The vision for RSC #25 is to increase mobility as passenger traffic volumes are expected to increase significantly especially south of US34 (RSC #2), while freight volumes remain relatively constant. The communities along the RSC value high levels of mobility, connections to other areas, safety, and system preservation. They will continue to depend on commercial activity and residential development for economic activity.

The portion from O Street to 37th Street is planned to be four lanes with bike lanes. The RSC serves as a feeder route to US34 (RSC #2) and SH392 (RSC #12) from Milliken. Additionally, the GET system could use the corridor to connect Evans to the potential West Transfer Center at Aims Community College and the new UCHealth Greeley Hospital.



Centerline Miles	9.1
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Jurisdictions

Unincorporated Weld County (WCR31, 59th Avenue), Greeley (Milliken Road, WCR31, Westridge Avenue, 59th Avenue), Evans (Milliken Road), and Milliken (Milliken Road)

Connected Corridors

<i>RSC</i>	2, 3, 12, 13, 26
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<i>RNMC</i>	3, 6, 11
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<i>RTC</i>	3, 8, 10
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Related Plans

- ▶ [Greeley 2035 Comprehensive Transportation Plan, 2011](#)
- ▶ [Evans Transportation Plan, 2004](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	56,,011	147,668
<i>Average Daily Truck VMT</i>	1,720	3,779
<i>Population living within ½ mile</i>	9,786	14,779
<i>Jobs located within ½ mile</i>	5,879	9,366

RSC #26: Crossroads Boulevard / O Street

Vision Statement

The vision for RSC #26 is to increase mobility, arterial commuter access, and create a west-east connection between Greeley, Loveland, and Windsor. Passenger traffic volumes are expected to increase, especially once the section east of SH257 (RSC #11) is complete. Communities along the RSC depend on manufacturing, high-tech industry, agriculture, commercial activity, and residential development for economic activity in the area. Portions of this RSC support the movement of tourists, commuters, freight, and farm-to-market products while recognizing the environmental, economic, and social needs of the surrounding area.

Currently, Crossroads Boulevard and O Street do not connect. The City of Greeley and Weld County plan to connect these segments, making it a major arterial. CDOT, the City of Greeley, and Union Pacific Railroad (UPRR) plan to close the O Street's existing access to US85 (RSC #4). Greeley and Weld County plan to realign the roadway to access US85 (RSC #4) using AA Street. The Larimer County Fairgrounds and Events Complex is located along this RSC, contributing to the activity. While the majority of the area surrounding RSC #23 is transitioning from agricultural to suburban, sections of the RSC in Loveland and Greeley are urbanized.

Centerline Miles | Current = 12, Buildout = 18.8

Jurisdictions

Loveland (LCR26), Windsor (WCR62), Unincorporated Weld County (O Street, WCR62, WCR64), and Greeley (O Street)

Connected Corridors

<i>RSC</i>	1, 4, 5, 11, 14, 15, 19, 20, 21, 22, 25
<i>RNMC</i>	4, 6, 9
<i>RTC</i>	3, 4, 6, 8, 11, 12

Related Plans

- ▶ [North I-25 Record of Decision 3, 2016](#)
- ▶ [Loveland 2035 Transportation Plan, 2012](#)
- ▶ [North I-25 Environmental Impact Statement, 2011](#)
- ▶ [Greeley 2035 Comprehensive Transportation Plan, 2011](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	77,107	362,361
<i>Average Daily Truck VMT</i>	5,847	26,991
<i>Population living within ½ mile</i>	1,775	16,352
<i>Jobs located within ½ mile</i>	5,312	18,309



RSC #27: Mulberry Street

Vision Statement

The vision for RSC #27 is to increase mobility and maintain system quality and improve safety as passenger volumes are expected to increase. The community also values transportation choices, connections to other areas, and system preservation. Future travel modes to be planned for include passenger vehicles, bus service, and bicycles and pedestrians. This community depends on manufacturing and commercial activity for economic activity in the area. Users of this RSC want to enhance the urban character of the area and support the movement of commuters, while recognizing its environmental, economic, and social needs.

The road is currently built to capacity with two-lanes in each direction with the exception of the western segment where the second travel lane in each direction was recently replaced with a center turn lane and protected and buffered bike lanes.

Centerline Miles | 2.7

Jurisdictions

Fort Collins

Connected Corridors

RSC | 6, 8, 17, 18

RNMC | 6

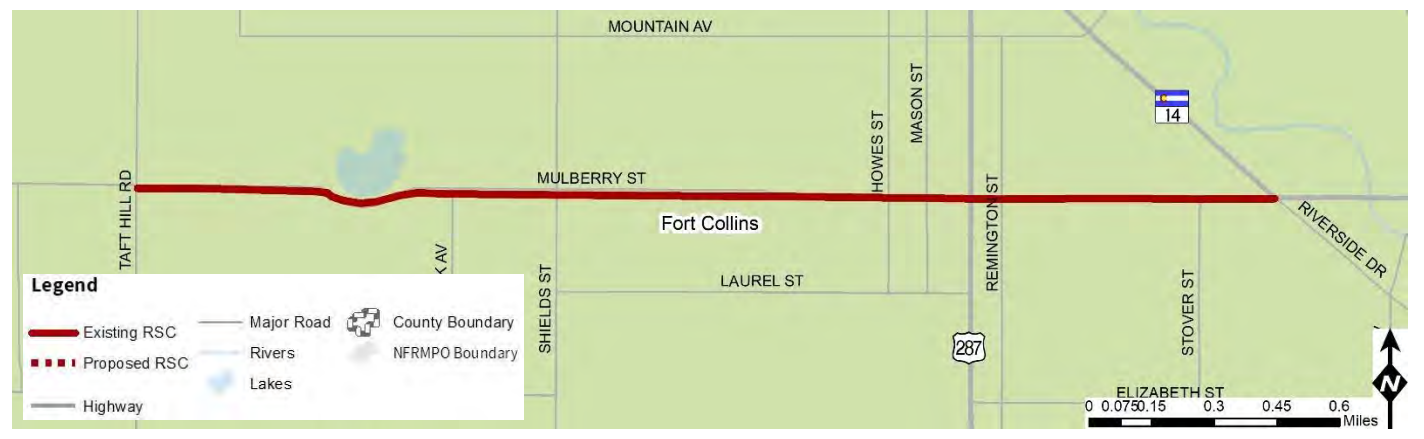
RTC | 3, 6, 9

Related Plans

► Fort Collins Transportation Master Plan, 2019

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	64,464	76,670
<i>Average Daily Truck VMT</i>	2,402	2,702
<i>Population living within ½ mile</i>	22,360	26,686
<i>Jobs located within ½ mile</i>	18,428	20,768



RSC #28: Prospect Road

Vision Statement

The vision for RSC #28 is to increase mobility as well as to improve safety and maintain system quality as passenger traffic volumes increase and freight volumes remain relatively constant. The communities along this RSC also value transportation choices, and connections to other areas. Future travel modes to be planned for include passenger vehicles, bus service, and bicycles and pedestrians. Users of this RSC want to preserve the character of the area including the wetlands surrounding the Poudre River. Users also support the movement of commuters while recognizing the environmental, economic, and social needs of the surrounding area.

This RSC serves as an important regional link between central Fort Collins, Timnath, and I-25 (RSC #1) and provides another access point to CSU, several natural areas, the Prospect Rest Area and the Colorado Welcome Center west of I-25. This RSC is an important route for the Transfort system.

Centerline Miles | 5

Jurisdictions

Fort Collins, unincorporated Larimer County, and Timnath

Connected Corridors

RSC | 1, 6, 15, 16

RNMC | 6, 7

RTC | 3, 6, 9

Related Plans

- ▶ Fort Collins City Plan, 2019
- ▶ North I-25 Record of Decision 1: Revision 2, 2017
- ▶ [Timnath Transportation Plan, 2015](#)

Trends

Metric	2015	2045
<i>Average Daily VMT</i>	113,913	223,227
<i>Average Daily Truck VMT</i>	5,797	7,244
<i>Population living within ½ mile</i>	9,425	21,858
<i>Jobs located within ½ mile</i>	18,535	19,979



B. Transit Visions

The NFRMPO adopts two region-wide transit plans: the short-range Coordinated Public Transit/Human Services Transportation Plan (Coordinated Plan) focuses on projects and actions in the short term to benefit the mobility of older adults and individuals with disabilities, and the long-range Regional Transit Element (RTE) is a region-wide assessment of transit over the same time horizon as the RTP. The two plans provide recommendations for how transit in the region should look in the future, especially regarding older adults and individuals with disabilities.

In December 2017, the NFRMPO Planning Council adopted the 2017 Coordinated Plan to address mobility needs for older adults and individuals with disabilities. The Plan was drafted with the input of older adults, individuals with disabilities, the Mobility Committees, and members of the public. Four key goal areas were recommended with desired outcomes:

- **Inclusion**
Host 12 Mobility Committees per year to act as County-level forums for mobility issues facing older adults and individuals with disabilities and have an inclusive Mobility Coordination program to ensure a diverse and consistent feedback loop.
- **Education**
Create centralized resources to find appropriate transportation and have well-trained, courteous, and understanding drivers who provided needed transportation.
- **Invest in small communities**
Improve ambulatory and non-ambulatory transportation options in the non-urbanized and more rural areas in the region.

- **Invest in large communities**
Support the efforts being undertaken by transit and paratransit providers and provide support where needed.

In September 2018, the NFRMPO Planning Council adopted the 2045 RTE, which outlines the future for regional transit. The recommendations for the future included programmatic and interagency improvements:

- **Recommended Routes**
The 2045 RTE Corridors are explored in further detail below. The recommendation is to invest in Regional Transit Corridors (RTCs) #2, #8, #9, #10, and #11.
- **Consolidate Planning Efforts**
Combine future RTEs and Coordinated Plans to streamline the planning process and reduce redundant plans.
- **Equitable Investment**
Provide needed transit instead of uniform service, ensuring populations of all ability have the same access to transportation opportunities that suit their specific needs.
- **Transit Development Program (TDP)**
Use the TDP as a starting point for further prioritizing any transportation projects for funding.
- **Technological Considerations**
Prioritize investment in technologies that are expected to enhance user experience or improve mobility. Specifically, study the feasibility of a singular, regional (universal) transit pass accepted by all major transit providers.
- **Education**
Develop a regional transit education program including how to plan a route,

payment options, how to transfer, how to request a stop, how to load and unload a bike, and the economic, health, and environmental benefits of riding transit.

The 2045 RTE recommended nine Regional Transit Corridors (RTC) as priorities for transit investment over the next 25 years. During the 2045 RTE planning process, NFRMPO staff worked with the three local transit agencies, the Technical Advisory Committee (TAC), and the public to identify a regional transit recommendation for Planning Council's consideration for the next 25 years. These corridors enhance intra- and interregional connections, creating a network of east-west and north-south routes.

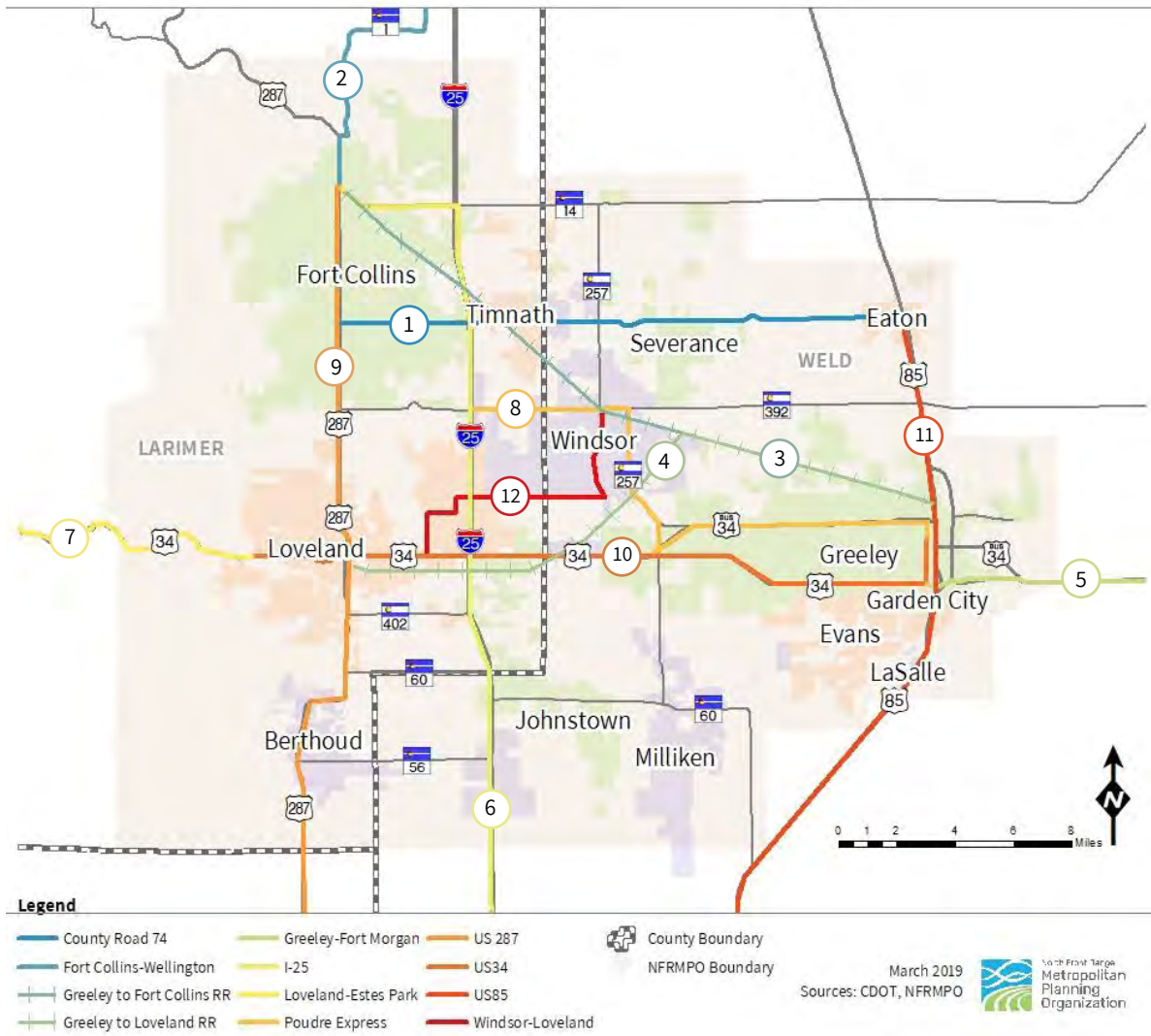
The RTCs discussed in this section are suggested corridors and not specific routes. The purpose of these corridors is to create a regional transit system by building on current successes in

transit investments. Corridors which connect to other corridors are not shown to final destinations as further studies should determine actual routing. Proposed corridors complement existing infrastructure, such as connecting cities to the Bustang service, while others would enhance the mobility of residents by connecting them to education, employment, medical, and social facilities.

Each corridor has a vision, jurisdictions, existing services, connected corridors, demographic trends, and references. This information is intended to determine what growth will happen along the corridors to inform decisions in investments and possible investment needs in the future.

Figure 3-4 illustrates the nine RTCs studied in the 2045 RTE and by the existing local transit systems. Each RTC has its own map to show connections and to provide regional context.

Figure 3-4: Regional Transit Corridors (RTCs)



Performance Measures

While RTCs may not impact bridge and pavement condition in the way RSCs do, RTCs can lead to improvements in safety, reliability, and air quality. Much of the benefit of transit is in providing an alternative to single-occupancy vehicles (SOVs), which may lead to more efficient road capacity and improved safety for all users. Transit can lead to the reduction of passenger vehicles on the road and provide an alternative to driving.

Safety – With a well-functioning transit system, fewer drivers are on the road and more people walk and bike. Often, upgraded transit facilities improve connecting pedestrian and bicycle facilities, improving overall multimodal connectivity. On higher capacity transit routes, new bus lanes or transit signal priority reduces conflicts between transportation modes. All of these can lead to improved safety for all users of the corridor.

- **Example:** The MAX corridor in Fort Collins provided a bus-only corridor, removing the bus from general purpose lanes. MAX buses do not have to pull into or out of traffic along the majority of the corridor, reducing conflict points with other vehicles.

Reliability – Upgrading transit can benefit all users by reducing the number of SOVs on the road, allowing for more multimodal trips, improving signaling systems, and reducing conflicting points.

- **Example:** Improvements on I-25, including a Mobility Hub at the upgraded US34 Park-n-Ride, will remove the intercity bus from general purpose lanes when the I-25 North Express Lanes open in the early 2020s. This will help create a more reliable transit trip for Bustang riders.

Air Quality – Transit buses and high-capacity transit options produce fewer emissions than typical gas-powered vehicles. Investing in transit and reducing SOV travel improve the region's air quality.

- **Example:** The Poudre Express will use CNG-powered buses, which produce fewer emissions than diesel and diesel-hybrid buses and are overall more efficient than SOVs.

RTC #1: Weld County Road 74

Vision Statement

RTC #1 will be evaluated for the type of transit service needed based on anticipated growth in population, employment, and mobility options. Full fixed-route service may not be appropriate, but demand-response service might best serve the corridor. An anticipated mobility hub at the Harmony Transfer Center provides a strong anchor on the west side of the corridor, while suburban growth in Timnath, Windsor, Severance, and Eaton generate trips on the eastern side of the corridor.

Jurisdictions

The Harmony Road/Weld County Road 74 corridor connects Fort Collins, Timnath, Windsor, Severance, unincorporated Weld County, and Eaton.

Existing Service

South Transit Center to Harmony Transfer Center (Transfort Route 16)

Connected Corridors

<i>RSC</i>	1, 4, 6, 11, 15, 16, 19, 21
<i>RNMC</i>	4, 6, 7, 8, 9
<i>RTC</i>	3, 6, 9, and 11
<i>Existing</i>	Transfort Routes 6, 12, 16, 19, FLEX, MAX Bustang North Line



NFRMPO Region Trends			
	Metric	2015	2045
	<i>Population Living within ½-mile</i>	21,164	59,147
	<i>Jobs within ½-mile</i>	20,922	27,491

Related Plans or Efforts

[2045 Regional Transit Element](#) (2018)
[Weld County Road 74 Access Control Plan](#) (future)

RTC #2: Fort Collins to Wellington

Vision Statement

RTC #2 will connect two quickly growing communities as referenced in the [Fort Collins Transit Master Plan](#). The regional connection will improve the commute for the growing number of people who live in Wellington and commute to Fort Collins as well as improve mobility for the low-income communities and communities of color along the corridor. The corridor will be a multimodal corridor. A mobility hub at the Downtown Transit Center connects the potential service to the full Transfort network and to the Bustang service as well as bikeshare and transportation network companies (TNCs).

Jurisdictions

The Fort Collins to Wellington corridor connects Fort Collins, unincorporated Larimer County, and Wellington.

Existing Service

Downtown Transit Center to SH1 (Transfort Route 8 and 81)

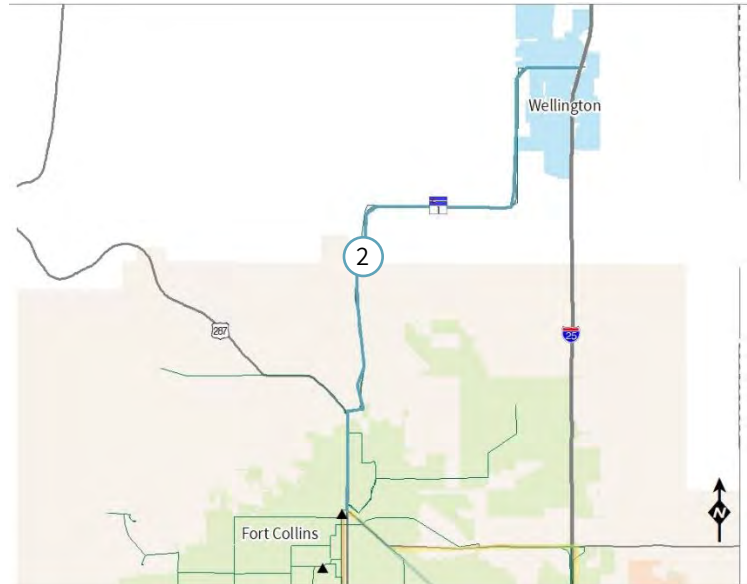
Connected Corridors

RSC 6, 7, 8

RNMC 6, 8

RTC 3, 8, and 9

Existing Transfort Routes 5, 8, 9, 10, 14, 18, 81, 92, FLEX, MAX Bustang North Line



Legend

- Fort Collins-Wellington
- Future Transfort Routes
- ▲ Transit Centers
- County Boundary
- NFRMPO Boundary

NFRMPO Region Trends

		Metric	2015	2045
		<i>Population living within 1/2 -mile</i>	6,947	11,321
		<i>Employment</i>	11,973	14,322

Related Plans or Efforts

[2045 Regional Transit Element](#) (2018)
[Transfort Transit Master Plan](#) (2019)

RTC #3: Greeley to Fort Collins RR

Vision Statement

The Great Western Railway provides a central connection between the three largest cities in the region. RTC #3 connects downtown Greeley to downtown Fort Collins with potential stops in Windsor and Timnath, two quickly growing communities. An Alternatives Analysis in the future will determine the type of transit most appropriate for the corridor, but the corridor could be the impetus for transit-oriented development and a more direct route than I-25 (RTC #6) and US34 (RTC #10). Mobility hubs at the Fort Collins Downtown Transit Center and the Greeley Regional Transportation Center could provide connections to TNCs, local bus service, intercity routes, and bikeshare stations.

Jurisdictions

The Greeley to Fort Collins RR corridor connects Greeley, Windsor, Timnath, and Fort Collins.

Existing Service

No existing transit in this corridor

Connected Corridors

RSC 1, 5, 11, 12, 15, 16, 19, 22, 23, 25, 26, 27, 28

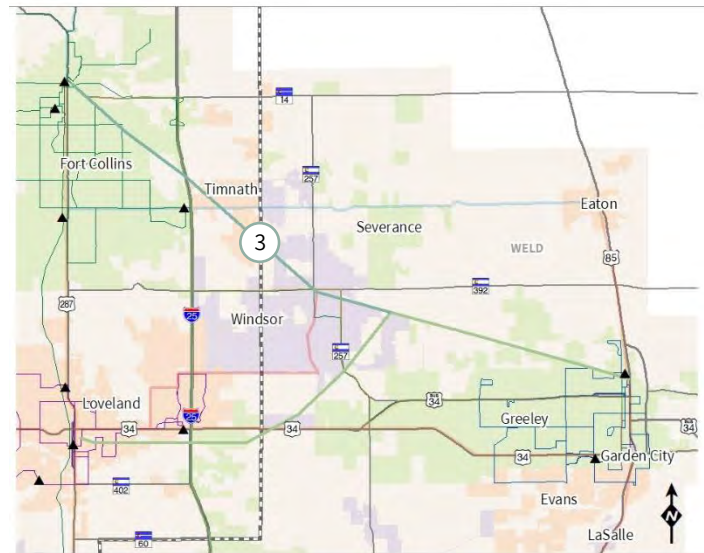
RNMC 4, 5, 6, 7, 8, 9, 10, 11

RTC 1, 2, 4, 5, 6, 8, 9, 10, 11, 12

Existing Transfort Routes 5, 8, 9, 10, 14, 18, 81, 92, FLEX, MAX
GET Routes 1, 3, 4, 5, 6
Bustang North Line

Related Plans or Efforts

Discussed at NFRMPO TAC, June 2018
[2045 Regional Transit Element](#) (2018)



Legend

- ▲ Transit Centers
- Future Loveland Routes
- Future Greeley Routes
- Future Transfort Routes
- County Boundary
- NFRMPO Boundary

NFRMPO Region Trends

		Metric	2015	2045
<i>Existing</i>	Transfort Routes 5, 8, 9, 10, 14, 18, 81, 92, FLEX, MAX GET Routes 1, 3, 4, 5, 6 Bustang North Line	<i>Population Living within ½ mile</i>	15,397	43,063
		<i>Jobs within ½ mile</i>	28,968	39,523

RTC #4: Greeley to Loveland RR

Vision Statement

The Great Western Railway provides a central connection between the three largest cities in the region. RTC #4 connects downtown Greeley to downtown Loveland with a potential stop in Windsor, one of the fastest growing communities. An Alternatives Analysis in the future will determine the type of transit most appropriate for the corridor, but the corridor could be the impetus for transit-oriented development and an alternate route to driving on US34. Mobility hubs in downtown Loveland and at the Greeley Regional Transportation Center could provide connections to TNCs, local bus service, intercity routes, and bikeshare stations.

Jurisdictions

The Greeley to Loveland RR corridor connects Greeley, Windsor, and Loveland.

Existing Service

No existing transit in this corridor

Connected Corridors

<i>RSC</i>	1, 2, 5, 6, 11, 14, 16, 19, 20, 22, 25, 26,
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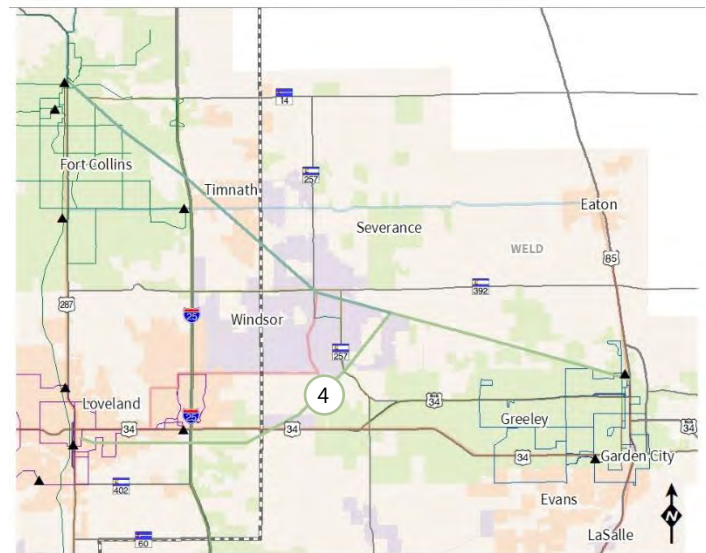
<i>RNMC</i>	3, 4, 5, 6, 8, 9, 10, 11,
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<i>RTC</i>	3, 5, 6, 8, 9, 10, 11, 12
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<i>Existing</i>	COLT Routes 1, 2, 3, 4, 5 FLEX GET Routes 1, 3, 4, 5, 6 Bustang North Line
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Related Plans or Efforts

[2045 Regional Transit Element](#) (2018)
Discussed at NFRMPO TAC, June 2018



Legend

- ▲ Transit Centers
- Future Loveland Routes
- Future Greeley Routes
- Future Transit Routes
- ⬜ County Boundary
- ⬜ NFRMPO Boundary

NFRMPO Region Trends

Metric	2015	2045
<i>Population Living within ½ mile</i>	19,751	34,730
<i>Jobs within ½ mile</i>	22,399	44,165

RTC #5: Greeley to Fort Morgan

Vision Statement

Greeley and Evans are hubs for medical appointments, social events, shopping, and other services for many rural residents of Weld County. Many county services are located in northern Greeley and the University of Northern Colorado (UNC) is located near downtown Greeley. Currently, the corridor is predominantly agricultural but growth from oil and gas development as well as those who attend UNC could benefit from transit services. Large-scale developments are not expected along this corridor.

Jurisdictions

The Greeley to Fort Morgan corridor connects Greeley, Kersey, and Fort Morgan along the US34 corridor.

Existing Service

Northeast Colorado Association of Local Governments (NECALG) provides demand response service in Morgan County.

Connected Corridors

RSC 2, 3, 4, 5

RNMC 1, 6, 11

RTC 3, 4, 8, 10, 11

Existing GET Routes 1, 2, 3, 4, 5, 6, Boomerang

Related Plans or Efforts

[2045 Regional Transit Element](#) (2018)
Bustang Discussions with Transportation Commission



Legend

- ▲ Transit Centers
- Future Greeley Routes
- NFRMPO Boundary
- Greeley-Fort Morgan
- ⊞ County Boundary

NFRMPO Region Trends

Metric	2015	2045
Population Living within ½ mile	8,899	8,678
Jobs within ½ mile	5,234	6,963

RTC #6: I-25

Vision Statement

I-25 is the central spine to the NFRMPO region. CDOT’s first Mobility Hub will be located at the US34 Park-n-Ride where new transit ramps will allow Bustang to use the Express Lanes built as part of the I-25 North Express Lanes: Johnstown to Fort Collins project. Other Mobility Hubs could be established at the Fort Collins Downtown Transit Center, the Harmony Transfer Center, and at SH56 near Berthoud. Additional frequencies should be added to the existing Bustang North Line to keep up with demand with added stops at SH56, SH60, etc. A possible connection into Greeley would provide additional service and reduce demand on US34.

Jurisdictions

The I-25 corridor connects unincorporated Larimer County, Fort Collins, Timnath, Windsor, Loveland, Johnstown, unincorporated Weld County and Berthoud. Although not passing through several other communities, the I-25 corridor is important to all communities in the region.

Existing Service

Downtown Transit Center to SH1 (Transfort Route 8 and 81)

Connected Corridors

RSC 1, 2, 6, 8, 9, 10, 12, 13, 16, 23, 26, 27, 28

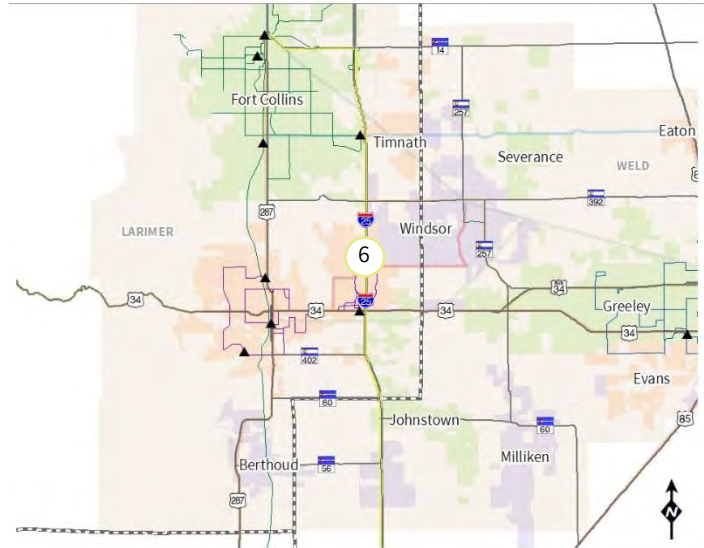
RNMC 2, 3, 4, 5, 6, 9, 11

RTC 1, 3, 4, 8, 10, 12

Existing Transfort Routes 5, 8, 9, 10, 14, 18, 81, 92, FLEX, MAX
Bustang North Line

Related Plans or Efforts

- [North I-25 FEIS](#) (2011)
- [2045 Regional Transit Element](#) (2018)



Legend

- ▲ Transit Centers
- I-25
- Future Loveland Routes
- Future Greeley Routes
- Future Transfort Routes
- ⊞ County Boundary
- ⊞ NFRMPO Boundary

NFRMPO Region Trends

Metric	2015	2045
<i>Population Living within ½ mile</i>	11,624	58,713
<i>Jobs within ½ mile</i>	35,419	64,167

RTC #7: Loveland to Estes Park

Vision Statement

Estes Park is the gateway to Rocky Mountain National Park (RMNP) and will continue to be into the future. Tourism has grown over the years, meaning Estes Park and RMNP have invested in shuttle systems and satellite parking to reduce traffic within RNMP. Adding service to Loveland would provide transit service for those who work in Estes Park, reduce traffic in Estes Park and RNMP, and would provide an alternative to driving on the western US34 corridor.

Jurisdictions

The Loveland to Estes Park corridor connects Loveland and Estes Park.

Existing Service

Via Mobility Services provides demand response service as far as Drake.

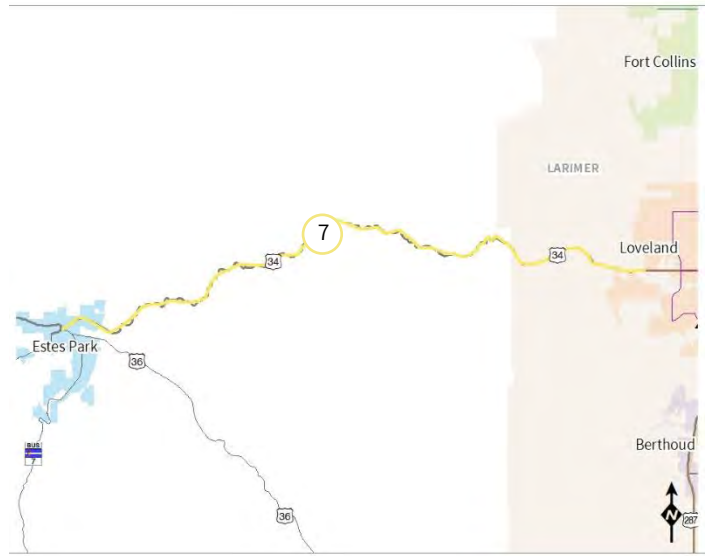
Connected Corridors

RSC | 2

RNMC | 3, 5, 11, 12

RTC | 10

Existing | Estes Park Shuttle Routes Blue, Brown, Gold, Red, and Silver



Legend

- ▲ Transit Centers
- Future Loveland Routes
- NFRMPO Boundary
- Loveland-Estes Park
- ⊞ County Boundary

NFRMPO Region Trends

		Metric	2015	2045
		<i>Population Living within ½ mile</i>	1,908	1,952
		<i>Jobs within ½ mile</i>	449	897

Related Plans or Efforts

[2045 Regional Transit Element](#) (2018)

RTC #8: Poudre Express

Vision Statement

A regional demand exists to provide east-west connections, especially connecting Greeley to the communities west of I-25. The Poudre Express will provide connections to fast-growing Windsor, as well as provide increased mobility and connections between Fort Collins and Greeley. Each city offers many social services, economic opportunities, and additional transit connections. Providing the regional link opens these opportunities to the overall region. The section from the Promontory Park-n-Ride in Greeley to the intersection of SH 392 and SH 257 is mentioned in the [North I-25 Final Environmental Impact Statement](#) as a feeder bus to the I-25 corridor. Service is expected to begin in January 2020.

Jurisdictions

The Poudre Express connects Greeley, Windsor, and Fort Collins.

Existing Service

Downtown Transit Center to I-25 (Transfort Route 14); Regional Transportation Center to west Greeley (GET Route 1)

Connected Corridors

<i>RSC</i>	1, 5, 3, 8, 11, 12, 15, 16, 19, 21, 22, 23, 25, 26, 27, 28
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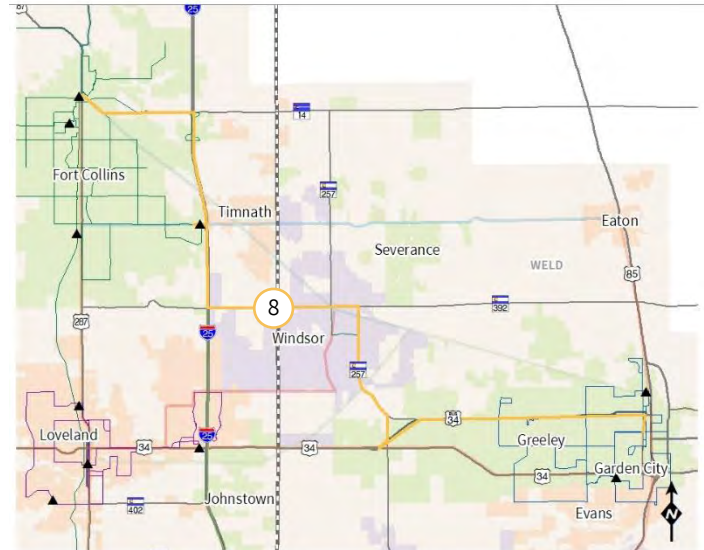
<i>RNMC</i>	4, 5, 6, 7, 8, 9, 10, 11
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<i>RTC</i>	1, 2, 3, 4, 5, 9, 10, 11, 12
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<i>Existing</i>	GET Routes 1, 3, 4, 5, 6 Transfort Routes 5, 8, 9, 10, 14, 18, 81, 92, FLEX, MAX Bustang North Line
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Related Plans or Efforts

[GET Strategic Plan](#) (2017)
[Poudre Express Business Plan](#) (2018)
[2045 Regional Transit Element](#) (2018)
[Transfort Transit Master Plan](#) (2019)



Legend

- ▲ Transit Centers
- Future Loveland Routes
- Poudre Express
- Future Transfort Routes
- Future Greeley Routes
- ⬢ NFRMPO Boundary
- ⬢ County Boundary

NFRMPO Region Trends

Metric	2015	2045
<i>Population Living within ½ mile</i>	50,035	97,052
<i>Jobs within ½ mile</i>	51,776	70,040

RTC #9: US287

Vision Statement

The US287 corridor is coterminous with the existing FLEX services, currently between Fort Collins and Boulder. The corridor connects two fast-growing communities, two large universities, and a large commuter-shed headed to both termini. The communities along the corridor have invested in the existing FLEX service as they see its ability to connect service affordably. The SH119 portion of this corridor will see investments from the Regional Transportation District (RTD), which will benefit transit users. Services in Fort Collins benefit from MAX improvements. The corridor should see an investment in transit frequency, stop amenities, and marketing. The BNSF corridor was established as a potential corridor for commuter rail in the future.

Jurisdictions

The US287 corridor connects Fort Collins, Loveland, Berthoud, Longmont, Niwot, Gunbarrel, and Boulder.

Existing Service

FLEX provides service along the entire US287 corridor. MAX provides parallel service. RTD's BOLT runs along the SH119 corridor.

Connected Corridors

RSC 2, 6, 9, 10, 12, 13, 17, 23, 27

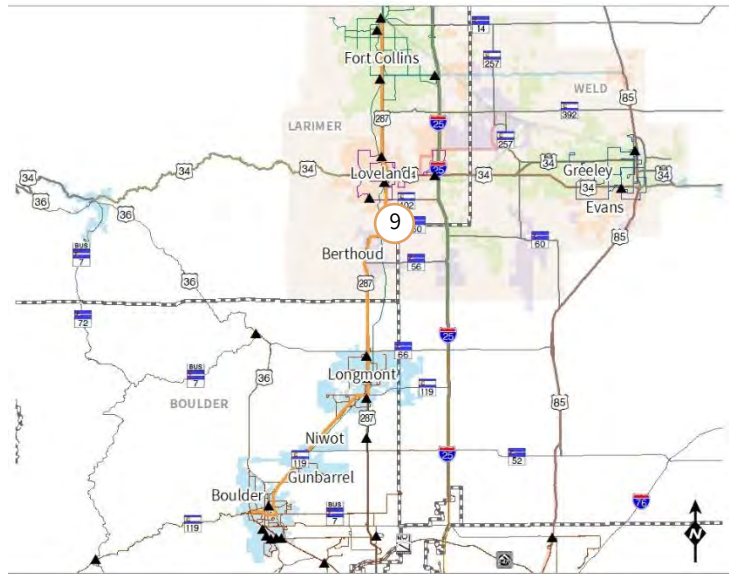
RNMC 2, 3, 4, 5, 6, 7, 8, 11

RTC 1, 2, 3, 4, 6, 7, 8, 10, 12

Existing Bustang North Line
COLT Routes 1, 2, 3, 4, 5
Transfort Routes 5, 6, 7, 8, 9, 10, 14, 16, 18, 19, 81, 92,
FLEX, MAX
RTD Routes

Related Plans or Efforts

- [North I-25 FEIS](#) (2011)
- [2045 Regional Transit Element](#) (2018)
- [Transfort Transit Master Plan](#) (2019)



Legend

- US287
- ▲ Transit Centers
- Future Loveland Routes
- Future Greeley Routes
- Current RTD Routes
- Future Transfort Routes
- ▭ County Boundary
- ▭ NFRMPO Boundary

NFRMPO Region Trends

Metric	2015	2045
<i>Population Living within ½ mile (within NFRMPO boundary)</i>	46,533	69,077
<i>Jobs within ½ mile</i>	51,366	64,955

RTC #10: US34

Vision Statement

Development has occurred along the US34 corridor connecting Greeley and Loveland, providing new opportunities for shopping, medical offices, and retail. A previous version of this route, the 34 Xpress, was canceled due to low ridership. Additional development, connectivity to the Bustang service on I-25 at the US34 Park-n-Ride, and improved marketing and scheduling should improve the usage of this route. A demand exists for connecting communities west of I-25 with Greeley.

Jurisdictions

The US34 corridor connects Greeley, Evans, Windsor, unincorporated Weld County, Johnstown, and Loveland.

Existing Service

COLT Routes 2, 3, 4, and 5 all run on US34 for at least part of their routes.

Connected Corridors

<i>RSC</i>	1, 2, 3, 4, 5, 6, 11, 14, 15, 16, 17, 18, 19, 21, 22, 25
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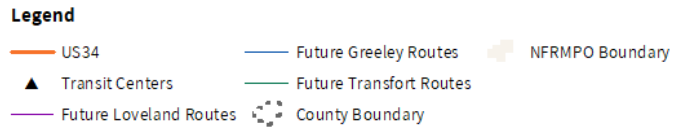
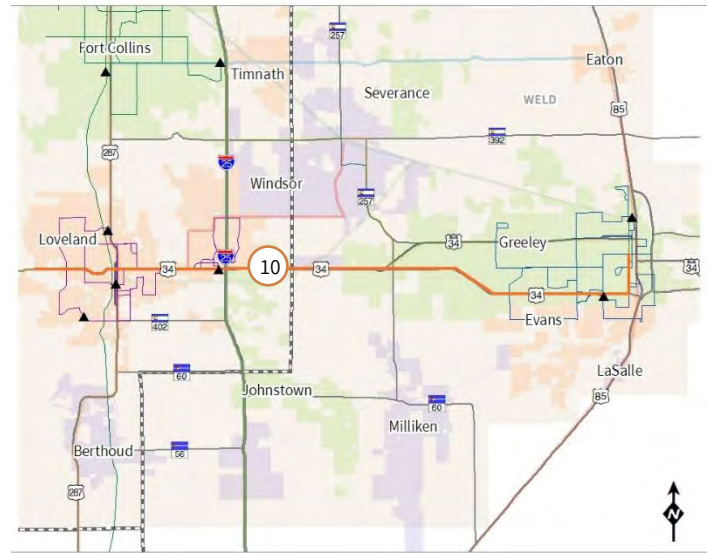
<i>RNMC</i>	3, 4, 5, 6, 7, 8, 9, 10, 11
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<i>RTC</i>	3, 4, 5, 6, 7, 8, 9, 11, 12
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<i>Existing</i>	COLT Routes 1, 2, 3, 4, 5 GET Routes 1, 2, 3, 4, 5
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Related Plans or Efforts

- [North I-25 FEIS](#) (2011)
- [2045 Regional Transit Element](#) (2018)



NFRMPO Region Trends

Metric	2015	2045
<i>Population Living within ½ mile</i>	50,513	101,736
<i>Jobs within ½ mile</i>	45,236	75,251

RTC #11: US85

Vision Statement

Connecting Eaton to Greeley to Denver along the US85 corridor is identified in the [North I-25 Final Environmental Impact Statement](#). The corridor is meant to serve as a parallel route to I-25, providing high-capacity transit between Eaton, Evans, Greeley, LaSalle, and communities in the eastern NFRMPO region. The route will provide connections to employment opportunities, medical facilities, and other amenities within the Denver Metro area and the eastern North Front Range. A transit route along US85 would provide access for employees in the manufacturing, agriculture, commercial activity, and oil and gas sectors. The route could also provide additional economic benefits by allowing those in the eastern NFRMPO region to commute to Evans and Greeley using an alternative mode.

Jurisdictions

The US85 corridor connects Eaton, Greeley, Garden City, Evans, LaSalle, Gilcrest, Platteville, Fort Lupton, and Brighton to the Denver region.

Existing Service

No service runs on US85. GET Route 4 runs on US85 Business for a short distance.

Connected Corridors

RSC 2, 3, 4, 5, 12, 13, 22, 23, 26

RNMC 1, 3, 6, 10, 11,

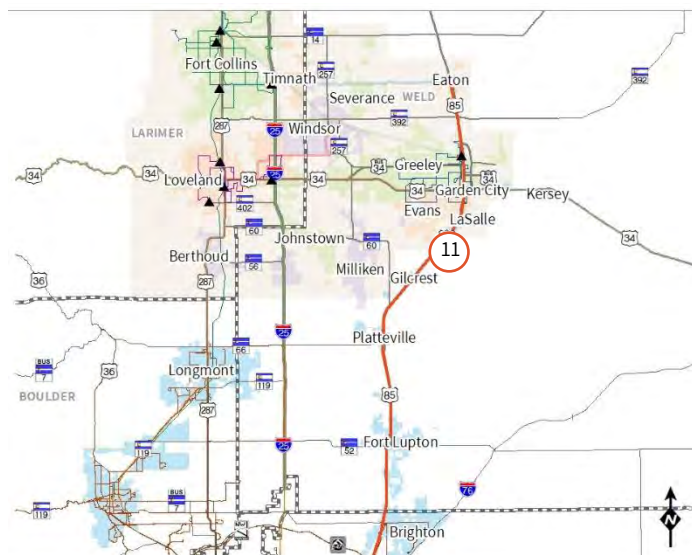
RTC 1, 3, 4, 5, 8, 10

Existing GET Route 2 (US85)

Related Plans or Efforts

[North I-25 FEIS](#) (2011)

[2045 Regional Transit Element](#) (2018)



Legend

- US85
- Future Loveland Routes
- Future Greeley Routes
- Current RTD Routes
- Future Transit Routes
- ▲ Transit Centers
- County Boundary
- NFRMPO Boundary

NFRMPO Region Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	24,125	27,243
<i>Jobs within ½ mile</i>	31,246	40,064

RTC #12: Windsor to Loveland

Vision Statement

Much of the anticipated growth in Northern Colorado is expected to occur in the Central I-25 area, specifically near Windsor, Loveland, and Johnstown. The Windsor to Loveland corridor connects these residents to major shopping, economic, and social areas as well as to other major transit corridors. Medical Center of the Rockies, Centerra, and other important regional destinations are located along this corridor.

Jurisdictions

The Fort Collins to Wellington corridor connects Fort Collins, unincorporated Larimer County, and Wellington.

Existing Service

COLT Routes 3 and 5 run along US34 in eastern Loveland.

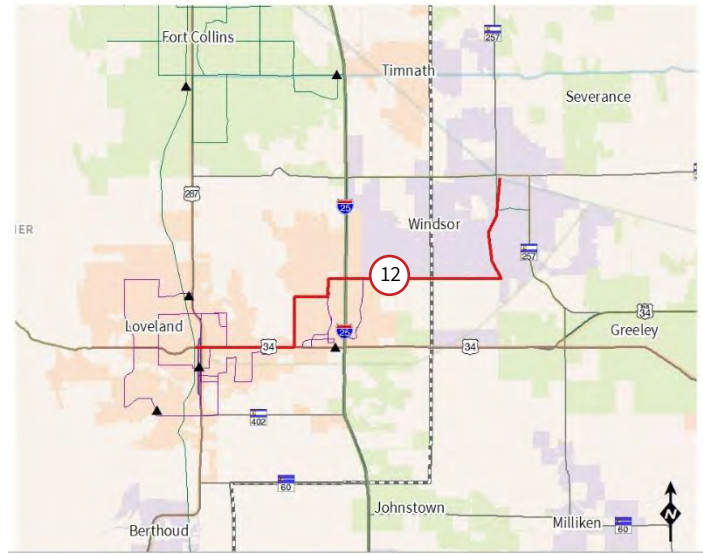
Connected Corridors

RSC 1, 2, 11, 12, 14, 15, 16, 19, 26

RNMC 3, 4, 5, 6, 7, 8, 9, 11

RTC 3, 4, 6, 8, 10

Existing COLT Routes 1, 3, 5
FLEX
Bustang North Line



Related Plans or Efforts

[2045 Regional Transit Element](#) (2019)

NFRMPO Region Trends

Metric	2015	2045
<i>Population Living within ½ mile</i>	20,028	42,993
<i>Jobs within ½ mile</i>	18,150	37,129

C. Non-Motorized Visions

The long-range vision for regional bicycle and pedestrian (non-motorized) transportation in the region was originally set in the [2013 Regional Bicycle Plan \(RBP\)](#) and updated in the [2016 Non-Motorized Plan \(NMP\)](#). With the adoption of these plans, the NFRMPO solidified its vision for additional transportation chances, enhanced access to transit and community centers, and the empowerment of people who do not have access to, do not want, or cannot operate a motor vehicle. Both plans were created to assist NFRMPO communities with prioritizing and selecting improvements to the bicycling and walking network. The plans provide tools and guidance for outreach and data collection, pursuing funding opportunities, adopting Complete Streets principles and policies, standardizing wayfinding elements, incorporating health and equity into all policies, conducting infrastructure audits, performing bicycle and pedestrian counts, and designing facilities and programs.

In the [RBP](#), the NFRMPO identified 12 Regional Bicycle Corridors (RBCs) which could serve as the spine for bicycle travel between and through the local communities. In the [NMP](#), the RBPs were affirmed and renamed Regional Non-Motorized Corridors (RNMCs) to acknowledge their capacity to accommodate pedestrian as well as bicycle travel. The following selection criteria were established to identify RNMCs and guide other ongoing regional non-motorized planning efforts:

- **Gap Assessment** – Identifying the lack of connections in the existing non-motorized network based on desired travel patterns obtained through

outreach and other data collection efforts (e.g. count data, STRAVA Metro data, GIS inventory analysis).

- **Consistency with Local/State Planning** – Proposed routes identified in local plans are used as a starting point, with preference for routes in which the jurisdiction has a policy to accommodate bikes (e.g., a Complete Streets policy).
- **Support Tourism and Local/Regional Economy** – Major employment and activity centers, the likelihood of commuters using routes, as well as schools and the potential for student use are given heavy consideration. Routes also used for race events and/or group rides that enhance tourism are also important to the region.
- **Connect Multiple Jurisdictions** – Connections between communities that contribute to the network of non-motorized facilities.
- **Improve Level of Stress (LOS)** – Travel sheds with poor LOS for bicyclists and/or pedestrians where significant improvement in LOS would result from implementation.
- **Provide Multimodal Connections** – Connecting to existing and future transit service and stop locations and Transportation Demand Management (TDM) facilities (e.g., Bustang and carpool/vanpool Park-n-Rides).
- **Connect to Regional Trails/Trailheads** – Leveraging existing and future regional trails and

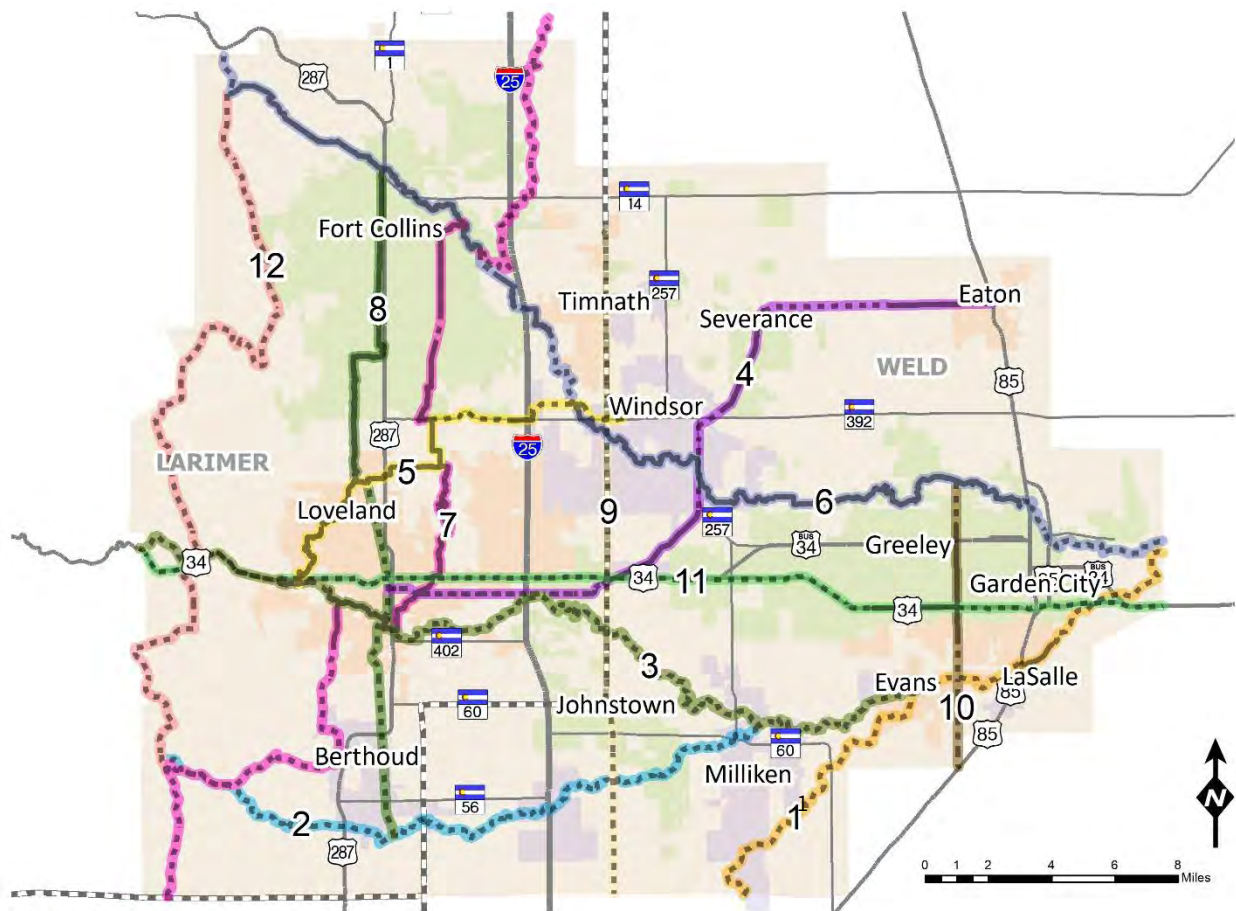
trailheads to expand the capacity of the non-motorized network.

- **Minimize Obstacles to Implementation** – Identifying and mitigating, minimizing, or avoiding known obstacles such as the number of property owners along a trail corridor, right-of-way (public, private, railroad, ditch, etc.), wildlife habitat and/or environmentally sensitive lands, and/or geographic obstacles (stream crossings, harsh terrain).
- **Public Input** – An extensive and continuous public outreach process to assess public demand for improvement of the regional non-motorized network.

Between plan updates, the bulk of regional non-motorized planning and visioning is carried out collaboratively between NFRMPO staff, member agencies, and/or other planning partners. One such example of these ongoing efforts is the NoCo Bike & Ped Collaborative, consisting of the project managers, funding partners, planning partners, and other stakeholders working to complete the RNMC network and advance non-motorized transportation in the region. The NoCo Bike & Ped Collaborative meets regularly to update the RNMC network, makes funding recommendations related to projects on the network, shares best practices in bicycle and pedestrian planning, and conducts trainings, workshops, and other events to promote the development and use of the RNMCs.


The following RNMC visions are carried forward from the [NMP](#) and updated to reflect the most current data available. For detailed visions of these corridors broken down by segment, refer to the [2013 Regional Bicycle Plan](#). **Figure 3-5** shows the RNMC network as of 2019.

Figure 3-5: Regional Non-Motorized Corridors (RNBCs)



Legend

- | | | |
|--|---|---------------------|
| 1: South Platte/American Discovery Trail | 7: Front Range Trail (West) | — Existing RNBC |
| 2: Little Thompson River | 8: BNSF Fort Collins/Berthoud | - - - Proposed RNBC |
| 3: Big Thompson River | 9: Johnstown/Timnath | ▣ County Boundary |
| 4: Great Western/Johnstown/Loveland | 10: Greeley/LaSalle | ▨ NFRMPO Boundary |
| 5: North Loveland/Windsor | 11: US 34 Non-motorized | |
| 6: Poudre River Trail | 12: Carter Lake/Horsetooth Foothills Corridor | |

August 2019
 Sources: CDOT, NFRMPO  North Front Range Metropolitan Planning Organization

Performance Measures

RNMCs, like RTCs, provide multimodal options and provide connecting corridors between the NFRMPO jurisdictions. RNMCs do not impact bridge and pavement condition in the way RSCs do, but can lead to improvements in safety, reliability, and air quality.

Safety – One of the performance measures in the NFRMPO’s GOPMT is the Number of Non-Motorized Fatalities and Serious Injury crashes. Building out the RNMCs creates non-motorized corridors separate from automobile traffic, reducing the number of conflict points between pedestrians, bicyclists, and automobiles. More than 500 crashes were reported between 2011 and 2015 involving a pedestrian or bicyclist in the NFRMPO region with between 30 and 50 of those being fatal or causing serious injury each year. The number is expected to be higher as bicycle and pedestrian crashes are underreported.

Example: Between 2011 and 2015, a pedestrian and bicyclist were killed, and another pedestrian was seriously injured by vehicles on roads between Loveland and Fort Collins. In 2017 and 2018, sections of RNMC #7 and #8 were completed, connecting the two cities’ trail networks parallel to these crash locations. These two trails now provide separated facilities along high-speed rural roadways, one grade-separated intersection, and signal and/or signage improvements at at-grade intersections.

Reliability – Upgrading non-motorized facilities can benefit all users by reducing the number of SOVs on the road, trip chaining with transit, improving signaling systems, and reducing conflicting points.

Example: The Mason Trail (RNMC #8) in Fort Collins parallels the busy US287 corridor and MAX Bus Rapid Transit (BRT) service north to south across the city. The trail includes ample bike parking, including two locked bike shelters, seven Pace bike share stations, and traffic signal and signage improvements. Combined with frequent MAX BRT service with on-board bike storage, the Mason Corridor takes vehicles off US287, improving its reliability.

Air Quality – Walking and cycling produce no emissions and can reduce dependence on cars.

Example: The Poudre River Trail (RNMC #6) between Greeley and Windsor provides a continuous route between major commercial, residential, and recreation destinations in each community. The trail provides access to these destinations without the need for a motor vehicle. Once the remaining trail gaps in Larimer County are completed, bicyclists and pedestrians will have a continuous separated facility from Greeley to Fort Collins, with dozens of local trail spurs and on-street non-motorized network connections to complete their journey emissions free.

RNMC #1: South Platte / American Discovery Trail

Vision Statement

This RNMC takes users along South Platte River flowing through the southeast portion of the NFRMPO region. The RNMC represents not only a future connection between NFRMPO communities, but a key segment of a future statewide trail corridor ([Colorado Front Range Trail](#)), and nationally-recognized corridor ([American Discovery Trail](#)). The RNMC is widely referenced by member governments as a shared-use trail along the South Platte River corridor ultimately connecting with the Poudre River Trail (RNMC #6) east of Greeley near the confluence of the two rivers. There is one existing segment in Evans connecting US85 to Riverside Park. The remaining segments are planned to be completed with grant awards the region has received.

Centerline Miles | 22

Jurisdictions

Milliken, Unincorporated Weld County, Evans, LaSalle, and Greeley

Connected Corridors

RSC | 2, 3, 4, 10, 21, 22

RNMC | 3, 6, 10, 11

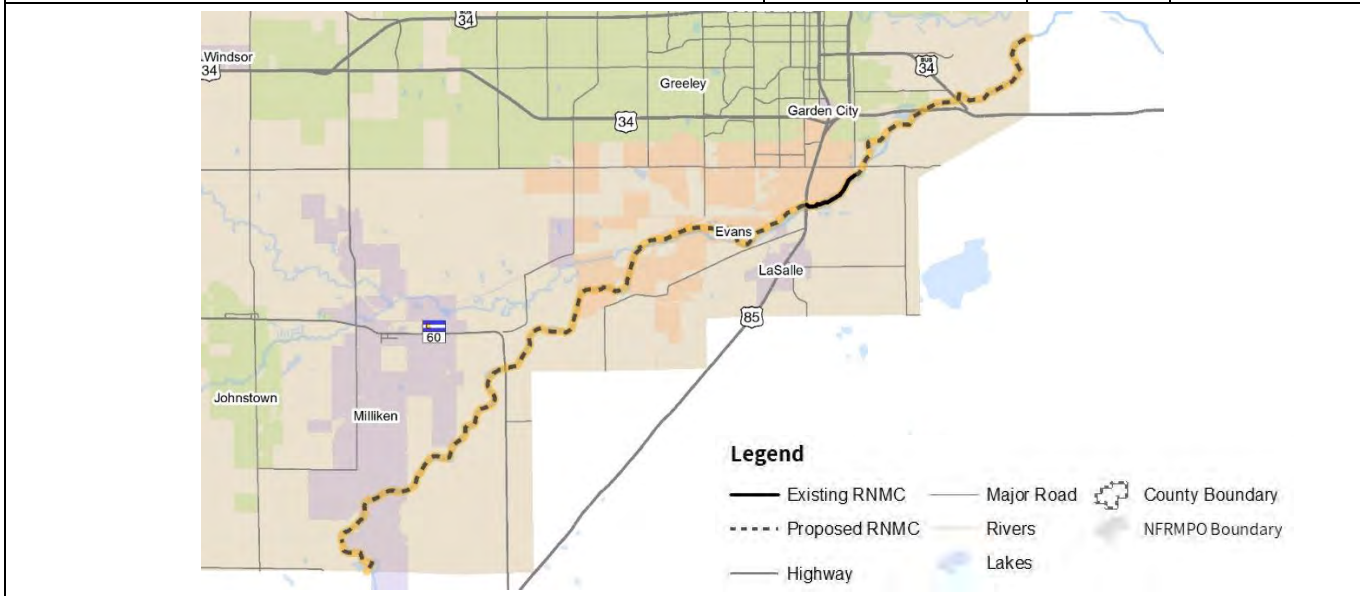
RTC | 5, 11

Related Plans

- ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019
- ▶ [NFRMPO Non-Motorized Plan](#), 2016
- ▶ [Greeley Parks, Trails, and Open Lands Master Plan, 2016](#)
- ▶ [Wildcat Trail Conceptual Master Plan, 2015](#)
- ▶ [NFRMPO Regional Bicycle Plan](#), 2013
- ▶ [Evans Open Space and Trails Master Plan, 2004](#)
- ▶ [Johnstown-Milliken Parks, Trails, Recreation, Open Space Plan, 2003](#)

Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	1,903	7,555
<i>Jobs located within ½ mile</i>	384	3,989



RNMC #2: Little Thompson River

Vision Statement

RNMC #2 provides a true regional connection across the southern portion of the NFRMPO region. This historically-identified corridor connects both Larimer and Weld counties with access to destinations such as Carter Lake, Front Range Trail West (RNMC #7), I-25/SH56 Park-n-Ride, and connections to downtown Berthoud, Johnstown, and Milliken. The preferred alignment for this corridor leaves the Little Thompson River in Berthoud and follows the Dry Creek northwest to Carter Lake. The route along the Little Thompson is preserved as an alternative alignment. This corridor is listed as a regional trail priority in the [2015 Larimer County Open Lands Master Plan](#).

Centerline Miles | 25.5

Jurisdictions

Unincorporated Larimer County, Berthoud, Johnstown, Milliken, and Unincorporated Weld County

Connected Corridors

RSC | 1, 6, 9, 10, 11, 14, 19, 20

RNMC | 3, 7, 8, 9, 12

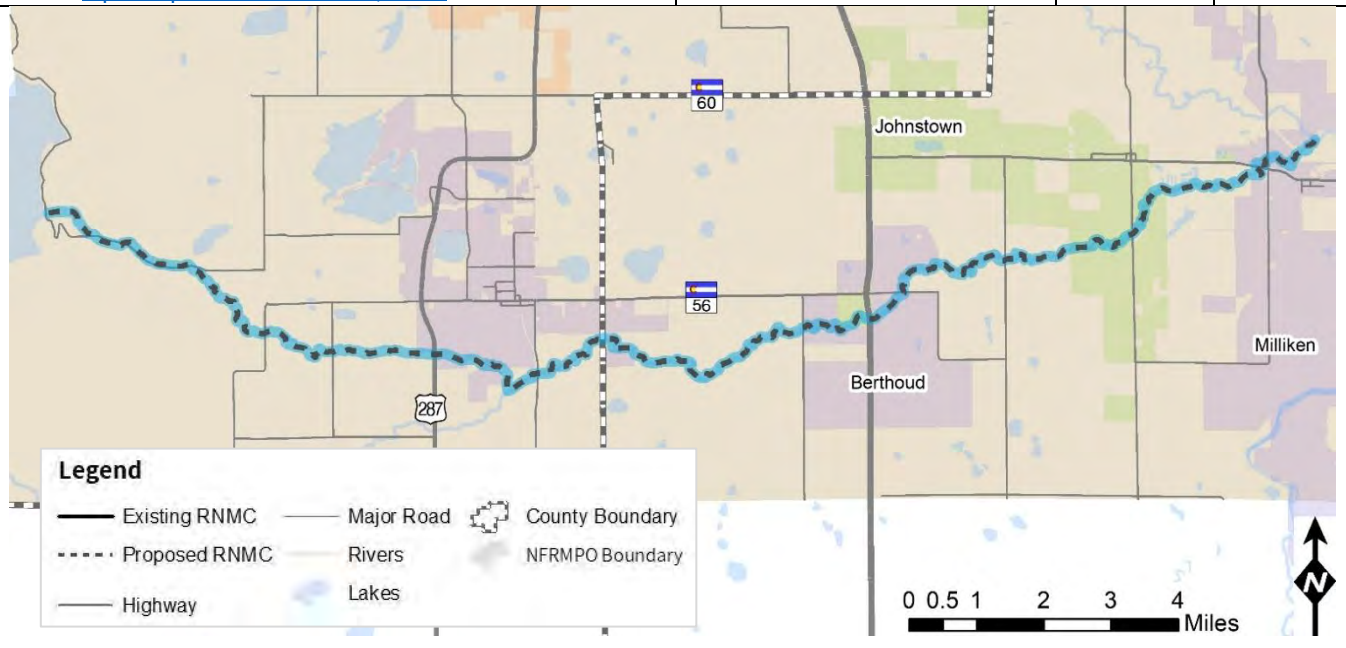
RTC | 6, 9

Related Plans

- ▶ [Berthoud Unified Trail Master Plan, 2018](#)
- ▶ [NFRMPO Non-Motorized Plan, 2016](#)
- ▶ [NFRMPO Regional Bicycle Plan, 2013](#)
- ▶ [Larimer County Open Lands Master Plan, 2015](#)
- ▶ [Johnstown-Milliken Parks Trails Recreation Open Space Master Plan, 2003](#)

Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	-	12,557
<i>Jobs located within ½ mile</i>	-	5,398



RNMC #3: Big Thompson River

Vision Statement

RNMC #3 provides a regional connection across the central portion of the NFRMPO region. This historically identified RNMC will connect both Larimer and Weld counties with access to destinations such as the Front Range Trail West (RNMC #7), Loveland’s Recreation Trail, Devil’s Backbone Open Space, and downtown Loveland and Milliken, as well as 15 K-12 and higher education schools. Currently, one segment has been constructed in Loveland. This RNMC will provide a grade-separated crossing of I-25, linking fast-growing commercial areas, residential neighborhoods, and natural areas. It is listed as a regional trail priority in the [2015 Larimer County Open Lands Master Plan](#).

Centerline Miles | 35

Jurisdictions

Unincorporated Larimer County, Loveland, Johnstown, Unincorporated Weld County, Milliken, and Evans

Connected Corridors

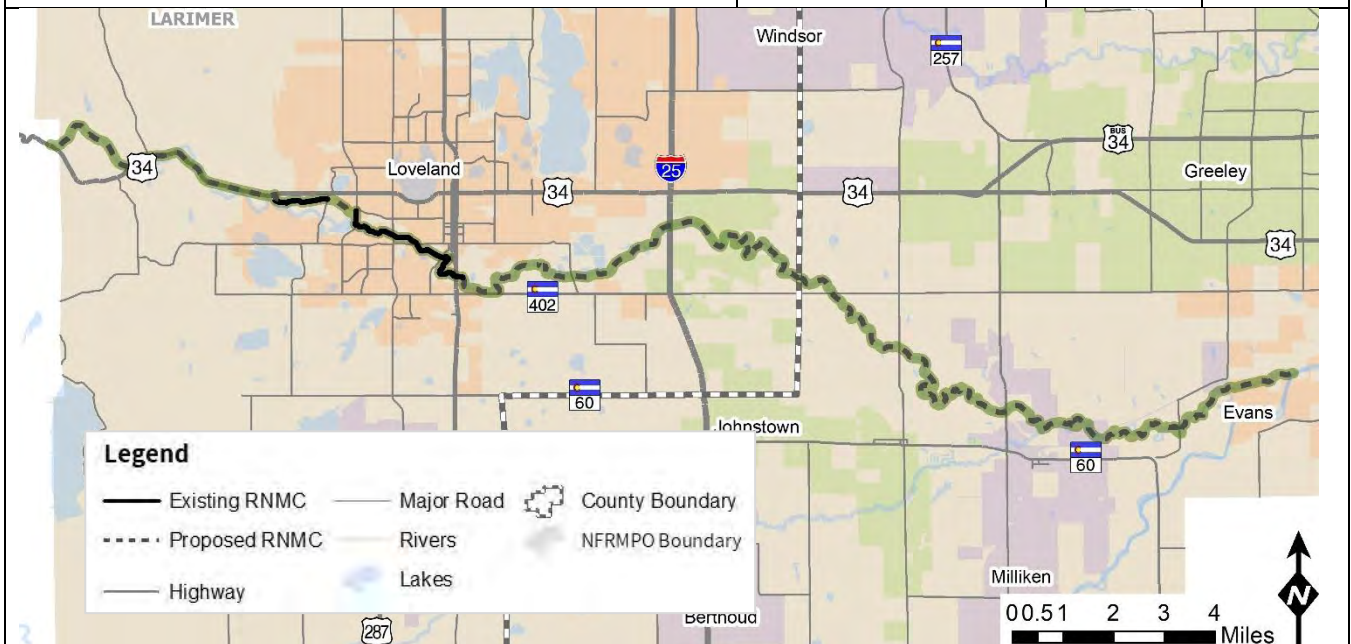
<i>RSC</i>	1, 2, 6, 11, 13, 14, 16, 17, 19, 20, 21, 25
<i>RNMC</i>	1, 2, 4, 5, 7, 8, 9, 11, 12
<i>RTC</i>	4, 6, 7, 10

Related Plans

- ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019
- ▶ [NFRMPO Non-Motorized Plan](#), 2016
- ▶ [NFRMPO Regional Bicycle Plan](#), 2013
- ▶ [Larimer County Open Lands Master Plan, 2015](#)
- ▶ [Loveland Parks and Recreation Master Plan, 2014](#)
- ▶ [Evans Open Space and Trails Master Plan, 2004](#)
- ▶ [Johnstown-Milliken Parks, Trails, Recreation, Open Space Plan, 2003](#)

Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	8,096	27,063
<i>Jobs located within ½ mile</i>	4,325	19,688



RNMC #4: Great Western / Johnstown / Loveland

Vision Statement

The RNMC follows the alignment of the Great Western Railroad, which once connected Eaton to Loveland. The backbone of the RNMC in the 11.7-mile mixed-use recreational trail connecting the towns of Windsor, Severance, and Eaton via the abandoned rail bed of the Great Western Railroad (preserved right-of-way through the provisions of the federal [“Rails-to-Trails”](#) legislation). The remainder of the RNMC would follow the remaining active railway (Rail-with-Trails) crossing the Poudre River Trail (RNMC #6) and I-25 into Loveland’s off-street bicycle network. This corridor provides critical rural access from the northeast portion of NFRMPO region to the region’s rapidly-developing core and celebrates the region’s rich agricultural history.

Centerline Miles | 25

Jurisdictions

Loveland, Johnstown, Greeley, Windsor, Severance, Unincorporated Weld County, and Eaton

Connected Corridors

RSC | 1, 2, 4, 6, 11, 12, 14, 16, 19, 20, 21, 23

RNMC | 3, 6, 7, 8, 9, 11

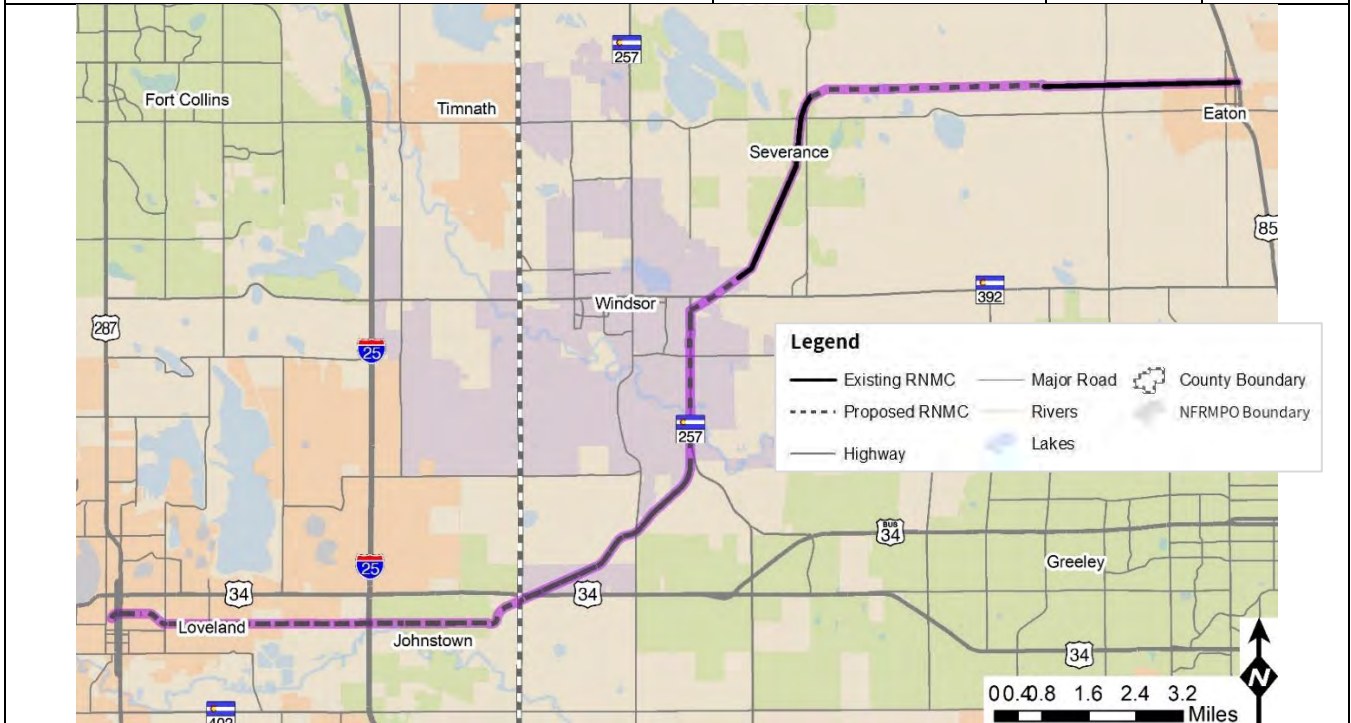
RTC | 4, 6, 8, 9, 10

Related Plans

- ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019
- ▶ [NFRMPO Non-Motorized Plan](#), 2016
- ▶ [NFRMPO Regional Bicycle Plan](#), 2013
- ▶ [Windsor Comprehensive Plan, 2016](#)
- ▶ [Loveland Parks and Recreation Master Plan, 2014](#)

Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	5,071	61,263
<i>Jobs located within ½ mile</i>	2,010	38,057



RNMC #5: North Loveland / Windsor

Vision Statement

RNMC #5 will support bicycle travel from Windsor in Weld County across the county line into the southern portion of Fort Collins, the Carter Lake/Horsetooth Foothills Corridor (RNMC #12) and the western arc of Loveland’s Recreation Trail in Larimer County. The trail also leverages the newly constructed bike lanes across the upgraded Fort Collins/Windsor Bridge at SH392 to access the bicycle lanes and a future shared-use trail on the southern boundary of Fossil Creek Reservoir. This corridor is listed as a regional trail priority in the 2015 [Larimer County Open Lands Master Plan](#). The City of Loveland is working to fill a critical gap across the BNSF Railroad track, which will provide new opportunities for regional travel.

Centerline Miles | 18

Jurisdictions

Loveland, Unincorporated Larimer County, Fort Collins, and Windsor

Connected Corridors

RSC | 1, 2, 6, 12, 15, 16, 17, 18, 19

RNMC | 3, 6, 7, 8, 11

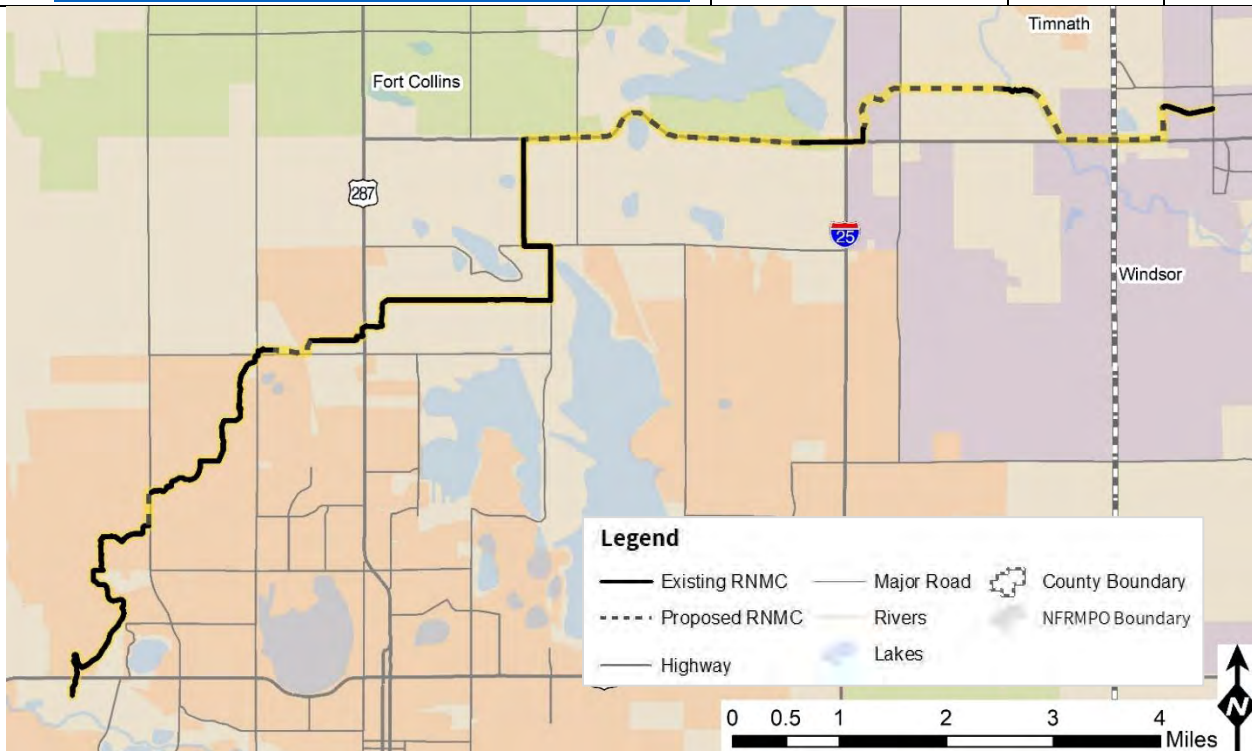
RTC | 6, 7, 8, 9

Related Plans

- ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019
- ▶ [NFRMPO Non-Motorized Plan](#), 2016
- ▶ [NFRMPO Regional Bicycle Plan](#), 2013
- ▶ [Windsor Comprehensive Plan, 2016](#)
- ▶ [Larimer County Open Lands Master Plan, 2015](#)
- ▶ [Loveland Parks and Recreation Master Plan, 2014](#)
- ▶ [Fort Collins Paved Recreation Trail Master Plan, 2013](#)

Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	16,699	31,237
<i>Jobs located within ½ mile</i>	4,877	13,781



RNMC #6: Poudre River

Vision Statement

RNMC #6 is a nationally-recognized bicycle and pedestrian corridor extending beyond the NFRMPO boundary. The RNMC within the NFRMPO region is the most publicly recognized trail infrastructure in the [2045 RTP](#) and works as a model for the regional collaboration required to construct a trail between multiple jurisdictions. The collaborative effort has received numerous State and federal funding awards. The RNMC is recognized by Colorado Parks & Wildlife as the backbone of the [Colorado Front Range Trail](#) through Northern Colorado. The segment serves both recreational and commuter purposes of bicyclists and pedestrians across the region and enables historical and cultural opportunities along the [Cache La Poudre National Heritage Area](#). Closing the remaining gaps between the west and east portions of the trail is a top regional trail priority for Fort Collins, Timnath, Windsor, and Larimer County. These agencies are actively working together to acquire right-of-way and secure funding for the remaining segments.

Centerline Miles | 53

Jurisdictions

Unincorporated Larimer County, Fort Collins, Timnath, Windsor, and Greeley

Connected Corridors

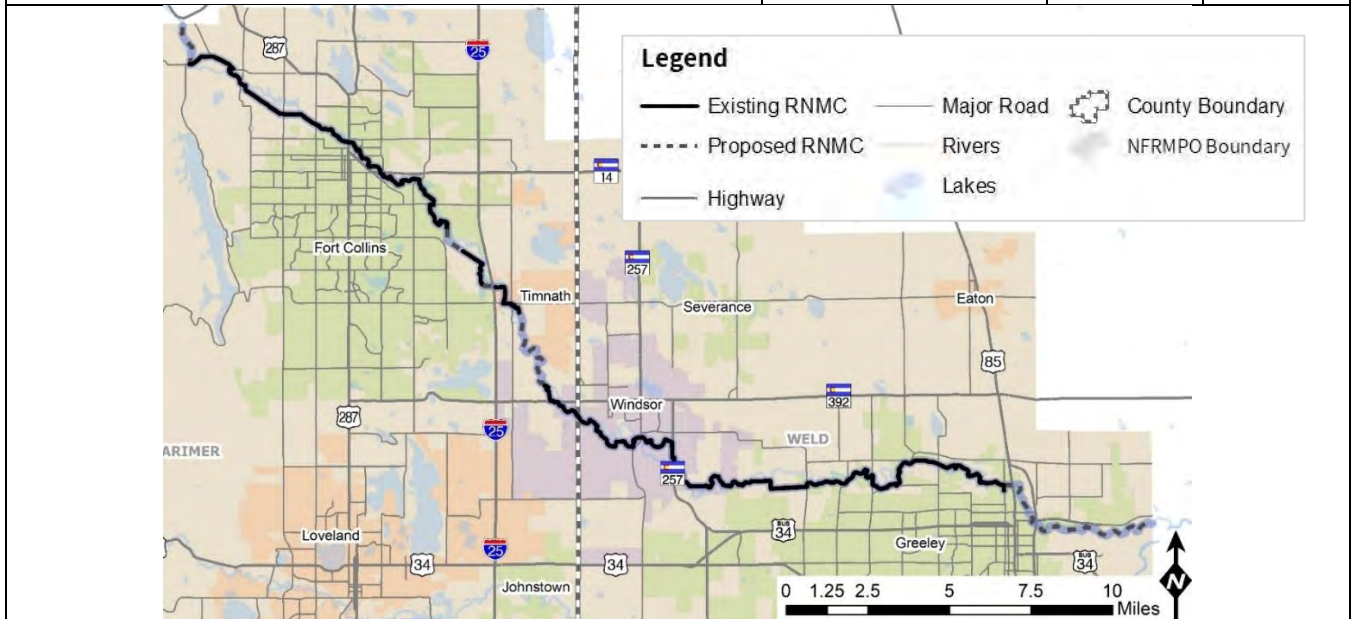
<i>RSC</i>	1, 4, 5, 6, 8, 11, 12, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28
<i>RNMC</i>	1, 4, 5, 7, 8, 9, 12
<i>RTC</i>	1, 2, 3, 4, 5, 6, 8, 9, 11

Related Plans

- ▶ [Greeley Parks, Trails, and Open Lands Master Plan, 2016](#)
- ▶ [Windsor Comprehensive Plan, 2016](#)
- ▶ [Larimer County Open Lands Master Plan, 2015](#)
- ▶ [Fort Collins Paved Recreation Trail Master Plan, 2013](#)
- ▶ [NFRMPO Non-Motorized Plan, 2016](#)
- ▶ [NFRMPO Regional Bicycle Plan, 2013](#)

Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	22,264	64,028
<i>Jobs located within ½ mile</i>	36,341	68,218



RNMC #7: Front Range Trail (West)

Vision Statement

Colorado Parks & Wildlife recognizes RNMC #7 as the western leg of the [Colorado Front Range Trail](#) in the NFRMPO region. The completed RNMC will connect Berthoud, Fort Collins, Loveland, and Boulder County. The trail connects many open space areas and 43 K-12 and higher education schools. The RNMC is a critical segment of the larger trail, to stretch from New Mexico to Wyoming. The City of Fort Collins is actively working to create grade-separated crossings at the RNMC's most significant infrastructure barriers, Harmony Road and I-25. This corridor is listed as a regional trail priority in the [2015 Larimer County Open Lands Master Plan](#).



Centerline Miles 35

Jurisdictions

Unincorporated Larimer County, Berthoud, Loveland, and Fort Collins

Connected Corridors

RSC 1, 2, 6, 8, 12, 13, 16, 17, 23, 28

RNMC 2, 3, 4, 5, 6, 8, 11, 12

RTC 1, 3, 4, 6, 10, 12

Trends

Related Plans

- ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019
- ▶ [NFRMPO Non-Motorized Plan](#), 2016
- ▶ [NFRMPO Regional Bicycle Plan](#), 2013
- ▶ [Larimer County Open Land Master Plan, 2015](#)
- ▶ [Loveland Parks and Recreation Master Plan, 2014](#)
- ▶ [Fort Collins Paved Recreation Trail Master Plan, 2013](#)

Metric

2015

2045

Population living within ½ mile

38,177

81,476

Jobs located within ½ mile

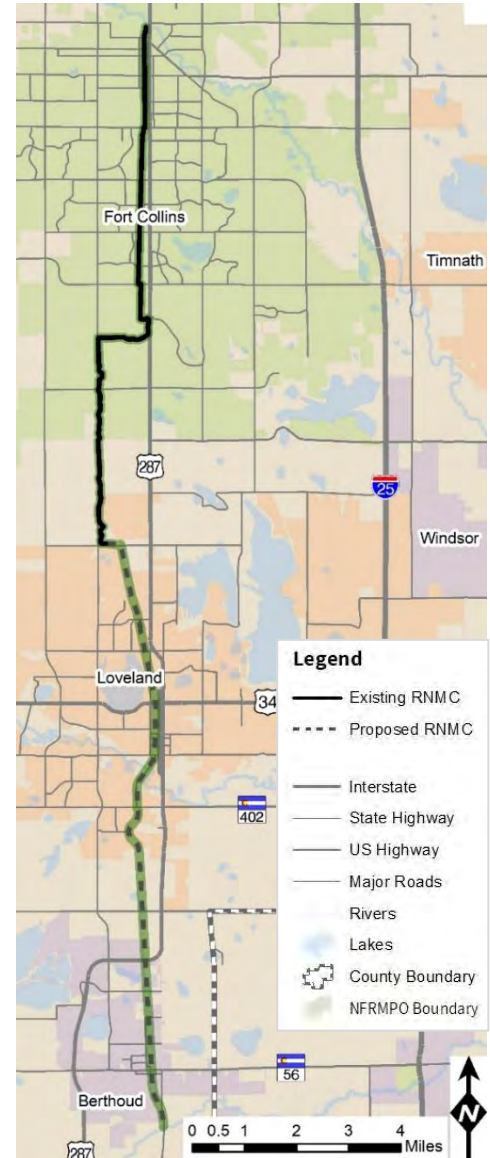
24,224

45,511

RNMC #8: BNSF Fort Collins / Berthoud

Vision Statement

The historic BNSF Railway line runs from Fort Collins through Loveland, unincorporated Larimer County, and Berthoud. RNMC #8 parallels the BNSF Railway (Rails-with-Trails) to connect the downtown areas of all three communities and to 57 K-12 and higher education schools within the area. This RNMC is a showcase of best practices due to decades of planning, collaboration, and investment between agencies. The connection between Loveland and Berthoud is a priority for both communities and corridor is listed as a regional trail priority in the [2015 Larimer County Open Lands Master Plan](#).



Centerline Miles	24
-------------------------	----

Jurisdictions	Fort Collins, Unincorporated Larimer County, Loveland, and Berthoud
----------------------	---

Connected Corridors	
<i>RSC</i>	2, 6, 8, 9, 10, 13, 17, 23, 27, 28
<i>RNMC</i>	2, 3, 5, 6, 7, 11
<i>RTC</i>	1, 2, 6, 9, 10

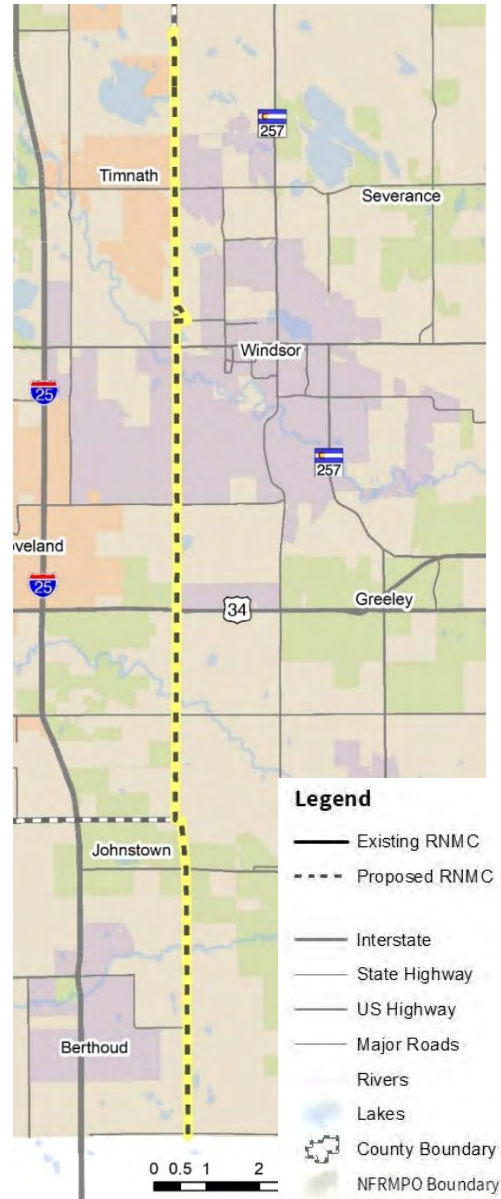
Related Plans	
<ul style="list-style-type: none"> ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019 ▶ NFRMPO Non-Motorized Plan, 2016 ▶ NFRMPO Regional Bicycle Plan, 2013 ▶ Berthoud Unified Trail Master Plan, 2018 ▶ Larimer County Open Land Master Plan, 2015 ▶ Loveland Parks and Recreation Master Plan, 2014 ▶ Fort Collins Paved Recreation Trail Master Plan, 2013 ▶ North I-25 Environmental Impact Statement, 2011 ▶ Mason Street Transportation Corridor Master Plan, 2000 	

Trends		
Metric	2015	2045
<i>Population living within ½ mile</i>	25,360	69,199
<i>Jobs located within ½ mile</i>	37,774	63,664

RNMC #9: Johnstown / Timnath

Vision Statement

RNMC #9 serves as a north-south connection in the NFRMPO Region. The RNMC will connect Timnath, Windsor, unincorporated Larimer County, Johnstown, and unincorporated Weld County with dedicated bike lanes or bikeable shoulders along WCR 13. The corridor strategically follows County Line Road to intersect with six RNMCs, including RNMCs #2, #3, #4, #5, #6, and #11. This corridor provides bicycle access for residents and visitors up and down the central part of the NFRMPO region. Improvements on this RNMC are anticipated when the roadway is scheduled for maintenance/expansion.



Centerline Miles | 19

Jurisdictions

Unincorporated Weld County, Timnath, Unincorporated Larimer County, Windsor, and Johnstown

Connected Corridors

RSC | 2, 10, 12, 13, 19, 23, 26

RNMC | 2, 3, 4, 5, 6, 11

RTC | 1, 3, 4, 8, 10, 12

Related Plans

- ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019
- ▶ [NFRMPO Non-Motorized Plan, 2016](#)
- ▶ [NFRMPO Regional Bicycle Plan, 2013](#)
- ▶ [Windsor Comprehensive Plan, 2016](#)
- ▶ [Johnstown Transportation Master Plan, 2008](#)

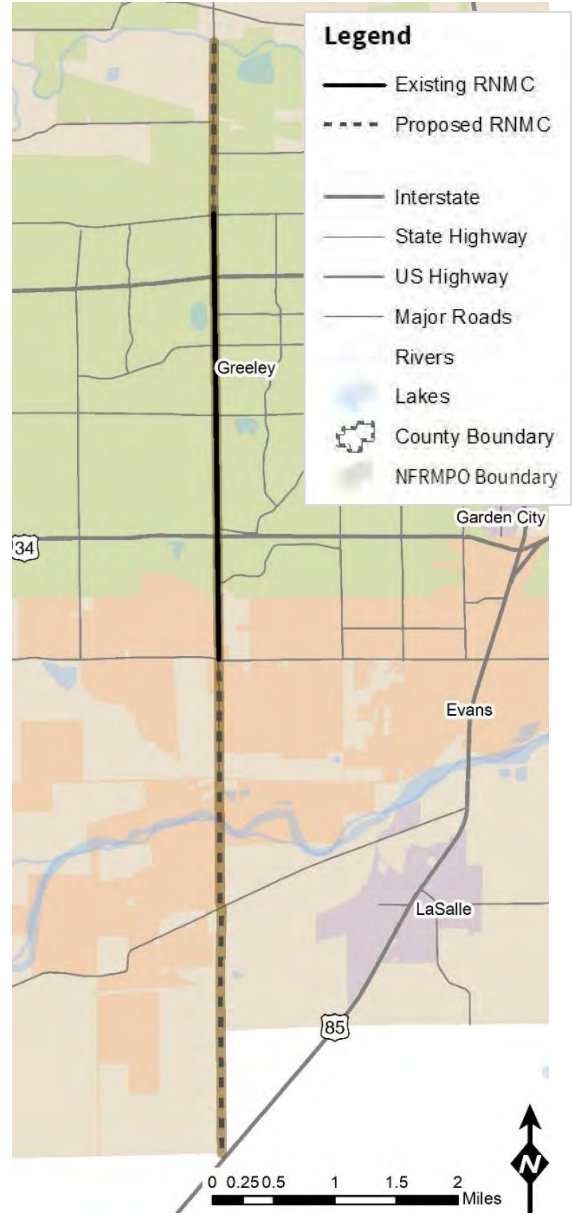
Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	-	27,657
<i>Jobs located within ½ mile</i>	-	3,874

RNMC #10: Greeley / La Salle

Vision Statement

RNMC #10 leverages the existing shared-use trail infrastructure along 35th Avenue in Greeley to create a RNMC extending to LaSalle through Evans. The RNMC accommodates the identified desire for north-south bicycle commuting between the communities to access the GET transit system, Aims Community College, Greeley West High School, and various retail centers. Construction of a bridge over the South Platte River connecting 35th Ave and WCR35 is critical for LaSalle’s multimodal access to the north in lieu of improvements to US85.



Centerline Miles 8.5

Jurisdictions

Unincorporated Weld County, Greeley, Evans, and LaSalle

Connected Corridors

RSC 2, 3, 13, 22, 26

RNMC 1, 6, 11

RTC 3, 8, 10, 11

Related Plans

- ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019
- ▶ [NFRMPO Non-Motorized Plan](#), 2016
- ▶ [NFRMPO Regional Bicycle Plan](#), 2013
- ▶ [Greeley Parks, Trails, and Open Lands Master Plan, 2016](#)
- ▶ [Evans Open Space and Trails Master Plan, 2004](#)

Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	18,114	29,008
<i>Jobs located within ½ mile</i>	6,410	10,194

RNMC #11: US 34 Non-Motorized

Vision Statement

RNMC #11 is the only regional corridor to parallel a highway on the State system. The [Colorado Transportation Commission’s Bike and Pedestrian Policy Directive 1602.0](#) and subsequent [State Statute 43-1-120](#) codifies the accommodation of bicyclists and pedestrians on the State Highway System. The vision for this RNMC is a shared-use trail, safely separated from the highway connecting Greeley and Promontory to Centerra, Johnstown, and Loveland. The RNMC would leverage, but is not limited to, CDOT’s Right-of-Way on US34.

Centerline Miles | 21.5

Jurisdictions

Unincorporated Larimer County, Loveland, Johnstown, Windsor, Unincorporated Weld County, Greeley, and Garden City

Connected Corridors

RSC | 1, 2, 3, 4, 5, 6, 11, 14, 15, 16, 17, 18, 19, 20, 22, 25

RNMC | 1, 2, 3, 4, 5, 6, 7

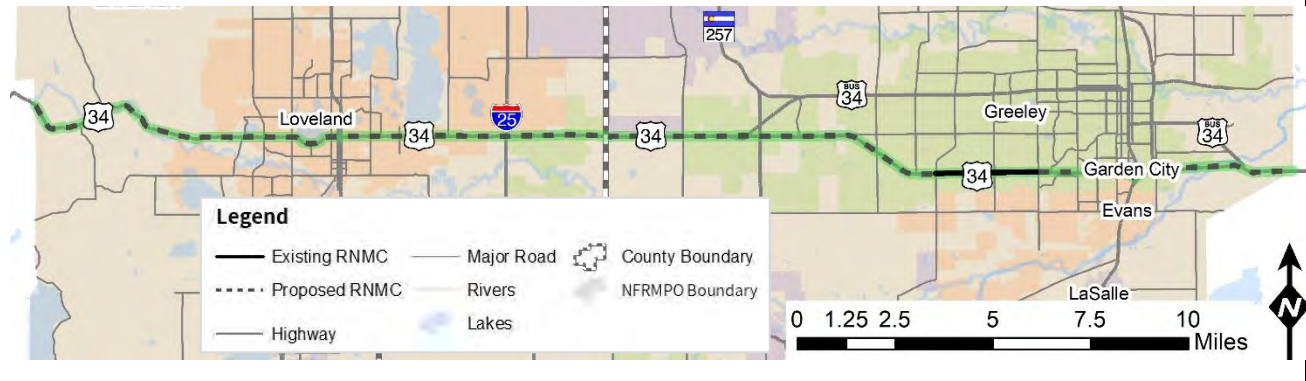
RTC | 4, 5, 6, 7, 8, 10, 11, 12

Related Plans

- ▶ US 34 Planning and Environmental Linkages (PEL) Study, 2019
- ▶ [NFRMPO Non-Motorized Plan](#), 2016
- ▶ [NFRMPO Regional Bicycle Plan](#), 2013
- ▶ [Greeley Parks, Trails, and Open Lands Master Plan, 2016](#)

Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	10,342	102,012
<i>Jobs located within ½ mile</i>	4,920	74,351



RNMC #12: Carter Lake / Horsetooth Foothills

Vision Statement

RNMC #12 is predominantly a recreational corridor which provides access to many city, county, State parks, and trailheads of the foothills in the western portion of the NFRMPO region via bikeable shoulders. The RNMC frequently hosts bicycle and foot races and sporting events. The RNMC traverses the Larimer County foothills and provides strategic local connections to Berthoud, Fort Collins, and Loveland. Improvements on this RNMC are anticipated when the roadway is scheduled for maintenance/expansion. This corridor is listed as a regional trail priority in the [2015 Larimer County Open Lands Master Plan](#).



Centerline Miles | 31

Jurisdictions

Unincorporated Larimer County and Fort Collins

Connected Corridors

RSC | 2

RNMC | 1, 2, 3, 6, 11

RTC | 7

Related Plans

- ▶ [Larimer County Open Lands Master Plan, 2015](#)
- ▶ [NFRMPO Non-Motorized Plan, 2016](#)
- ▶ [NFRMPO Regional Bicycle Plan, 2013](#)

Trends

Metric	2015	2045
<i>Population living within ½ mile</i>	-	3,254
<i>Jobs located within ½ mile</i>	-	624

D. Freight Vision

In 2019, the NFRMPO adopted its first regional plan for long-range freight planning. This plan, [Freight Northern Colorado](#) (FNC), focuses on highway and rail freight conditions, programs, technologies, and strategies. The FNC builds on CDOT's [Colorado Freight Plan](#) (CFP), also adopted in 2019. FNC identifies ways agencies and planning partners can maintain and improve freight infrastructure in Northern Colorado which will help the region achieve the targets set in the 2045 Goals, Objectives, Performance Measures, and Targets (GOPMT). The major recommendations from this plan include:

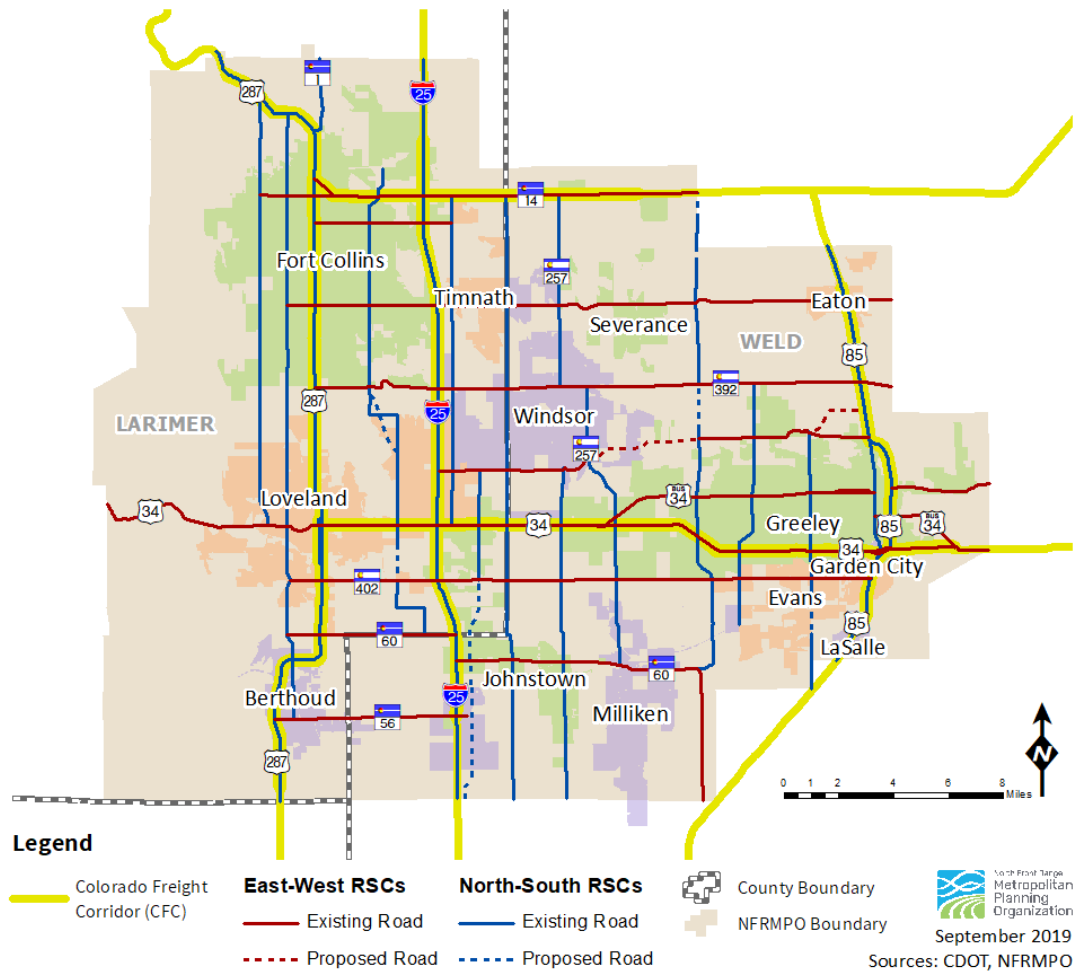
- Support CDOT's efforts to address truck parking on North I-25
- Track progress towards the freight-related statewide and regional targets identified in Chapter 2 of [FNC](#)
- Enhance the region's performance-based planning processes by expanding freight data collection and analysis efforts, especially on RSCs lacking regular data collection
- Participate in the Colorado Freight Advisory Council (FAC) and other freight-industry organizations to increase public-private sector collaboration on freight-related issues and invite representatives to NFRMPO Technical Advisory Committee (TAC) meetings
- Assess opportunities to address regional freight needs through the NFRMPO's biennial Call for Projects
- Identify high-priority freight-benefitting projects for inclusion in CDOT's 10-Year Strategic Pipeline of Projects
- Coordinate freight planning efforts with neighboring TPRs and CDOT Region 4
- Support member agency efforts to minimize the negative impacts of truck and rail freight transportation through downtowns and other sensitive areas, and maximize freight safety and efficiency

Truck Freight

[FNC](#) affirms the importance of the Colorado Freight Corridors (CFCs) on the State Highway system. According to CDOT, the CFCs represent the highway routes that are most critical to facilitating the movement of goods into, out of, and within Colorado. Each of these CFC's is part of the NFRMPO's Regionally Significant Corridor (RSC) network. Accordingly, the region's vision for each State Freight Corridor is outlined in the RSC Visions earlier in this chapter. Each RSC vision contains analysis of current and future average daily truck volumes according to the 2015 Regional Travel Demand Model. Other regional plans such as [Truck](#)

[Traffic in the Northeastern Quadrant of the NFRMPO Region: Sub-Regional Study](#) and local plans are important resources for understanding the existing truck freight conditions and needs of the RSC network, as well as other supporting roads. Some RSCs are designed to accommodate only infrequent local truck traffic, while others can bear the load of more frequent regional truck traffic. The CFCs are shown overlaying the RSC network in **Figure 3-6**.

Figure 3-6: Colorado Freight Corridors (CFC) and Regionally Significant Corridors (RSCs)



Rail Freight

Because the region’s railroads are privately owned, operated, and maintained, the NFRMPO does not maintain a vision for individual rail freight corridors, excluding the vision for passenger rail on the Great Western Railroad’s Greeley to Fort Collins (RTC #3) and Greeley to Loveland (RTC #4) corridors. Rather, the NFRMPO plans to strengthen public-private partnerships for maintaining and improving the interface of the rail system and the rest of the transportation system to ensure safety and efficiency for the movement of goods and people. This will be achieved through increased involvement in the Colorado Freight

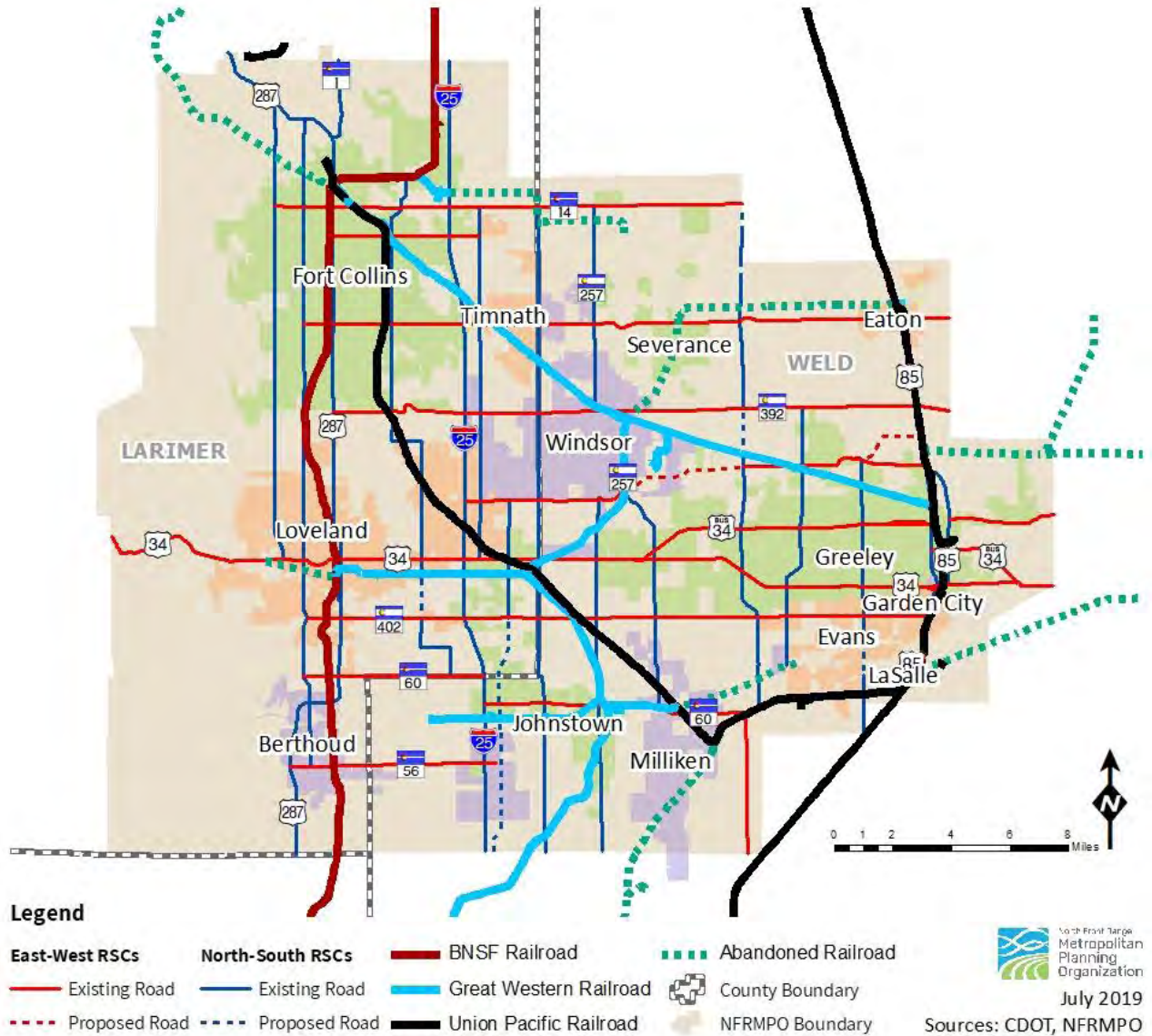
Advisory Council (FAC) and ongoing data collection and analysis of safety and efficiency along freight rail system.

The CFP identifies freight rail needs and capacity constraints. These considerations should be the basis for public-private rail partnerships and analysis moving forward. The needs and constraints are:

- Improvements and Planning for Rail-Served Industrial Developments
- Targeted Freight Intermodal Connectivity Improvements
- Addressing Rail Service Constraints

- Vertical clearance
- Weight limit
- Track capacity
- Terminal yard capacity
- Rail line operating speed
- Traffic control and signaling systems
- Land use development and encroachment
- Preservation of freight corridors and assets
- Safety and security

Figure 3-7: Active and Abandoned Railroads and Regionally Significant Corridors (RSCs)



As shown in **Figure 3-7**, the region is home to several miles of abandoned railroad track. As established in a 1983 amendment to the National Trails System Act, railroads have the option to preserve corridors for alternative use instead of complete abandonment. The railroad can form an agreement with any person or agency, public or private, to use the rail line as a trail or linear park until the railroad might need the corridor again for future rail service. This is how RNMC #4: Great Western / Johnstown / Loveland was established. These rights-of-way may present viable options for alternative travel modes.

In the mid-2000s, CDOT worked with major freight railroad companies in Colorado to study the possible relocation of rail corridors to an “Eastern Bypass”. By 2012, CDOT stated changing economic conditions had made the Eastern Bypass unnecessary; however, the consideration for removing freight traffic from the populated areas between Fort Collins and Denver while also ensuring a functioning rail system should be considered.²⁶

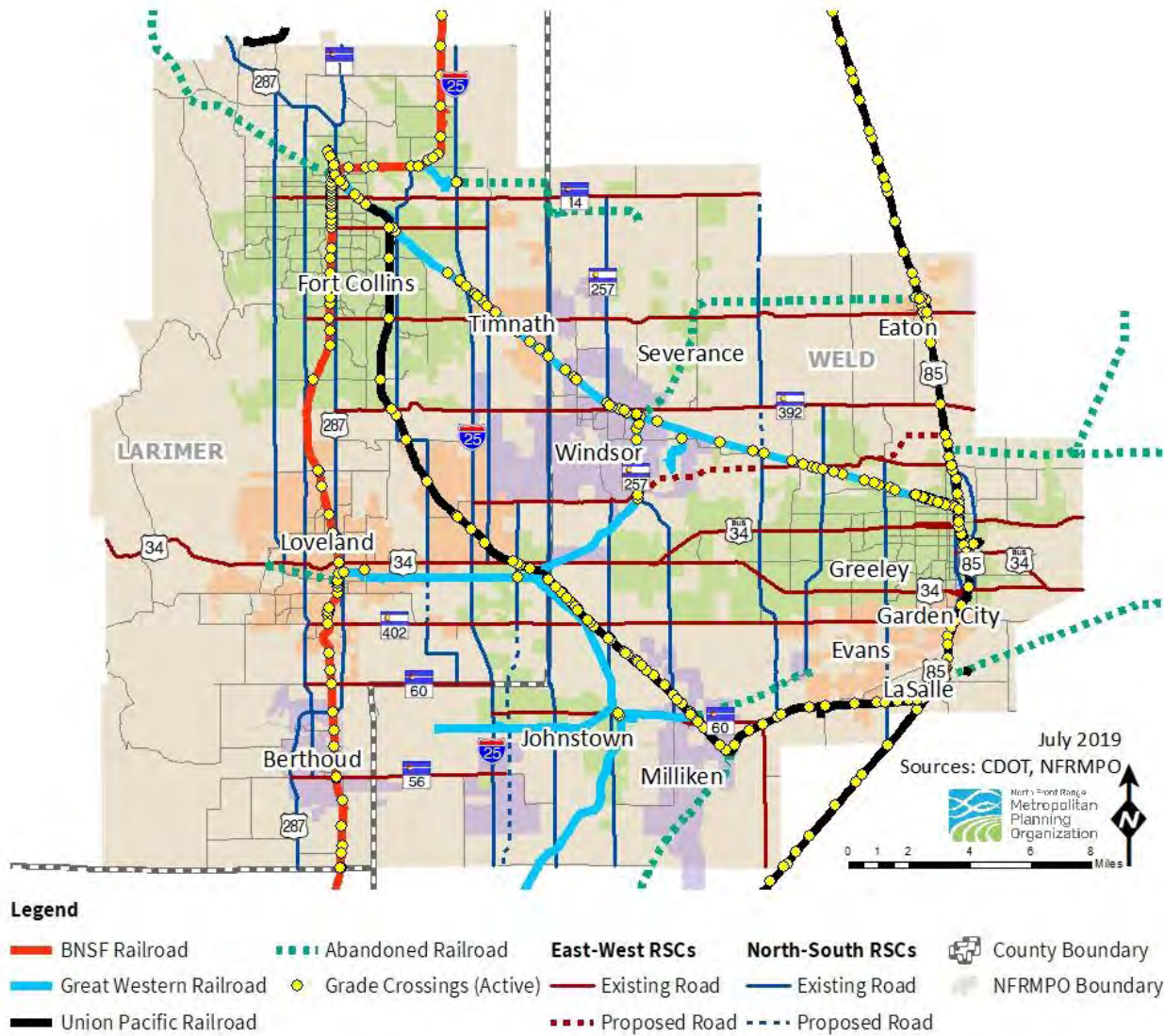
Plans for future road improvements along rail corridors are taking conflict points into consideration. For example, discussions regarding the future Vine Drive corridor in Fort Collins have touched on the need for grade-separated intersections as traffic along the railroad and roadway corridors increase. In addition, Weld County and UPRR are working together to close 11 of the 57 at-grade railroad crossings along the 63-mile stretch of US85 to improve safety and efficiency. Two of these crossings are in the North Front Range: Weld County Road 72 (WCR 72) in Eaton and WCR 64 / O Street in Greeley. These types of partnerships and analyses should continue across the NFRMPO region as rail, road, bicycle, and pedestrian traffic increase. **Figure 3-8** shows the at-grade and grade-separated crossings between the railroad network and the rest of the transportation system in the region.

Table 3-2: Connected Corridors by Railroad Owner

Corridors	BNSF	Great Western	Union Pacific	Abandoned
RSC	2, 6, 8, 9, 10, 13, 16, 17, 23, 27, 28	1, 2, 5, 6, 8, 10, 11, 12, 13, 14, 15, 19, 20, 21, 22, 23, 25, 26, 27, 28	1, 2, 3, 4, 5, 6, 8, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 27, 28	1, 2, 4, 6, 8, 10, 11, 12, 17, 18, 19, 21, 23, 25
RNMC	2, 3, 4, 5, 6, 7, 8, 11	2, 3, 4, 6, 7, 8	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,	2, 3, 4, 6, 7, 8, 12
RTC	1, 2, 9	1, 3, 4, 6, 8, 9, 10, 12	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12	1, 4, 6, 8, 9, 11, 12, 16, 18, 20, 24

²⁶ CDOT [North I-25 EIS Commuter Rail Update](#), 2015.

Figure 3-8: At-Grade Railroad Crossings and Regionally Significant Corridors (RSCs)

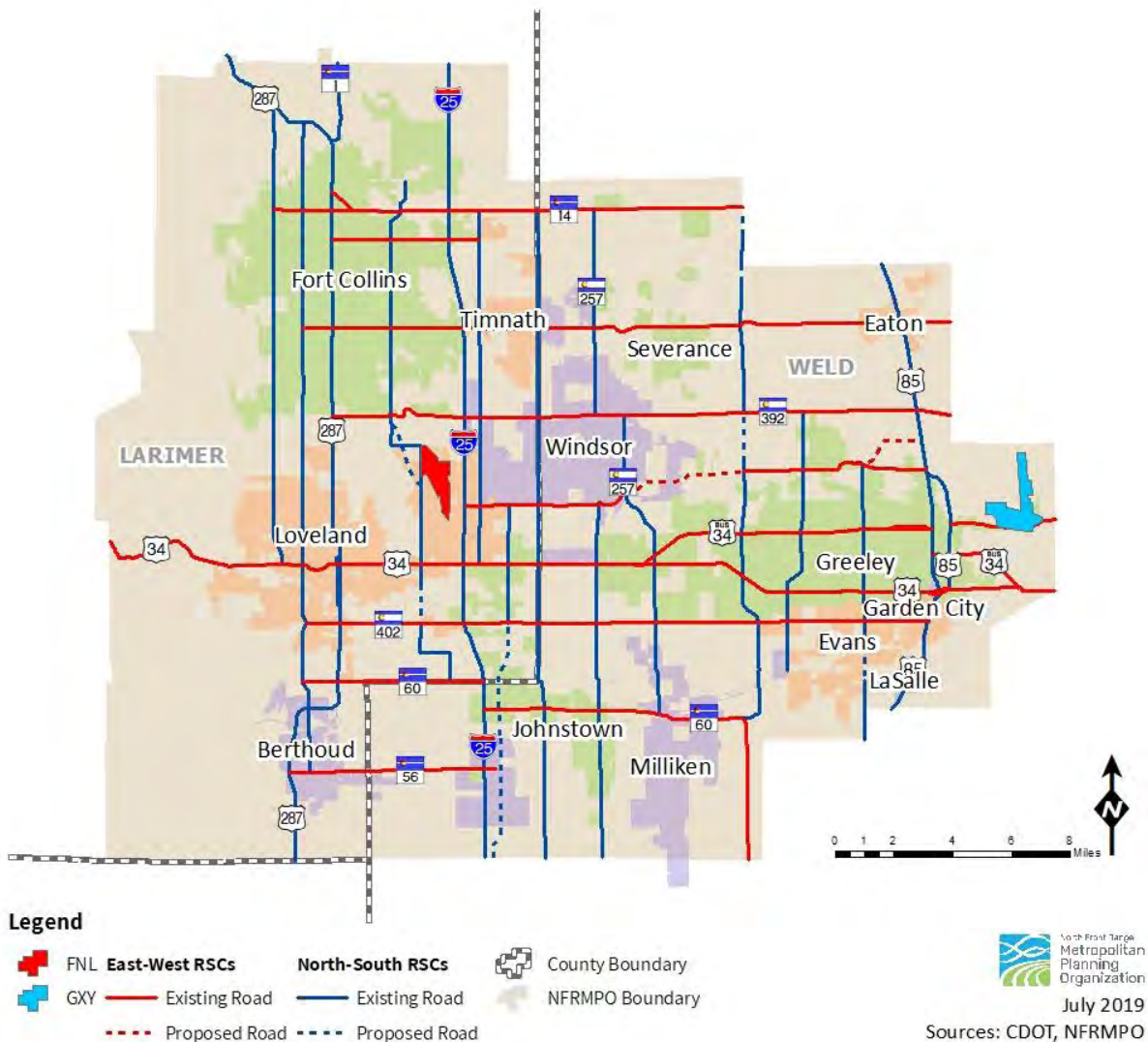


E. Aviation Vision

The NFRMPO is home to two airports categorized in the National Plan of Integrated Airport Systems (NPIAS). Both are publicly owned, operated, and maintained by NFRMPO member agencies. While the NFRMPO does not maintain visions for these facilities, the NFRMPO and its planning partners acknowledge the importance of the Northern Colorado Airport (FNL) and Greeley-Weld County Airport (GXY) in the region's

transportation system. The NFRMPO will continue to participate in updates to each airport's Master and/or Strategic Plan updates as well as in updates to reports such as the [2013 Economic Impact Study of Colorado Airports](#), the [2011 Colorado Aviation System Plan](#), and other related planning efforts of the CDOT Division of Aeronautics. The airports are shown overlaying the RSC network in **Figure 3-9**.

Figure 3-9: Airports and Regionally Significant Corridors (RSCs)



Northern Colorado Regional Airport (FNL)

In 2007, FNL (known at the time as the Fort Collins-Loveland Municipal Airport) updated its [Airport Master Plan](#) under the direction of the cities of Fort Collins and Loveland. The Plan assesses the direct improvements necessary to accommodate the region’s future aviation needs. The Plan lays out development opportunities on the airport property and future runway extensions, other facility improvements, and more. In 2020, FNL expects its new Virtual Air Traffic Control Tower (ATCT) will be operational and Federal Aviation Administration (FAA) certified. By optimizing

runway operations, the Virtual ATCT will expand FNL’s capacity to accommodate commercial services and other future opportunities. The Virtual ATCT will also allow the airport to remotely manage runway operations at other airports around the state, improving safety, efficiency, and providing economic benefits. FNL is currently working on an update to its [2007 Master Plan](#).

Table 3-3 shows the RSC, RNMC, and RTC connected corridors.

Table 3-3: FNL Connected Corridors	
RSC	1, 2, 12, 16
RNMC	7, 11
RTC	6, 10, 12

Greeley-Weld County Airport (GXY)

In 2014, the Greeley-Weld County Airport Authority updated its [Airport Master Plan](#). The Plan lays out the extent and development schedule for future improvements and expansions of parking, roads, hangars, and other buildings for aeronautical and non-aeronautical uses at GXY. Future plans at the

adjacent Colorado Air National Guard Recruiting Center may also impact development at GXY and the surrounding area.

Table 3-4 shows the RSC, RNMC, and RTC connected corridors.

Table 3-4: GXY Connected Corridors	
RSC	3, 4, 24
RNMC	1, 6
RTC	3, 4, 8, 10, 11

3

Section 3

2045 Forecast and Scenarios



To plan for the future transportation system, it is important to forecast population and employment growth that will impact travel demand and to identify transportation improvements that could serve future demand. The NFRMPO developed the 2010 Land Use Allocation Model (LUAM) and the 2015 Regional Travel Demand Model (RTDM) to forecast land use and travel conditions through 2045. Both models were developed using the latest assumptions and identify expected future conditions in “baseline” scenarios for 2045 as well as alternative scenarios for 2045 that address the impacts of different policy choices.

A. Land Use Forecast and Scenarios

Two scenarios were developed using the 2010 LUAM, including the baseline scenario and the high-density scenario. The baseline scenario relies on the inputs provided by member agencies, while the high-density scenario artificially increases the maximum allowable densities in urban core areas to analyze the impact of increasing density beyond current expectations. Both scenarios rely on the regional forecast developed by the Colorado Department of Local Affairs (DOLA) which identifies household and employment control totals for the modeling area.

Regional Forecast

The region is forecasted to grow rapidly as shown in **Figure 3-10**. In 2015, there were 466,000 residents, 185,000 households, and 275,000 jobs. By 2045, it is expected the population will increase 88 percent to 877,000, the number of households will increase by 99 percent to 367,000, and the number of jobs will increase by 67 percent to 459,000. On an annual scale, population growth is 2.1 percent per year, household growth is 2.3 percent per year, and job growth is 1.7 percent per year from 2015 to 2045.

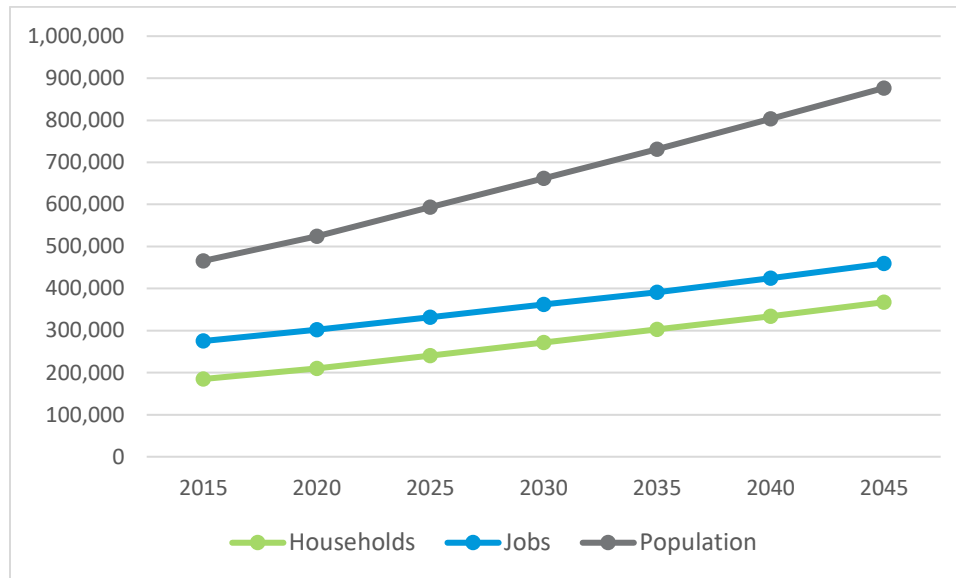
The NFRMPO LUAM allocates household and employment growth through the UrbanCanvas Block Model. UrbanCanvas is a data-driven, location-choice model designed to reflect the interdependencies of the real-estate market and the transportation system.²⁷ Control totals for the entire modeling area, **Figure 3-11**, were developed by DOLA.

The model begins with a base year of 2010-11, and then uses information such as observed growth through 2013, recently constructed and committed developments, zoning and future land use density constraints, and the regional control totals to allocate households and jobs to Census Blocks in each year out to the horizon year 2045. In addition to forecasting the number of households and jobs, the model forecasts attributes including each household’s income, household size, number of workers, and auto ownership and each job’s industry type. The resulting forecasts are aggregated from Census Blocks to Traffic Analysis Zones (TAZ) and are input to the NFRMPO RTDM to project future traffic volumes on roadways, transit ridership, and other travel metrics.

²⁷UrbanCanvas Block-Level Documentation, <https://cloud.urbansim.com/docs/block-model/index.html>, accessed June 11, 2019.

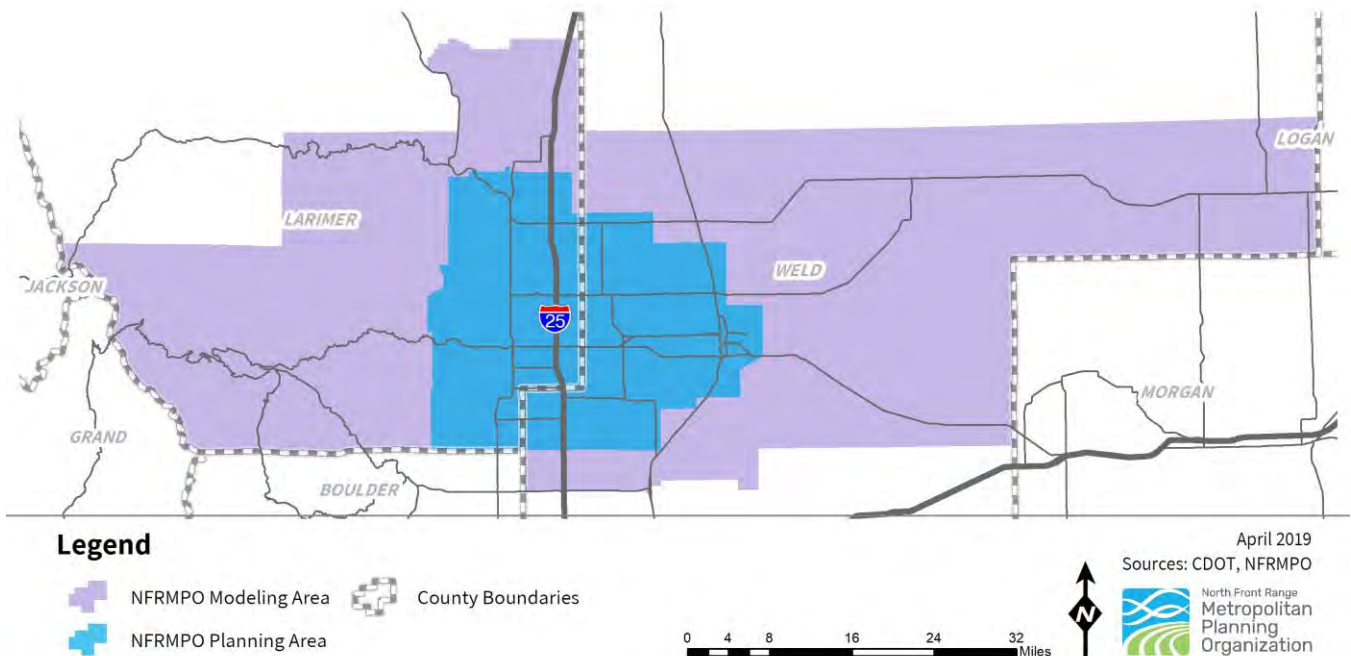
Additional information on the control totals and development of the 2010 LUAM is available in the [2010 LUAM Technical Documentation](#).

Figure 3-10: Forecasted Household and Job Growth in the North Front Range Region, 2015-2045



Source: NFRMPO 2010 LUAM

Figure 3-11: North Front Range Modeling Boundary

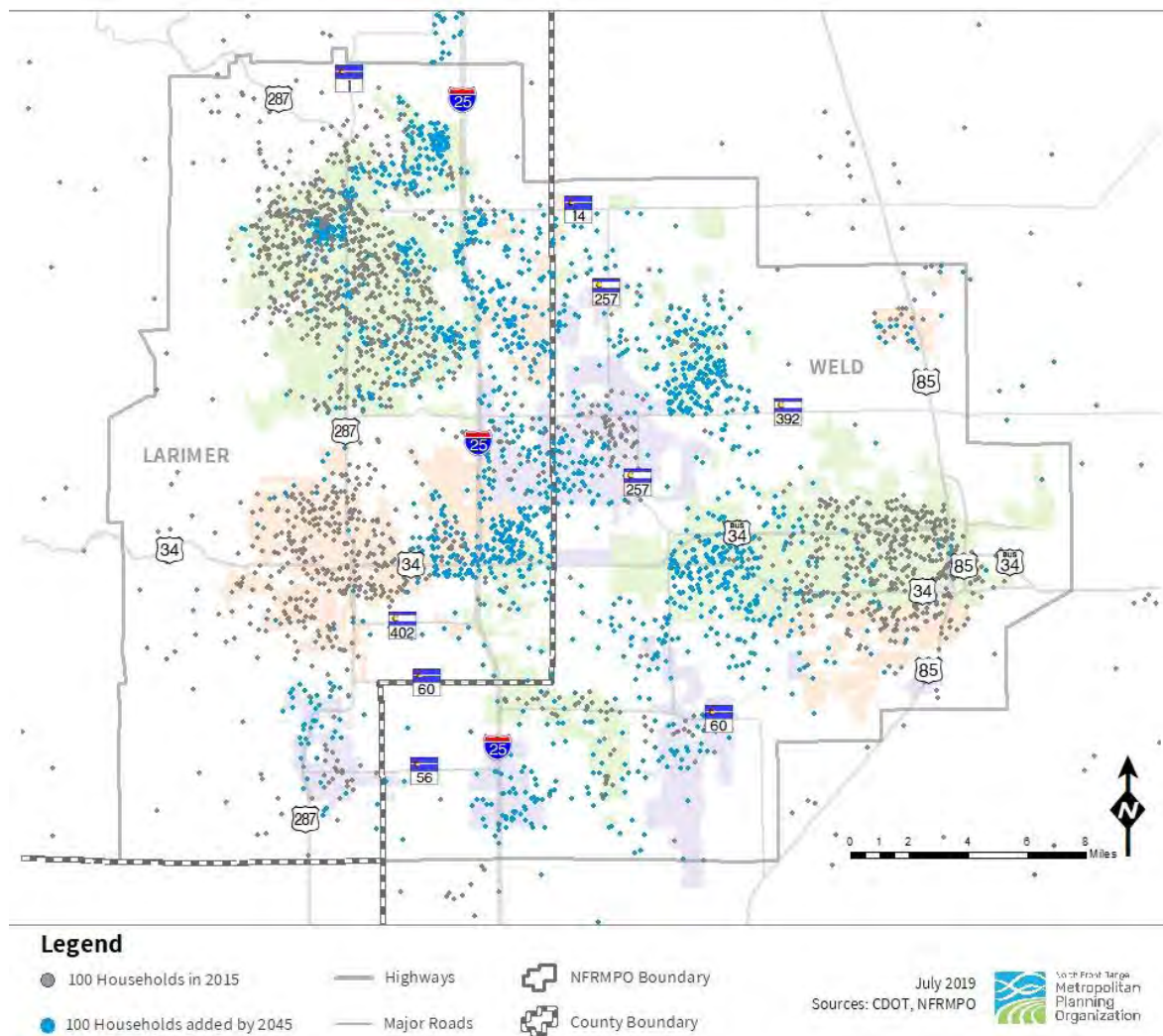


Baseline Land Use Scenario

The baseline land use scenario provides the expected growth in the region out to 2045. The location of households in 2015 and the location of new household growth out to 2045 is illustrated in **Figure 3-12**. The 2010 LUAM forecasts much of the household growth will occur in the center of the region along I-25, as well as in western Greeley, Severance, and the communities in the southern portion of the region.

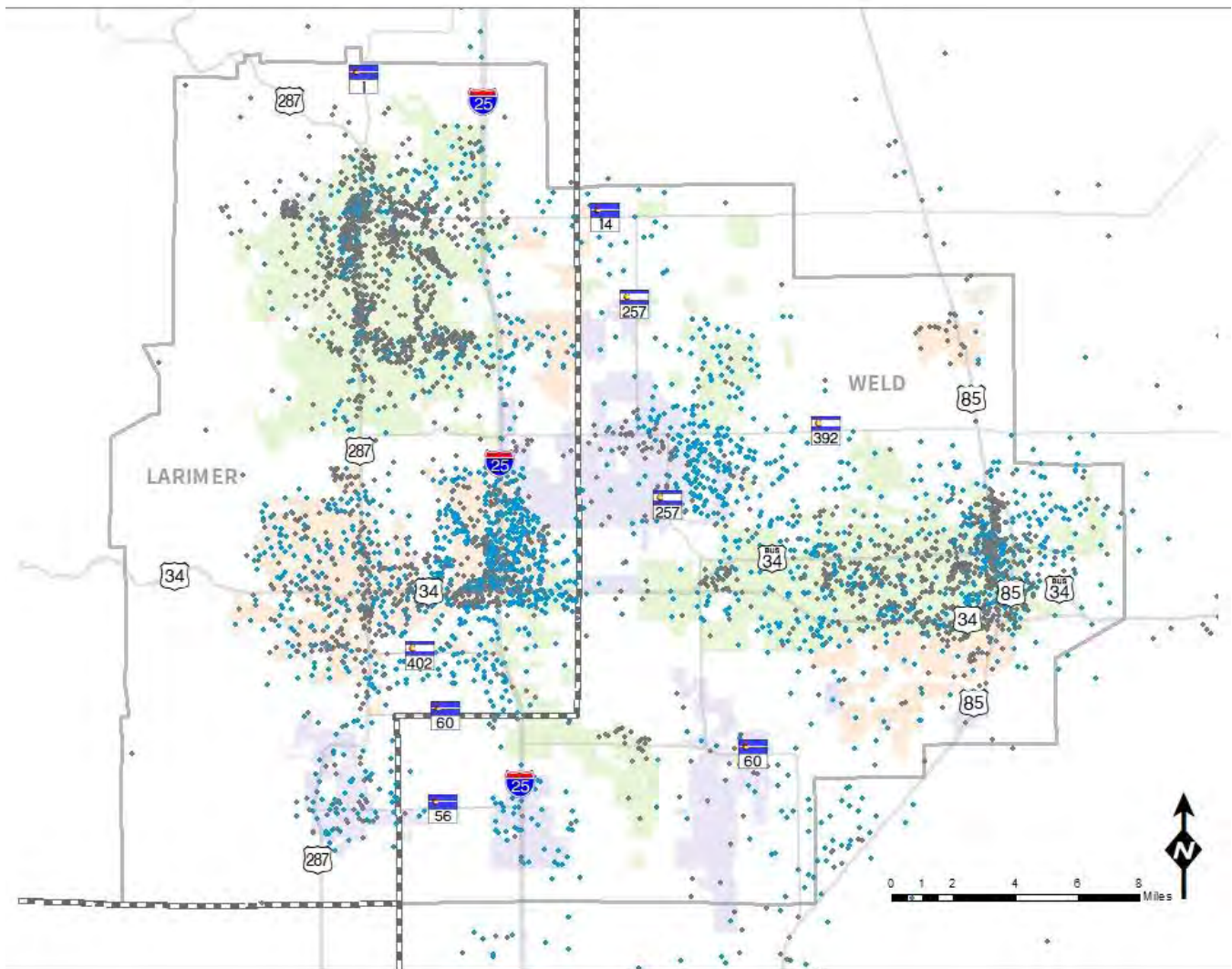
The location of jobs in 2015 and the location of new job growth out to 2045 is illustrated in **Figure 3-13**. The baseline scenario forecasts much of the employment growth out to 2045 will occur along I-25 near US34 and Crossroads Boulevard, with additional growth scattered throughout the rest of the region.

Figure 3-12: NFRMPO Household Growth 2015-2045



Note: Households are distributed randomly within TAZs, the boundaries of which are not identified on the map.

Figure 3-13. Employment Growth 2015-2045



Legend

- 100 Jobs in 2015
- 100 Jobs added by 2045

- Highways
- Major Roads

- ⊕ NFRMPO Boundary
- ⊕ County Boundary

July 2019
Sources: CDOT, NFRMPO



Note: Jobs are distributed randomly within TAZs, the boundaries of which are not identified on the map.

As forecasted in the baseline scenario, the anticipated household growth in each community’s Growth Management Area (GMA) is identified in **Table 3-5**. The highest household growth is forecasted for Severance at 9.2 percent, followed by Timnath at 8.6 percent and Milliken at 5.3 percent. The highest employment growth is forecasted for Severance at 7.3 percent, Timnath at 5.8 percent, and Berthoud at 4.1 percent.

Table 3-5: Household and Job Forecasts by GMA, 2015 and 2045

GMA	Households 2015	Households 2045	Jobs 2015	Jobs 2045	Household Growth Rate (2015-2045)	Job Growth Rate (2015-2045)
Berthoud	3,209	11,589	4,465	14,843	4.4%	4.1%
Eaton	1,907	3,564	2,282	2,388	2.1%	0.2%
Evans	8,405	12,085	5,166	9,907	1.2%	2.2%
Fort Collins	72,643	118,811	110,526	128,310	1.7%	0.5%
Greeley	36,930	63,491	71,061	114,235	1.8%	1.6%
Johnstown	5,884	17,318	6,205	17,331	3.7%	3.5%
LaSalle	890	1,033	1,038	1,096	0.5%	0.2%
Loveland	33,565	57,067	57,087	120,810	1.8%	2.5%
Milliken	2,271	10,595	2,325	4,383	5.3%	2.1%
Severance	1,779	24,894	1,083	8,876	9.2%	7.3%
Timnath	1,278	15,287	1,196	6,547	8.6%	5.8%
Windsor	8,905	25,348	9,297	29,432	3.5%	3.9%

Source: NFRMPO 2010 LUAM

Household Size and Income

Household projections were classified by five household sizes representing the number of people occupying the household and three income levels, identified in **Table 3-6** for 2015 and in **Table 3-7** for the 2045 forecast. Combined, household size and household income are important indicators for travel patterns and mode choice.

Table 3-6: 2015 Household Size and Income Data

Household Income (2010 dollars)	1-person HH	2-person HH	3-person HH	4-person HH	5+ person HH	Total HH	Percent
Less than \$20,000 (Low Income)	15,392	7,846	3,869	1,823	1,007	29,937	16%
\$20,000 - \$74,999 (Medium Income)	21,556	35,689	14,338	9,904	7,051	88,538	48%
\$75,000 and higher (High Income)	4,704	27,041	14,245	12,616	7,783	66,389	36%
Total	41,652	70,576	32,452	24,343	15,841	184,864	100%
Percent	23%	39%	17%	13%	9%	100%	-

Source: NFRMPO 2010 LUAM

Table 3-7: 2045 Household Size and Income Data

Household Income (2010 dollars)	1-person HH	2-person HH	3-person HH	4-person HH	5+ person HH	Total HH	Percent
Less than \$20,000 (Low Income)	32,761	16,110	7,243	2,871	1,580	60,565	16%
\$20,000 - \$74,999 (Medium Income)	46,917	76,908	27,482	16,215	11,008	178,530	49%
\$75,000 and higher (High Income)	10,044	57,415	27,540	20,966	12,407	128,372	35%
Total	89,722	150,433	62,265	40,052	24,995	367,467	100%
Percent	24%	41%	17%	11%	7%	100%	-

Source: NFRMPO 2010 LUAM

Employment by Sector

Overall, employment is projected to grow at approximately two percent per year for the entire region, with Weld County projected to grow at a slightly higher rate than Larimer County. For input into the RDTM, employment was divided into four categories: Basic, Medical, Retail, and Service.

- **Basic jobs**, also known as production-distribution, are those based on outside dollars flowing into the local economy and include industries that manufacture and/or produce goods locally for export outside the region. Basic jobs include manufacturing, mining, utilities, transportation, and warehousing among others.
- **Medical jobs** include health care and social assistance.
- **Retail jobs** include retail trade and food service.
- **Service jobs** include finance, insurance, real estate, and public administration.

The Basic, Medical, Retail, and Service employment estimates for 2015 and forecasts for 2045 are shown in **Table 3-8**. The employment forecast does not account for self-employed people working from home.

The NFRMPO 2010 Household Survey provides information about how residents in the region commute to work. The vast majority of people who commute to work do so in automobiles as shown in **Table 3-9**. Most commuters who use bicycles or walk to work live in Fort Collins or Greeley/Evans.

Table 3-8: Classification of Employment, 2015 and 2045

Classification	2015		2045		Percent Growth (%)
	Employees	Percentage (%)	Employees	Percentage (%)	
Basic	61,520	22%	103,949	23%	69%
Medical	39,833	14%	66,358	14%	67%
Retail	55,638	20%	92,341	20%	66%
Service	118,164	43%	196,794	43%	67%
Total	275,155	100%	459,442	100%	67%

Source: NFRMPO 2010 LUAM

Table 3-9: Commute to Work by Mode, 2010

Travel Mode	Commuter Trips (%)
Auto/van/truck driver or passenger	89.3%
Bike	6.2%
Walk	3.4%
Transit (local bus or express bus)	0.5%
Other (don't know or refused)	0.6%
Total	100%

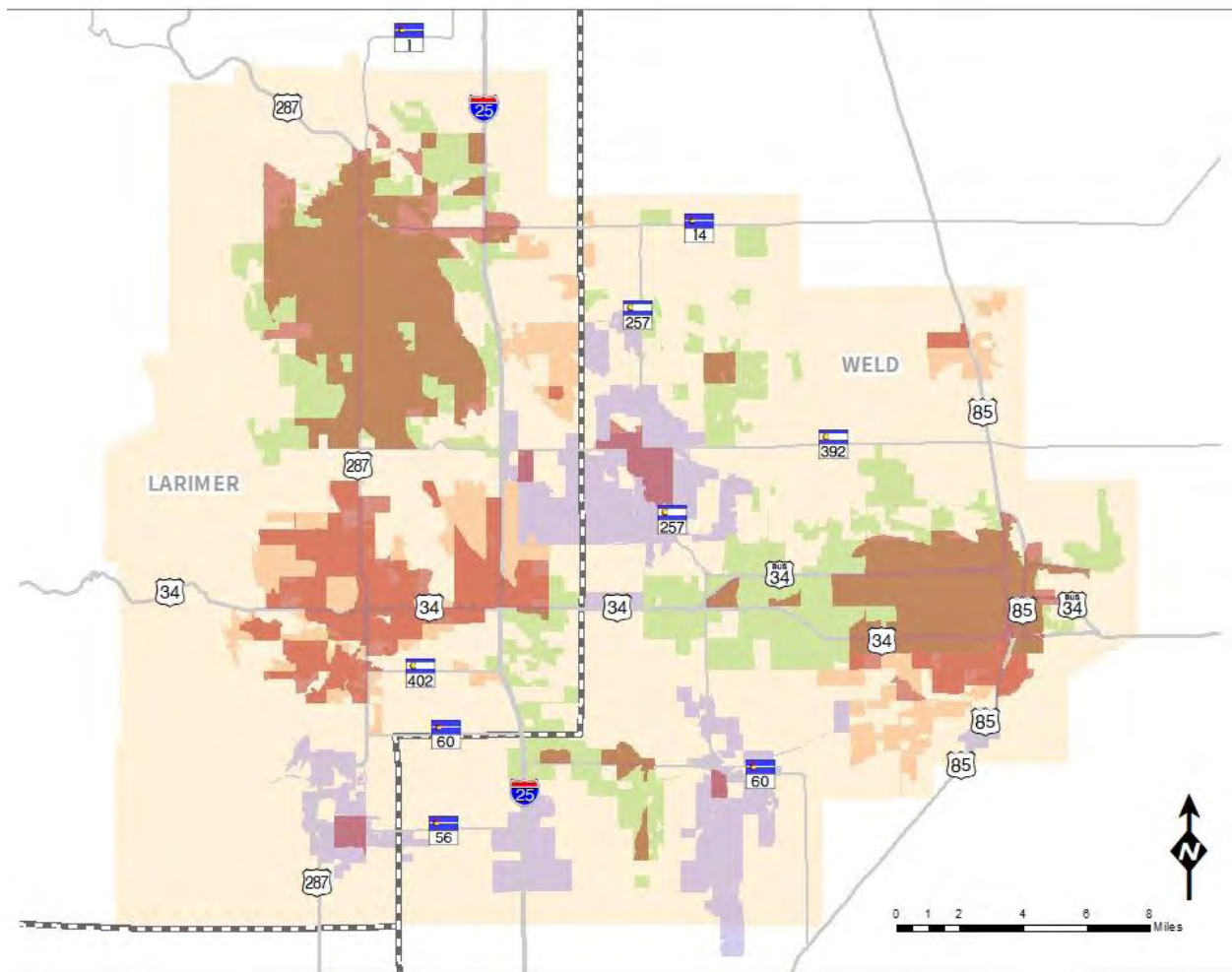
Source: NFRMPO Household Survey, 2010

High-Density Scenario

The high-density scenario was created to demonstrate how the region would develop if additional density was allowed in urban core areas compared to the density currently identified in communities' long range plans. Urban core areas were identified based on locations with the highest density in 2015 and are displayed in **Figure 3-14**. To accommodate additional growth, the maximum allowable densities in the urban core were doubled in the high-density scenario. The high-density scenario was also used in conjunction with the transit-investment travel model scenario, as discussed in the following section.

Compared to the baseline scenario, the high-density scenario forecasts higher household density in the region's largest communities in 2045, including Fort Collins, Greeley, and Loveland, and lower density in many of the region's smaller communities. **Figure 3-15** and **Figure 3-16** illustrate the household density in 2045 according to the baseline scenario and the high-density scenario, respectively.

Figure 3-14: Urban Core Areas

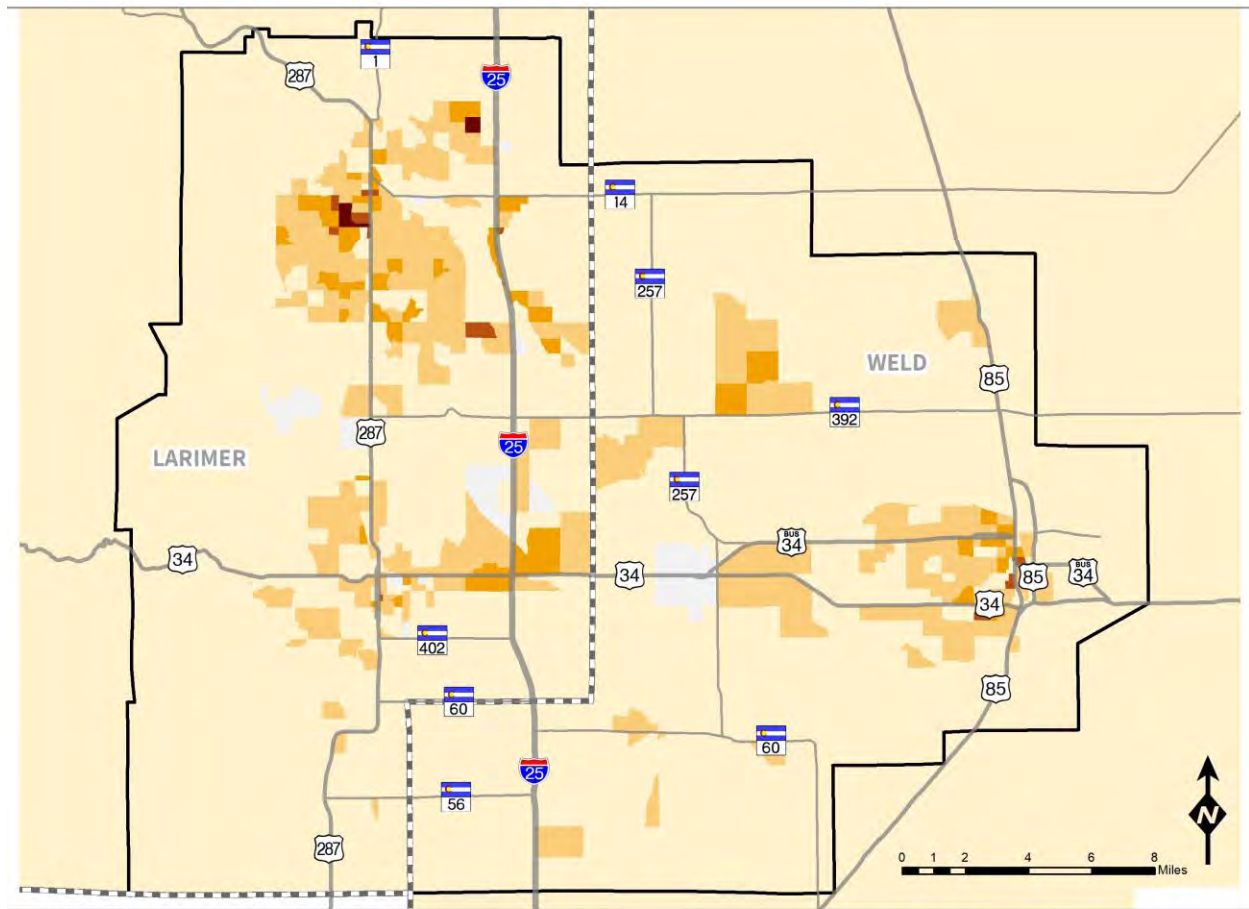


Legend

- Urban Cores
- NFRMPO Boundary
- County Boundary

July 2019
Sources: CDOT, NFRMPO
North Front Range Metropolitan Planning Organization

Figure 3-15: Baseline Scenario Household Density, 2045



Legend

Households per Acre

- 0.0
- 0.1 - 2.0
- 2.1 - 5.0
- 5.1 - 10.0
- 10.1 - 20.0
- 20.1 - 32.6

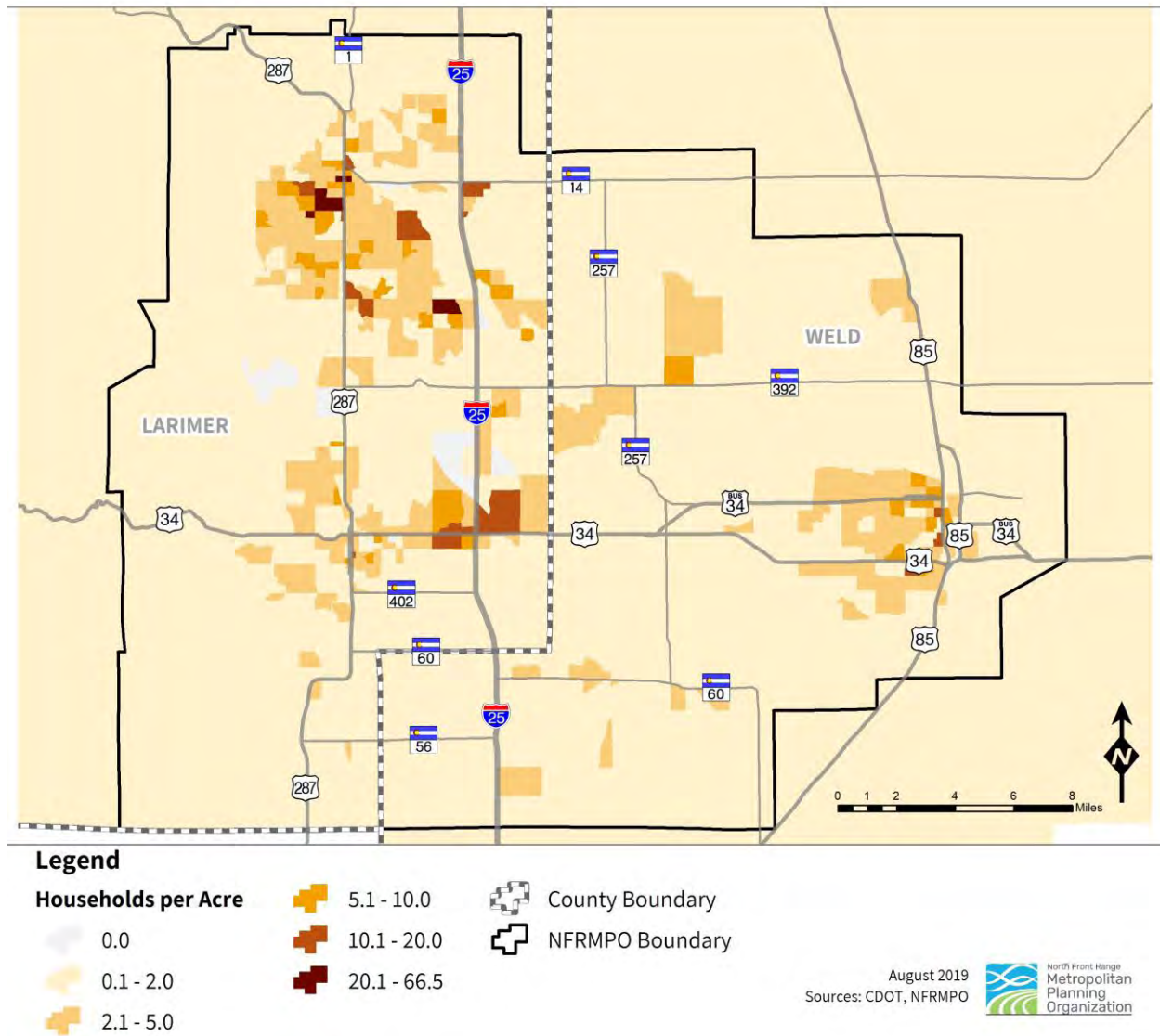
- County Boundary
- NFRMPO Boundary

August 2019
Sources: CDOT, NFRMPO



Note: Household density is displayed by TAZ. To improve readability, TAZ boundaries are not delineated.

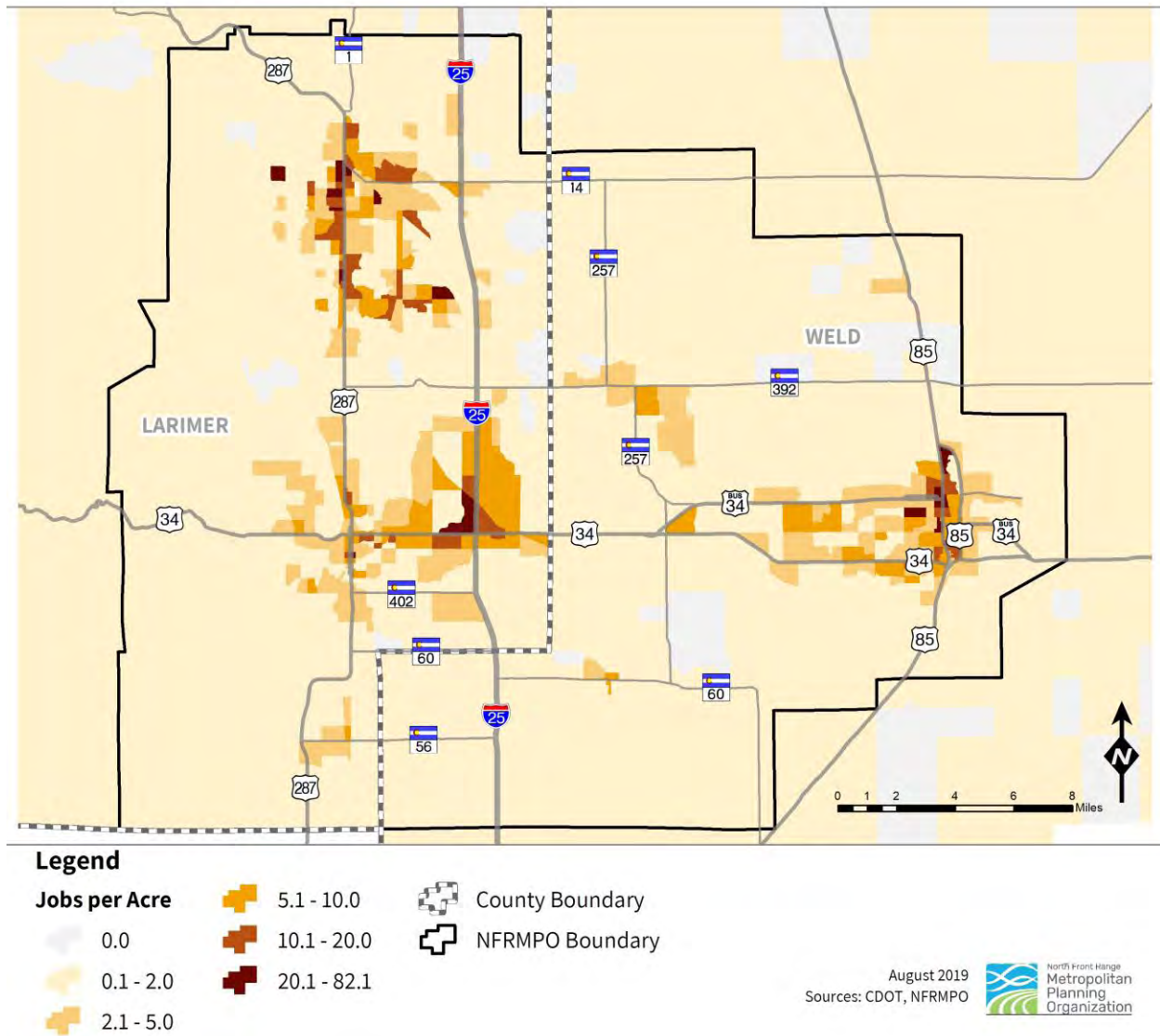
Figure 3-16: High-Density Scenario Household Density, 2045



Note: Household density is displayed by TAZ. To improve readability, TAZ boundaries are not delineated.

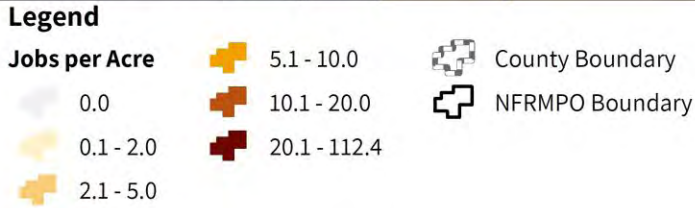
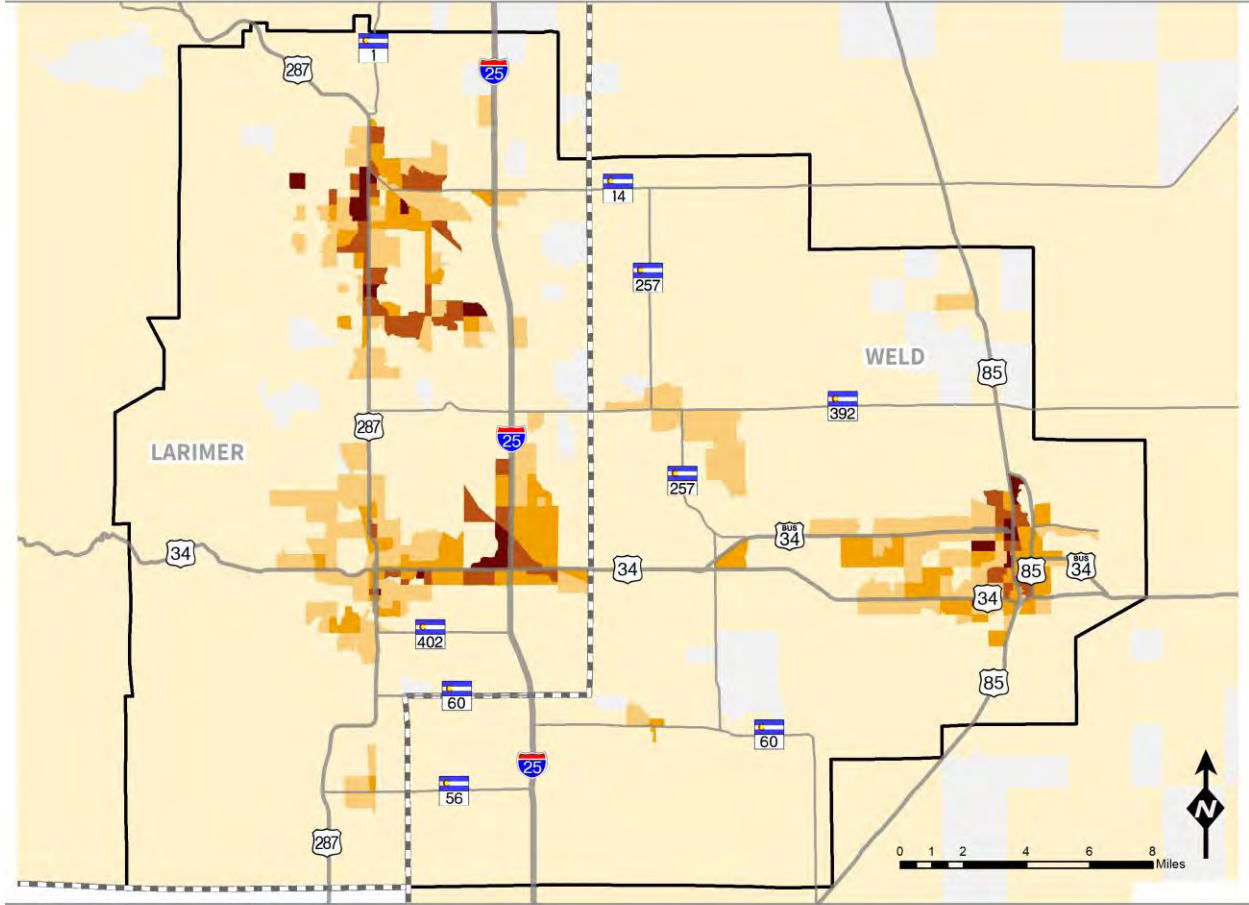
Both the baseline scenario and the high-density scenario show similar job density in 2045, as shown in **Figure 3-17** and **Figure 3-18**.

Figure 3-17: Baseline Scenario Job Density, 2045



Note: Job density is displayed by TAZ. To improve readability, TAZ boundaries are not delineated.

Figure 3-18: High-Density Scenario Job Density, 2045



August 2019
Sources: CDOT, NFRMPO

Note: Job density is displayed by TAZ. To improve readability, TAZ boundaries are not delineated.

B. Transportation Forecast and Scenarios

The 2015 RTDM builds upon the outputs from the 2010 LUAM to identify how the region's transportation system will perform in 2045, including traffic volume, congested travel speeds, and transit ridership. The 2015 RTDM uses a base year of 2015 and a combination of destination choice and gravity modeling to forecast travel choices by trip purpose.

Five transportation scenarios were developed using the 2015 RTDM, including the baseline scenario and four alternative investment scenarios. The baseline scenario forecasts the transportation system using the fiscally constrained priority transportation projects. The alternative investment scenarios test the following investment options:

- **No Build** – No transportation investments from 2020 through 2045.
- **Fiscally constrained transit investment** – All flexible funds invested in the 2045 Regional Transit Element (RTE) buildout corridors including WCR74, Greeley to Fort Morgan, Loveland to Estes Park, US34, US85, and Regional Rail between Greeley and Fort Collins and between Greeley and Loveland.
- **Fiscally constrained I-25** – All flexible funds invested in capacity projects along I-25.
- **Fiscally unconstrained: All identified projects** – All identified transportation projects.

The baseline land use forecast was used to analyze all of the transportation scenarios. In addition, the high-density land use scenario was analyzed with the baseline transportation scenario and the fiscally constrained transit investment scenario for a total of seven scenarios.

As discussed in **Chapter 3, Section 1: Technology**, connected and autonomous vehicles (CAV) have the potential to drastically change travel patterns and the functioning of the transportation system as a whole. CAV technology could decrease congestion by reducing the incidence of crashes and increasing roadway capacity through closer following distances, or it could increase congestion due to travel behavior changes such as making additional trips and longer trips, especially if driverless ridesharing becomes available. While the potential impacts of CAV technology on the transportation system are important to consider, the NFRMPO 2015 RTDM does not forecast the potential impacts of CAV adoption. CDOT is currently developing CAV scenarios for use in the statewide travel model, which will provide insight into the potential impacts of CAV within the State and the North Front Range region.

Baseline Transportation Scenario

The baseline transportation scenario represents the expected transportation system in 2045 and includes the fiscally constrained, regionally significant projects identified in **Chapter 3, Section 5**. Compared to the 2015 network, the fiscally constrained 2045 network includes roadway widenings, new roads, and newly paved roads, as well as additional transit routes.

The number of lanes in the 2045 fiscally constrained roadway network are displayed in **Figure 3-19**. The peak period headways in the 2045 fiscally constrained transit network is displayed in **Figure 3-20** according to three categories: 10-15 minutes, 20-30 minutes, and 60 minutes and above. **Figure 3-21** shows the breakdown of shifts in mode choice between 2015 and 2045. Drive Alone, Carpool, and Transit all see slight increases during this time period.

Compared to the base year 2015, the region is expected to experience a 90 percent increase in vehicle miles traveled (VMT) by 2045, as shown in **Table 3-10**. Volumes on each roadway in 2015 and 2045 are presented in **Figure 3-22** and **Figure 3-23**, respectively.

Roadway travel in 2045 is forecasted to be slower and more congested than in 2015, with vehicle hours traveled (VHT) more than doubling and almost six times as many vehicle hours of delay. The average speed across the network is forecasted to decrease from 37 mph in 2015 to 29 mph in 2045.

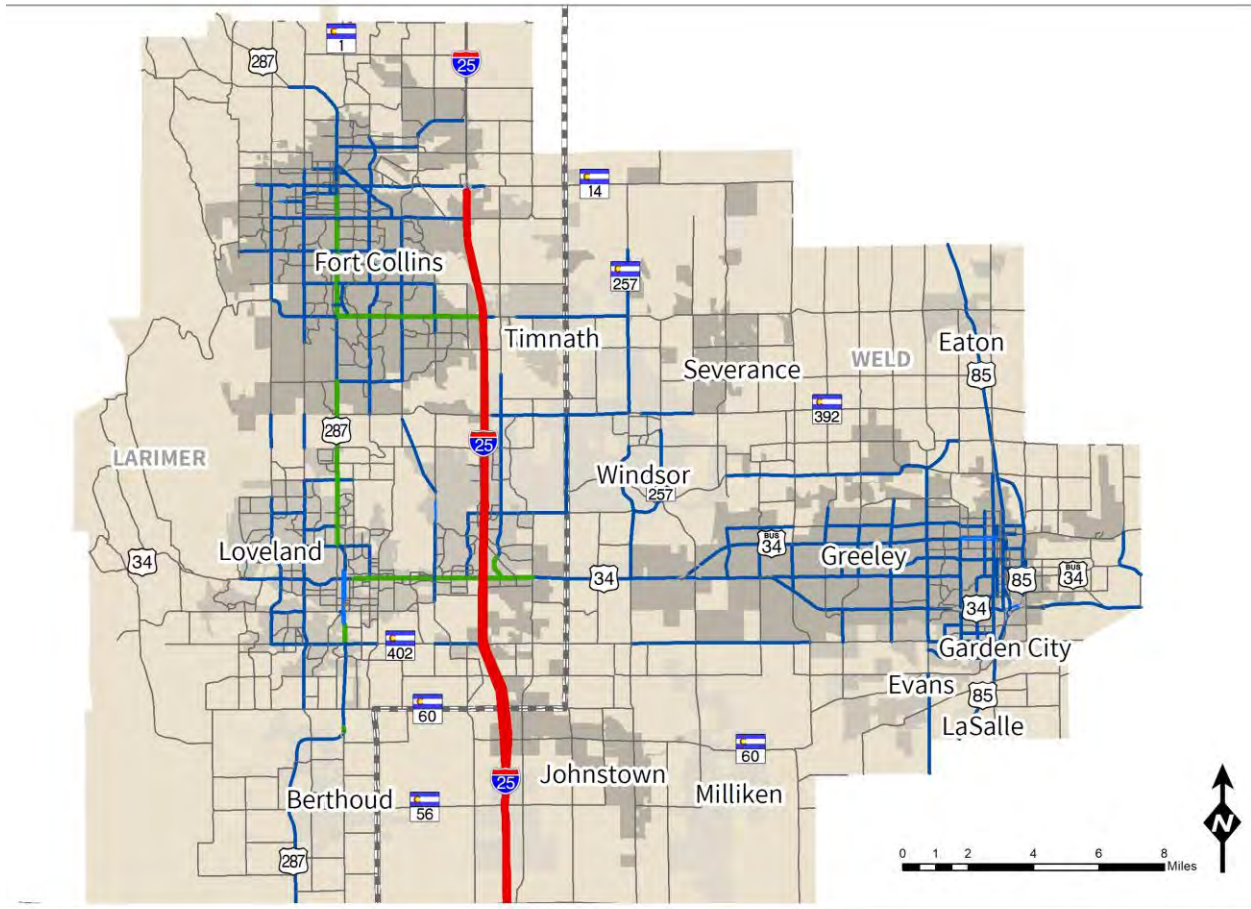
The Travel Time Index (TTI), a measure of congestion that compares travel time during the peak period to free-flow conditions, is forecasted to be higher in 2045 than in 2015. As defined in the 2019 Congestion Management Process

(CMP), a TTI of 1.5 or higher is indicative of congestion. In 2015, 0.8 percent of the roadway system had a TTI of 1.5 or higher, while the percentage of the system forecasted to have a TTI of 1.5 or higher in 2045 is 7.1 percent. **Figure 3-24** and **Figure 3-25** display TTI in 2015 and 2045, respectively.

Level of Service (LOS) is a qualitative measure of how well the roadway serves traffic. LOS ranges from a score of A, which is free-flow traffic, to a score of F, which is stop-and-go traffic that is poorly served by the roadway's capacity. The percentage of the system with a LOS of F is expected to increase from 6.1 percent in 2015 to 16.6 percent in 2045. LOS is displayed in **Figure 3-26** and **Figure 3-27** for 2015 and 2045, respectively.



As shown in **Figure 3-21** the majority of person trips in the North Front Range region are by vehicle, with 45.2 percent of person trips by drive-alone automobile and 44.1 percent of person trips by carpool in 2015. The carpool category includes any vehicle with a driver and at least one passenger. Walk trips account for 7.5 percent of trips, followed by biking at 2.8 percent and transit at 0.4 percent in 2015. By 2045 the mode split is expected to hold relatively constant, with slight increases to automobile modes and transit, and slight decreases to walking and biking mode shares.

Figure 3-19: Fiscally Constrained Roadway Network by Number of Lanes, 2045



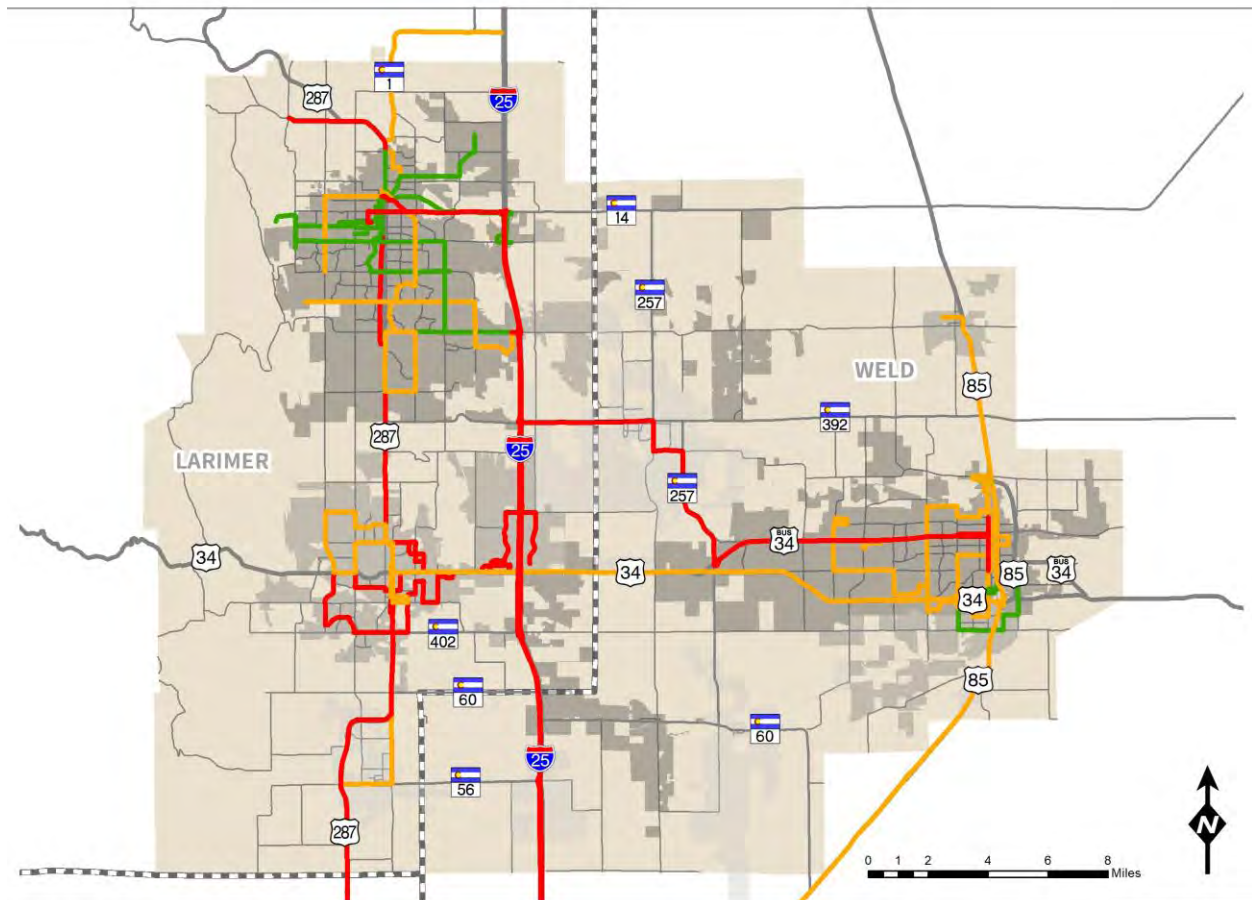
Legend

Number of Lanes

- 1
- 2
- 3
- 4
- 6
- 2 General Purpose + 1 Express Lane in each direction
-  County Boundary
-  NFRMPO Boundary

July 2019
Sources: CDOT, NFRMPO  North Front Range Metropolitan Planning Organization

Figure 3-20: Fiscally Constrained Transit Network by Peak Period Headways, 2045



Legend

Peak Period Headways

- 10-15 minutes
- 20-30 minutes
- 60+ minutes



County Boundary



NFRMPO Boundary

July 2019
Sources: CDOT, NFRMPO



Table 3-10: 2015 and 2045 Travel Model Metrics, Baseline Scenario

Metric	2015	2045	Percent Change
Vehicle Miles Traveled (VMT)	10,689,996	20,259,703	90%
Vehicle Hours Traveled (VHT)	288,357	687,302	138%
Vehicle Hours of Delay	26,898	179,439	567%
Percent of System with TTI>=1.5	0.8%	7.1%	788%
Percent of System with LOS F	6.1%	16.6%	173%
Person Miles Traveled	13,584,093	26,214,326	93%
Person Hours Traveled	376,301	913,679	143%
Average Speed	37 mph	29 mph	-22%

Figure 3-21: 2015 and 2045 Mode Choice Percentages, Baseline Scenario

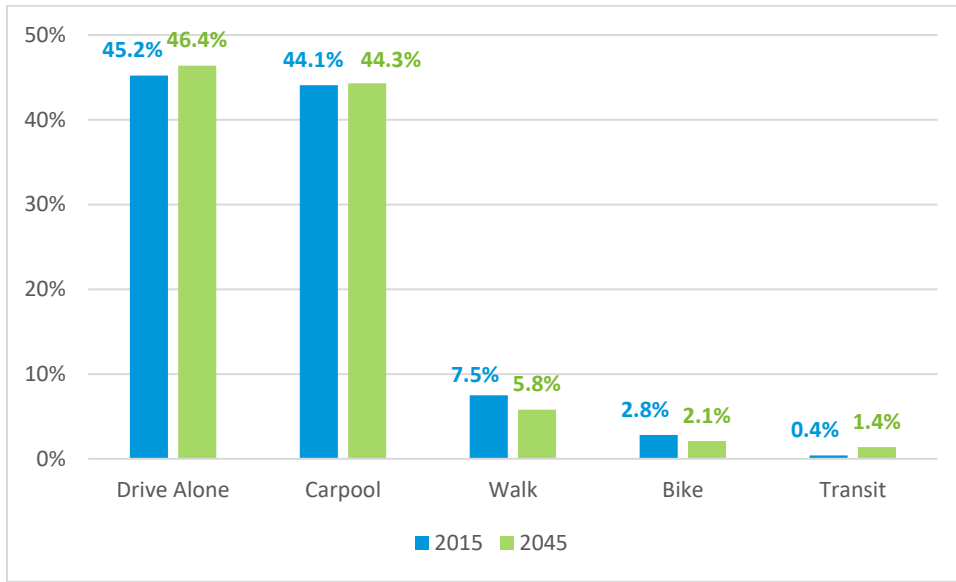


Figure 3-22: 2015 Average Daily Traffic Volumes

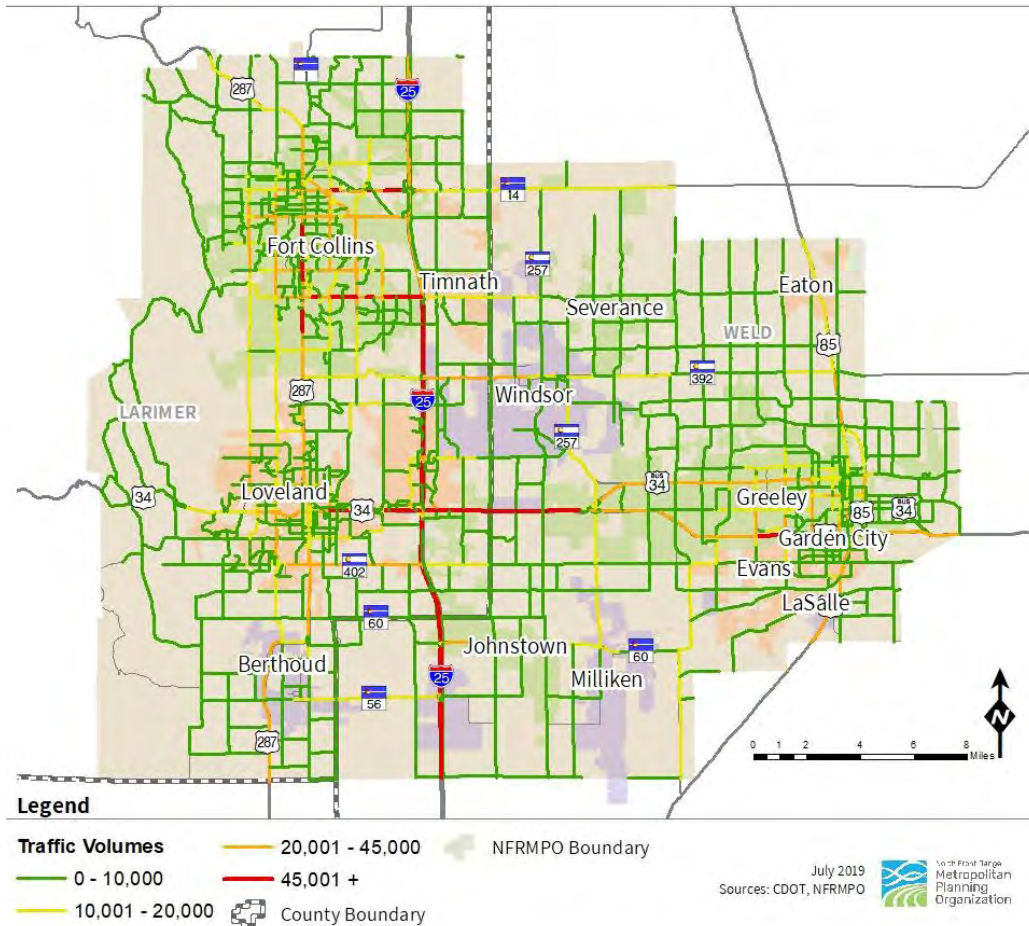


Figure 3-23: 2045 Average Daily Traffic Volumes, Baseline Scenario

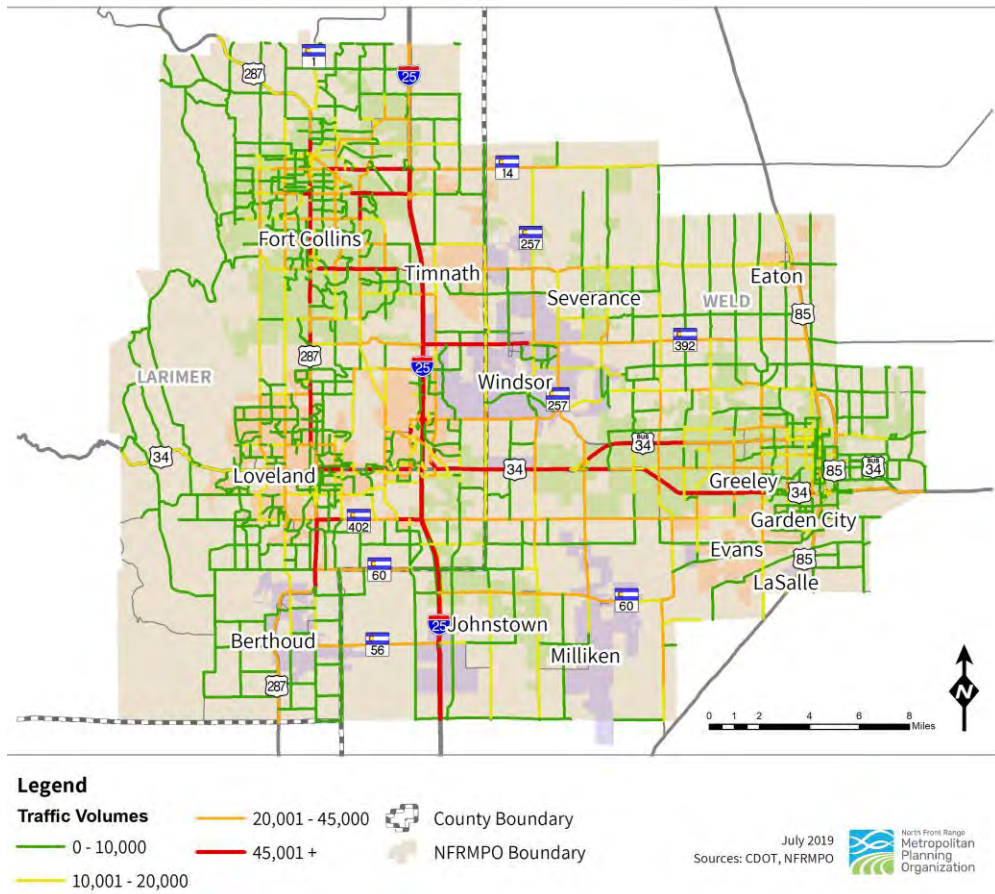


Figure 3-24: 2015 TTI

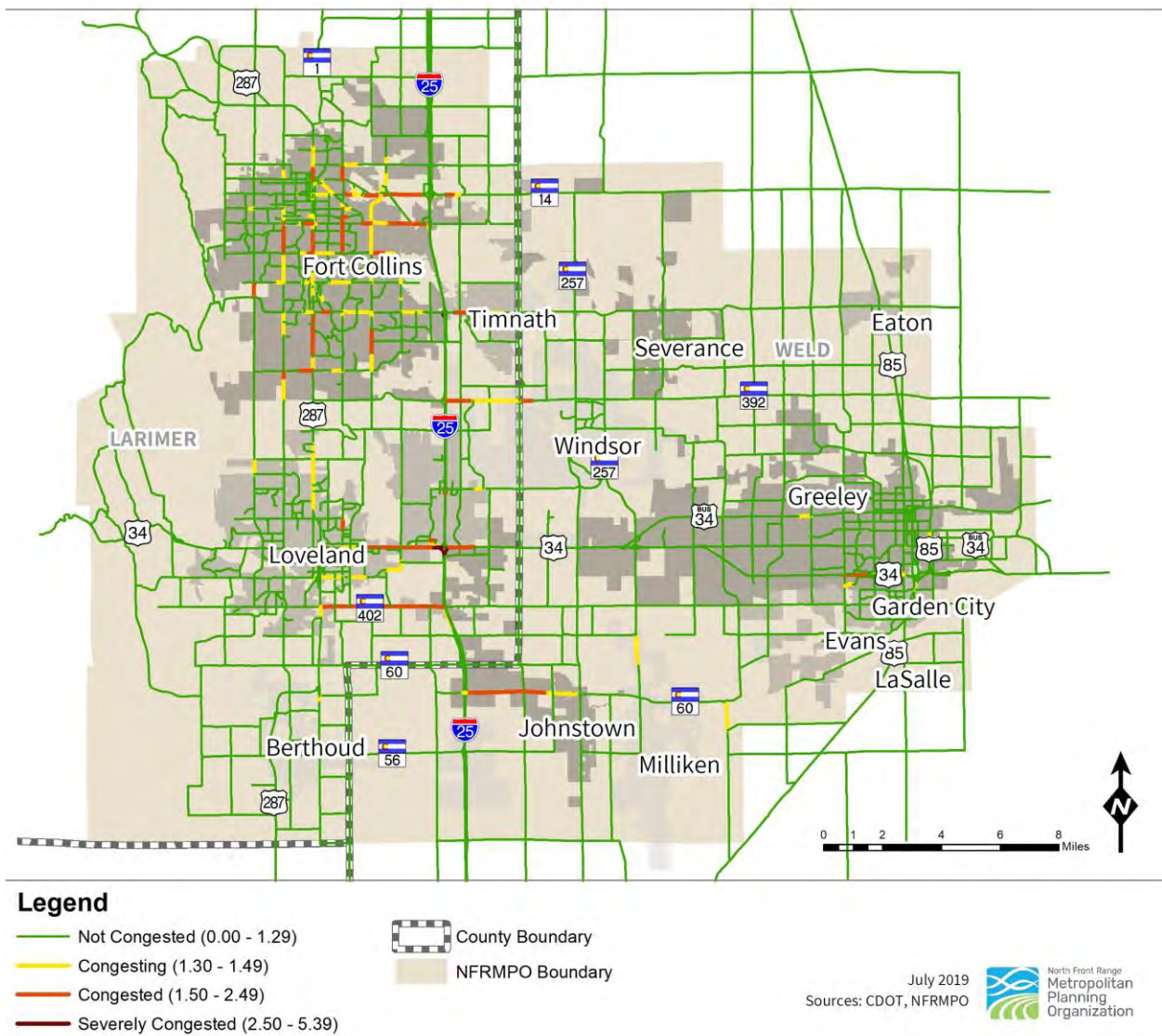
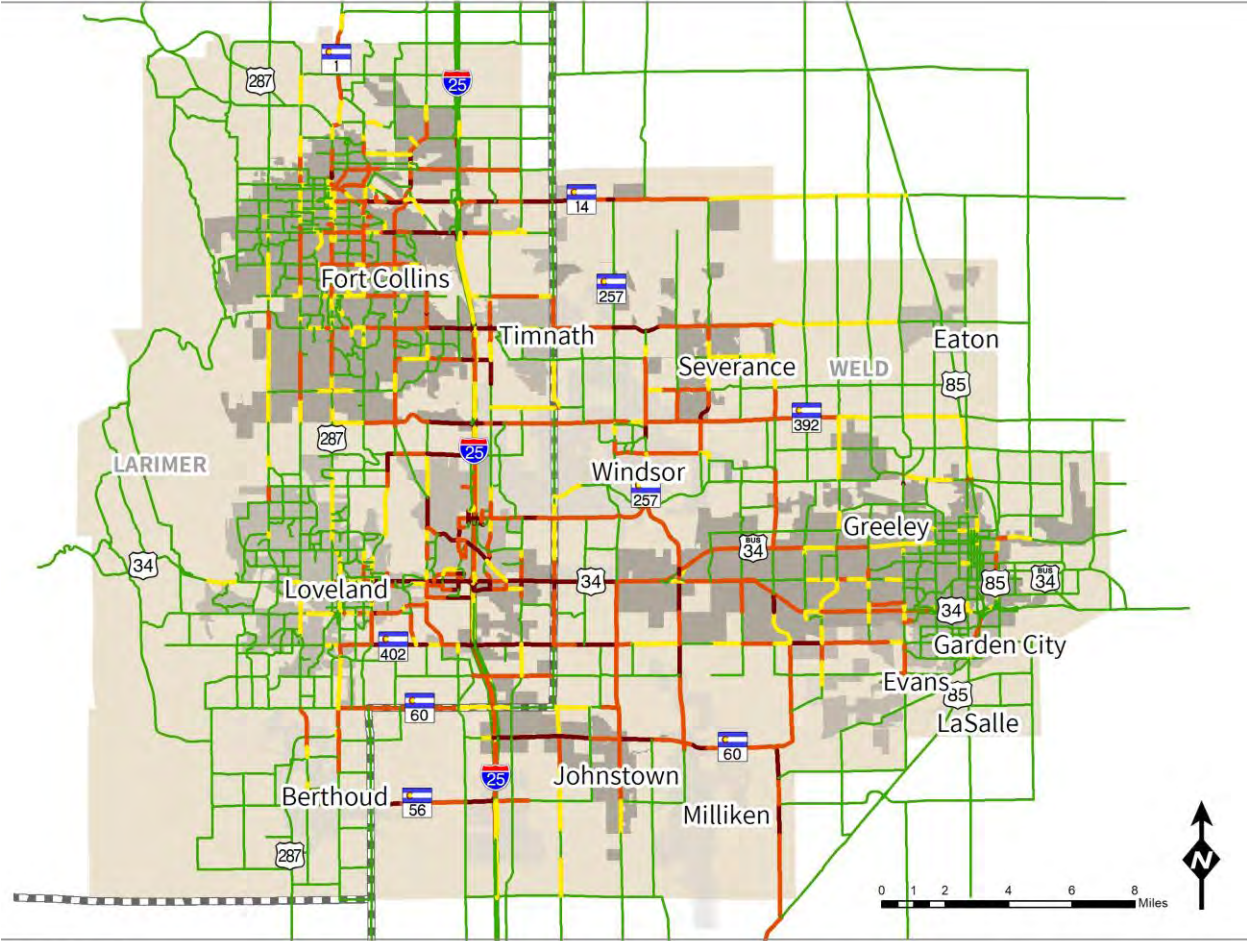


Figure 3-25: 2045 TTI, Baseline Scenario

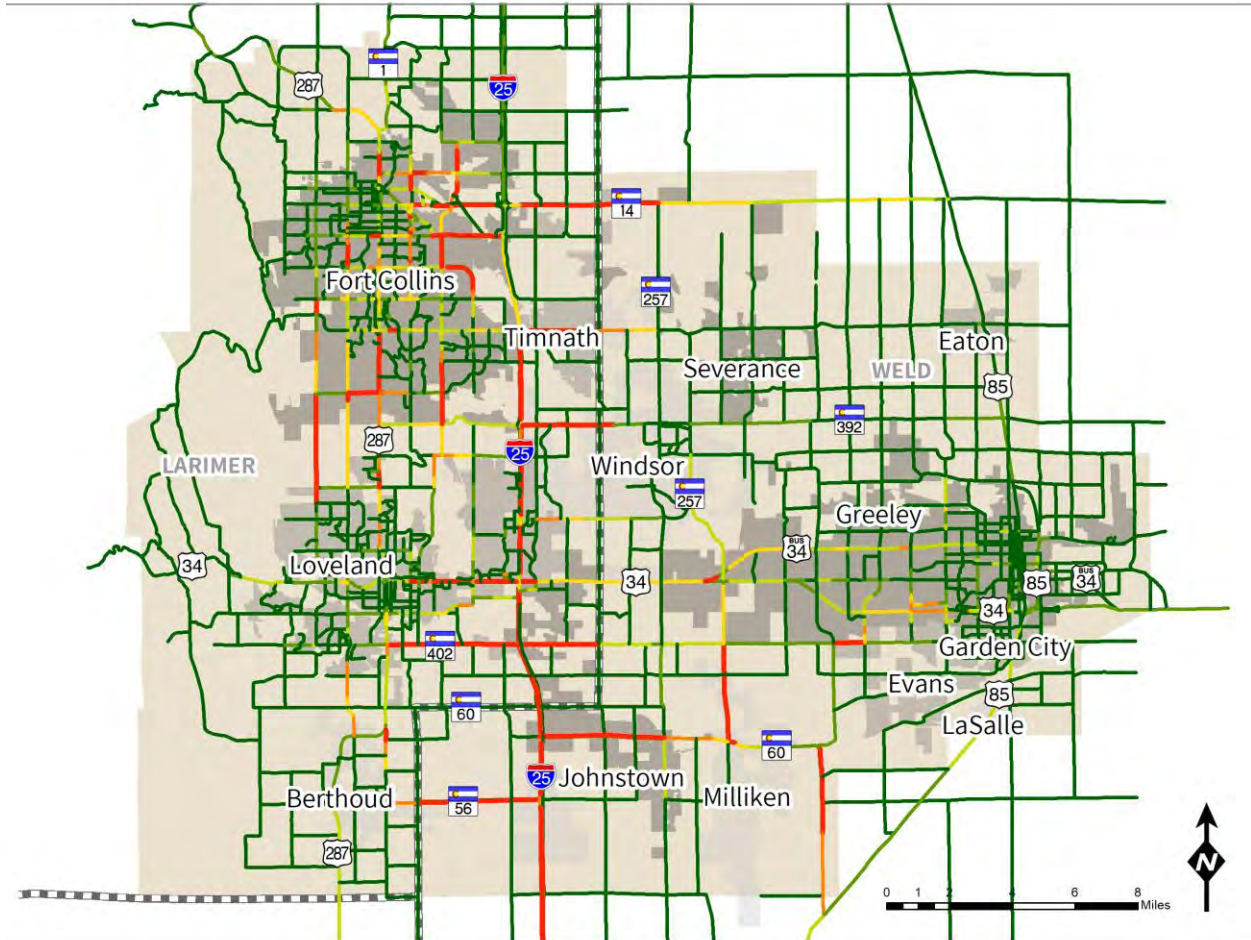


Legend

- Not Congested (0.00 - 1.29)
- Congesting (1.30 - 1.49)
- Congested (1.50 - 2.49)
- Severely Congested (2.50 - 23.20)
- County Boundary
- NFRMPO Boundary

July 2019
Sources: CDOT, NFRMPO

Figure 3-26: 2015 LOS



Legend

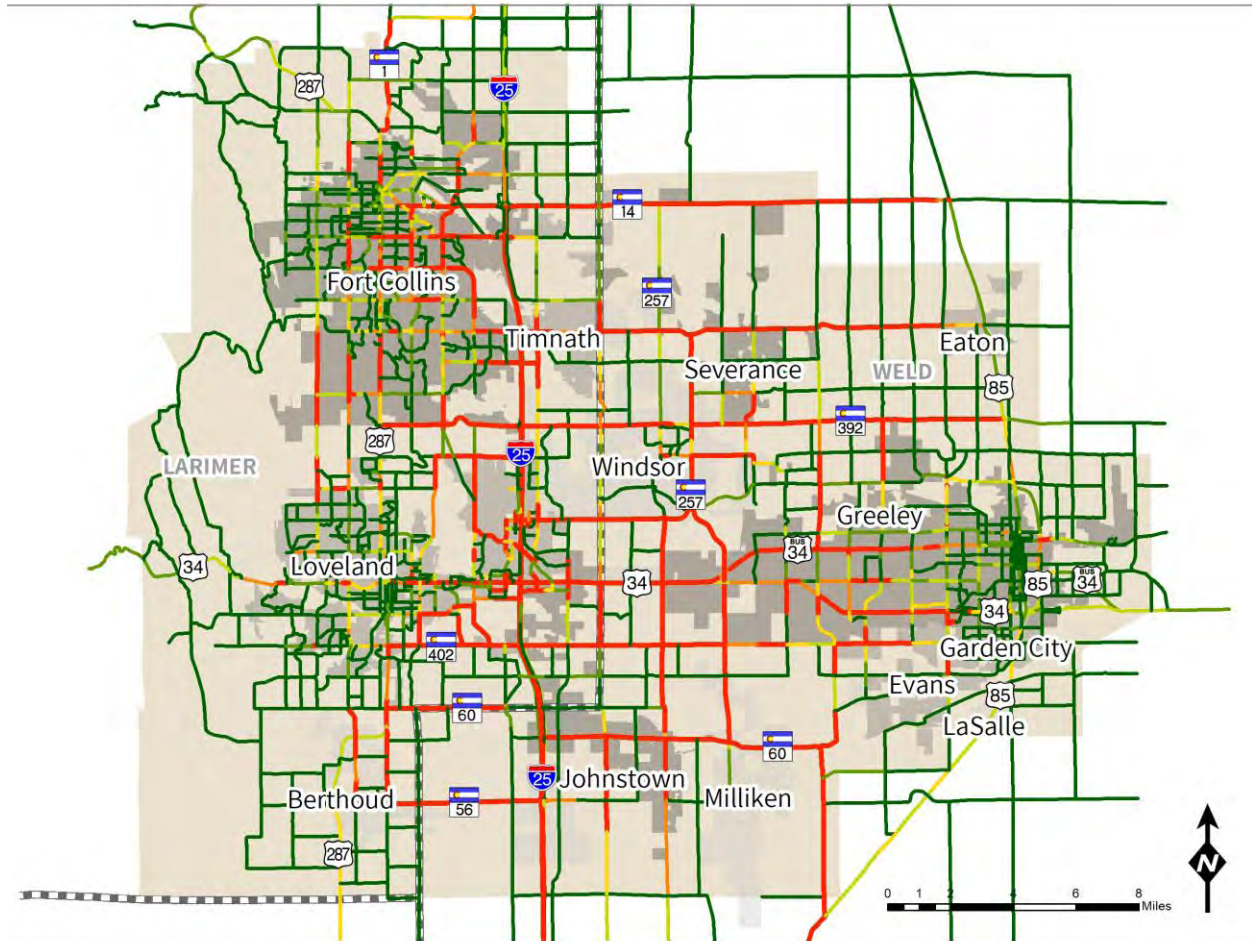
LOS

- | | | | |
|---|---|---|---|
|  |  |  |  County Boundary |
|  |  |  |  NFRMPO Boundary |

July 2019
Sources: CDOT, NFRMPO



Figure 3-27: 2045 LOS, Baseline Scenario



Legend

LOS

- | | | | | | | | |
|---|---|---|---|---|---|---|-----------------|
|  | A |  | C |  | E |  | County Boundary |
|  | B |  | D |  | F |  | NFRMPO Boundary |

July 2019
Sources: CDOT, NFRMPO  North Front Range Metropolitan Planning Organization

Alternative Investment Scenarios

The alternative investment transportation scenarios identify how the transportation system would function if the region's transportation funding is applied to different sets of projects or if the amount of funding changes thereby impacting the number of projects that can be funded. A total of four alternative investment transportation scenarios were developed. Select transportation scenarios were analyzed with the high-density land use scenario identified in the previous section.

No Build Scenario

The no build scenario tests how the transportation system functions if no transportation investments are made from 2020 through 2045.

Fiscally Constrained Transit Investment

This scenario funds the 2045 Regional Transit Element (RTE) buildout corridors including WCR74, Greeley to Fort Morgan, Loveland to Estes Park, US34, US85, and Regional Rail between Greeley and Fort Collins and between Greeley and Loveland. To retain fiscal constraint, the scenario removes funding from roadway projects on county and local roads. The resulting transportation system is displayed in **Figure 3-28**.

Fiscally Constrained I-25

This scenario funds the third general purpose lane on I-25 and remains fiscally constrained by not funding all roadway capacity projects other than those on I-25. The resulting transportation system for this scenario is displayed in **Figure 3-29**.

Fiscally Unconstrained: All identified projects

This scenario funds all of the identified transportation projects at an additional cost of

\$3.5B. The additional projects are displayed in **Figure 3-30**.

Alternative Investment Scenario Analysis

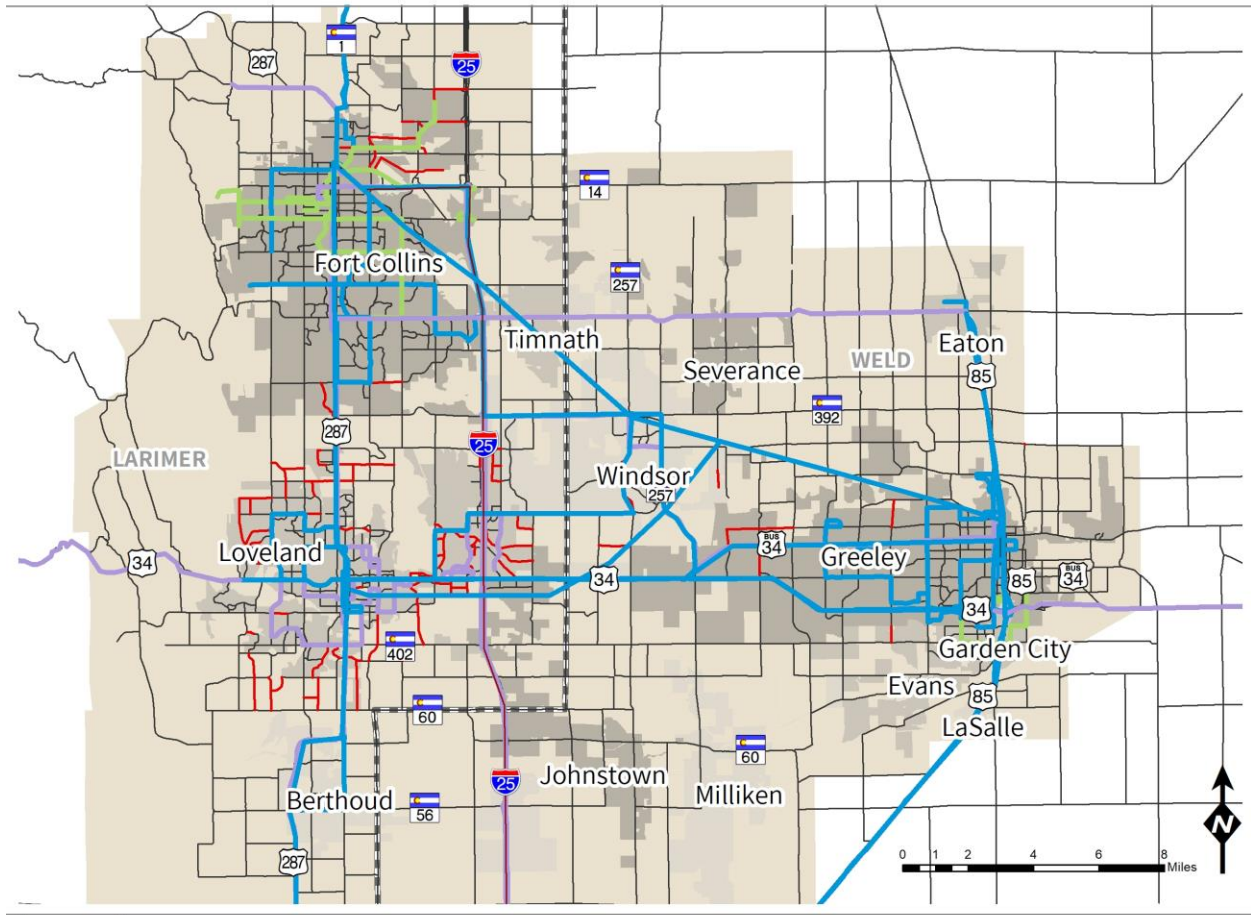
Several metrics are reported for each roadway scenario, including maps of TTI and LOS and tables identifying systemwide statistics including VMT, VHT, vehicle hours of delay, percent of system with TTI at or above 1.5, percent of system with LOS F, person miles traveled, person hours traveled, average speed, and mode choice. The transit investment scenario outcomes focus on the impacts to transit.

Compared to the 2045 baseline scenario, all of the alternative roadway investment scenarios have higher percentages of the system with a TTI at or above 1.5, except for the fiscally unconstrained scenario, as shown in **Table 3-11**. **Figure 3-31**, **Figure 3-32**, and **Figure 3-33** display the TTI for the alternative roadway investment scenarios.

Similarly, all of the alternative roadway investment scenarios have higher percentages of the system with a LOS of F compared to the 2045 baseline scenario, as shown in **Table 3-11**.

Figure 3-34, Figure 3-35, and Figure 3-36 display the LOS for the alternative roadway investment scenarios.

Figure 3-28: Fiscally Constrained Transit Investment Scenario

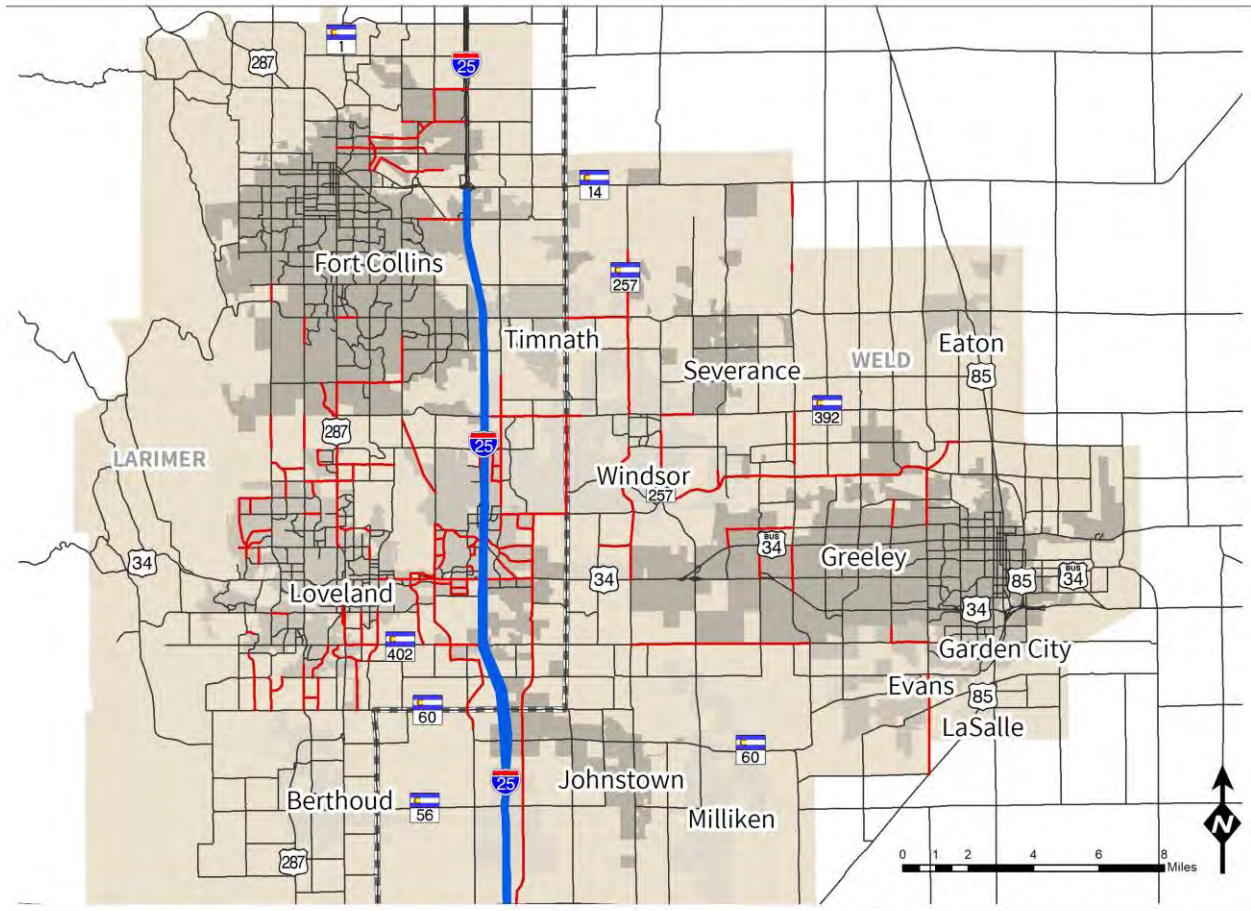


Legend

- | | | |
|-----------------------------|------------------|-----------------|
| Peak Period Headways | Removed Projects | County Boundary |
| 10-15 minutes | Roadway Network | NFRMPO Boundary |
| 20-30 minutes | | |
| 60+ minutes | | |

July 2019
Sources: CDOT, NFRMPO
 North Front Range Metropolitan Planning Organization

Figure 3-29: Fiscally Constrained I-25 Scenario



Legend

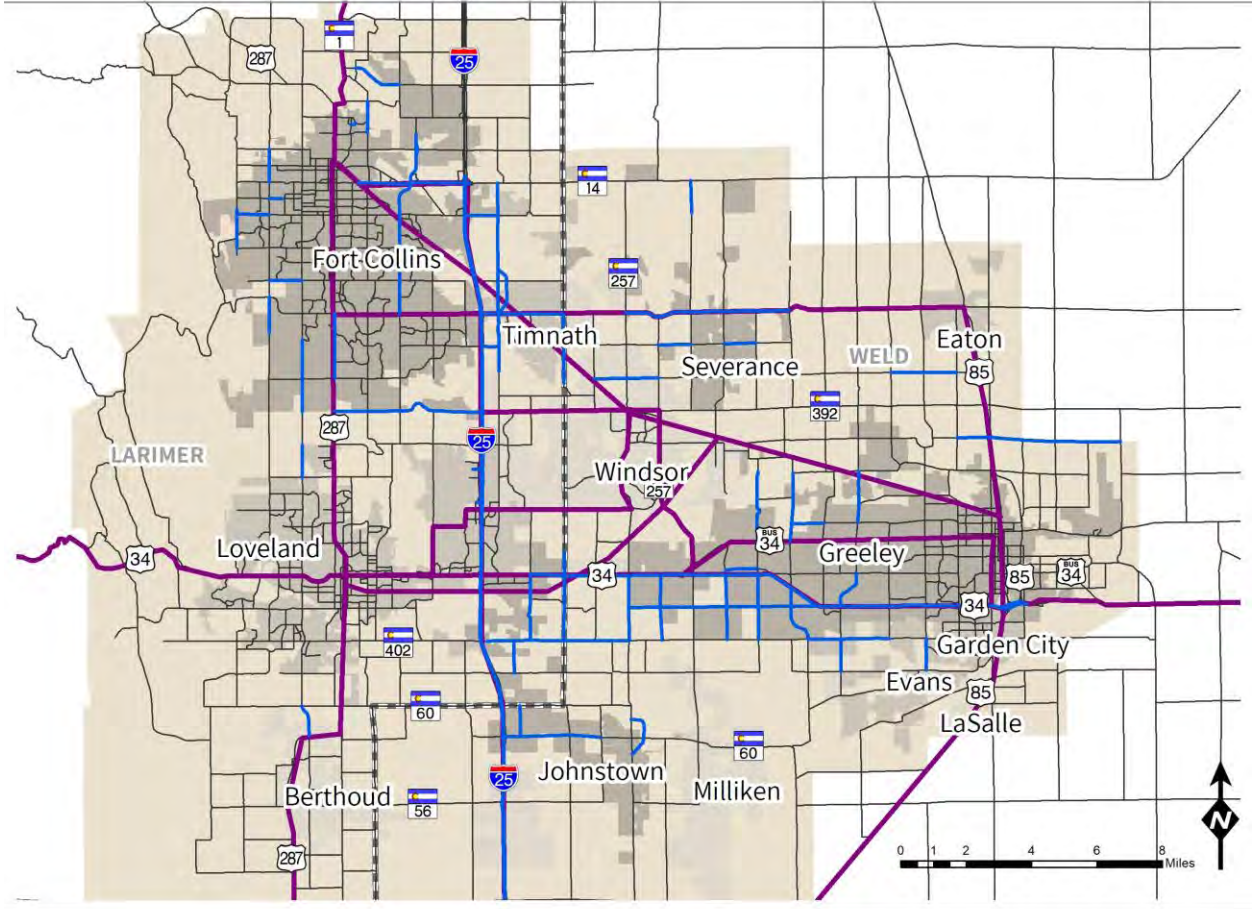
- Added Project (3 General Purpose + 1 Express Lane in each direction)
- Removed Projects
- Roadway Network
- County Boundary
- NFRMPO Boundary

July 2019
 Sources: CDOT, NFRMPO



North Front Range
 Metropolitan
 Planning
 Organization

Figure 3-30: Fiscally Unconstrained Scenario



Legend

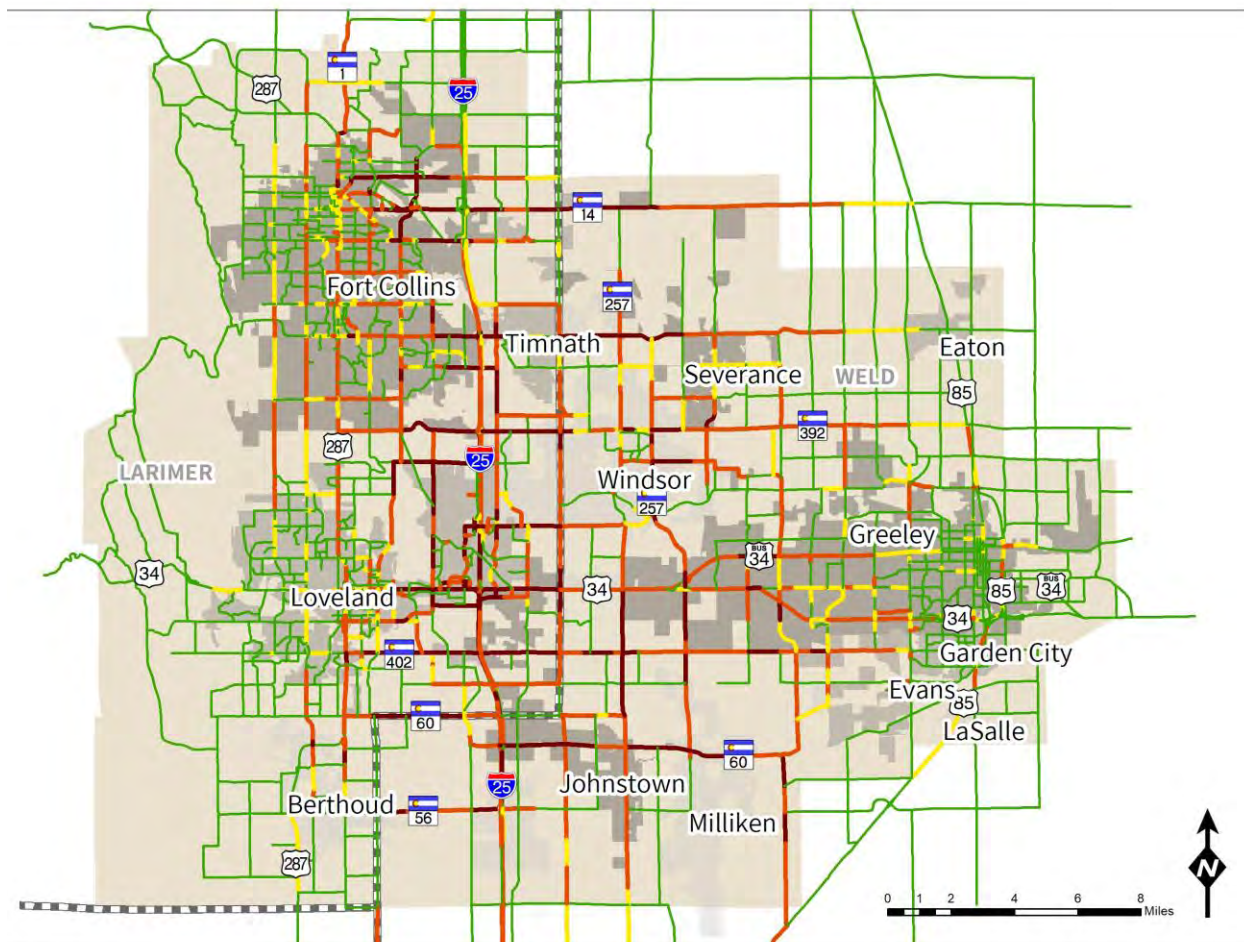
- Added Roadway Projects
- Added Transit Projects
- Roadway Network
- County Boundary
- NFRMPO Boundary

July 2019
 Sources: CDOT, NFRMPO



North Front Range
 Metropolitan
 Planning
 Organization

Figure 3-31: 2045 TTI, No Build Scenario



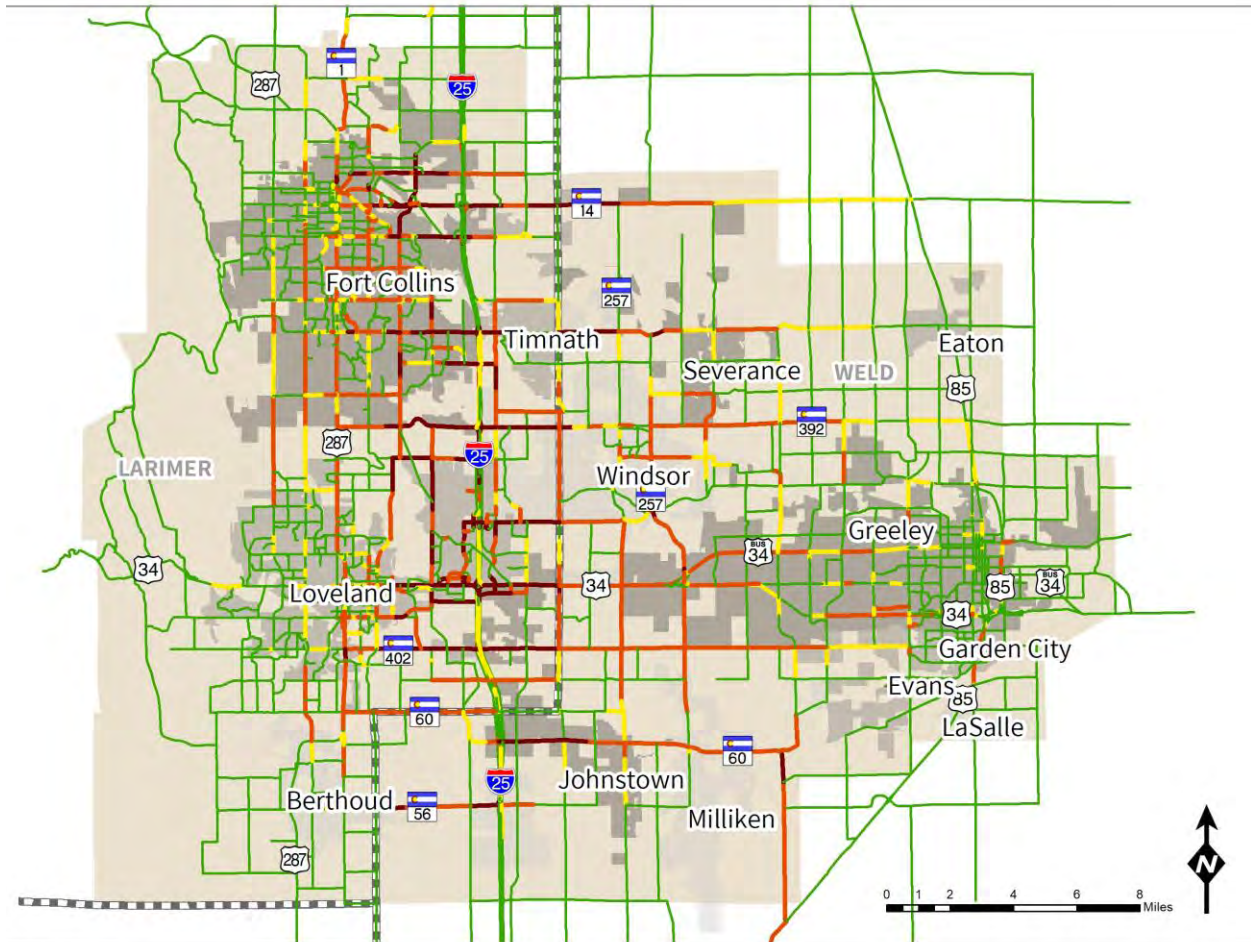
Legend

- Not Congested (0.00 - 1.29)
- Congesting (1.30 - 1.49)
- Congested (1.50 - 2.49)
- Severely Congested (2.50 - 36.71)
- County Boundary
- NFRMPO Boundary

July 2019
Sources: CDOT, NFRMPO



Figure 3-32: 2045 TTI, I-25 Investment Scenario

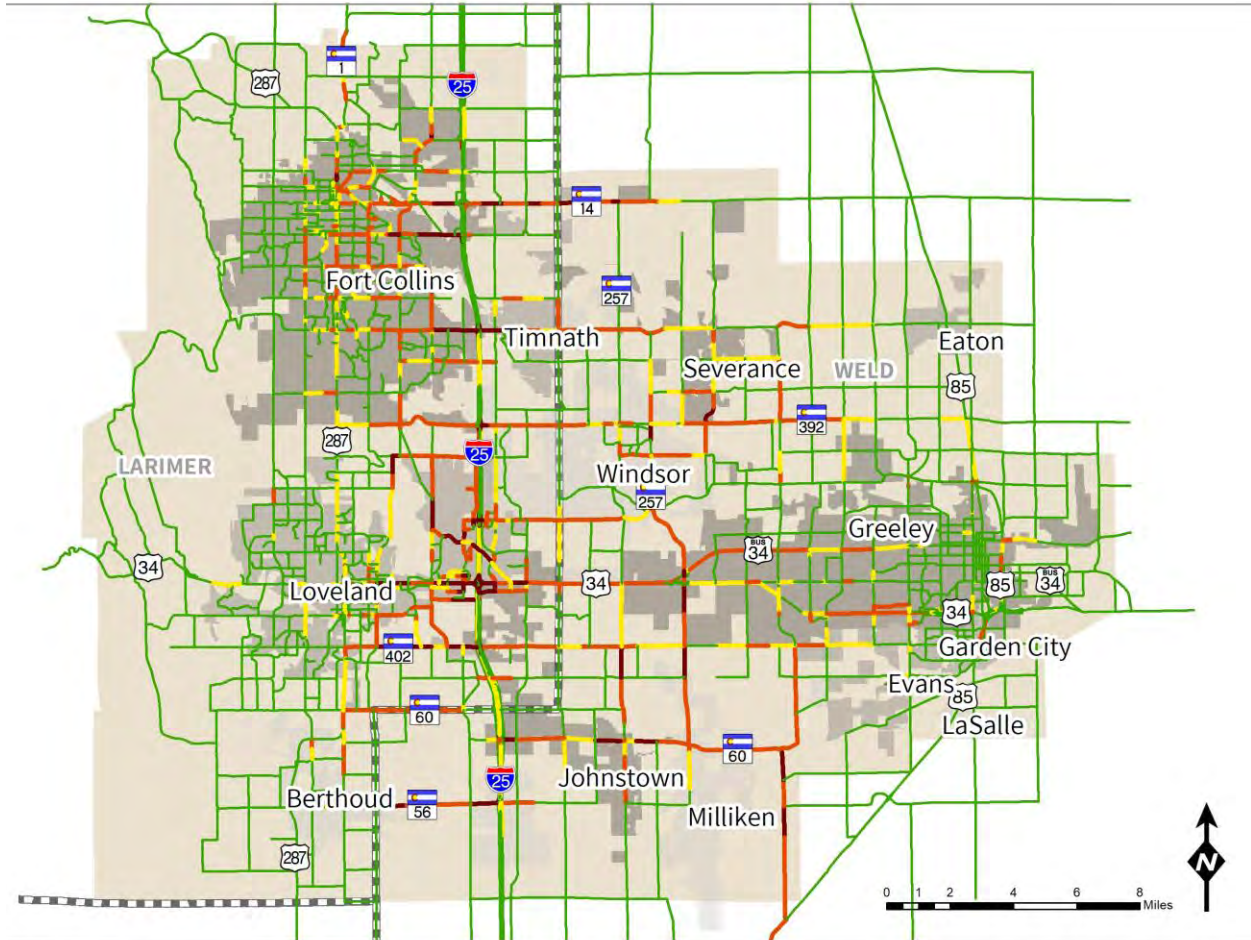


Legend

- Not Congested (0.00 - 1.29)
- Congesting (1.30 - 1.49)
- Congested (1.50 - 2.49)
- Severely Congested (2.50 - 40.19)
- County Boundary
- NFRMPO Boundary

July 2019
Sources: CDOT, NFRMPO

Figure 3-33: 2045 TTI, Unconstrained Scenario

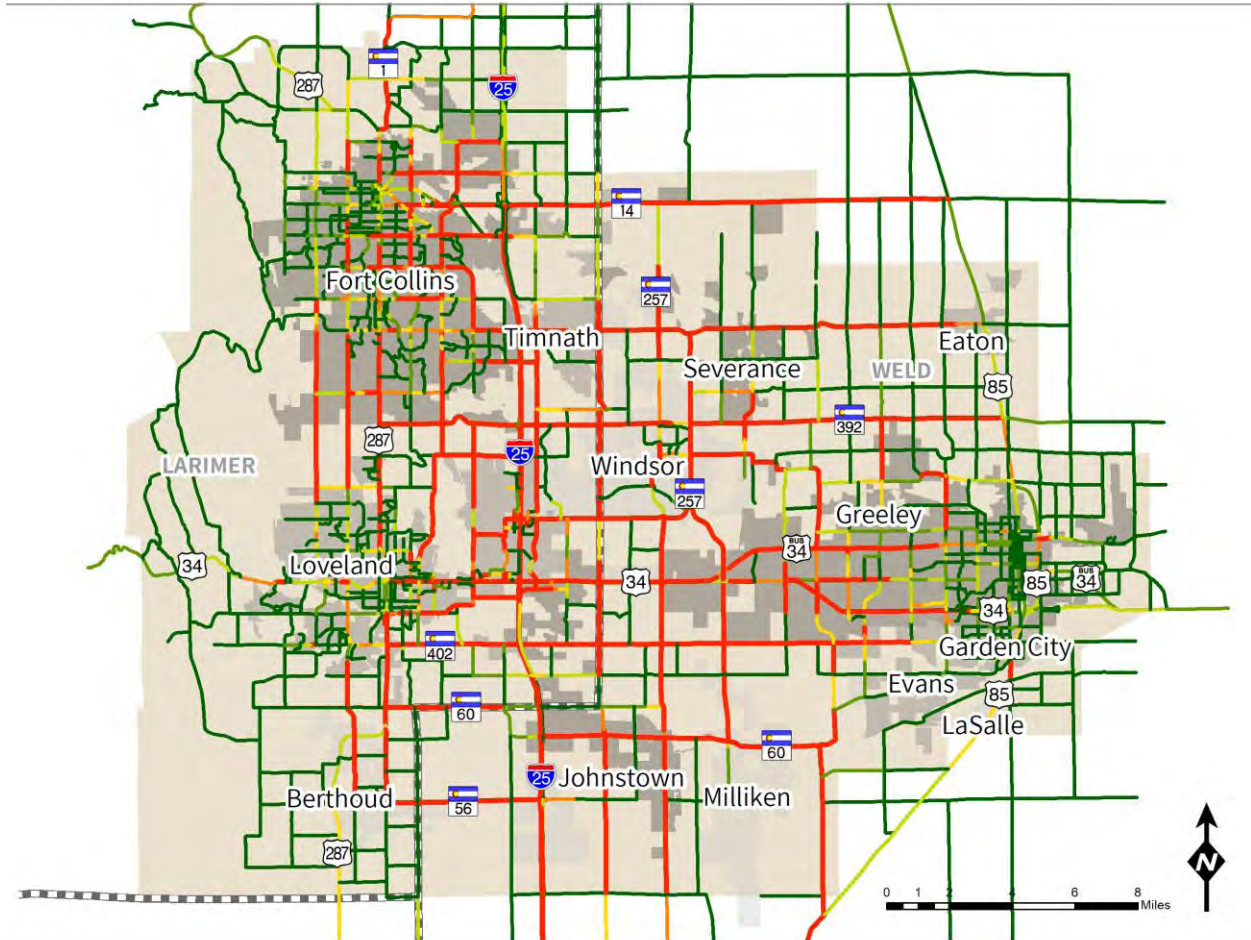


Legend

- Not Congested (0.00 - 1.29)
- Congesting (1.30 - 1.49)
- Congested (1.50 - 2.49)
- Severely Congested (2.50 - 20.19)
- County Boundary
- NFRMPO Boundary

July 2019
Sources: CDOT, NFRMPO

Figure 3-34: 2045 LOS, No Build Scenario



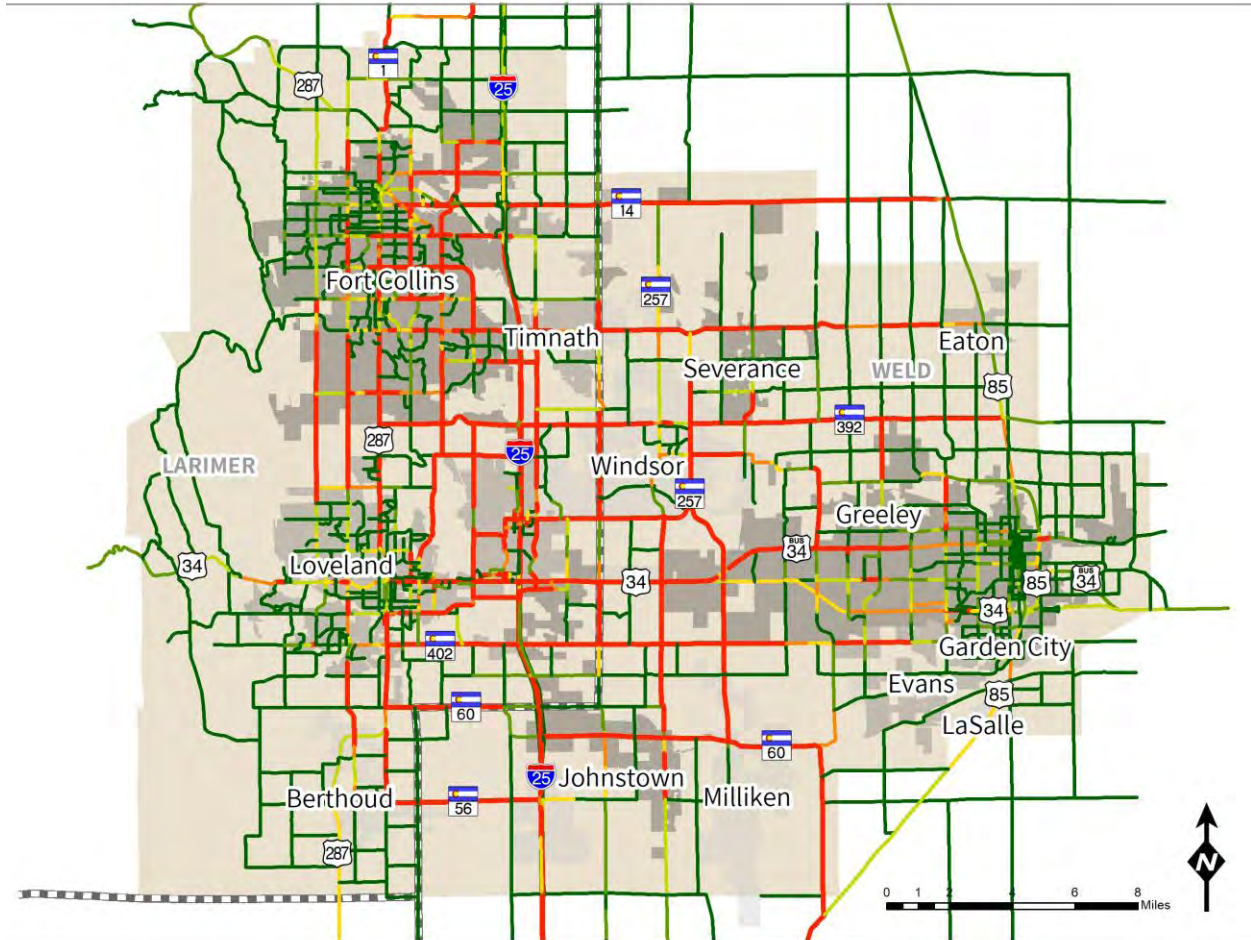
Legend

LOS

- | | | | |
|---|---|---|-----------------|
| A | C | E | County Boundary |
| B | D | F | NFRMPO Boundary |

July 2019
Sources: CDOT, NFRMPO North Front Range Metropolitan Planning Organization

Figure 3-35: 2045 LOS, I-25 Investment Scenario



Legend

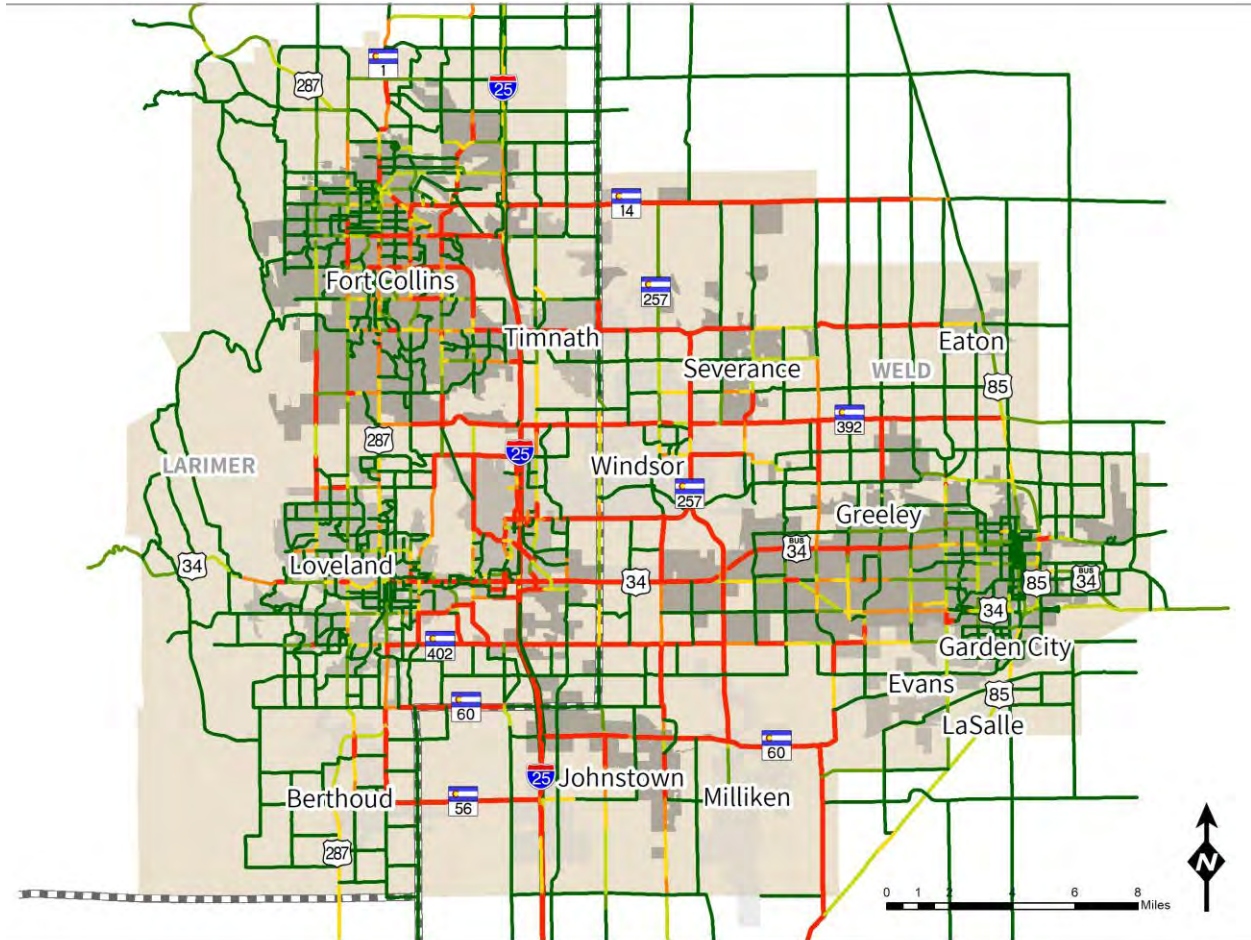
LOS

- | | | | | |
|--|--|--|--|-----------------|
| | | | | County Boundary |
| | | | | NFRMPO Boundary |
| | | | | |

July 2019
Sources: CDOT, NFRMPO



Figure 3-36: 2045 LOS, Unconstrained Scenario



Legend

LOS

- | | | | | | | | |
|--|---|--|---|--|---|--|-----------------|
| | A | | C | | E | | County Boundary |
| | B | | D | | F | | NFRMPO Boundary |

July 2019
Sources: CDOT, NFRMPO



The alternative investment scenarios vary the most according to the percentage of the system with LOS F, as shown in **Table 3-11**. Whereas the unconstrained scenario has just 3.8 percent of the system with an LOS of F, the no build scenario has 21.8 percent of the system with an LOS of F.

Other measures of delay, such as vehicle hours of delay, percent of system with TTI greater than or equal to 1.5, and person hours of delay also vary substantially among the alternative investment scenarios. Distance traveled as

measured by VMT and person mile traveled do not vary substantially among the scenarios.

Table 3-12 displays mode choice among the alternative investment scenarios. The walk and bike modes do not vary substantially among the scenarios, while drive alone, carpool, and transit show the most variance. The highest transit mode share is observed with the transit investment scenario paired with the high-density land use scenario. In this scenario, 4.2 percent of person trips are completed by transit.

Table 3-11: 2045 Travel Model Metrics by Alternative Investment Scenario

Metric	No Build	Unconstrained	I-25	Baseline with High-Density
Vehicle Miles Traveled (VMT)	20,475,936	20,289,220	19,214,939	19,073,998
Vehicle Hours Traveled (VHT)	790,668	640,507	703,572	638,722
Vehicle Hours of Delay	272,164	136,903	222,200	161,481
Percent of System with TTI>=1.5	10.1%	5.4%	7.3%	6.0%
Percent of System with LOS F	21.8%	3.8%	17.1%	14.6%
Person Miles Traveled	26,255,442	26,314,910	25,073,813	24,900,177
Person Hours Traveled	1,043,072	853,898	952,011	863,946
Average Speed	26 mph	32 mph	27 mph	30 mph

Table 3-12: 2045 Mode Choice Percentages by Alternative Investment Scenario

Mode Choice	No Build	Unconstrained	I-25	Baseline with High-Density	Transit	Transit High-Density
Drive Alone	46.6%	46.2%	44.9%	44.9%	46.3%	44.7%
Carpool	44.3%	44.2%	42.8%	42.8%	44.2%	42.7%
Walk	6.0%	5.8%	6.2%	6.1%	5.9%	6.2%
Bike	2.3%	2.1%	2.3%	2.3%	2.1%	2.3%
Transit	0.7%	1.6%	3.9%	3.9%	1.5%	4.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Transit performance for each RTE corridor for the 2045 baseline transportation scenario and the transit investment scenario, analyzed with both the baseline land use and the high-density land use scenario, is presented in **Table 3-13**. Performance is measured according to person miles traveled per service mile and organized into three categories: low, medium, and high. A low performance indicates the route provides less than 4 person miles traveled per service mile, medium performance is between 4 and 20 person miles traveled per service mile, and high performance is 20 person miles traveled per service mile or higher.

Performance for each RTE corridor is consistent among the tested scenarios. The routes with the highest performance include the Poudre Express, the FLEX, US34 between Loveland and Greeley, Harmony Road/WCR74, and Windsor to Loveland. The routes with the lowest performance include the regional rail between Greeley and Fort Collins and between Greeley and Loveland. All other routes are classified as having medium performance. Additional transit modeling and forecasting should be completed as part of subsequent studies into routes proposed for implementation.

Table 3-13: Transit Performance by RTC for 2045 Forecast and Alternative Scenarios

Agency	Route	2045	2045 High-Density	Transit	Transit High-Density
GET	RTE A - Poudre Express	High	High	High	High
Transfort	RTE B - Fort Collins to Wellington (SH1)	Medium	Medium	Medium	Medium
Transfort	RTE C - Fort Collins to Longmont/Boulder (US287) / FLEX	High	High	High	High
Unidentified	RTE D - Loveland to Greeley (US34)	High	High	High	High
Unidentified	RTE E - Eaton to Denver Region (US85)	Medium	Medium	Medium	Medium
Unidentified	RTE F - Harmony Road/WCR74	N/A	N/A	High	High
CDOT	RTE G - Greeley to Fort Morgan	N/A	N/A	Medium	Medium
CDOT	RTE H - Loveland to Estes Park (US34)	N/A	N/A	Medium	Medium
Unidentified	RTE I - Windsor to Loveland	N/A	N/A	High	High
Unidentified	RTE J - Regional Rail, Greeley to Fort Collins	N/A	N/A	Low	Low
Unidentified	RTE K - Regional Rail, Greeley to Loveland	N/A	N/A	Low	Low



3
Section 4

**Fiscally-
Constrained Plan**

The 2045 RTP is a fiscally constrained plan, which means the total estimated cost of operating, maintaining, and improving the transportation system does not exceed the forecasted revenue over the horizon of the Plan. The estimated costs for operating and maintaining the transportation system were developed by extrapolating current operations and maintenance costs. The cost of improving the system is based on the roadway, transit, and non-motorized project costs identified by member communities and in local plans. The forecasted revenue represents the amount of public and private funding for transportation that is reasonably anticipated from 2020 through 2045.

The fiscally constrained plan was cooperatively developed by the North Front Range Transportation and Air Quality Planning Council (NFRT&AQPC), the NFR Technical Advisory Committee (TAC), the Colorado Department of Transportation (CDOT), local communities, and NFRMPO staff to project anticipated revenues used for transportation operations, maintenance, and improvements throughout the region from 2020 through 2045. All revenues and costs are presented in year of expenditure (YOE) dollars using a two percent inflation factor.

A. Revenue Estimates

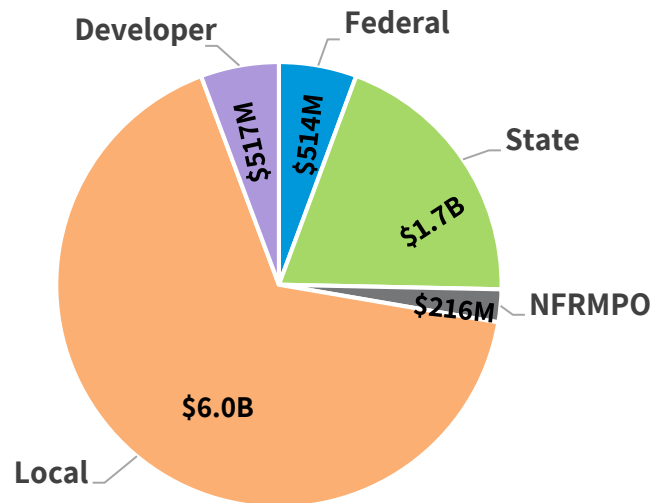
The revenue estimates use current information and reasonable assumptions about future funding to forecast transportation revenue over the time horizon of the Plan. The revenue estimates are based on a variety of sources, including the CDOT 2045 Long Range Revenue Projections; the CDOT 2040 Program Distribution; the fiscal year (FY) 2019-2022 Transportation Improvement Program (TIP); and forecasted discretionary grants, developer contributions, local revenue, and transit revenue. Overall, an estimated \$9.1B in funding is reasonably anticipated for transportation projects within the North Front Range region.

Figure 3-37 displays the revenue estimates by the entity that controls the funds, which is

distinct from the funding source. While most of the entities control their own funding, both the NFRMPO and the State control funding from other sources. The NFRMPO controls and awards funds from federal sources and the State controls and awards funding from both state and federal sources. Two-thirds of the funding is controlled by local entities, with the next highest share controlled by the State at 20 percent. Developers control six percent of the funding, as do federal agencies including the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). The NFRMPO controls the smallest share at two percent.

The funding sources controlled by each entity are identified in the following sections.

Figure 3-37: Revenue Estimates by Controlling Entity in YOE Dollars, 2020-2045



Locally Controlled Revenue Sources

Local communities derive revenue for transportation from a variety of sources, including, taxes, fees, and fares.

- ▶ **Highway Users Tax Fund:** The HUTF provides funding to the state and local governments to fund the transportation system, including transit. The fund is comprised primarily of motor fuel taxes and motor vehicle license fees along with other fees and fines. HUTF funds are allocated to the state highway fund, counties, and municipalities based on statutory formulas.
- ▶ **Other State-collected Funds:** In addition to the HUTF, local communities receive a share of the FASTER funds collected by the State from motor vehicle registration surcharges, rental vehicle fees, and oversize/overweight vehicle surcharges. With SB 2018-001, local communities will also receive a share of the funding transferred to transportation purposes from the State’s General Fund.
- ▶ **Impact Fees:** Impact fees are development charges imposed to fund capital projects intended to offset the impacts caused by a proposed development.
- ▶ **General Funds:** Local General funds typically are the primary operating funds for municipalities. The general funds represented in the 2045 RTP are specifically directed towards transportation system maintenance and improvements.
- ▶ **Local Tax:** Funds generated by sales, use, specific ownership, and property taxes can be transferred to general funds or directed towards capital projects.
 - **Sales Tax:** Fort Collins began implementing a capital improvement tax in 1973 as part of the general election cycle. The current improvement tax, an extension of the 2005 Building on Basics (BOB) initiative, is a 0.25 percent sales tax for the construction

of certain capital projects. BOB 2.0 was approved by voters on April 7, 2015 and covers a 10-year period, including FY2016-2025.

- **Use Tax:** A use tax can be charged on the use or consumption of a taxable item that is not subject to a sales tax. The Town of Windsor collects a 3.95% construction use tax on new construction permits. The majority of the construction use tax is dedicated to the Capital Improvement Fund, which funds capital projects including transportation projects.
- **Specific Ownership Tax:** This tax is collected annually during vehicle registration and is based on the

vehicle's age and value. Local governments may choose to use this revenue for transportation improvements.

- **Property Tax:** Property taxes in Larimer and Weld counties from a dedicated mill levy are used to fund projects on county roads. In addition, 50 percent of the mill levy collected by the county on properties within municipalities is allocated to municipalities for their road and street projects.
- ▶ **Transit Fares and Directly Generated Funds:** Transit systems generate revenue through fares, passes, and other directly generated revenue such as advertising.

State Controlled Funding Programs

The State awards funding from state and federal sources for roadway, transit, and bicycle and pedestrian projects. Projects may be selected by the Colorado Transportation Commission (CTC), the regional CDOT office, CDOT Headquarters, or by other state-approved entities.

- ▶ **Regional Priorities Program (RPP):** The goal of this program is to implement regionally significant projects identified through the transportation planning process. These funds are flexible in use and are allocated to the regions by the CTC on an annual basis. The allocations are based on regional population, CDOT on-system lane miles, and CDOT on-system truck Vehicle Miles Traveled (VMT).
- ▶ **FASTER Fees:** In the spring of 2009, the State of Colorado passed legislation to impose fees to generate revenue for transportation within the State. The fees are assessed on vehicle registration, rental cars, and an

increase to oversize and overweight vehicle permits. For CDOT, Funding Advancements for Surface Transportation and Economic Recovery Act of 2009 (FASTER) funds are broken into three programs: Bridge, Safety, and Transit.

- **FASTER Safety:** The goal of FASTER Safety is to fund roadway safety projects including construction, reconstruction, or maintenance of projects needed to enhance the safety of the State and federal highway system. Collected fees are distributed by CDOT to cities, towns, and counties based on crash data weighted by the National Safety Council.

Estimates include cost per fatality, injury, or other crash types.

- **FASTER Bridge Enterprise:** This program provides funds to finance, repair, reconstruct, and replace bridges designated as structurally deficient or functionally obsolete. FASTER Bridge is administered through the Colorado Bridge Enterprise, which targets funding to address Colorado’s deficient bridges.
- **FASTER Transit:** A CDOT-administered, statewide program implemented to promote, plan, design, finance, operate, maintain, and contract for transit services such as passenger rail, buses, and advanced guideway systems.

▶ **Asset Management**

- **Maintenance:** This program evaluates maintenance levels of service on the State Highway system. The CTC has established specific grade levels as objectives for the various activities associated with the maintenance program.
- **Surface Treatment:** This program identifies the remaining service life of the State Highway system to determine where the surface treatment funding should be used in meeting the CTC’s goals. In 2013, the Transportation Commission set an objective of having 80 percent of the State Highway system rated as high-drivability (10+ years) or moderate-drivability (four to 10 years) remaining life.
- **Bridge Program (Structures On-System and Structures Off-System):** This program identifies the condition of

every bridge on public roads to determine where bridge funding should be allocated. The purpose of the Bridge Program is to finance, repair, reconstruct, and replace bridges designated as structurally deficient.

- ▶ **Transportation Alternatives (TA):** TA provides funding for programs and projects defined as transportation alternatives. These programs include, but are not limited to, on-road and off-road bicycle and pedestrian facilities, infrastructure for non-driver access to public transportation, recreational trail program projects, and Safe Routes to School projects. A portion of TA funding is controlled by the regional CDOT offices, while another portion is controlled by MPOs.
- ▶ **Highway Safety Improvement Program (HSIP):** This program addresses safety improvements on all public roads using a mixture of state and federal funds.
- ▶ **Great Outdoors Colorado (GOCO):** Funding from the Colorado Lottery is awarded to a variety of project types, including trail projects, across the state by the GOCO Board. GOCO Board members are appointed by the Governor and confirmed by the Colorado State Senate.
- ▶ **New Funding Source:** The CDOT 2045 Long Range Revenue Projections assume an increase in the HUTF of \$300M per year beginning in 2026. The increase could come as a result of a State sales tax increase for transportation, an increase in State gas tax, or another equivalent mechanism.
- ▶ **FTA Funds:** The state controls and awards funding from two FTA funding programs that

fund transit operations, maintenance, and/or capital for small urban areas, including Greeley, as well as rural areas.

- **FTA §5310 Transportation for Elderly Persons and Persons with Disabilities Program:** This program supports the purchase of vehicles for transportation of the elderly and individuals with disabilities. It is used by a variety of non-

profit and public agencies. In Colorado, §5310 funds can also be used for mobility management programs and project implementation.

- **FTA §5339 Bus and Bus Facilities Program:** This program provides capital funding to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities.

Federally Controlled Funding Programs

The US Department of Transportation (USDOT) awards discretionary funding through competitive processes to projects across the nation. Currently there are two major grant programs, Better Utilizing Investments to Leverage Development (BUILD) and Infrastructure for Rebuilding America (INFRA). BUILD, formerly known as TIGER, is a national program funding investment in roads, bridges, transit, rail, ports, or intermodal transportation to improve regional connectivity and facilitate economic growth and competitiveness. The INFRA program, formerly known as FASTLANE, is designed to address critical issues facing the nation's highway and bridges to align with national and regional economic vitality goals and leverage additional non-federal funding.

FTA allocates funding directly to certain transit agencies and awards discretionary grants. The total amount available for a program is based on funding authorized under the FAST Act and is apportioned according to population and other reported data. There are two transit providers that receive FTA funds based on population in the region: the City of Fort Collins (Transfort) and Greeley-Evans Transit (GET):

- ▶ **Transfort** receives funds based on an urbanized area formula program for areas with a population between 200,000 and 999,999. Transfort receives FTA funds on behalf of the Fort Collins – Loveland – Berthoud Transportation Management Area (TMA), which also includes the VanGo™ vanpool program.
- ▶ **GET** receives funds based on an urbanized area formula program for areas with a population between 50,000 and 199,999. GET uses the FTA funds to provide services to the Greeley – Evans area.

The two transit providers produce a program of projects each fiscal year based on FTA apportionments as published annually in the Federal Register. The program includes projects to be carried out using funds made available based on the urbanized area formulas. These projects include capital transit improvements, bus purchase and rehabilitation, bus facility upgrades, maintenance, and operations. As discussed in the state controlled funding section, CDOT also administers some FTA funding programs through a competitive process.

The following federally controlled programs are anticipated to continue to be available for transit funding in the region:

▶ **FTA §5307 Urbanized Area Formula**

Program: This program makes federal resources available to urbanized areas for transit capital and operating assistance. Urbanized areas are those areas with a population of 50,000 or more as designated by the U.S. Census Bureau.

▶ **FTA §5310 Transportation for Elderly Persons and Persons with Disabilities**

NFRMPO Controlled Funding Programs

The NFRT&AQPC selects projects to receive funding through an approved call for projects process. Two calls for projects were held to award funding in the FY2020-2023 TIP. These projects represent the first four years of the 2045 RTP.

- ▶ **Congestion Mitigation and Air Quality (CMAQ) Improvements:** CMAQ funds are FHWA funds restricted to improvements which contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS). CMAQ funds may be used for air quality improvement projects, including operation improvements, ITS, transportation demand management (TDM) strategies, alternative fuel vehicles and vehicle retrofitting, non-motorized improvements, and alternative fuel bus

Program: See program description on previous page. FTA controls \$5310 funds for large urban areas, including Fort Collins.

▶ **FTA §5339 Bus and Bus Facilities Program:**

See program description on previous page. FTA controls \$5339 funds for large urban areas, including Fort Collins. The \$5339 program includes a formula funding component under §5339(a) and a competitive grant component under §5339(b) and §5339(c).

purchases and replacements. CMAQ funds used for transit purposes can be flexed from FHWA to FTA funds, including limited transit operations.

▶ **Surface Transportation Block Grant (STBG):**

These FHWA funds are sub-allocated to urbanized areas with populations over 200,000 based on their relative share of the population among all urbanized areas in the state. Funds may be used on a wide variety of highway transportation improvement projects, as defined in 23 U.S.C. 123.²⁸ This is one of the most flexible federal funding sources available for transportation.

- ▶ **Transportation Alternatives (TA):** See program description in the State Controlled Funding Programs section.

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<http://www.fhwa.dot.gov/map21/docs/title23usc.pdf>

Funding Estimates by Category

Estimates of available federal, state, local, and private funding by funding program and expenditure category for 2020 through 2045 are identified in **Table 3-14**. These are considered by CDOT and local communities to be reasonable estimates of what will be available for the timeframe of the 2045 RTP. Revenues were classified as dedicated or flexible based on how the funds are typically used. Dedicated funds are those that are typically used for one of four categories: roadway operations and maintenance, intersection improvements, transit, or bicycle and pedestrian. Flexible

funds are those that could be assigned to a variety of project types.

As shown in **Figure 3-14**, the majority of the revenue for the 2045 RTP is flexible, meaning it can be spent on a variety of project types. Approximately 15 percent of revenue is from funding programs that fund roadway operations and maintenance while 11 percent is from funding programs for transit systems. Only one percent of revenue is dedicated to intersection improvement projects, with another one percent dedicated to bicycle and pedestrian projects.

Figure 3-38: Revenue Estimates by Expenditure Category, 2020-2045

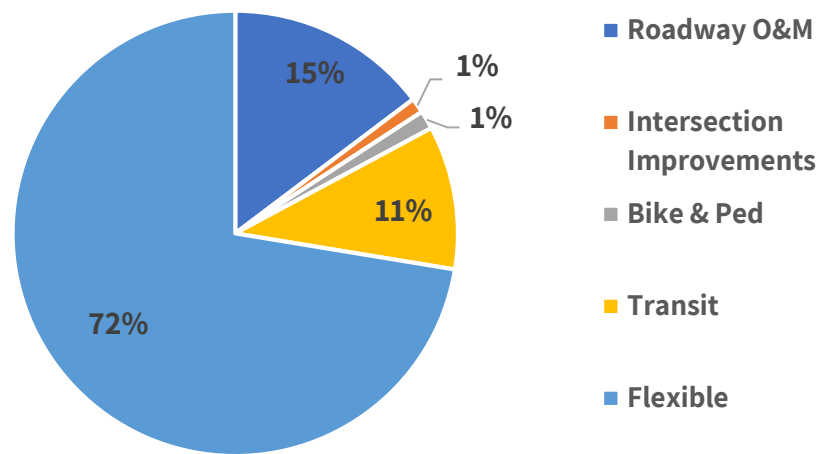


Table 3-14: Revenue Estimates by Funding Program and Expenditure Category in Millions of YOE Dollars, 2020-2045

Funding Program	Roadway O&M	Intersection Improvements	Bike & Ped	Transit	Flexible	Total
Maintenance	\$617	\$0	\$0	\$0	\$0	\$617
Surface Treatment	\$447	\$0	\$0	\$0	\$0	\$447
Structures On-System	\$67	\$0	\$0	\$0	\$0	\$67
Structures Off-System	\$66	\$0	\$0	\$0	\$0	\$66
Highway Safety Investment Program (HSIP)	\$0	\$61	\$0	\$0	\$0	\$61
FASTER Safety	\$80	\$39	\$0	\$0	\$0	\$119
Transportation Alternatives (TA)	\$0	\$0	\$19	\$0	\$0	\$19
Surface Transportation Block Grant (STBG)	\$0	\$0	\$0	\$0	\$96	\$96
Congestion Mitigation/Air Quality (CMAQ)	\$60	\$0	\$1	\$51	\$0	\$112
Regional Priority Program (RPP)	\$0	\$0	\$0	\$0	\$88	\$88
New Funding Source	\$0	\$0	\$0	\$0	\$189	\$189
Federal Discretionary Grants	\$0	\$0	\$0	\$0	\$258	\$258
FASTER Transit - Transit and Rail Grants	\$0	\$0	\$0	\$14	\$0	\$14
FASTER Transit - Bustang	\$0	\$0	\$0	\$42	\$0	\$42
FTA §5307	\$0	\$0	\$0	\$236	\$0	\$236
FTA §5310	\$0	\$0	\$0	\$5	\$0	\$5
FTA §5339	\$0	\$0	\$0	\$64	\$0	\$64
Local - Transit	\$0	\$0	\$0	\$538	\$0	\$538
Local - Roadway	\$0	\$0	\$0	\$0	\$5,438	\$5,438
Local - Bike/Ped	\$0	\$0	\$85	\$0	\$0	\$85
State Discretionary Bike/Ped Grants	\$0	\$0	\$18	\$0	\$0	\$18
Developer Contributions	\$0	\$0	\$0	\$0	\$517	\$517
TOTAL	\$1,339	\$99	\$122	\$951	\$6,586	\$9,097

B. Operations and Maintenance Expenses

The cost of operating and maintaining the transportation system over the time horizon of the 2045 RTP was developed using information provided by NFR member communities.

Roadway operations costs include the cost of lighting, traffic control, and snow and ice removal. The roadway operations estimate in 2020 dollars is \$8,057 per lane mile on municipal roads, \$1,691 per lane mile on county roads, and \$6,784 per lane mile on state highways. The roadway maintenance estimate, which represents resurfacing costs, is \$12,800 per lane mile on municipal roads, \$5,606 per lane mile on county roads, and \$11,631 per lane mile on state highways in 2020 dollars. The cost of intersection improvements system-wide is estimated at \$531M over the time horizon of the Plan.

C. System Expansion Expenses

To adequately support the forecasted growth of the NFR region, investment in the transportation system beyond operations and maintenance is required. The NFRMPO solicited capacity projects from member agencies and compiled capacity projects from local transportation plans and the most up-to-date planning studies to identify the total need for transportation system expansion over the time horizon of the 2045 RTP.

A total of 212 roadway capacity projects, 12 transit capacity projects, and 9 non-motorized capacity projects were identified, as shown in

Operations and maintenance costs for the transit system include vehicle operations and maintenance, general administration, facility maintenance, and state of good repair.

Operations and maintenance costs for the existing transit system are estimated at \$24.8M per year in 2020 dollars. To develop forecasted operations and maintenance costs, the planned local system expansion and capital purchases identified in the 2019 Transfort Transit Master Plan, the 2017 Greeley Evans Transit 5-10 Year Strategic Plan, and by CDOT for Bustang were incorporated as identified in the Transit Plan.

The operations and maintenance costs for the Regional Non-Motorized Corridors (RNMCs) is \$6K per mile per year in 2020 dollars.

Table 3-15. The cost of roadway capacity projects on Regionally Significant Corridors (RSCs) totals \$3.6B and the cost of roadway capacity projects on non-RSCs totals \$0.7B. The capital and operating costs of the 2045 Regional Transit Element (RTE) buildout projects and Front Range Passenger Rail are \$2.0B. The cost of transit system expansion planned by local agencies is incorporated into the local transit system cost of \$1.3B over the time horizon of the Plan. The cost of RNMC buildout is \$231M with an estimated maintenance cost of \$42M over the time horizon of the Plan.

Table 3-15: System Expansion Expenses in Millions of YOE Dollars, 2020-2045

Project Type	Project Sub-Type	Number of Projects	Cost* (\$M, YOE)
Roadway Capacity Projects	RSC Roadway	104	\$3,638
	Non-RSC Roadway	108	\$687
	Total	212	\$5,359
Transit Capacity Projects	Planned local system expansion on RTE Recommended Corridors	3	\$134
	Proposed regional routes	9	\$2,029
	Total	12	\$2,163
Non-Motorized Capacity Projects	Total	9	\$231

**Costs for roadway capacity projects include capital expenses only. Costs for transit capacity projects include capital and operating expenses.*

D. Resource Allocation

The total identified need for operating, maintaining, and improving the transportation system from 2020 through 2045 is \$13.6B, well beyond the forecasted revenue of \$9.1B, as shown in **Table 3-14**. Due to the importance of operating and maintaining the system, the financial plan for the 2045 RTP fully funds the operations and maintenance costs for roadways, including the costs of intersection improvements, as well as the operations and maintenance costs for transit and RNMCs. In addition, the financial plan fully funds the transit system expansion planned by the local transit agencies and the cost of building out the RNMCs. These expenditures are funded through a combination of dedicated and flexible funding sources.

The 2045 RTP fiscally constrains a portion of the roadway capacity and regional transit projects based on project-based funding and feasibility submitted by project sponsors. Flexible funding is assigned for the recommended RTE corridors at a total cost of \$14M, leaving \$2B in unfunded regional transit projects for the buildout of RTE corridors and Front Range Passenger Rail. The roadway capacity projects for RSCs and non-RSCs are assigned \$1.9B in flexible funding, which provides funding for 139 projects, leaving \$2.4B in unfunded roadway capacity projects for a total of 73 projects. The fiscally constrained transit and roadway capacity projects are identified in **Chapter 3, Section 5: Plan Projects**.

Table 3-16: Resource Allocation by Expenditure Category in Millions of YOE Dollars, 2020-2045

Expenditure Category	Cost	Dedicated Funding	Flexible Funding	Total Funded	Unfunded
Roadway Operations & Maintenance	\$5,070	\$1,339	\$3,731	\$5,070	\$0
Intersection Improvement Projects	\$531	\$99	\$432	\$531	\$0
Regional Non-Motorized Corridor (RNMC) Operations, Maintenance, and Expansion	\$273	\$122	\$151	\$273	\$0
Transit Operations, Maintenance, and Local System Expansion	\$1,339	\$950	\$390	\$1,339	\$0
Regional Transit Expansion: Regional Transit Element Corridors (RTE) and Front Range Passenger Rail	\$2,043	\$0	\$14	\$14	\$2,029
Regionally Significant Corridor (RSC) Capacity Projects	\$3,638	\$0	\$1,392	\$1,392	\$2,247
Non-RSC Capacity Projects	\$678	\$0	\$477	\$477	\$200
TOTAL	\$13,573	\$2,510	\$6,586	\$9,097	\$4,476

E. Transit Plan

The NFRMPO transit systems are explored in **Chapter 2**, with the future transit network based on the [2017 Greeley Evans Transit 5-10 Year Strategic Plan](#), [2019 Transfort Transit Master Plan](#), the [2045 Regional Transit Element](#) (RTE), and other input from local and state agencies. Funding is estimated based on current trends at the local, state, and federal levels, and expenses are estimated based on data reported to the National Transit Database (NTD) and long-range transit plans. Funding sources which can be used across multiple transportation modes are explained in the previous section.

Transit Funding Trends

Identification of long-term and consistent transit funding has been part of local, state, and national conversations for many years. These funding sources are explained in further detail in this Chapter, but some major trends to note as part of the planning process include:

- The FAST Act increased funding for bus maintenance and replacement due to the USDOT’s focus on asset management. Transit Asset Management (TAM) is a requirement for all transit agencies.
- State efforts have led to guaranteed transportation funding, including a multimodal pool. Multimodal funds can be used for bicycle, pedestrian, and transit projects. Sales tax initiatives to raise funds have not passed the Statewide electorate as of 2019.
- Communities in the NFRMPO region have come together on issues like North I-25 and on the Larimer County Senior Transportation project to successfully apply for national and State grants. Partnerships can increase the funding options for the region.

Potential Funding Sources

Currently, only Fort Collins and Greeley have sales tax going toward transportation and only Fort Collins provides sales tax funding to transit. In the future, there is the potential for other communities to pass sales tax initiatives.

Transfort's [Transit Master Plan](#) identifies the following potential funding sources: utility fees; transportation capacity expansion fee/street oversizing fund; public-private partnerships; payroll or business head tax; improvement districts; additional advertising; and increasing farebox recovery.

Non-USDOT Funding

In addition to funding from the USDOT, funding for transit-related activities can come from multiple other federal agencies. These funds can be used to varying degrees as local match for FTA funding, but also may be (and are currently) used for funding for vulnerable populations like older adults and individuals with disabilities.

Department of Health and Human Services

Funding sources distributed by the federal Department of Health and Human Services include Temporary Assistance for Needy Families (TANF), Older Americans Act Funds (OAA), Development Disabilities Assistance and Bill of Rights, and Medicaid.

Department of Housing & Urban Development

Community Development Block Grants can be used to support transit and transit-related infrastructure.

Veterans Administration

The Veterans Administration (VA) provides funding to transport veterans to VA hospitals,

including from Larimer and Weld counties to the hospital in Cheyenne.

Intercity Bus Expenses

The NFRMPO region does not directly support intercity bus services using federal or local dollars; however, CDOT operates the Bustang service which connects Fort Collins and Loveland to Denver and has planned expansions benefitting the region. A new Park-n-Ride at SH56, a mobility hub at Kendall Parkway including bus slip ramps and non-motorized trail connections, and the creation of a Bustang Outrider route connecting Fort Collins, Greeley, and Fort Morgan to points farther east are anticipated. Additional service may be provided in the future, but current Bustang projects focus predominantly on capital projects. The new Kendall Parkway Park-n-Ride is being funded as part of the I-25 North Express Lanes: Johnstown to Fort Collins project.

Projected Expenditures

Operating expenses fluctuate year to year for each transit agency. Estimates in this Section were done using data from NTD, the [2019 Transfort Transit Master Plan](#), and the [2017 Greeley Evans Transit 5-10 Year Strategic Plan](#). These expenditures were discussed with each transit agency for feedback.

TIP-Identified Expenditures

GET and Transfort complete Programs of Projects (POP) each year to identify projects using FTA funding. Based on these POPs, the NFRMPO Call for Projects, and the CDOT Consolidated Call for Projects, the following expenditures have been identified for transit projects in the FY2020-2023 TIP including local match as shown in **Table 3-17**.

Table 3-17: FY2020-23 TIP Transit Projects

Funding Source	Amount
CMAQ	\$9,861,000
\$5307	\$50,696,000
\$5310	\$1,156,000
\$5339	\$4,090,000
FASTER	\$1,600,000
Total	\$67,403,000

Source: NFRMPO FY2020-2023 TIP

Short-Term Expenditures

Both long-range transit plans identify projects through approximately 2025-2026, which is considered the short-range financial plan of the 2045 RTP.

Capital Expenditures

Transfort proposed the following capital expenditures as part of its long-range plan. These total costs are estimated to be approximately \$51M based on 2019 dollars.

- New Bus Rapid Transit (BRT) on West Elizabeth Street (\$28M)
- Mobility Innovation Zone in the southeast area of the City
- Mobility hub on the Harmony corridor (\$3M)
- Capital investments to expand the fleet and maintenance facility, bus stop improvements (\$20M)

GET proposed the following capital expenditures as part of its long-range plan. These total costs are estimated to be approximately \$11.6M in 2019 dollars.

- Security upgrades (\$650,000)
- Fleet and facility needs (\$9M)
- Alternative fuel vehicles and infrastructure (\$2M)

City of Loveland Transit (COLT) is undertaking a long-range planning effort, which will not be

complete by the adoption of the 2045 RTP. The expected proposed project is a North Transfer Center at US287 and 37th Street (\$3.8M).

Based on the Useful Life Benchmarks (ULB) identified in the Transfort TAM Plan, the GET TAM Plan, and the Statewide Tier II TAM Plan, the following is expected to be replaced between 2019 and 2025:

- COLT: 11 vehicles (approximately \$2.1M)
- GET: 21 vehicles (approximately \$1.2M)
- Transfort: 16 vehicles (approximately \$5.9M)
- Bustang: 10 vehicles (approximately \$8.2M)

CDOT proposed the following projects in the Intercity and Regional Bus Plan, which are also included in the NFRMPO region’s Transit Development Program (TDP):

- Harmony Transfer Center Expansion (\$2.5M)
- SH402 Park-n-Ride improvements (\$2.0M)
- SH56 Park-n-Ride (\$10M)

Operating Expenditures

Route expansion, upgrades, and efficiencies are proposed in each of the identified long-range plans.

- The proposed 2025 Transfort network would require an additional \$5.2M (in 2019 dollars) per year to operate.

- The proposed 2026 GET network would require an additional \$5.6M (in 2017 dollars) per year to operate.
- Future COLT expenditures were calculated using a two percent compound annual growth rate (CAGR) based on 2017 data reported to NTD. Using this method, COLT operational costs will be approximately \$3.2M between 2024 and 2025.

Long-Term Expenditures

The 2045 RTE and the 2019 Transfort Transit Master Plan identify projects and expected expenditures through at least 2040.

Building out the BRT system, additional Mobility Hubs, and Operations and Maintenance facilities, transit fleet expansion and renewal, bus stops and bus stop enhancements, and other items to complete the Transfort Transit Master Plan is estimated to cost \$300M (including the \$51M identified in the short-range plan) in 2019 dollars.

Extrapolating from the 5-10 Year Strategic Plan, GET would need \$112.3M between 2026 and 2045 to operate its planned network.

Using the same method identified in the short-term expenditures, COLT would need an estimated \$40.1M between 2026 and 2045 to operate.

The 2045 RTE identified investments along the corridors shown in **Table 3-17**. The NFRMPO Technical Advisory Committee (TAC) identified SH1, the Poudre Express, US287, US34, and US85 as the key corridors for investment. TAC members asked to keep all RTE corridors as potential routes to study should funding arise. The Poudre Express, SH1 route, and US287 are identified in Transfort’s 2019 Transit Master Plan and the GET 5-10 Year Strategic Plan as corridors for investment and are included in the Short-Term and Long-Term Expenditures.

Table 3-18: 2045 RTE Routes and Recommendations

Route	Recommended	Buildout
Fort Collins to Wellington (SH1)	X	
Poudre Express	X	
US287/FLEX	X	
US34	X	
US85	X	
WCR74		X
Greeley to Fort Morgan		X
Loveland to Estes Park		X
Loveland to Windsor		X
Regional Rail (Greeley to Loveland, Greeley to Fort Collins)		X
Front Range Passenger Rail		X

The remainder of routes have not been studied beyond the 2045 RTE or await further study. The

following assumptions were used to calculate the operating and capital costs of proposed

routes. A two-percent annual average growth rate was used to extrapolate future years.

- For intraregional services like US34 between Loveland and Greeley, an estimate of \$116.08 per vehicle revenue hour was used to estimate operating costs. This number is based on the 2016 estimate to run FLEX as reported to NTD. Vehicle revenue hours were estimated using distance and frequency.
- For capital costs, cost estimates were based on previous purchases or estimates. Interregional buses, like the ones used on Bustang, were estimated based on CDOT's 2015 purchase of 13 buses for \$7.0M. Intraregional buses, like the ones used on FLEX or the Poudre Express, were based on GET's purchase of five buses for \$2.8M in 2018. NFRMPO

staff assumed at least two buses were needed per route but estimated the number of buses based on vehicle revenue hours and comparisons to existing service.

- Rail costs were based on the [2015 I-25 Environmental Impact Statement \(EIS\) North Commuter Rail Update](#) for capital costs. Track upgrade costs were estimated at \$13.0M per mile and trains were estimated at \$4.4M (2015 dollars). Operating costs were based on the Denver Regional Transportation District's (RTD) vehicle revenue hour estimates reported to NTD for intraregional routes. Operating costs for the Front Range Passenger Rail were assumed to be entirely funded through fares.

F. Transportation Improvement Program (TIP)

The NFRMPO is responsible for the creation and adoption of a [Transportation Improvement Program \(TIP\)](#) for the region at least every four years. The TIP presents a four-year program of multi-modal projects using a combination of federal, state, and local funds, and identifies the type of improvement, the funding source(s), the sponsoring entity(ies), and an implementation schedule. Projects in the TIP must come from an approved RTP, follow the regional Congestion Management Process (CMP), provide all interested parties with a reasonable opportunity to provide comment on the proposed TIP, and within nonattainment areas, it must show conformity according to air quality budgets outlined in the Statewide Implementation Plan (SIP). The TIP is fiscally constrained by program and year.

FHWA and Federal Transit Administration (FTA) determine if the TIP is consistent with the adopted RTP and if it was produced through the 3C transportation planning process. The TIP is included without changes in the Statewide Transportation Improvement Program (STIP), developed by CDOT and approved by the Governor.

MAP-21 required, and the FAST Act carried forward, that the TIP include:

- To the maximum extent practicable, a description of the anticipated effect of the TIP toward achieving the performance targets established in the [2045 RTP](#), linking investment priorities to those performance targets.

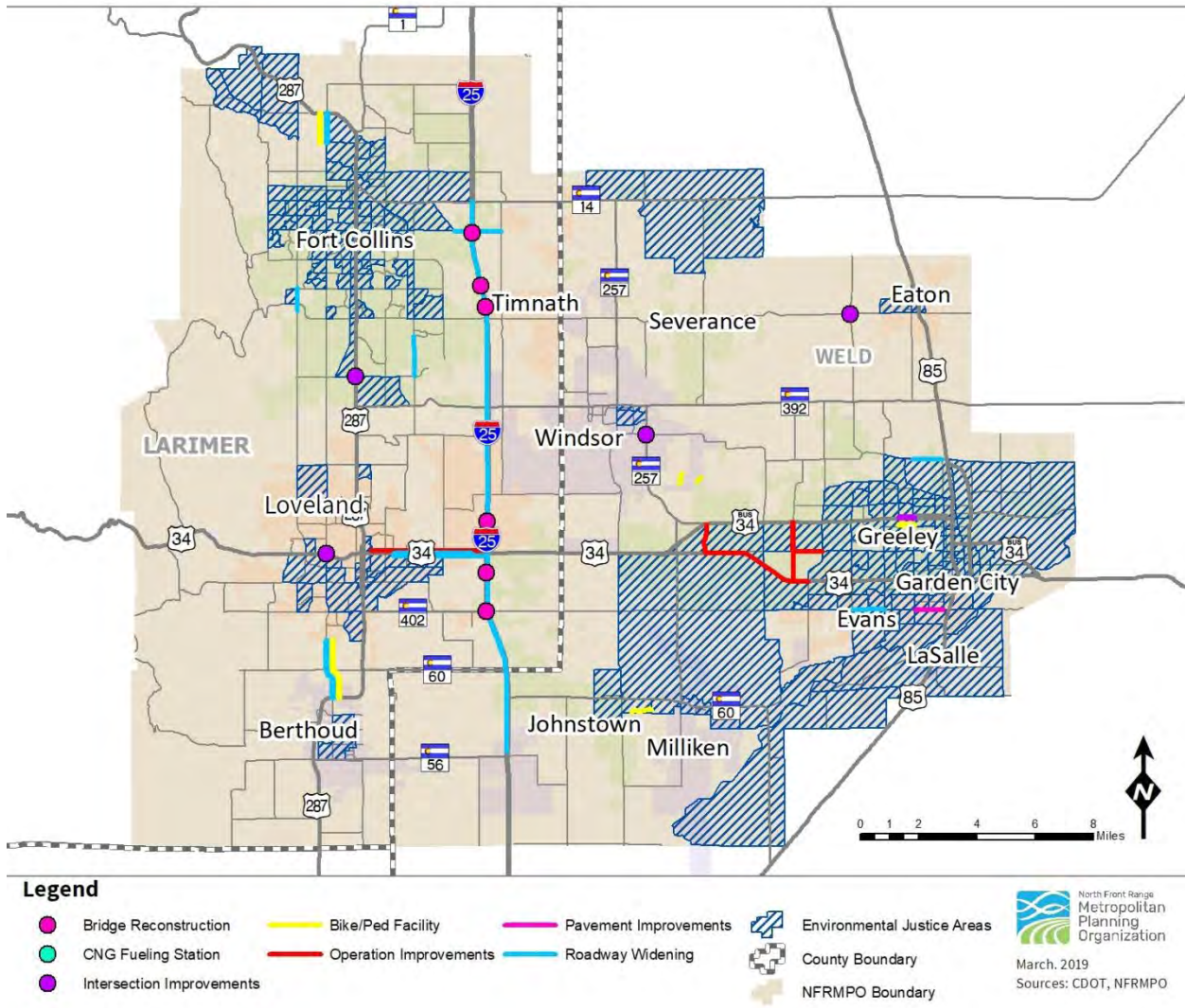
- A priority list of proposed federally supported projects and strategies to be carried out within each four-year period after the initial adoption of the TIP.
- A financial plan which demonstrates how the TIP can be implemented, indicating resources from public and private sources reasonably expected to be available to carry out the program, and identifying innovative financing techniques to finance projects, programs, and strategies.
- In air quality nonattainment and maintenance areas, the TIP shall give priority to timely implementation of Transportation Control Measures (TCMs) contained in the

applicable SIP in accordance with the Environmental Protection Agency's (EPA) transportation conformity regulations.

As of the adoption of the 2045 RTP, the current TIP is the FY2019-2022 TIP which identifies projects for fiscal years 2019 through 2022. The FY2020-2023 TIP, adopted by the NFRT&AQPC on June 6, 2019, will become effective upon action by the state.

The FY2020-2023 Transportation Improvement Program (TIP) provides the first four years of programmed projects for the 2045 RTP. **Figure 3-31** shows the location of projects included in the FY2020-2023 TIP.

Figure 3-39: FY2020-2023 TIP Projects



G. Aviation Plan

Aviation is an important aspect of the NFRMPO region’s multimodal transportation system. Although the NFRMPO does not actively plan for aviation and aviation projects are not included in the 2045 RTP, the following identifies the funding sources and plans for the two general aviation airports in the region.

Funding Sources

Airport Improvement Program

The Airport Improvement Program (AIP) provides entitlement funds and discretionary grants for the planning and development of public-use airports including in the National Plan of Integrated Airport Systems (NPIAS). Grants cover 90 to 95 percent of eligible costs for general aviation airports.

In 2018, the Northern Colorado Regional Airport received \$300,000 in AIP entitlements. In 2017, the Greeley-Weld County Airport received \$270,000 in AIP discretionary funds.

Aviation Fuel Tax

Colorado collects a \$0.04/gallon jet fuel excise tax and \$0.04/gallon avgas excise tax. These funds are distributed to aviation projects across the State as part of a discretionary aviation grant program and airport fuel tax disbursements.

In 2018, the Greeley-Weld County Airport received \$26,276 and the Northern Colorado Regional Airport received \$85,319 from the excise and sales taxes. Approximately \$17.4M was available throughout Colorado. The Northern Colorado Regional Airport received \$16,666 in State Aviation Grants that same year.

SIB Loan Program

The State Infrastructure Bank (SIB) Loan Program funds projects such as capital airport improvements, air traffic control towers, snow removal equipment, and airport pavement reconstruction.

Airport Fees

Both the Greeley-Weld County Airport and the Northern Colorado Regional Airport charge fees for various items, including security access, land and hangar leasing, airline operations, and parking. These funds are invested into the airports based on identified needs.

Plans

Both regional airports will use a variety of funds, including the ones identified, to implement their respective long-range Master Plans.

Northern Colorado Regional Airport

The major project undertaken at the Northern Colorado Regional Airport is the Remote Air Traffic Control Tower program, which is a partnership between the airport, the Colorado Division of Aeronautics, and Searidge Technologies.

The airport is currently undertaking an update to the Master Plan, which was last adopted in 2007. The new Master Plan will identify projects, goals, objectives, and strategies for growth and development at the airport.

Greeley-Weld County Airport

Greeley-Weld County Airport adopted its Master Plan in 2014. The plan covers a 20-year time horizon and includes airport zoning, runway layout and expansion, airport terminal and hangar expansion, land use, noise mitigation, and utility layout plans.

H. Freight Plan

Freight is the underlying connection of people and goods, meaning investment in the freight system benefits all aspects of quality of life.

Funding

Better Utilizing Investments to Leverage Development (BUILD)

The Better Utilizing Investments to Leverage Development (BUILD) program replaces the Transportation Investment Generating Economic Recovery (TIGER) program. BUILD is a national program funding investment in road, rail, transit and port projects promising to achieve national goals. The NFRMPO was successful and received a BUILD award in 2018 for the North I-25 Express Lanes project. The project will reconstruct and expand three interchanges, reconstruct and widen 12 bridges, add a Tolled Express Lane (TEL) between SH56 and SH402, straighten the roadway, and widen roadway shoulders. The NFRMPO region also received a \$15M TIGER grant in 2016 for work on the North I-25 Express Lanes project.

Infrastructure for Rebuilding America (INFRA)

INFRA, formerly Fostering Advancements in Shipping and Transportation for the Long-Term Achievement of National Efficiencies (FASTLANE) was authorized as part of the FAST Act. INFRA grants may be used to fund reconstruction, rehabilitation, acquisition of property (including land related to the project and improvements to the land), environmental mitigation, construction contingencies, equipment acquisition, and operational improvements directly related to system performance. The program anticipates the leveraging of federal grant funding to pursue innovative strategies, including public-private partnerships.

The following project types are allowed in the INFRA program:

- Highway freight projects on the National Highway Freight Network (NHFN);
- Highway or bridge project on the National Highway System (NHS);
- A freight intermodal or freight rail project;
- A project within the boundaries of a public or private freight rail, water (including ports), or intermodal facility and that is a surface transportation infrastructure project necessary to facilitate direct intermodal interchange, transfer, or access into or out of the facility; or a
- A railway-highway grade crossing or grade separation project.

National Highway Freight Program

National Highway Freight Program funds must contribute to the efficient movement of freight on the NHFN and be included in the State's Freight Plan. Eligible projects include intelligent transportation systems (ITS) and other technology to improve the flow of freight, including intelligent freight transportation systems; railway-highway grade separation; truck-only lanes; climbing and runaway truck lanes; adding or widening of shoulders, and truck parking facilities eligible for funding under Section 1401 (Jason's Law) of MAP-21.

Railway-Highway Crossings (Section 130) Program

An FHWA program providing funds for the elimination of hazards at at-grade crossings. Since the program's inception in 1987, fatalities at these crossings have decreased by 57 percent.

Section 130 funds are administered in Colorado by CDOT.

Other Federal Programs

Private Activity Bonds (PAB), Railroad Rehabilitation and Improvement Financing (RRIF), and Transportation Infrastructure Finance and Innovation Act (TIFIA) are non-grant programs which can help fund freight-related projects. RRIF and TIFIA are loan or line-of-credit programs, while PABs are tax-exempt bonds for private investors.

Public-Private Partnerships

Most freight in the US is handled by private companies. Private funding can be used to leverage additional public funding, expand the scope of projects, and as an overall gain for the freight system. Grant opportunities authorized in the FAST Act and administered by the Federal Motor Carrier Safety Administration (FMCSA) are a good example of how the federal government is working with the trucking industry to improve safety of commercial drivers and their vehicles.

The [Colorado Freight Advisory Council \(FAC\)](#) brings public and private stakeholders from the freight industry together to strengthen relationships, build consensus, and pursue opportunities to facilitate the safe, efficient, coordinated and reliable movement of freight.

Pipeline and Hazardous Materials Safety Administration (PHMSA)

PHMSA provides comprehensive grant programs that are designed to improve damage

prevention, develop new technologies, and improve both hazmat and pipeline safety. The grants can be used to foster partnerships with local communities and universities to promote pipeline awareness campaigns, provide resources for emergency preparedness, development of pipeline resources and information, and the implementation of best practices regarding pipeline and hazmat safety nationwide.

Projects

Identified infrastructure and safety needs in the NFRMPO's [Freight Northern Colorado](#) plan include truck parking, specifically along I-25; truck safety initiatives, specifically along I-25 and US85; and improved freight mobility. I-25, US34, US85, and SH14 show the greatest need, specifically in limited shoulder widths, congested bottleneck areas, and economic connectivity needs.



Train crossing at-grade in Fort Collins



3

Section 5

Plan Projects

A. Overview

The Regional Transportation Plan (RTP) is a corridor-based plan and does not identify specific projects, except regionally significant projects that require air quality analyses and air quality conformity with Carbon Monoxide (CO), Volatile Organic Compounds (VOC), and Nitrogen Oxides (NO_x) budgets outlined in the applicable Colorado State Implementation Plans (SIPs). A corridor-based RTP provides greater flexibility for financial constraint and selecting projects for the Transportation Improvement Program (TIP).

A Regionally Significant Project is any fiscally constrained project that impacts the roadway network on an RSC. This includes any capacity or non-capacity air quality project on an RSC. All member jurisdictions, including CDOT, were asked to provide information on projects fitting these criteria, with a year of improvement between 2020 and 2045. These project were collected for the 2045 RTP and are included in the 2015 NFRMPO Regional Travel Demand Model (RTDM) and are shown in **Figure 3-40**. Individual project information is detailed in the following section.

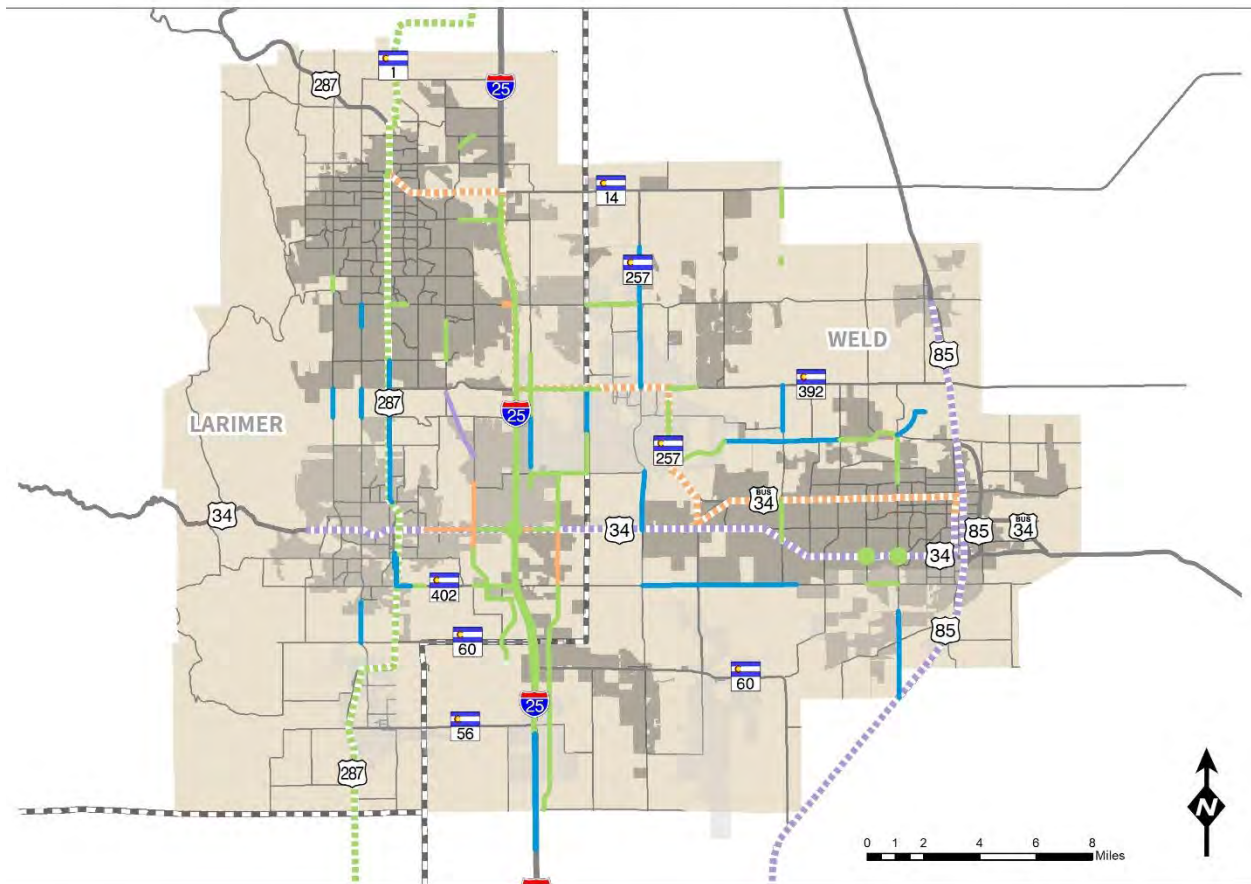
Examples of Air Quality Significant Projects include:

- Adding at least two (2) lane miles, or completing a regional connection;
- Adding a new intersection on principal arterials or above;
- Adding new interchanges or grade-separated intersections;
- Major improvements to existing interchanges, excluding drainage improvements and ramp widening;
- Regional transit projects between jurisdictions;

- Regional transit projects on fixed guideways, which offer a significant alternative to regional roadway travel;
- Addition or deletion of major bus routes with 3,000 riders per day, considering existing service levels.

As identified in **Chapter 3, Section 4: Fiscally Constrained Plan**, \$1.3B in YOE dollars are assigned to capacity projects on RSCs in the 2045 RTP. The funding is assigned from flexible funding programs from a variety of sources, including federally controlled, state-controlled, NFRMPO-controlled, and locally controlled funding, as well as private contributions. The specific funding source(s) for each project will be determined through future funding processes held by each controlling entity and are not identified in the 2045 RTP.

Figure 3-40: Fiscally Constrained Capacity Projects, 2020-2045



Legend

Roadway Projects by Staging Period

- 2020
- 2021-2030
- 2031-2040
- 2041-2045

Transit Projects by Staging Period

- ⋯ 2020
- ⋯ 2021-2030
- ⋯ 2031-2040
- ⋯ 2041-2045



County Boundary



NFRMPO Boundary

July 2019
Sources: CDOT, NFRMPO



B. Regionally Significant Projects

The following figures and tables identify the Regionally Significant Projects for the 2045 RTP, including the RSC or RNMC number, project limits, project type, length, and remaining project cost from 2020 through 2045 in millions of Year of Expenditure (YOE) dollars. The projects are organized into four staging periods based on the anticipated year of completion in

accordance with air quality conformity requirements. The four staging periods include:

- Projects completed in 2020
- Projects completed from 2021 through 2030
- Projects completed from 2031 through 2040
- Projects completed from 2041 through 2045

Figure 3-41: Fiscally Constrained Roadway Capacity Projects, 2020

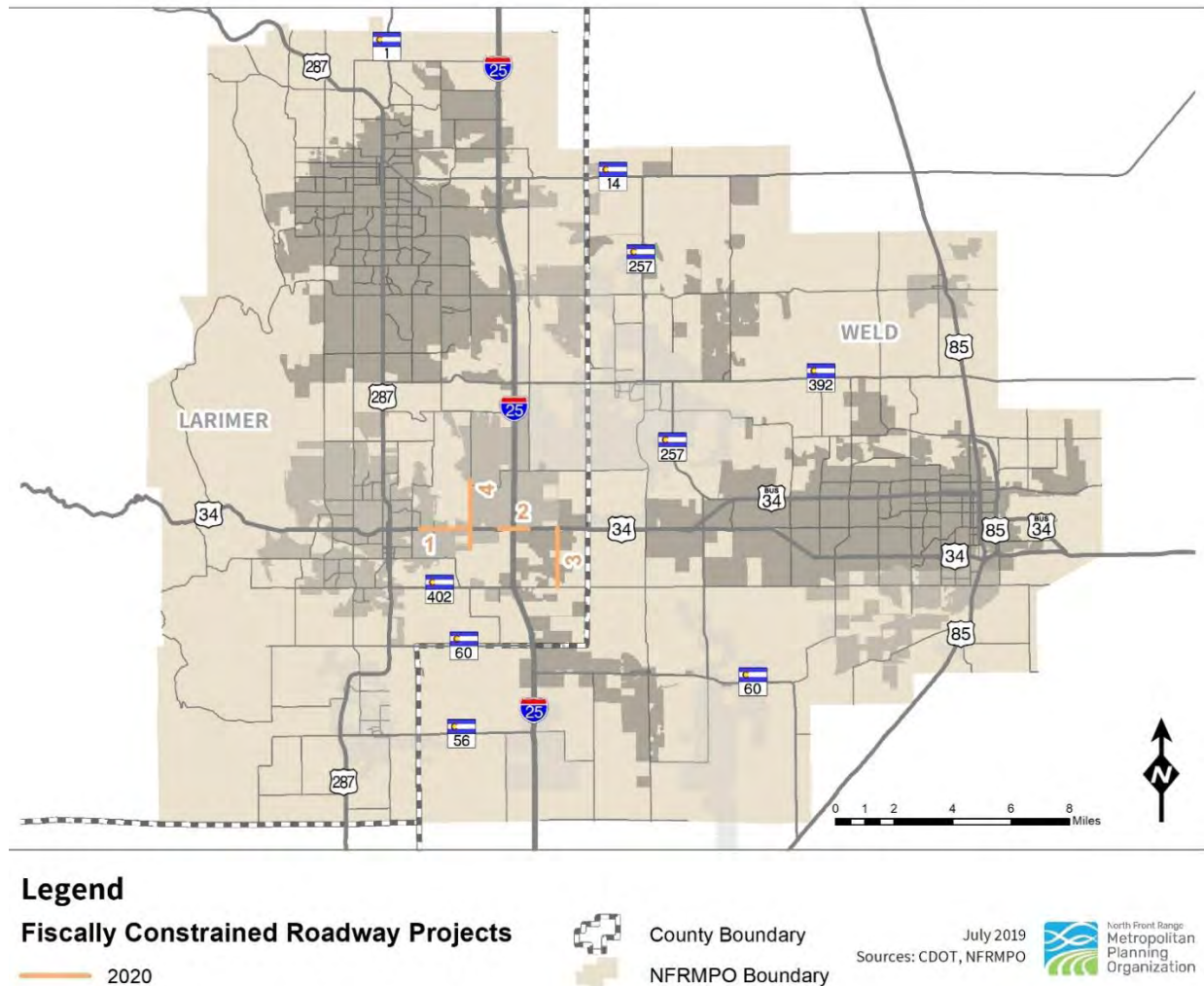
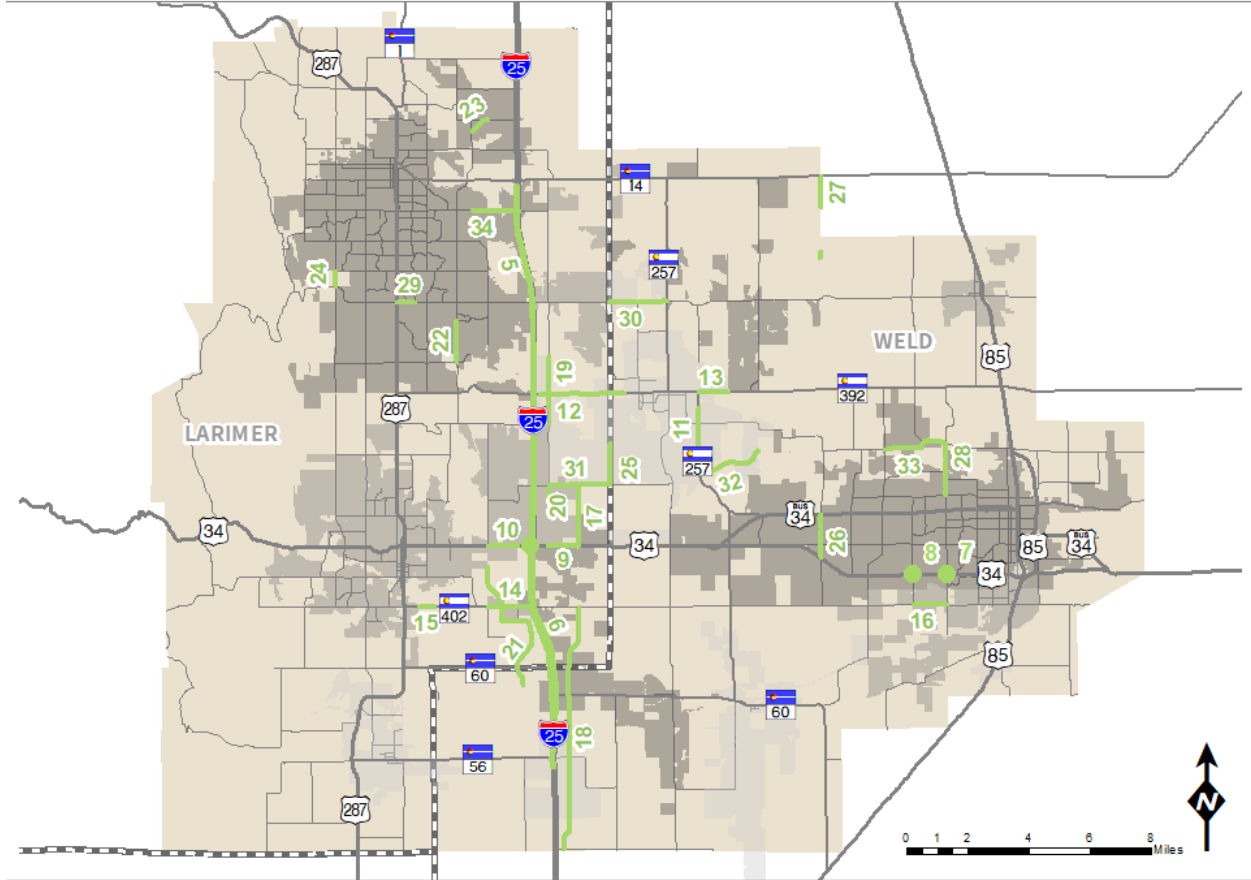


Figure 3-42: Fiscally Constrained Roadway Capacity Projects, 2021-2030



Legend

Fiscally Constrained Roadway Projects

— 2021-2030



County Boundary

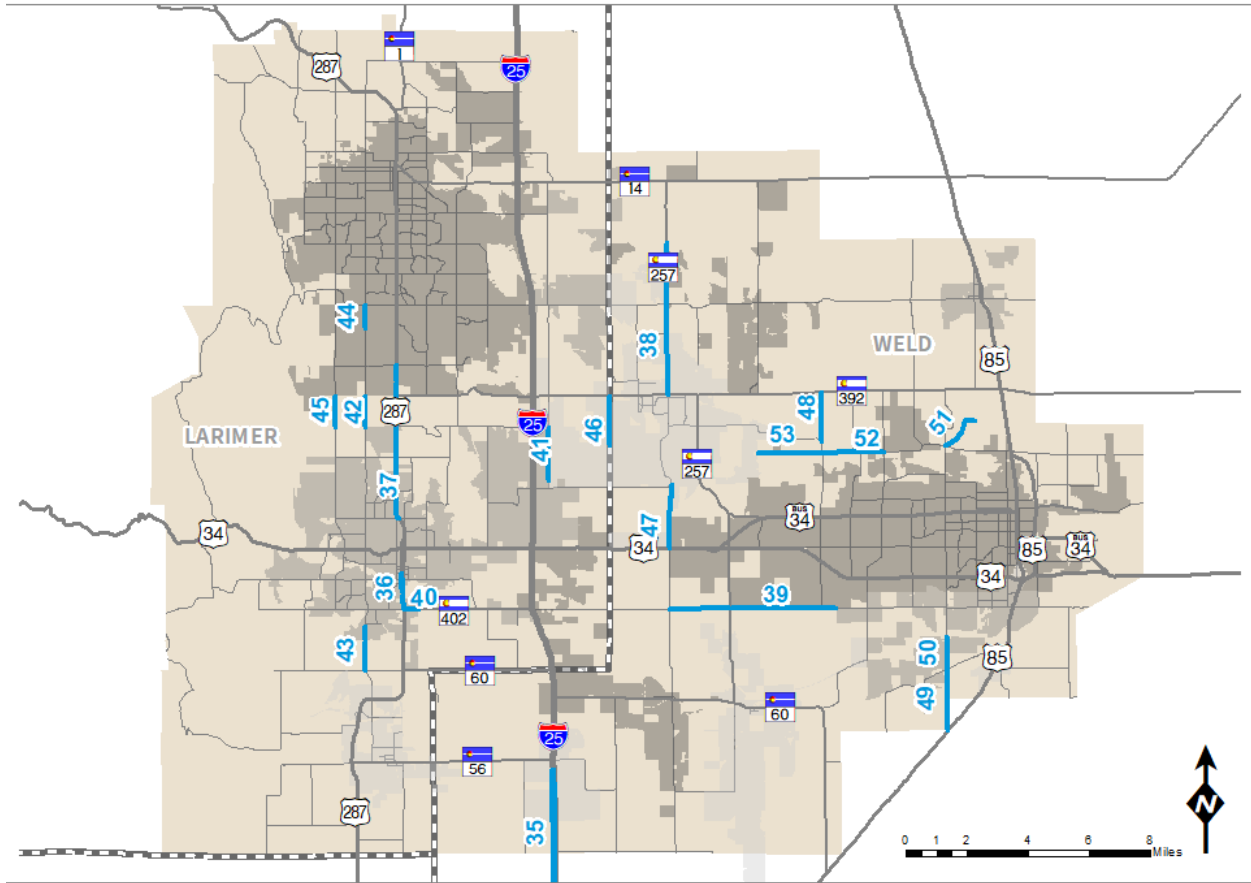


NFRMPO Boundary

September 2019
Sources: CDOT, NFRMPO



Figure 3-43: Fiscally Constrained Roadway Capacity Projects, 2031-2040



Legend

Fiscally Constrained Roadway Projects

— 2031-2040



County Boundary



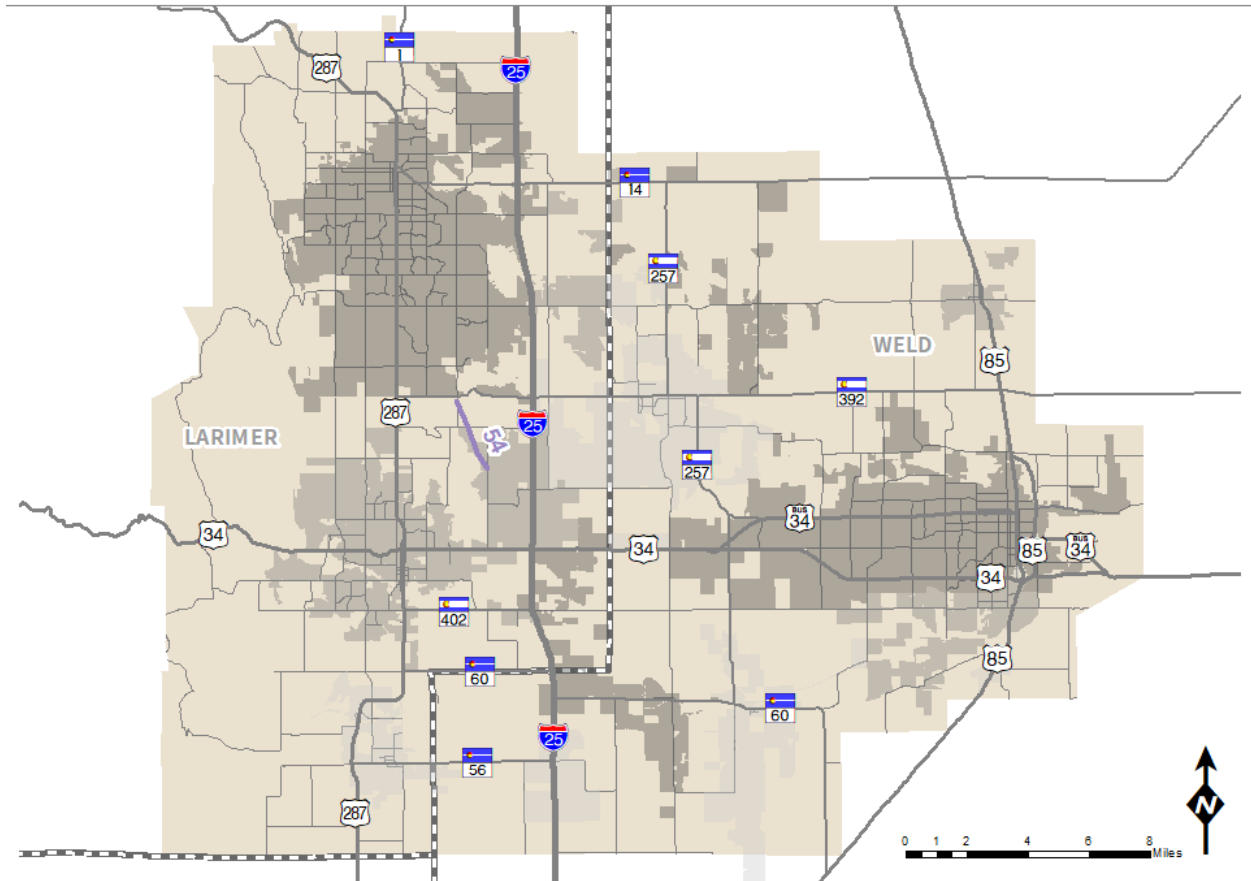
NFRMPO Boundary

September 2019
Sources: CDOT, NFRMPO



North Front Range
Metropolitan
Planning
Organization

Figure 3-44: Fiscally Constrained Roadway Capacity Projects, 2041-2045



Legend

Fiscally Constrained Roadway Projects

— 2041-2045



County Boundary



NFRMPO Boundary

September 2019
Sources: CDOT, NFRMPO



Table 3-19: Fiscally Constrained Roadway Capacity Projects, 2020

Map ID	RSC	Facility	Project Limits	Improvement Type	Length (Mi)	Remaining Project Cost (\$M, YOE)
1	2	US34	Boyd Lake Ave to Boise Ave	Widen from 4 lanes to 6 lanes	1.7	\$8.6
2	2	US34	Centerra Pkwy to Rocky Mountain Ave	Widen from 4 lanes to 6 lanes	1.0	\$6.8
3	14	LCR3	LCR18 to US34	Pave unpaved road	2.0	\$11.0
4	16	Boyd Lake Ave	LCR20C to 37 th St	Widen from 2 lanes to 4 lanes	2.3	\$16.6

Table 3-20: Fiscally Constrained Roadway Capacity Projects, 2021-2030

Map ID	RSC	Facility	Project Limits	Improvement Type	Length (Mi)	Remaining Project Cost (\$M, YOY)
5	1	I-25	SH402 to SH14	Add tolled express lane in each direction, improve the US34 interchange, and other interchange reconstructions	14.0	\$360.0
6	1	I-25	SH56 to SH402	Add tolled express lane in each direction and interchange reconstructions	5.0	\$0.6
7	2	US34	US34 and 35 th Ave	New interchange	N/A	\$34.5
8	2	US34	US34 and 47 th Ave	New interchange	N/A	\$34.5
9	2	US34	LCR3E to Centerra Pkwy	Widen from 4 lanes to 6 lanes	1.0	\$5.6
10	2	US34	Rocky Mountain Ave to Boyd Lake Ave	Widen from 4 lanes to 6 lanes	1.0	\$5.6
11	11	SH257	Crossroads Blvd to Garden Dr	Widen from 2 lanes to 4 lanes	2.2	\$4.6
12	12	SH392	17 th St to Westgate Dr	Widen from 2 lanes to 4 lanes	2.8	\$5.6
13	12	SH392	WCR21 to WCR19	Widen from 2 lanes to 4 lanes	1.0	\$3.6
14	13	SH402	I-25 to LCR9	Widen from 2 lanes to 4 lanes	1.5	\$11.0
15	13	SH402	Boise Ave to St. Louis Ave	Widen from 2 lanes to 4 lanes	0.5	\$6.7
16	13	37 th St	35 th Ave to 47 th Ave	Widen from 2 lanes to 4 lanes	1.1	\$12.6
17	14	LCR3	Crossroads Blvd to US34	Pave unpaved road	2.0	\$12.0
18	14	WCR9.5	WCR38 to SH402	New 2 lane road	8.1	\$62.8
19	15	LCR5	LCR30 to LCR34C	Widen from 2 lanes to 4 lanes	2.3	\$8.4
20	15	LCR5	0.5 mi south of Crossroads Blvd to Crossroads Blvd	Widen from 2 lanes to 4 lanes	0.5	\$4.2
21	16	Boyd Lake Ave	SH60 to LCR20C	New 2 lane road	4.4	\$18.0
22	16	Timberline Rd	Trilby Rd to Stetson Creek Dr	Widen from 2 lanes to 4 lanes	1.4	\$6.0
23	16	Timberline Rd	S of LCR50 to LCR9	Widen from 2 lanes to 4 lanes and realign	0.7	\$8.1
24	18	Taft Hill Rd	Harmony Rd to Horsetooth Rd	Widen from 2 lanes to 4 lanes	0.5	\$5.4
25	19	WCR13	Crossroads Blvd to Kaplan Dr	Widen from 2 lanes to 4 lanes	1.4	\$5.3
26	21	83 rd Ave	US34 Bypass to US34 Business	Widen from 2 lanes to 4 lanes	1.4	\$9.9

Map ID	RSC	Facility	Project Limits	Improvement Type	Length (Mi)	Remaining Project Cost (\$M, YOY)
27	21	WCR27	WCR80 to SH14 and WCR76 to WCR78	New 2 lane road	2.0	\$4.3
28	22	35 th Ave	4 th St to O St	Widen from 2 lanes to 4 lanes	1.7	\$9.6
29	23	Harmony Rd	Boardwalk Dr to College Ave	Widen from 4 lanes to 6 lanes	0.6	\$11.4
30	23	Harmony Rd	WCR15 to WCR13	Widen from 2 lanes to 4 lanes	1.9	\$5.8
31	26	Crossroads Blvd	WCR13 to Centerra Pkwy	Widen from 2 lanes to 4 lanes	2.0	\$6.7
32	26	Crossroads Blvd	WCR23 to SH257	New 2 lane road	2.3	\$14.3
33	26	O St	35 th Ave to 59 th Ave	Widen from 2 lanes to 4 lanes	2.2	\$22.5
34	28	Prospect Rd	I-25 to Sharp Point Dr	Widen from 2 lanes to 4 lanes	1.6	\$11.5

Table 3-21: Fiscally Constrained Roadway Capacity Projects, 2031-2040

Map ID	RSC	Facility	Project Limits	Improvement Type	Length (Mi)	Remaining Project Cost (\$M, YOY)
35	1	I-25	WCR38 to SH56	Add tolled express lane in each direction and interchange reconstructions	3.0	\$236.9
36	6	US287	SH402 to 1 st St	Widen from 4 lanes to 6 lanes	1.4	\$23.8
37	6	US287	29 th St to Trilby Rd	Widen from 4 lanes to 6 lanes	5.1	\$34.5
38	11	SH257	SH392 to WCR78	Widen from 2 lanes to 4 lanes	5.0	\$19.4
39	13	37 th St	77 th Ave to WCR17	Widen from 2 lanes to 4 lanes	5.5	\$53.0
40	13	SH402	St. Louis Ave to US287	Widen from 2 lanes to 4 lanes	0.5	\$6.0
41	15	Fairgrounds Ave	Rodeo Dr to LCR30	Widen from 2 lanes to 4 lanes	1.7	\$5.3
42	17	LCR17	SH60 to 23 rd St SW	Widen from 2 lanes to 4 lanes	1.4	\$26.9
43	17	LCR17	LCR30 to LCR32	Widen from 2 lanes to 4 lanes	1.0	\$7.4
44	17	LCR17	Fossil Creek Dr to Harmony Rd	Widen from 2 lanes to 4 lanes	0.8	\$9.7
45	18	LCR19	LCR30 to LCR32	Widen from 2 lanes to 4 lanes	1.0	\$7.4
46	19	WCR13	Kaplan Dr to SH392	Widen from 2 lanes to 4 lanes	1.6	\$4.3
47	20	WCR17	US34 to Crossroads Blvd	Widen from 2 lanes to 4 lanes	2.1	\$7.9
48	21	WCR27	WCR64.5 to SH392	New alignment of 2 lane road	1.6	\$7.8
49	22	35 th Ave	US85 to WCR394	Widen from 2 lanes to 4 lanes	2.0	\$22.4
50	22	35 th Ave	WCR394 to 49 th St	New 4 lane road	1.1	\$38.8
51	26	O St	35 th Ave to AA St	Widen from 2 lanes to 4 lanes and realign	1.5	\$22.4
52	26	O St	59 th Ave to 83 rd Ave	Widen from 2 lanes to 4 lanes	2.0	\$34.0
53	26	O St	83 rd Ave to WCR23	New 4 lane road	2.1	\$10.4

Table 3-22: Fiscally Constrained Roadway Capacity Projects, 2041-2045

Map ID	RSC	Facility	Project Limits	Improvement Type	Length (Mi)	Remaining Project Cost (\$M, YOE)
54	16	Boyd Lake Ave	North of UPRR Crossing to Timberline Rd	New 4 lane road	2.5	\$51.6

Figure 3-45: Fiscally Constrained Transit Projects, 2020-2045

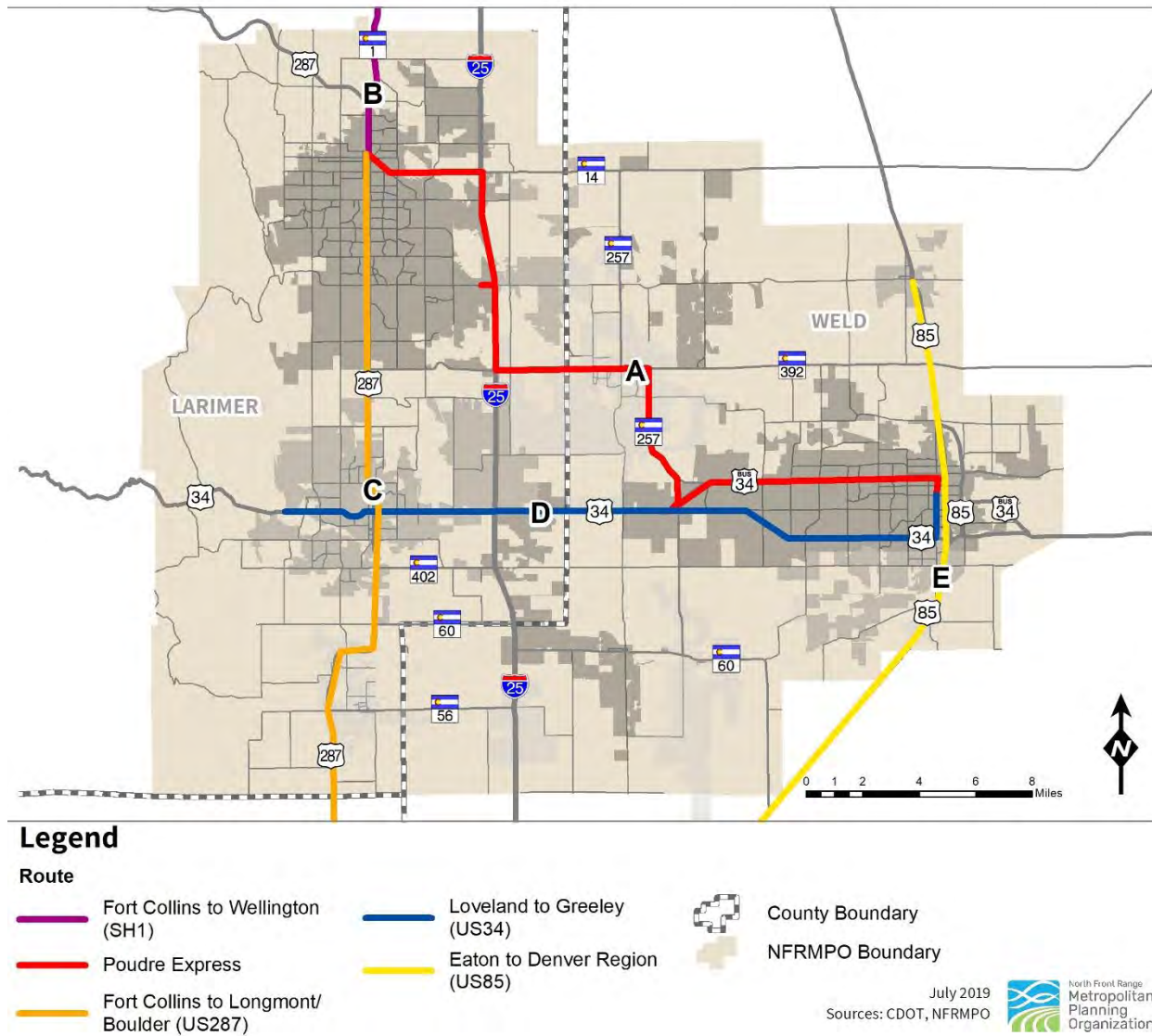


Table 3-23: Fiscally Constrained Transit Capacity Projects, 2020

Map ID	RTC	Agency	Corridor	Project Type	Length (Mi)	Remaining Capital Cost through 2045(\$M, YOE)	Remaining Operating Cost through 2045 (\$M, YOE)
A	8	GET	Poudre Express	New Service	37	\$3.7	\$18.9

Table 3-24: Fiscally Constrained Transit Capacity Projects, 2021-2030

Map ID	RTC	Agency	Corridor	Project Type	Length (Mi)	Remaining Capital Cost through 2045(\$M, YOE)	Remaining Operating Cost through 2045 (\$M, YOE)
B	2	Transfort	Fort Collins to Wellington (SH1)	New Service	13	\$3.2	\$13.0
C	9	Transfort	Fort Collins to Longmont/Boulder (US287)	Increased Frequency	45	\$9.0	\$85.8

Table 3-25: Fiscally Constrained Transit Capacity Projects, 2041-2045

Map ID	RTC	Agency	Corridor	Project Type	Length (Mi)	Remaining Capital Cost through 2045(\$M, YOE)	Remaining Operating Cost through 2045 (\$M, YOE)
D	10	Unidentified	Loveland to Greeley (US34)	New Service	24	\$2.5	\$1.9
E	11	Unidentified	Eaton to Denver Region (US85)	New Service	69	\$5.3	\$4.0

C. Environmental Analysis

The Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU) introduced the requirement for MPOs and state DOTs to identify potential environmental mitigation activities in their long-range plans and the FAST Act continues these requirements. These activities should be developed alongside federal, State, land management, and regulatory agencies. Federally funded transportation projects are required to complete the National Environmental Policy Act (NEPA) process, as discussed in **Chapter 2, Section 4**. As part of the NEPA process, transportation projects must analyze potential impacts to the environment. Federal Register 40 CFR § 1500.1(b): Purpose describes the NEPA process as a way to help public officials make decisions based on an understanding of environmental consequences and to take actions that protect, restore, and enhance the environment.²⁹

NFRMPO staff analyzed the potential impacts of transportation projects according to the environmental features detailed in **Chapter 2, Section 4**. Transportation projects included are from 2045 RTP Regionally Significant Projects

list. Project impacts are shown in **Table 3-26**, with the darker blue showing a higher impact than white or light blue. **Figure 3-46** through **Figure 3-52** show each environmental feature compared to the proposed projects in a visual format.

Transportation projects affect each environmental resource differently, depending on the resource's location within the region. The most impacted resource is water, with 20 projects located within the 500-year flood zone as defined by the Federal Emergency Management Area (FEMA). Wetlands may potentially be affected by 18 proposed projects. 17 projects are located within the Wattenberg Gas Field and 17 projects are within Environmental Justice areas. Only one Historical and Archeological Site may be impacted by these projects. One transportation project will be located atop the Laramie-Fox Hills aquifer (Water Resources), and one project will be built within potential Conservation Areas. As each project moves forward, the respective agencies/jurisdictions will need to study individual project impacts on each environmental resource.

²⁹ 40 CFR § 1500.1(b):
<http://environment.fhwa.dot.gov/projdev/tdmmitig2.asp>

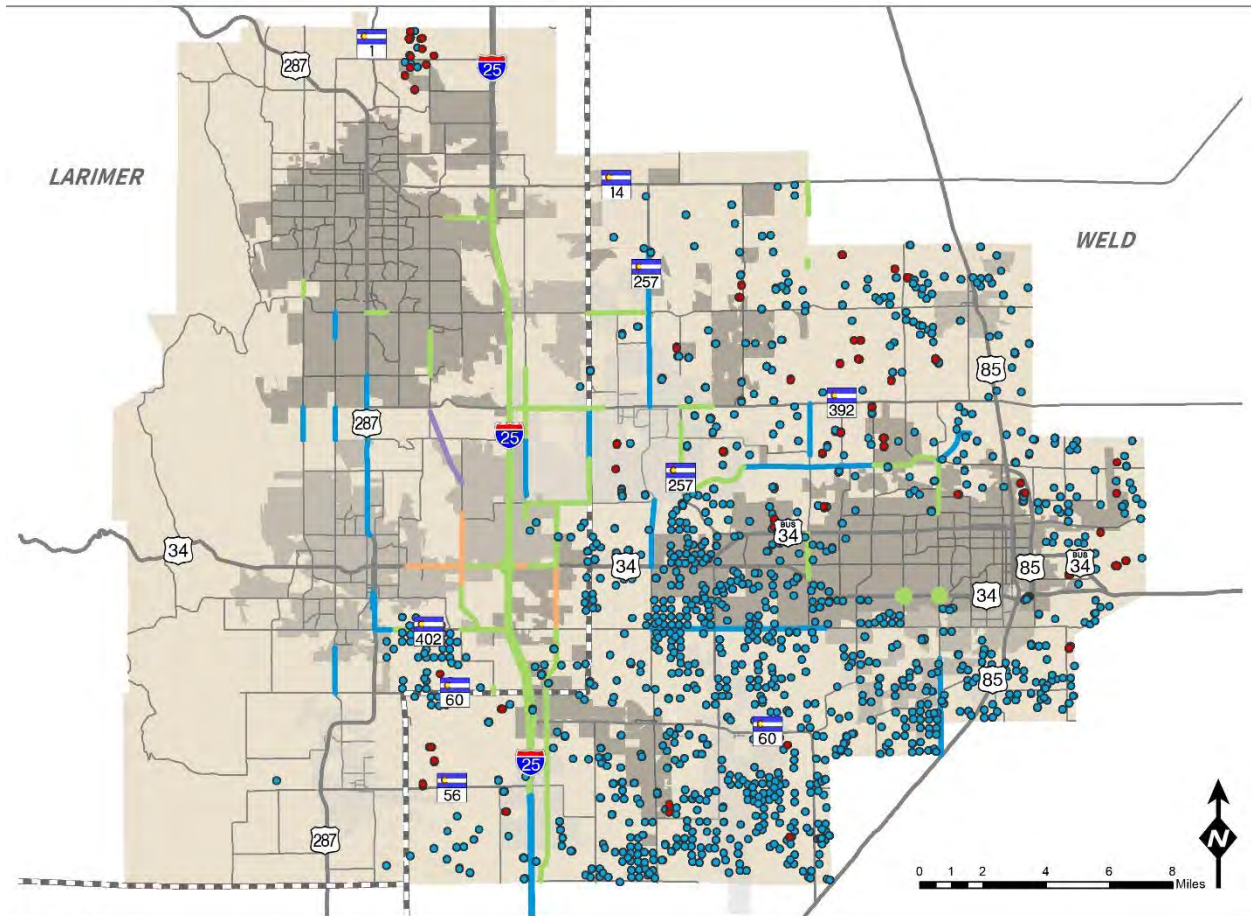
Table 3-26: Regionally Significant Projects Environmental Mitigation Analysis

Projects by Staging Period	Historical and Archaeological Sites	Flood Zones	Water Resources	Wetlands	Conservation Areas	Energy Production	Environmental Justice	Total
2020								4
2021-2030								42
2031-2040								29
2041-2045								0
Total	1	20	1	18	1	17	17	

Legend

0 projects	1-4 projects	5-9 projects	10+ projects
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Figure 3-46: Regionally Significant Projects and Active Oil Wells



Legend

Regionally Significant Roadway Projects

- 2020
- 2021-2030
- 2031-2040
- 2041-2045

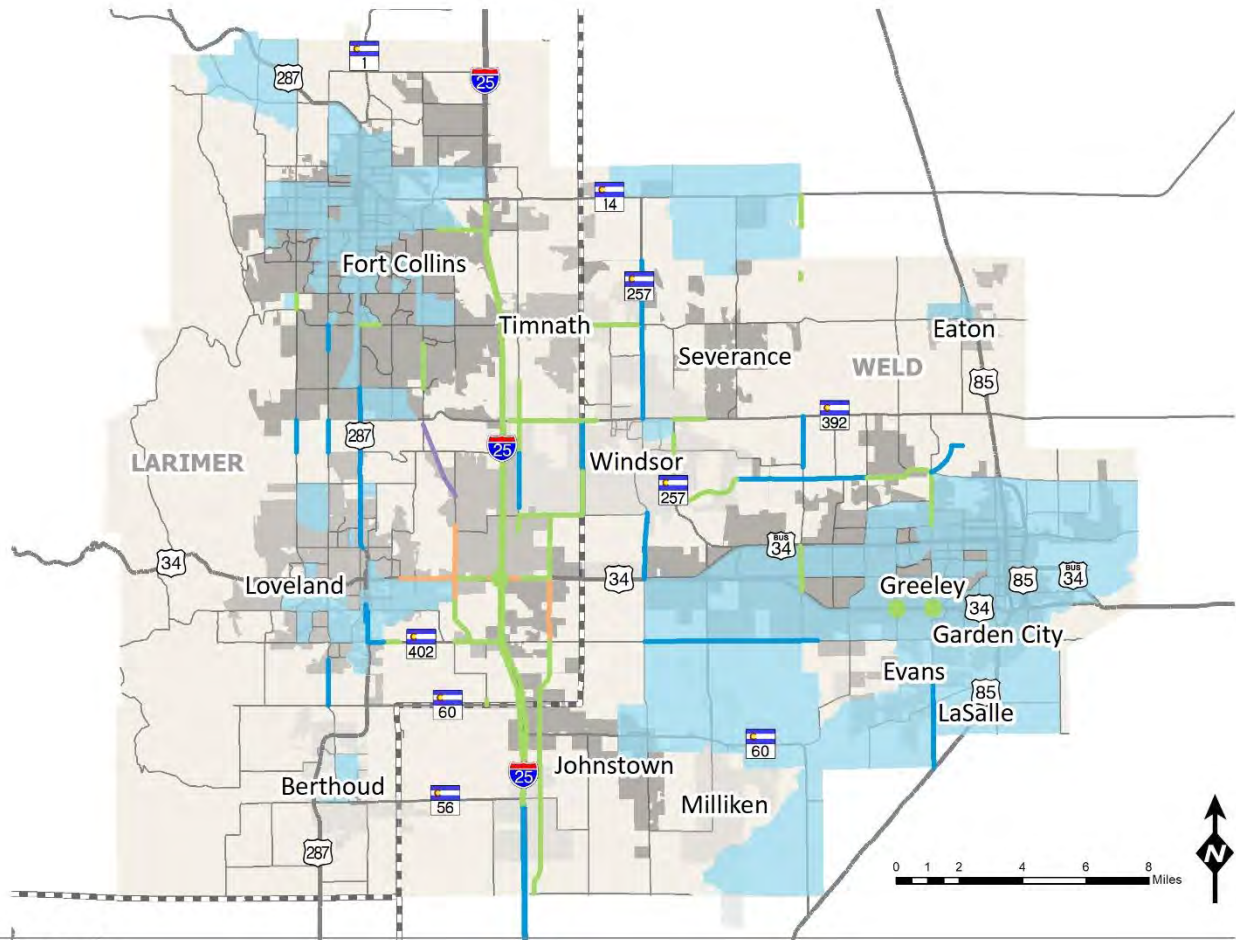
- Developing Wells
- Producing Wells

- ▭ County Boundary
- ▭ NFRMPO Boundary

August 2019
Sources: Colorado Oil & Gas Conservation Commission (COGCC), NFRMPO






Figure 3-47: Regionally Significant Projects and EJ Areas



Legend

Regionally Significant Roadway Projects

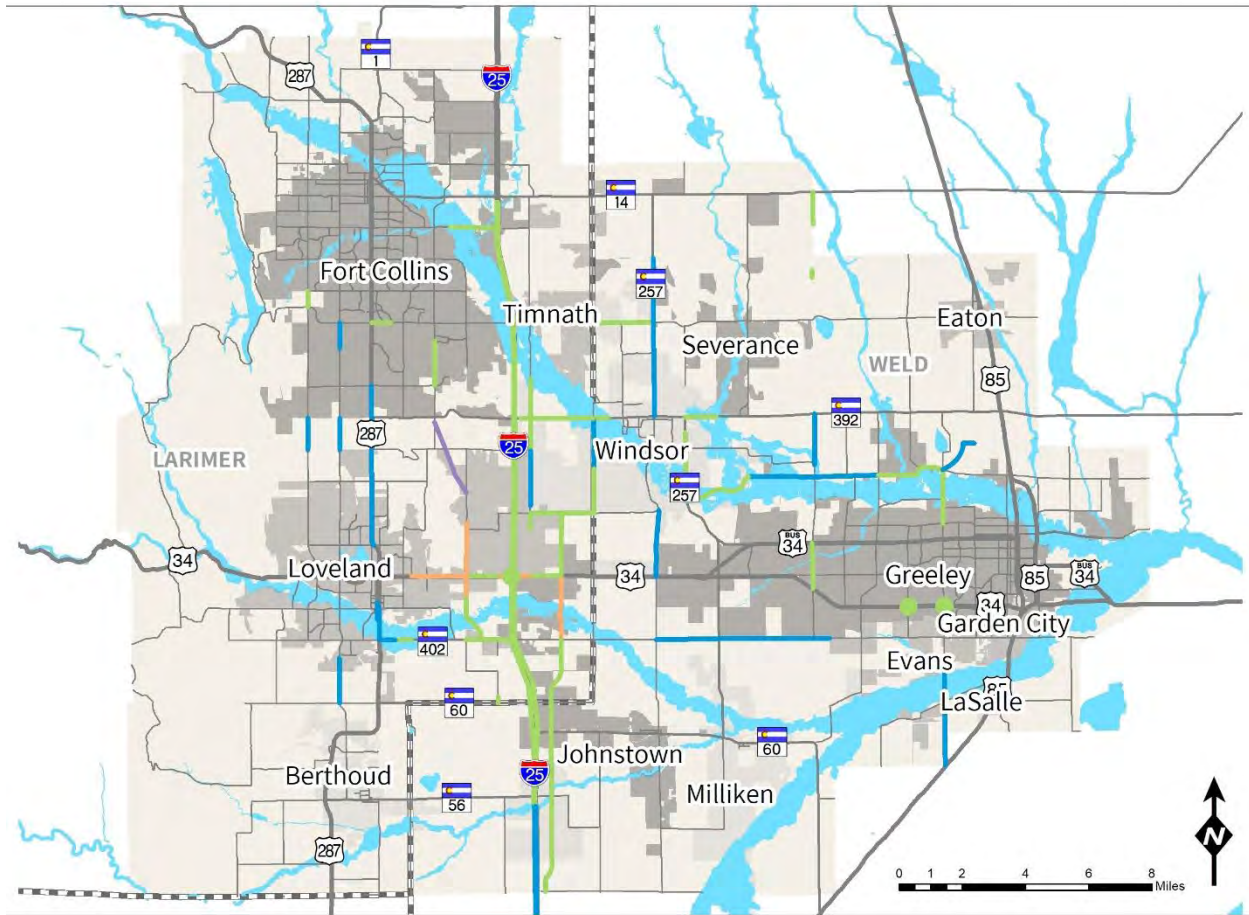
- 2020
- 2021-2030
- 2031-2040
- 2041-2045

-  EJ Area
-  County Boundary
-  NFRMPO Boundary

July 2019
Sources: CDOT, NFRMPO,
HUD, US Census Bureau



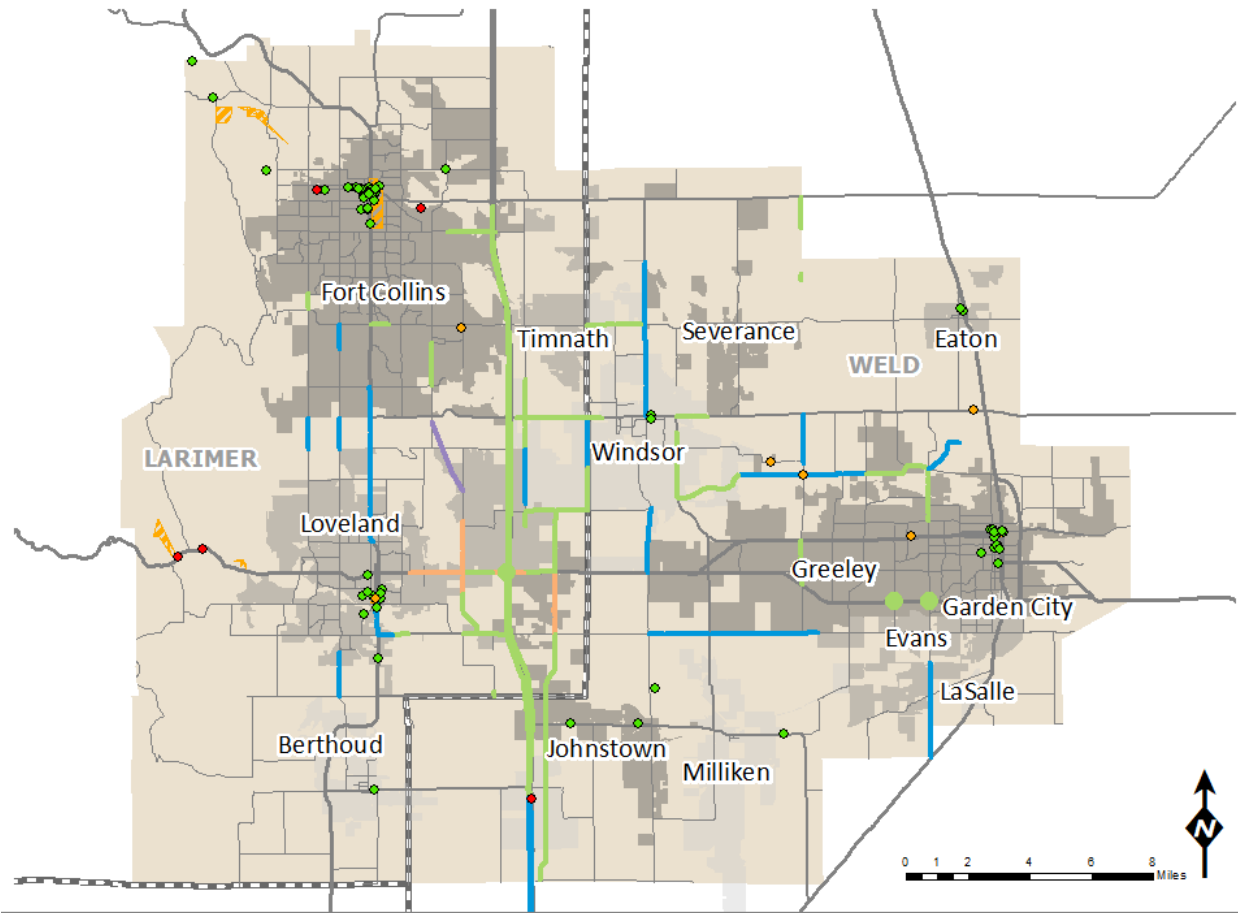
Figure 3-48: Regionally Significant Projects and Flood Zones



- Legend**
- | | |
|---|---|
| Regionally Significant Roadway Projects |  500-Year Flood Zone |
|  2020 |  County Boundary |
|  2021-2030 |  NFRMPO Boundary |
|  2031-2040 | |
|  2041-2045 | |

July 2019
 Sources: FEMA, NFRMPO
 North Front Range
 Metropolitan
 Planning
 Organization

Figure 3-49: Regionally Significant Projects and Historic Sites



Legend

Regionally Significant Roadway Projects

- 2020
- 2021-2030
- 2031-2040
- 2041-2045

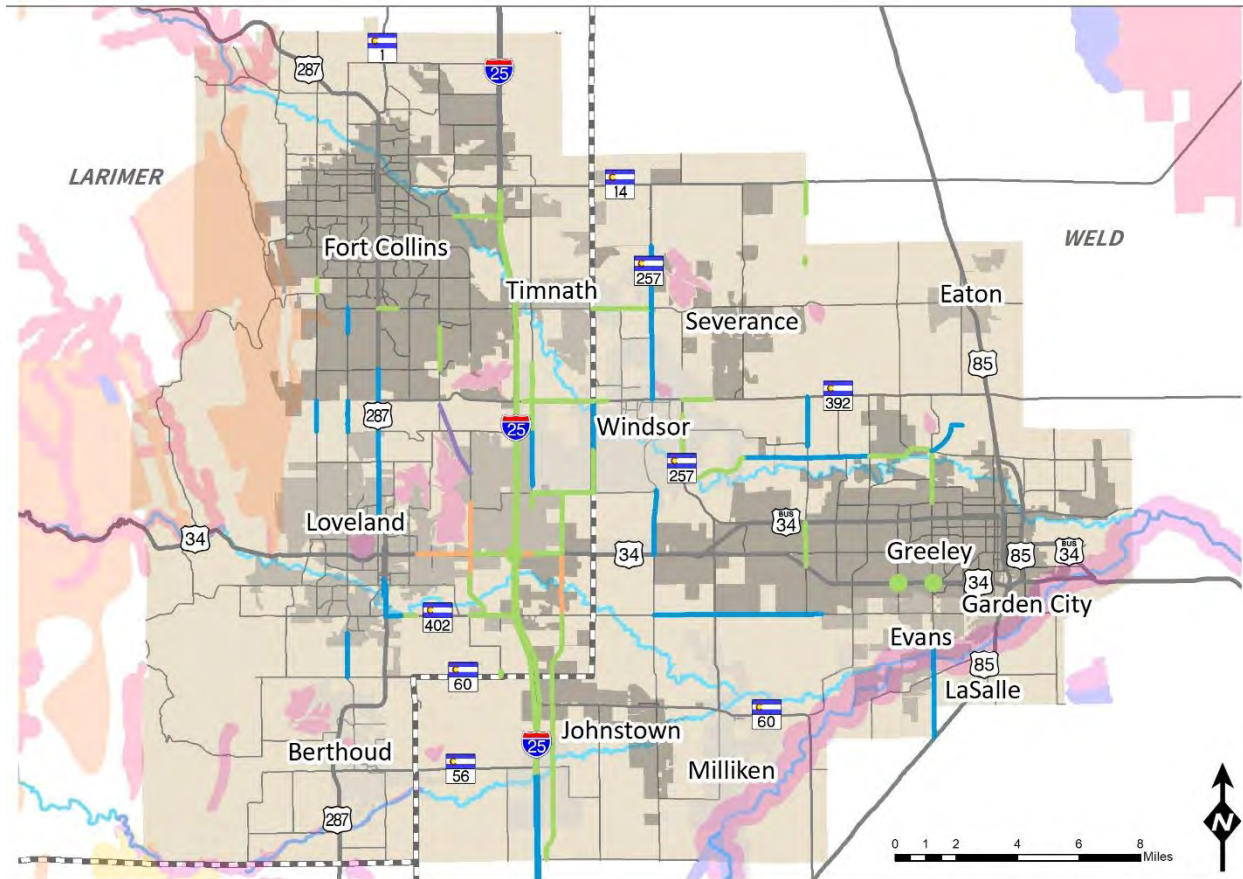
- Historic Structure
- ◆ Historic Districts
- Historic Buildings
- ▨ Historic Districts

- ▭ County Boundary
- ▭ NFRMPO Boundary

September 2019
 Sources: Matt Stutts, Cultural Resources GIS, National Park Service, NFRMPO



Figure 3-50: Regionally Significant Projects and Biodiversity Significance



Legend

- Regionally Significant Roadway Projects**
- 2020
 - 2021-2030
 - 2031-2040
 - 2041-2045

- Biodiversity Significance Rank**
- B1: Outstanding Biodiversity Significance
 - B2: Very High Biodiversity Significance
 - B3: High Biodiversity Significance

- B4: Moderate Biodiversity Significance
- B5: General Biodiversity Interest

July 2019
Sources: Colorado Parks and Wildlife, NFRMPO

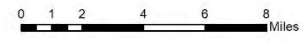
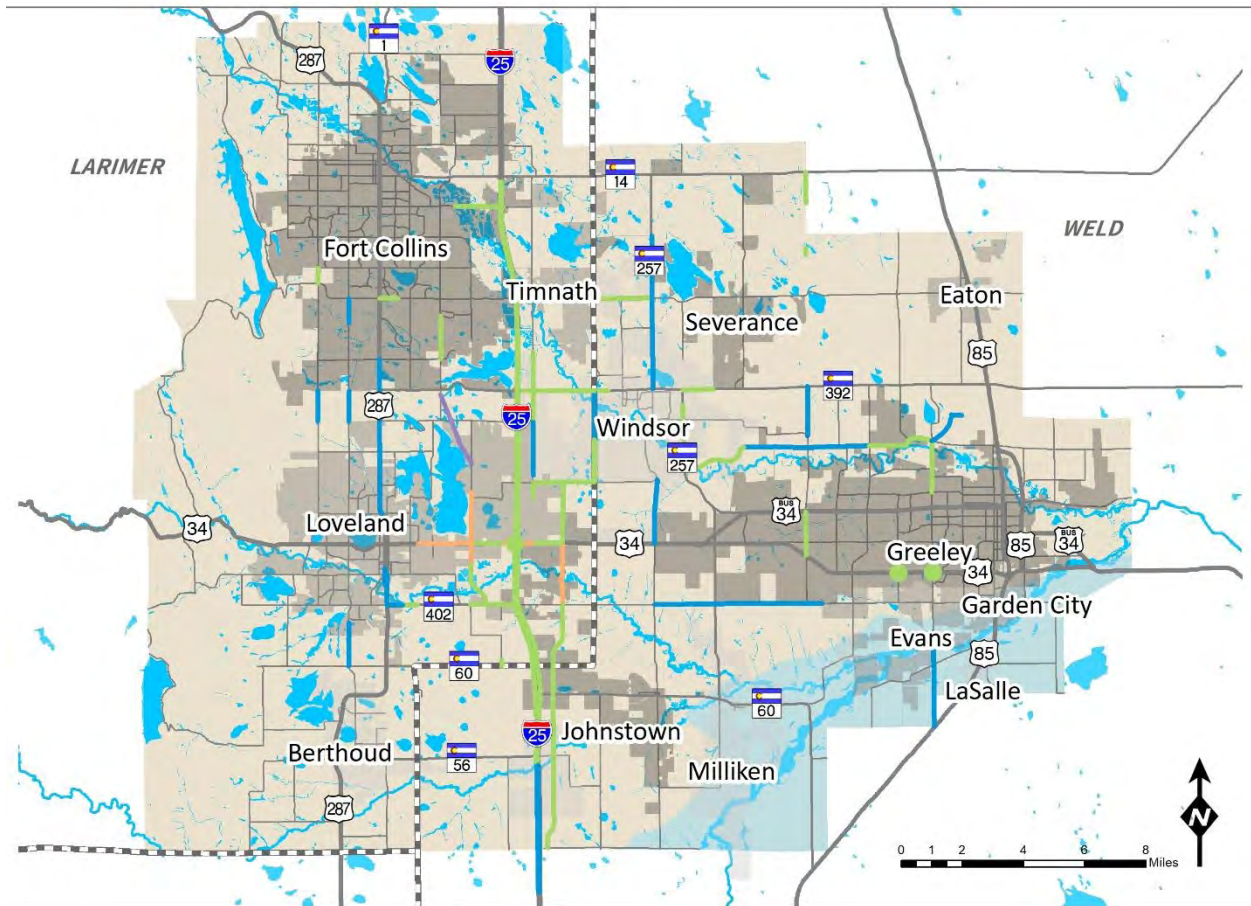


Figure 3-51: Regionally Significant Projects and Water Features



Legend

Regionally Significant Roadway Projects

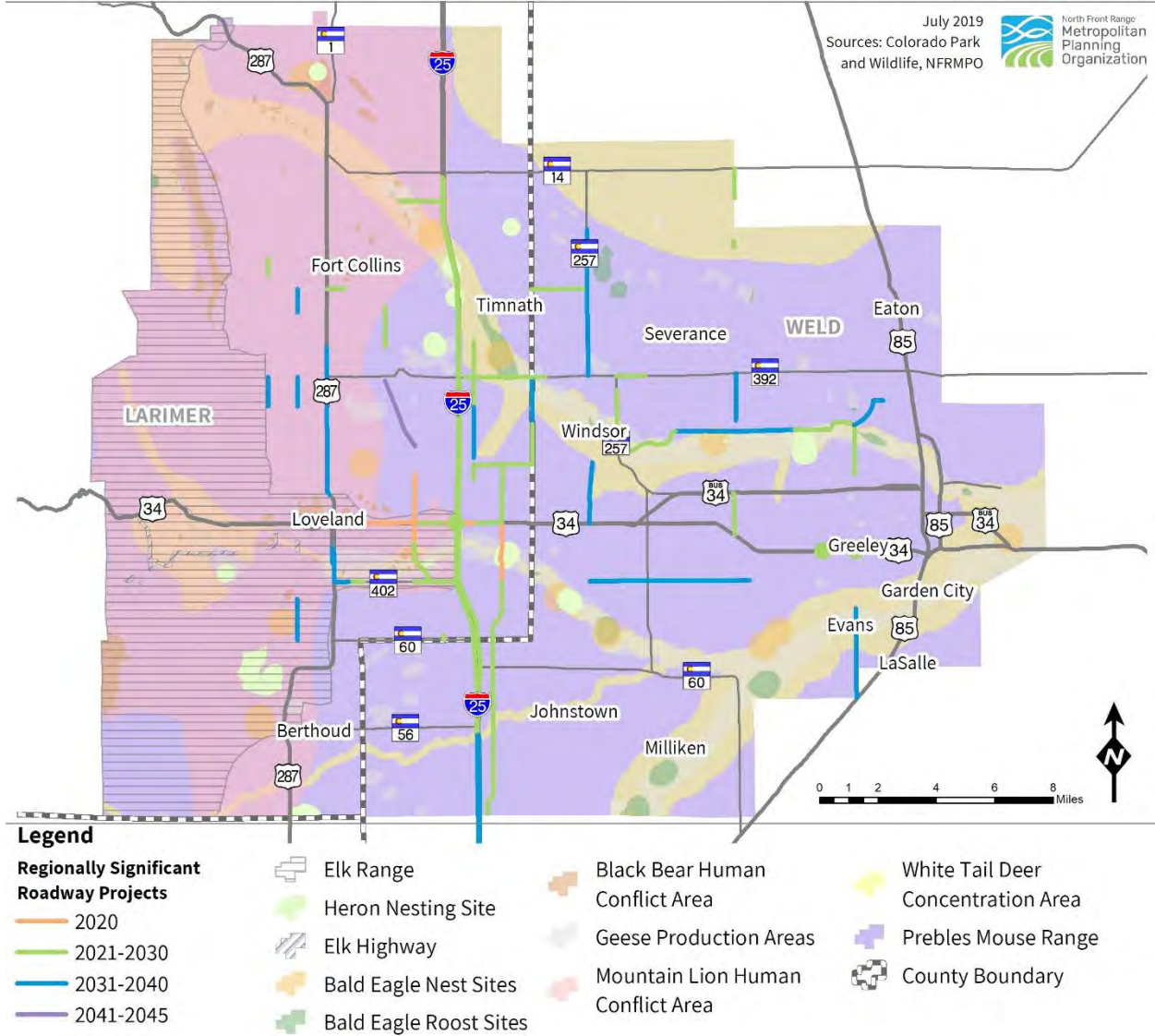
- 2020
- 2021-2030
- 2031-2040
- 2041-2045

- Aquifers
- Surface Waters and Wetlands
- County Boundary
- NFRMPO Boundary

July 2019
Sources: US Fish and Wildlife Service, NFRMPO



Figure 3-52: Regionally Significant Projects and Habitat Areas



A sunset over a body of water with a purple overlay at the top containing a white number 4.

4

Public Outreach

A. Public Involvement Plan

As part of the 2045 RTP process, the NFRMPO updated the Public Involvement Plan (PIP). The NFRMPO Planning Council adopted the 2019 PIP on March 7, 2019. The 2019 PIP builds on the successes and lessons learned from the 2015 PIP. Strategies from the 2019 PIP were incorporated into the development of the 2045 RTP. Application of these strategies are explained in the following sections.



Major updates to the 2019 PIP impacting the 2045 RTP process include:

- Environmental Justice (EJ) data was updated to the Census Block Group level, providing more neighborhood and demographic nuance;
- Improved outreach materials showing meeting dates and times, the planning process, and how to include the public; and
- Evaluation of the public outreach process, the data collected, and how it is incorporated into the NFRMPO’s planning process.

Application of the strategies explained in the 2019 PIP to the 2045 RTP are explored below.

B. Process

As outlined in the 2019 PIP, the public was notified of and involved in the development of the Plan through:

- Posting on the NFRMPO’s [website](#), [Twitter](#), and [blog](#);
- Online and in-person surveys;
- Attendance and presentations at local meetings and events throughout the region;
- Publication of events, dates, and updates in the quarterly [On the Move](#) Newsletter;
- Creation of the [2045 RTP website](#); and
- Creation of a [Community Remarks website](#).



The NFRMPO used a variety of online tools to reach out to the public, ensuring up-to-date and interactive tools were made available.

- Events and meetings were posted as they were scheduled and were tweeted on the NFRMPO’s Twitter account (@NFRMPO).
- The NFRMPO posted draft chapters, meeting schedules, and contact information on its website. The website was updated often to ensure the most current information was available.
- The Community Remarks site allowed the public to provide comments on a Google Maps-based website. The tool allowed users to “vote up” and “vote down” comments, which streamlined comments and provided additional interactivity. Those who “vote down” a comment were required to explain their dislike or disapproval, allowing additional input which could be

incorporated into the 2040 RTP.

communityremarks.com/northfrontrange/

The NFRMPO used two surveys to distinguish the needs of the region in the existing and future transportation systems. Surveys provided staff a direct understanding of regional transportation issues; where, how, and why people commute; and what modes of transportation are impacted by congestion or are used most often.

The first survey, open through summer 2018, engaged the public in where residents live, work, commute, and what their overall concerns were. The second survey, available in winter and spring 2019, requested input on scenarios to be included in the 2045 RTP.

Both surveys took advantage of the partnerships the NFRMPO has formed with community groups. Versions of each survey were sent to the Larimer County and Weld County Mobility Committees, VanGo™ vanpoolers, *On the Move* recipients, members of the Northern Colorado (NoCo) Bike & Ped Collaborative, and multiple senior groups. Paper copies of the survey and business cards with the survey link were also

distributed at the events and meetings staff attended.

Staff coordinated public outreach at multiple events and meetings throughout summer 2019. To reach a wide audience, the NFRMPO made efforts to attend a diverse group of meetings within the region. When possible, the NFRMPO worked with other agencies and organizations. The events mixed presentations, staffed tables, and face-to-face interactions to both inform the public about the 2045 RTP process and obtain feedback. At these meetings, staff discussed regional transportation issues with the public and community groups.

Public comment periods were provided for the FY2020-2023 Transportation Improvement Program (TIP), the 2019 PIP, and the 2045 RTP. The 2019 PIP was released for 45 days, while the 2019 TIP and 2045 RTP were released for 30 days. The 2045 Regional Transit Element (RTE) was released for 30 days and information was incorporated into the 2045 RTP.

C. Limited English Proficiency (LEP) Populations

The NFRMPO updated its LEP Plan as part of the update to the [Title VI Plan](#) and [2019 PIP](#). Spanish is spoken by 10.8 percent of the residents in the NFRMPO region. When possible, the NFRMPO translates documents into Spanish or works with partners during the outreach process to ensure the [2045 RTP](#) reflects the needs and priorities of all residents.

NFRMPO staff worked with local communities and attended events and meetings where all residents attended. Evans, Fort Collins, Garden City, Greeley, Johnstown, LaSalle, Loveland, and Windsor, all contain at least one Census Tract with an LEP population. NFRMPO staff attended community events in all but one location. In this location, NFRMPO staff worked with the Citizens Transportation Advisory Board (CTAB) to discuss local priorities and need.

D. Integration

NFRMPO staff integrated public comment into the [2045 RTP](#). Many of the projects recommended by the public, including the Front Range Passenger Rail project, were not fiscally constrained. The interest, however, was acknowledged and included as a scenario project. Input from stakeholders and partner agencies ensured information within the document were current. It is expected the information collected as part of this plan will continue to be integrated into the NFRMPO's planning process and future planning efforts.

E. Materials

On the following pages are outreach materials used throughout the [2045 RTP](#) process:

- 2045 RTP Presentation
- 2045 RTP Fact Sheet
- 2045 RTP Survey

2045 Regional Transportation Plan

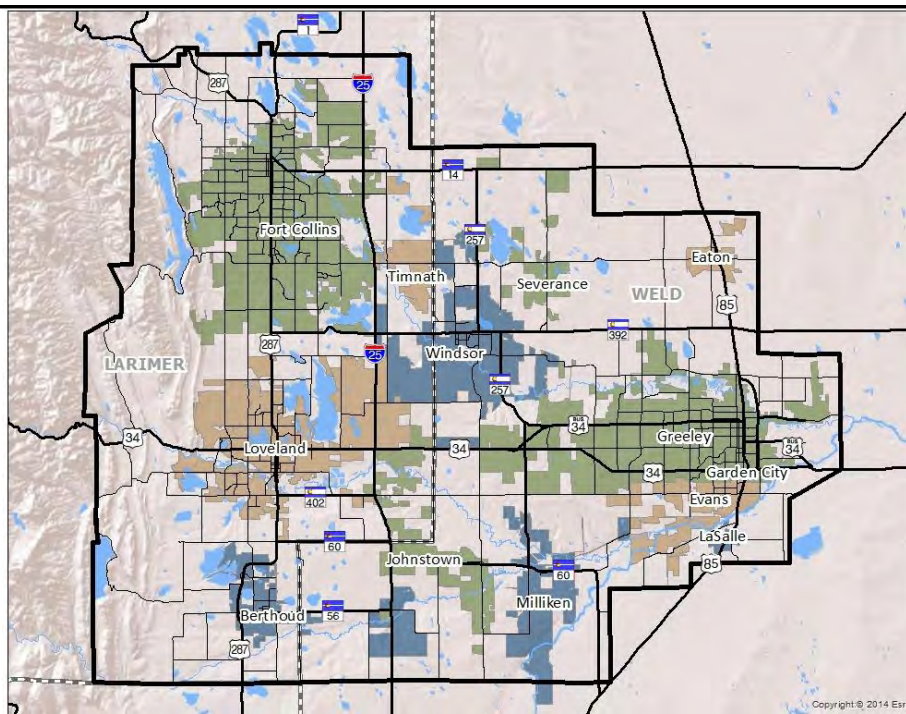
Audience



North Front Range
Metropolitan
Planning
Organization

Month, Day, Year

Regional Overview



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Where are we today?

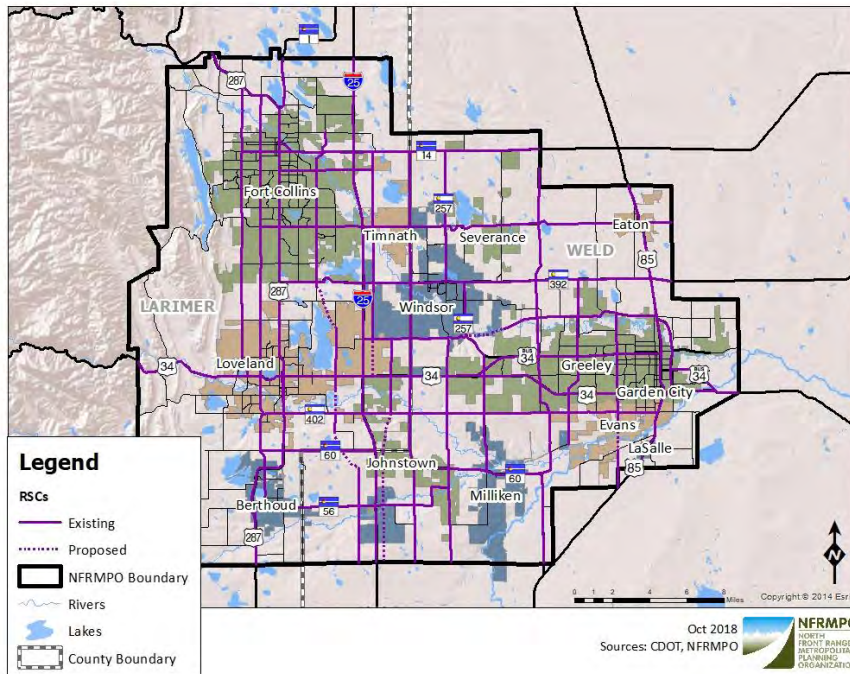


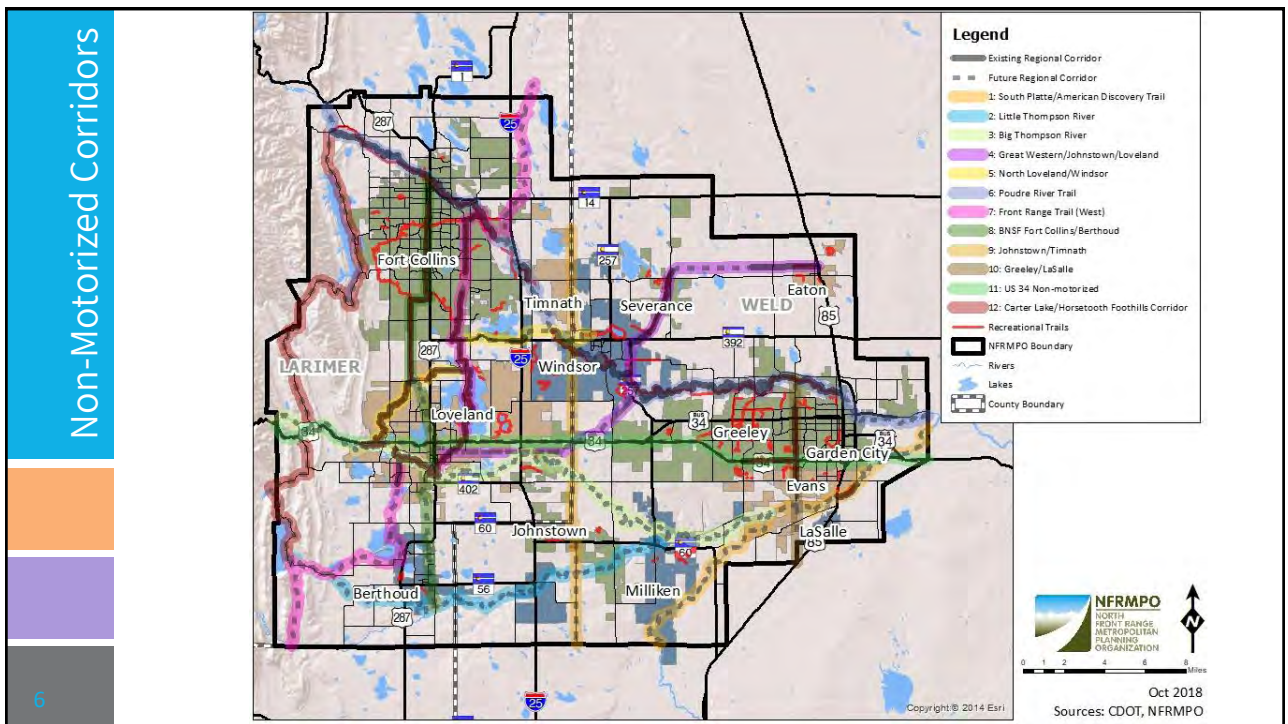
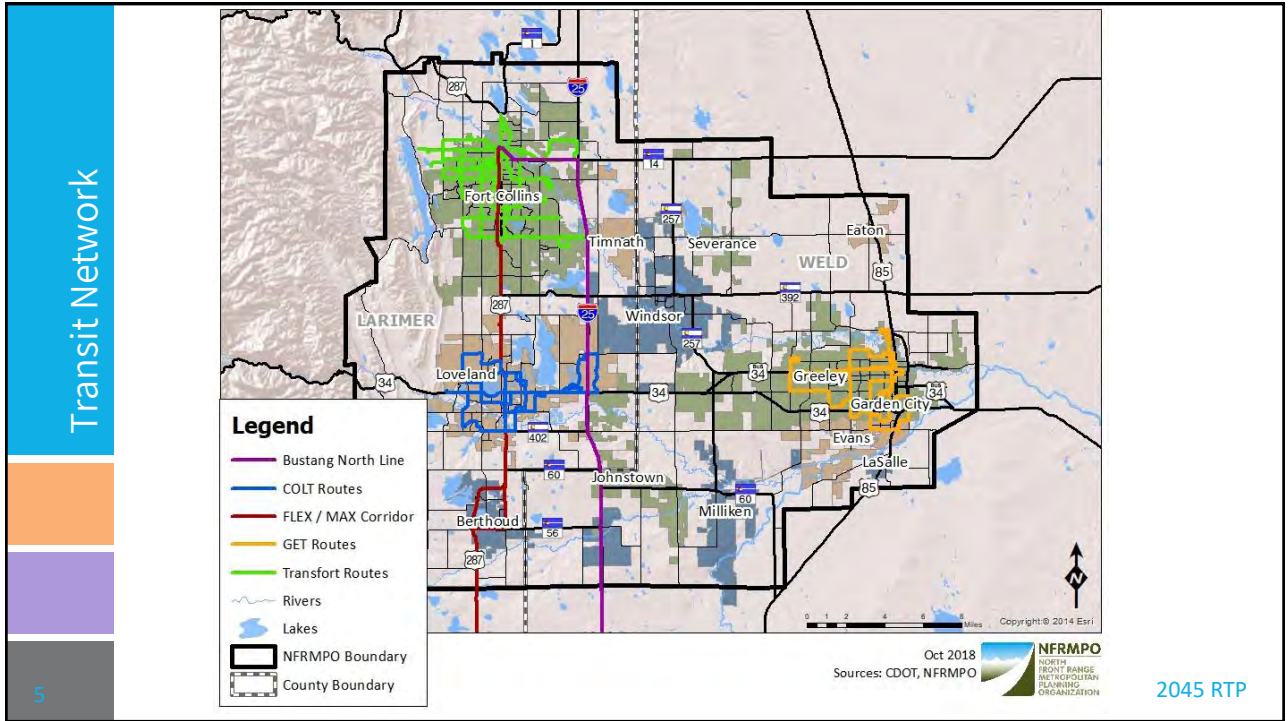
Where do we want to be?



2045 Regional Transportation Plan

RSCs







The NFRMPO Region Today

In 2015, the NFRMPO region had...

- 483,000 residents
- 284,000 jobs
- 50 Billion vehicle miles traveled (VMT)
- 4 Million Transit Trips
- 3 Million users on the Regional Non-Motorized Corridors

7

2045 RTP



Future in the NFRMPO region

By 2045, the NFRMPO region is estimated to have...


- 883,000 residents (+82.8% over 2015)
- 473,000 jobs (+66.5% over 2015)

Estimates provided by the Department of Local Affairs.

Transportation impacts of these new residents and jobs will be modeled using the NFRMPO's Regional Travel Demand Model.




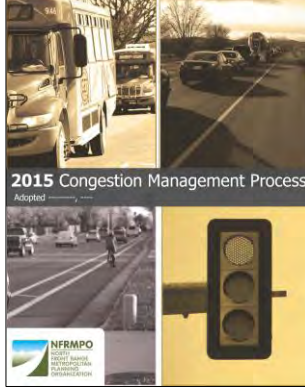
8

2045 RTP

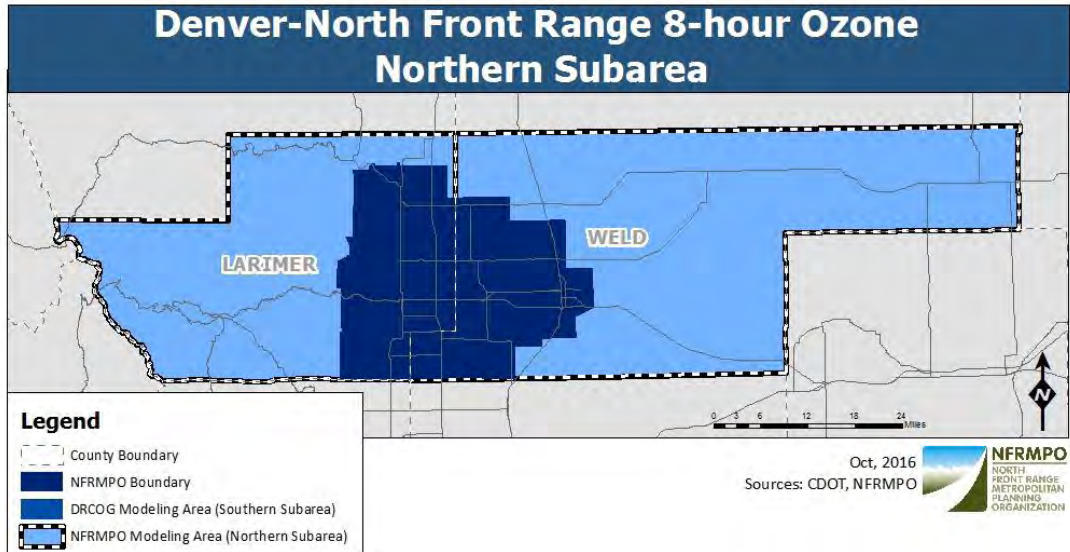


North Front Range
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Planning
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2045 RTP

<u>Non-Motorized</u>	<u>Transit</u>	<u>Freight</u>	<u>Congestion</u>
 <p>2016 Non-Motorized Plan Adopted February 2, 2017</p>	 <p>2045 Regional Transit Element Adopted November 1, 2018</p>	 <p>FREIGHT NORTHERN COLORADO Adopted _____</p>	 <p>2015 Congestion Management Process Adopted _____</p>
Adopted February 2017	Adopted November 2018	Estimated Spring 2019	
9			2045 RTP

Financial Planning	BIENNIAL	<p>Call for Projects</p> <ul style="list-style-type: none"> • Communities apply to the NFRMPO for federal and state funding • Competitive project selection process • Must move region toward achieving performance measures and targets • Underway – applications due December 21, 2018
	SHORT TERM	<p>Transportation Improvement Program</p> <ul style="list-style-type: none"> • Four-year transportation program • Includes federal- and state-funded transportation projects • Updated annually • Must show Air Quality Conformity • Environmental Justice
	LONG TERM	<p>Regional Transportation Plan</p> <ul style="list-style-type: none"> • 20-year+ transportation program • Incorporates TIP projects and regionally-significant projects • Must be fiscally-constrained • Must show Air Quality Conformity
10	2045 RTP	



	PERFORMANCE MEASURE	STATEWIDE TARGET	NFRMPO BENCHMARK (year)	NFRMPO REGION TARGET
1	SAFETY			
	Number of Fatalities	610	32.8	
	Fatality rate per 100 million vehicle miles traveled	1.2	0.833	
	Number of serious injuries	3,350	202	Adopted State Targets
	Serious Injury rate per 100 million vehicle miles traveled	6.79	5.169	
	Number of non-motorized fatalities and serious injuries	586	34.2	
2	PAVEMENT CONDITION			
	Percent of pavement on Interstate System in good condition	47%	TBD	
	Percent of pavement on Interstate System in poor condition	1%	TBD	Potentially adopting State Targets
	Percent of pavement on non-Interstate NHS in good condition	51%	TBD	
	Percent of pavement on non-Interstate NHS in poor condition	2%	TBD	
3	BRIDGE CONDITION		(2017)	
	Percentage of NHS bridges classified as in good condition	44%	50%	Potentially adopting State Targets
	Percentage of NHS bridges classified as in poor condition	4%	7%	
4	RELIABILITY (System Reliability and Freight Movement)		(2016)	
	Percent of person-miles traveled on Interstate system that are reliable	81%	100%	
	Percent of person-miles traveled on non-Interstate NHS that are reliable	64%	74%	Potentially adopting State Targets
	Truck travel time reliability index	1.5	1.47	
5	AIR QUALITY (CHAD ENVIRONMENTAL SUSTAINABILITY)		(2013-2016)	
	VOC Reduction	105 kg/day	3.88	
	Carbon Monoxide (CO) Reduction	1,426 kg/day	56.9	Potentially adopting State Targets
	Nitrogen Oxides (NOx) Reduction	105 kg/day	0.13	
6	NFRMPO-SPECIFIC			
	Population and essential destinations within paratransit and demand response service area within the MPO boundary		626	At least 75%
	Non-motorized facility miles		3352	Increase by 50%
	Percent of non-single occupant vehicle commute trips		23%	At least 32%
	Fixed-route revenue hours per capita within service areas		0.65	Increase by 10%
	Daily VMT per capita		34	Daily VMT per capita + 24
	MPO-funded Projects delivered by Federal Completion Date		TBD	TBD
Travel Time Index on RSCs		TBD	90% of RSCs have a TTIndex	
Percent NHS miles covered by ITS		TBD	TBD	

How much do transportation projects cost?

- **US34 Expansion (Denver Ave. to Boyd Lake Ave. / 1.25 miles):**
\$2.24 Million per mile or \$2.8 Million overall (Loveland)
- **I-25 Expansion (SH14 to SH402 / 15 miles):**
\$20.1 Million per mile or \$302 Million overall
- **Long View Trail (57th Street to Fossil Creek Trail / 4.4 miles):**
\$880k per mile or \$3.9 Million overall (Fort Collins/Loveland)
- **Greeley Comprehensive Signal Timing (116 signals + system)**
\$4,525 per signal or \$525k overall
- **MAX BRT (Fort Collins / 6 miles):**
\$14.0 Million per mile or \$84 Million overall
- **Commuter rail (Fort Collins to Denver / 43 miles):**
\$27.9 Million per mile or \$1.2 Billion overall

13

2045 RTP

**The RTP must be fiscally constrained.
Knowing the costs of some regional projects,
how would you allot \$2 Billion in estimated
funding?**

- **Roadway projects** (repaving, maintenance, expansion)
- **Transit** (operating, capital, new routes)
- **Bike/ped** (trails, sidewalks, bike lanes, ADA, counters)
- **Freight** (truck parking, technology, quiet zones)
- **Technology** (ITS and signal upgrades, VMS, RoadX)

14

2045 RTP

Future regional events: nfrmpo.org/calendar/

Social media: @nfrmpo

Newsletter: nfrmpo.org/newsletter/

CommunityRemarks™:
communityremarks.com/northfrontrange/

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2045 REGIONAL TRANSPORTATION PLAN (RTP)



THE PLAN

- Long range transportation plan and framework for the North Front Range MPO region
- Analyzes existing conditions of the transportation system and demographics
- Sets a vision for the transportation system over the next two decades
- Provides short-term and long-term policies, strategies, and actions
- Guided by public input, performance-based planning, land use and transportation modeling
- Updated every four years

TODAY

In 2017, the region is...

- 676 square miles
- 506,000 residents
- 284,000 jobs

Annually...

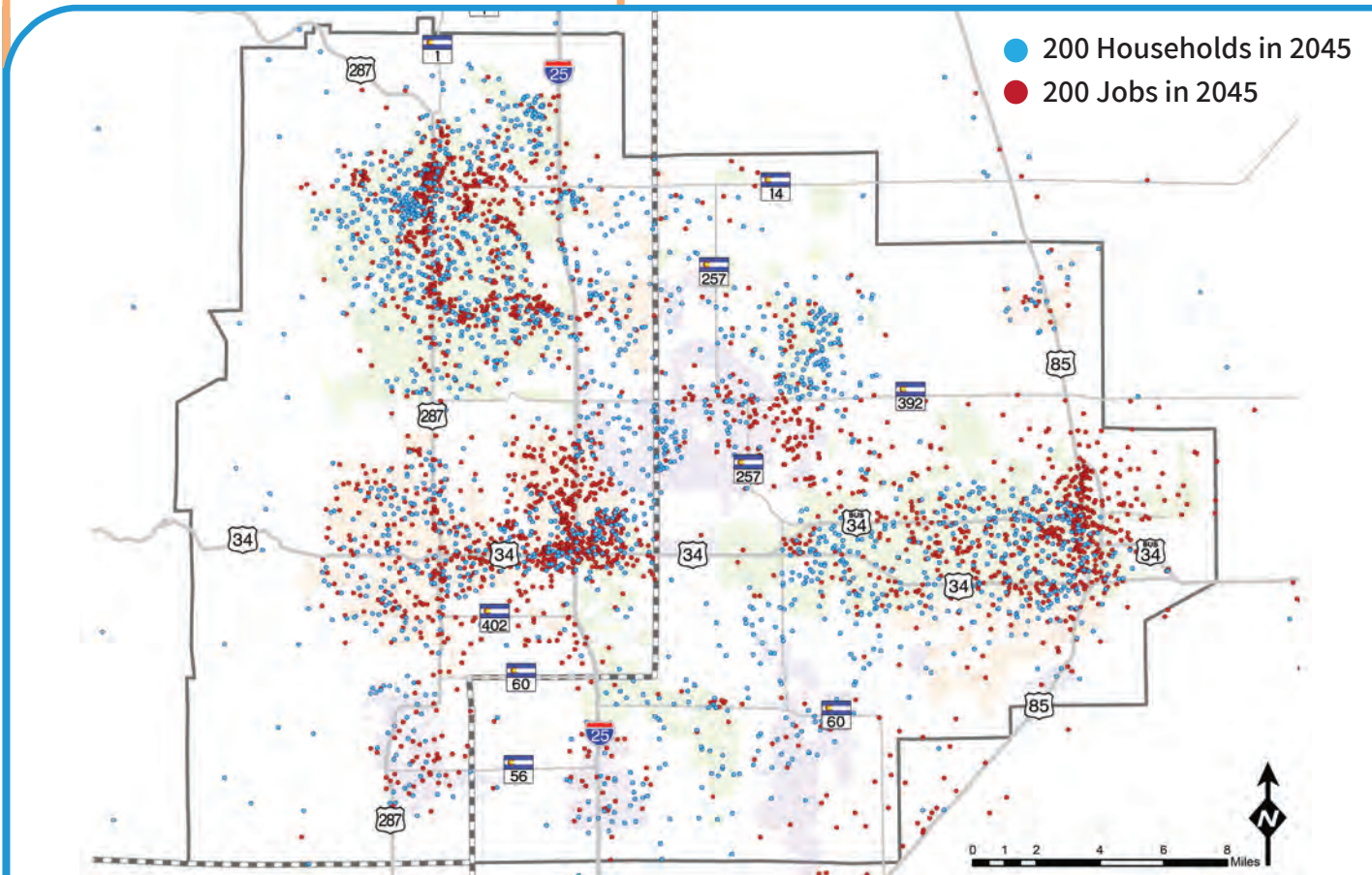
- 3 million regional trail trips
- 4 million transit trips
- 50 billion vehicle miles traveled

TOMORROW





In 2045, the region has...

- 884,000 residents
- 473,000 jobs

The NFRMPO will run the 2045 Regional Travel Demand Model to estimate future volumes.

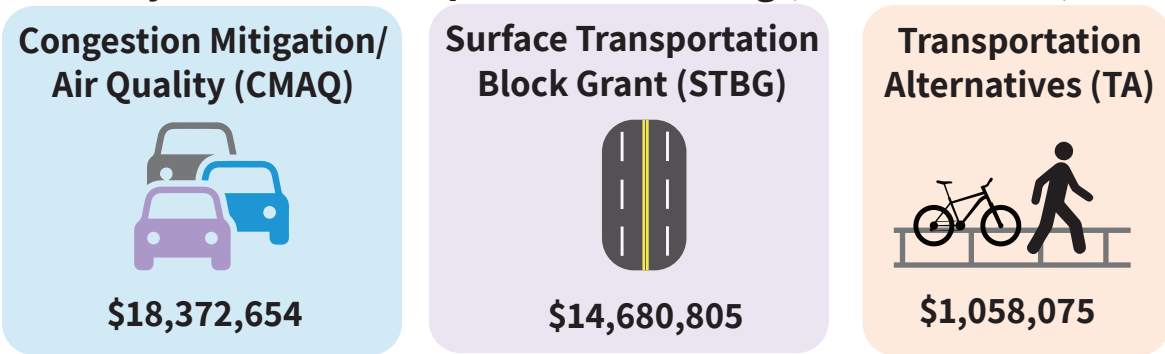


SYSTEM

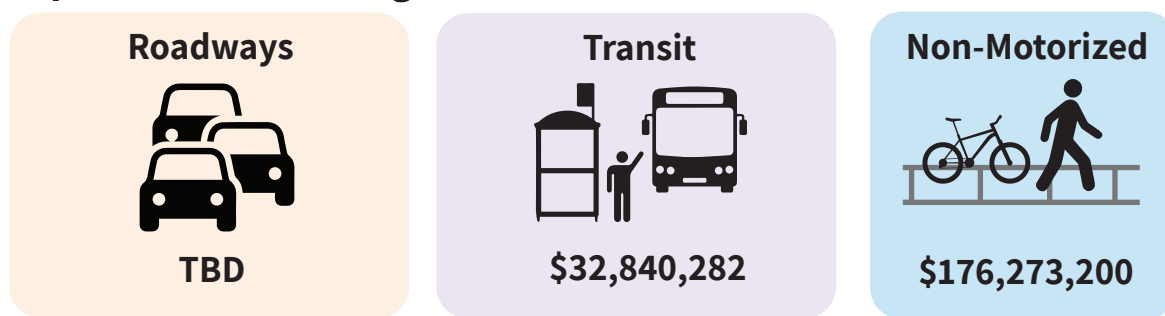
- The transportation system includes:
 **Roadways**  **Transit**  **Non-Motorized**  **Freight**
- Goals, Objectives, Performance Measures, and Targets (GOPMT) framework:
 Four key goal areas: **Economic Development and Quality of Life; Mobility; Multi-Modal; and Operations.**
- The Congestion Management Process (CMP), Freight Northern Colorado (FNC), the 2016 Non-Motorized Plan (NMP), and the 2045 Regional Transit Element (RTE) provide additional strategies to achieve the GOPMT and are incorporated into the 2045 RTP.

FINANCING

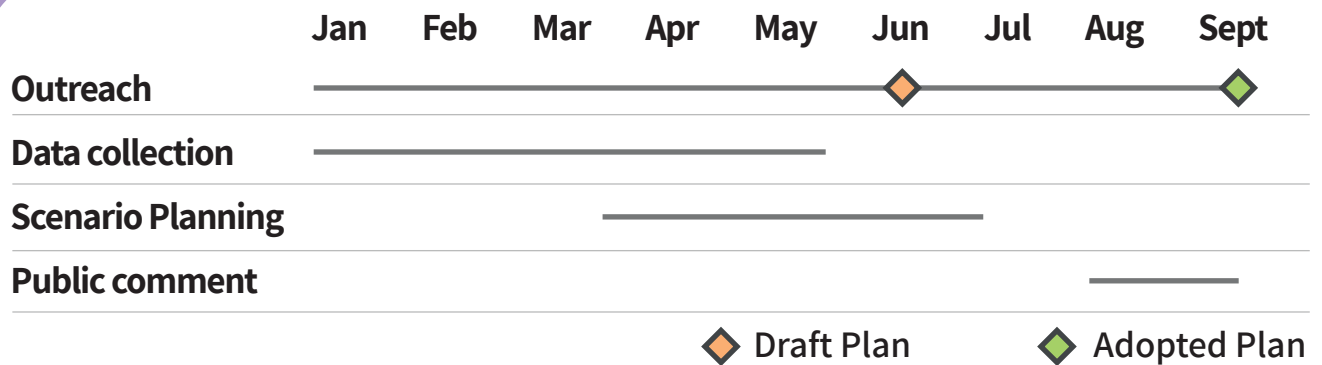
Recently awarded transportation funding (FFY2020-2023)



Expected need through 2045



SCHEDULE



Let us know how you want the transportation system to look:



5

Implementation

This 2045 RTP sets the stage for transportation planning in the NFRMPO region for the next 25 years. While this is a long-term transportation plan, the climate of funding, projects, population, and employment are constantly evolving and changing. The need to update or amend the 2045 RTP may arise.

A. RTP Amendment Process

The NFRMPO updates the RTP every four years as required by federal law for all air quality nonattainment and maintenance areas; however, between RTP updates, amendments to the RTP may be necessary. Amendments can be prompted by new regionally significant projects, as defined in **Chapter 3, Section 5** of this RTP, or by substantially modified project scopes. A Plan Amendment could also be necessary if substantial changes in financial resources occur, which were not anticipated during this 2045 RTP development process. A description of RTP Amendments is included in **Table 5-1**.

To initiate a Plan Amendment, a local agency, Colorado Department of Transportation (CDOT) or the federal government provides information to the NFRMPO outlining the specific amendment request along with a clear justification for the amendment and/or the source of the new funding. NFRMPO staff review

the request and determine how the request should be processed, either as a Modification to the RTP or an Amendment to the RTP.

The Technical Advisory Committee (TAC) and NFRMPO Planning Council approve all Amendments prior to submission to CDOT and the Federal Highway Administration (FHWA). If the Amendment requires an air quality conformity determination, it must complete that process prior to the Plan Amendment being adopted. The air quality conformity determination is discussed in **Appendix A**. Amendments adding non-air quality significant projects or project elements (i.e. bridges, interchanges, or transit centers) do not require an air quality conformity determination. Generally, a call for RTP Amendments is held once a year. If no Amendment requests are received, the RTP is not amended and no action by Planning Council, FHWA, or EPA is required.

Table 5-1: RTP Revision Process Description

Update Type	Update Description	Changes Prompting an Update
Administrative Modification to the RTP	Minor editorial revisions to RTP language, maps, graphics, or project information. These are changes that can be made by NFRMPO staff and do not require Planning Council Action; however, they do require the approval of the NFRMPO Executive Director.	<ul style="list-style-type: none"> • Project Name Change • Editorial revisions to the RTP text • Changes/clarifications to RTP maps or graphics • Minor text changes to the project descriptions (including spelling changes, minor project description changes, etc.)
Amendment to the RTP	Changes to a regionally significant project as defined in Chapter 5, Section A of this RTP requires Planning Council Action. Additionally, for those changes which necessitate air quality conformity analysis, a 30-day public comment period for both the air quality conformity analysis and the proposed Amendment.	<ul style="list-style-type: none"> • Addition of a Regionally Significant Project • Deletion of a Regionally Significant Project • Additional Funds which accelerate a project. • Substantial project scope changes • Advancing a project start date beyond the conformity band it was in when the RTP was originally adopted. • Delaying a project completion date beyond the conformity band it was in when the RTP was originally adopted.

B. Unified Planning Work Program (UPWP)

The [Unified Planning Work Program \(UPWP\)](#) guides the transportation planning work for the NFRMPO. This document identifies tasks which specify work products and funding sources to the NFRMPO, its member governments, and to CDOT.

Responsibility for carrying out the 3C planning process rests jointly with the NFRMPO, the three local transit agencies, and CDOT, as described in the 2018 Memorandum of Agreement (MOA) between the five agencies. The 3C process in the NFRMPO area is designed to provide for

centralized administration, combined with maximum participation and direction from local governments.

Each calendar year, beginning in February, a proposed budget for UPWP for the fiscal year commencing the following October 1st is prepared in coordination with the TAC and NFRMPO staff, along with input from CDOT’s Division of Transportation Development (DTD) and CDOT Region 4 representatives. Once completed, the UPWP budget is approved by the Finance Committee of the NFRMPO Planning

Council and the work tasks are recommended for Planning Council approval by the TAC. The budget includes tasks, proposed expenditures, and the funding sources. The Planning Council adopts the full UPWP in June through a formal resolution.

C. Emerging Trends

The North Front Range region has experienced rapid growth in recent years, resulting in an area with a 2015 population of approximately 466,000. This growth is continuing, and population projections show by 2045, the North Front Range area population increase by nearly 88 percent. This population growth will place an even greater demand on the movement of people and goods on an already stressed and aging transportation system.

This population growth will occur in all age cohorts; however, households headed by the oldest cohort, those aged 60 years and older, will grow the fastest due to the area's popularity with retirees and the aging of the population nationwide. Within Larimer and Weld counties, this cohort will grow from 18 percent of the population at 80,000 in 2015, to 22 percent of the population to around 198,000 by 2045. The growth rate for all age cohorts is shown in **Figure 5-1** and **Figure 5-2**.

Knowing the age group growth projection rates is important to the transportation planning process as it allows time to plan to better meet the specific transportation needs of the age groups. Based on this projection, providing more

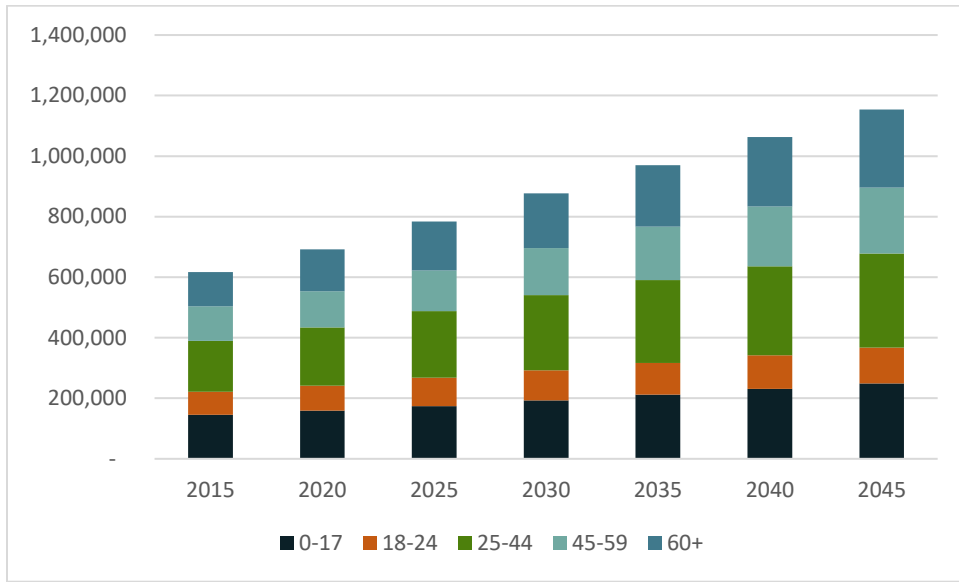
NFRMPO project expenditures may not exceed the UPWP budgeted totals. Any revisions which alter the total budgeted expenditures of any tasks must be approved by the Planning Council. Amendments between work tasks may be completed through an administrative modification, to be formally incorporated into an amended UPWP.

transportation options for the senior population should be a priority in the region over the next 25 years. Transportation trends the region should consider in future planning efforts could include, but are not limited to:

- Seniors needing transportation to medical appointments, the grocery store, and social events, etc.;
- A higher number of people commuting via bicycle, transit, or walking versus automobiles;
- Decreased transportation funding;
- Higher gas prices; and
- New and emerging transportation technologies, including self-driving automobiles.

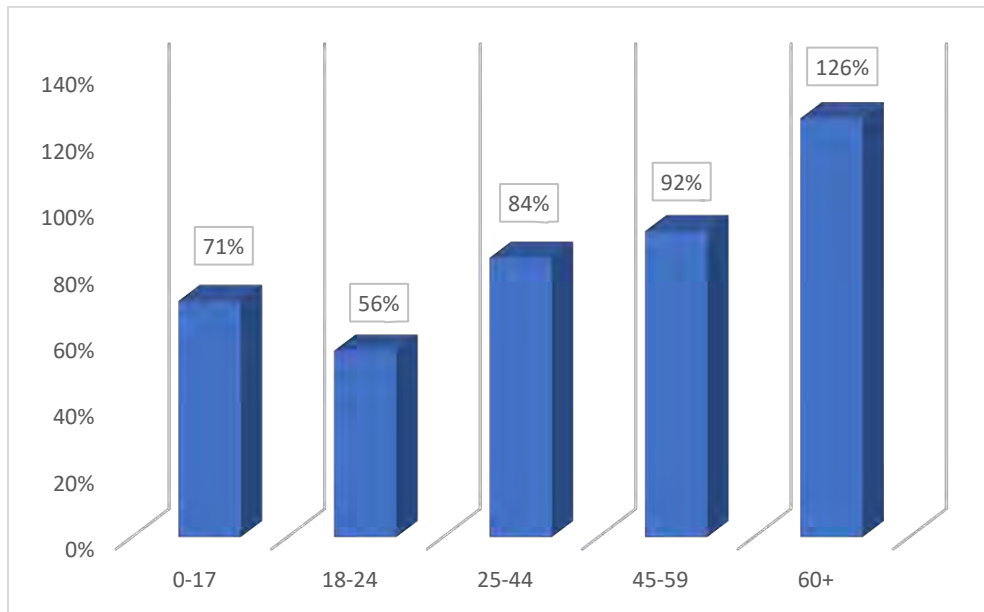
As the region moves toward 2045, these emerging trends will need to be factored into the transportation planning process and into the allocation of transportation funds to those projects providing the greatest benefit to the region's population.

Figure 5-1: Larimer and Weld Counties Population by Age Group, 2015-2045



Source: Department of Local Affairs (DOLA) Population Projections, 2018

Figure 5-2: Larimer and Weld Counties Growth Rate by Age Group, 2015-2045



Source: Department of Local Affairs (DOLA) Population Projections, 2018

Appendices

Appendix

A

Air Quality Conformity



The transportation programs, plans and projects within the air quality nonattainment and maintenance areas in the North Front Range region must meet air quality conformity requirements for two pollutants: carbon monoxide (CO) and ozone. Portions of the region were previously in violation of federal standards for CO and the region is currently in violation of federal standards for ozone. A positive conformity determination certifies transportation plans, programs, and projects do not:

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

The air quality analysis of the 2045 RTP was conducted in compliance with federal regulations and found the RTP meets all air quality conformity requirements. The positive air quality conformity determination is documented in the Denver-North Front Range (Northern Subarea) 8-Hour Ozone and Fort Collins and Greeley Carbon Monoxide (CO) Maintenance Areas Conformity Determination report, adopted by the North Front Range Transportation & Air Quality Council (NFRT&AQPC) on September 5, 2019.¹

The two CO maintenance areas and the ozone nonattainment area within the North Front Range region are displayed in **Figure A-1**. As of May 2019, the Greeley CO Maintenance area no

longer requires a conformity determination due to the expiration of the second 10-year maintenance period. The Fort Collins CO Maintenance area requires a conformity determination; however, a quantitative assessment of regional emissions is not required due to the low level of emissions in the area. Instead, conformity is determined through meeting all federal planning requirements.

A quantitative assessment of regional emissions is required for the 8-hour Ozone Nonattainment Area that covers the North Front Range metropolitan planning area. The assessment tests the two precursors to ozone: nitrogen oxides (NOx) and volatile organic compounds (VOC). The State Implementation Plan (SIP) for ozone identifies the maximum amount of each precursor which can be generated and still meet federal requirements.

An emissions analysis was performed using the latest transportation planning assumptions and the latest mobile emissions model released by the Environmental Protection Agency (EPA). The NFRMPO 2015 Base Year Regional Travel Demand Model (RTDM) provided the necessary inputs of vehicle miles of travel (VMT), travel speed by area type and time of day, and roadway functional class, while the EPA's Motor Vehicle Emissions Simulator 2014b (MOVES2014b) calculated the emissions outputs.

Based on the quantitative emissions analyses, the 2045 RTP demonstrates conformity with the SIP budgets for NOx and VOC, as demonstrated in **Table A-1**.

¹ CO and Ozone Conformity Determination, September 5, 2019, <https://nfrmpo.org/air-quality/>

Figure A-1: 8-Hour Ozone Nonattainment Area and Carbon Monoxide Maintenance Areas

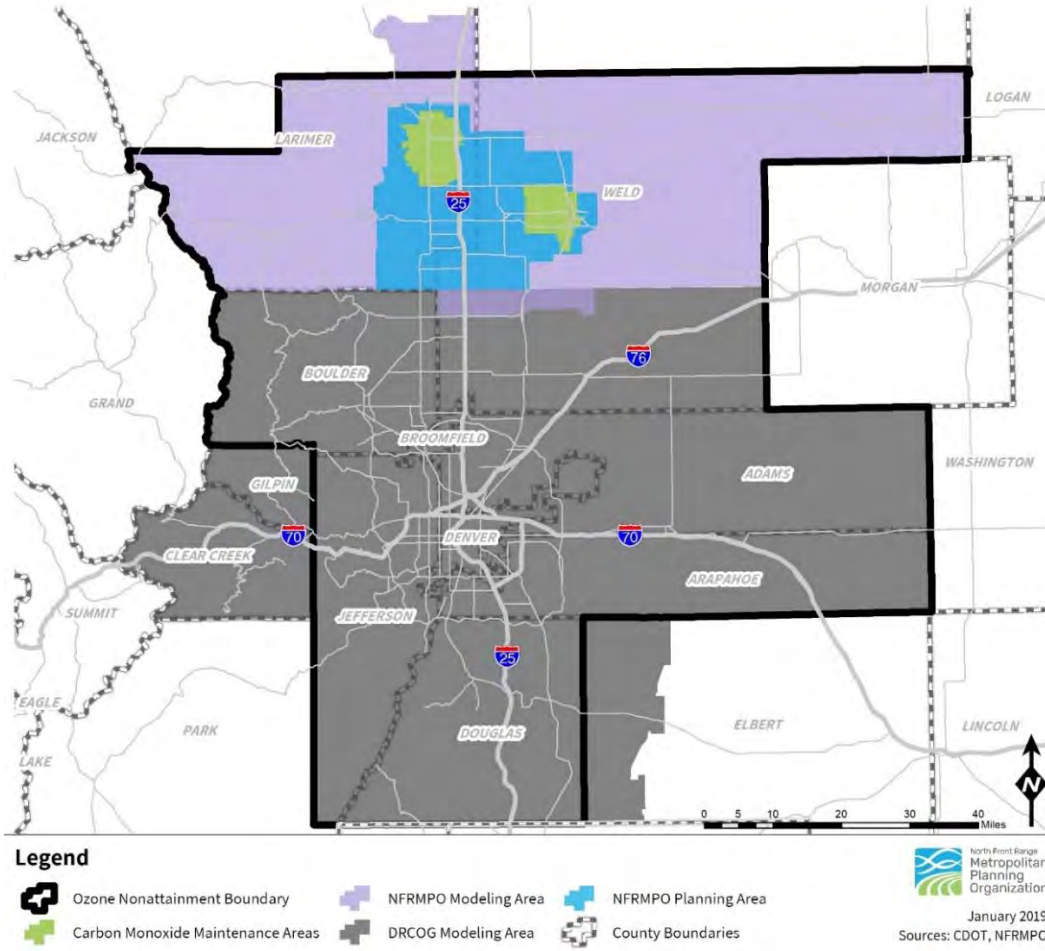


Table A-1: 8-Hour Ozone Conformity for Denver-North Front Range Northern Subarea

	2008 SIP Budgets	2020	2030	2040	2045	Pass/Fail
Volatile Organic Compounds (VOC)	8	8	6	5	5	PASS
Oxides of Nitrogen (NOx)	12	10	6	4	4	PASS

Appendix

B

Unconstrained Plan Projects



Figure B-1: Fiscally Unconstrained Roadway and Transit Capacity Projects

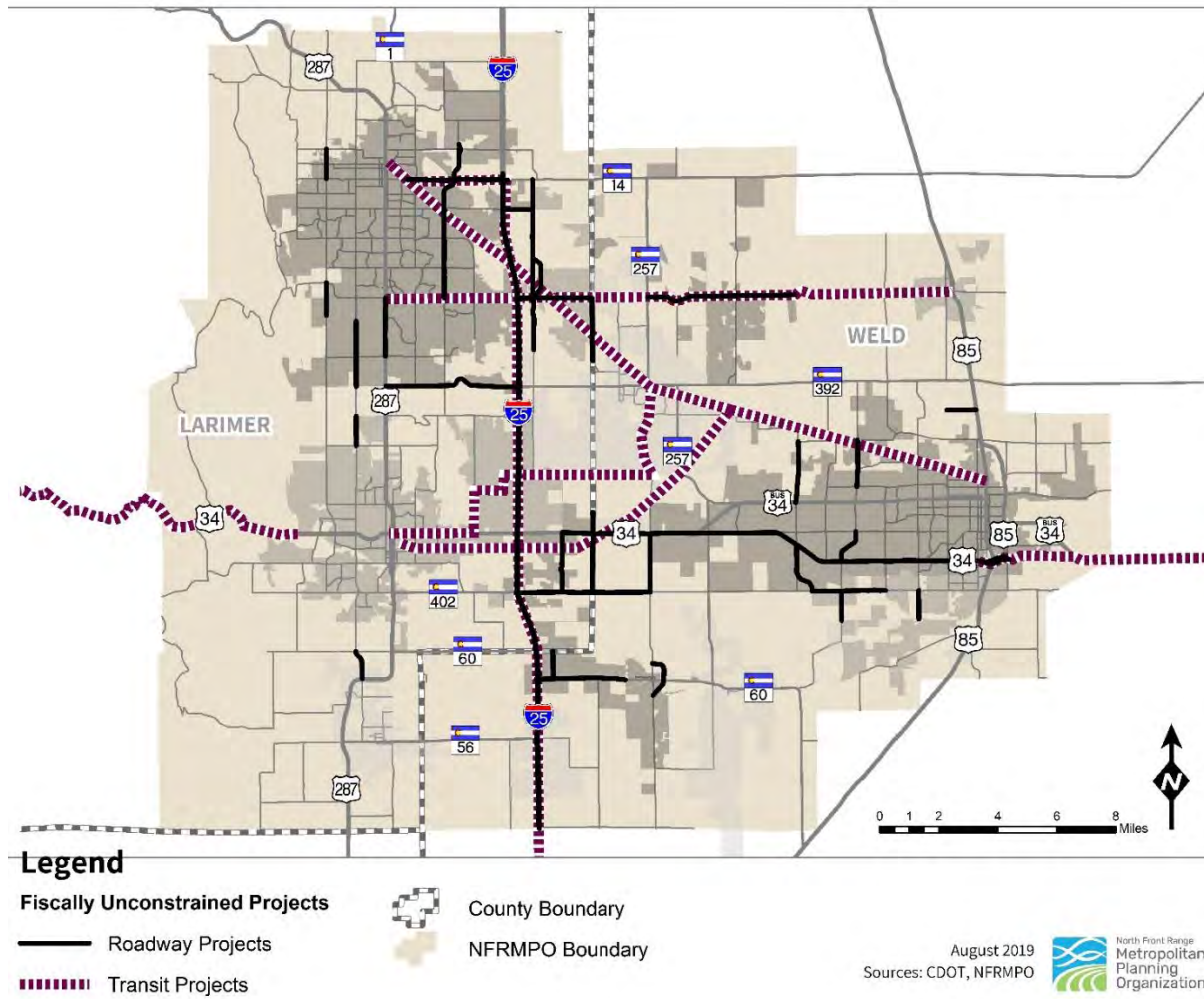


Table B-1: Fiscally Unconstrained Roadway Capacity Projects

RSC	Facility	Project Limits	Improvement Type	Project Cost (\$M, YOY)	Agency
1	I-25	WCR 38 to SH56	Widen from 4 to 6 general purpose lanes	\$17.9	CDOT
1	I-25	SH56 to SH402	Widen from 4 to 6 general purpose lanes	\$27.8	CDOT
1	I-25	SH402 to SH14	Widen from 4 to 6 general purpose lanes	\$119.0	CDOT
2	US34	MP 113.65 to LCR3	Widen from 4 to 6 lanes	\$215.6	Multiple
6	US287	Trilby to Fossil Creek	Widen from 4 to 6 lanes	\$15.4	Fort Collins
6	US287	Fossil Creek to Harmony	Widen from 4 to 6 lanes	\$11.9	Fort Collins
8	SH14	Summit View to Timberline	Widen from 4 to 6 lanes	\$3.0	Fort Collins
8	SH14	Timberline to Riverside	Widen from 4 to 6 lanes	\$23.8	Fort Collins
8	SH14	I-25 to Summit View	Widen from 4 to 6 lanes	\$14.9	Fort Collins
10	SH60	WCR-15 to I-25	Widen from 2 to 4 lanes	\$23.4	Johnstown
12	SH392	I-25 to LCR9	Widen from 2 to 4 lanes	\$5.9	Fort Collins
12	SH392	Timberline to Lemay	Widen from 2 to 4 lanes	\$5.9	Fort Collins
12	SH392	LCR9 to Timberline	Widen from 2 to 4 lanes	\$5.9	Fort Collins
12	SH392	Lemay to College	Widen from 2 to 4 lanes	\$8.9	Fort Collins
13	WCR54	47th Ave to 77th Ave / Two Rivers Parkway	Widen from 2 to 4 lanes	\$39.2	Evans / Greeley
13	LCR18	WCR17 to I-25	Widen from 2 to 4 lanes	\$18.7	Johnstown
13	WCR54	SH257 to WCR 17	Widen from 2 to 4 lanes	\$25.2	Greeley
14	LCR3	LCR18 to US34	Widen from 2 to 4 lanes	\$12.6	Johnstown
14	WCR9.5	SH60 to LCR14	Widen from 2 to 4 lanes	\$5.6	Johnstown/CDOT
15	LCR5	South GMA to Harmony Rd	Widen from 2 to 4 lanes	\$13.2	Timnath
15	Timnath Bypass	LCR 38 to N of LCR 40	Widen from 2 to 4 lanes	\$16.5	Timnath
15	LCR5	Main St to SH14	Widen from 2 to 4 lanes	\$59.7	Timnath/ Larimer
16	Timberline Rd	Horsetooth to Drake	Widen from 4 to 6 lanes	\$9.7	Fort Collins

RSC	Facility	Project Limits	Improvement Type	Project Cost (\$M, YOY)	Agency
16	Timberline Rd	Harmony to Horsetooth	Widen from 4 to 6 lanes	\$9.7	Fort Collins
16	Timberline Rd	Drake to Prospect	Widen from 4 to 6 lanes	\$17.1	Fort Collins
16	Timberline Rd	Vine to Suniga Road	Widen from 2 to 4 lanes	\$15.6	Fort Collins
16	Timberline Rd	Mulberry to Prospect	Widen from 2 to 4 lanes	\$23.8	Fort Collins
16	Timberline Rd	Mulberry to Vine	Widen from 2 to 4 lanes	\$22.3	Fort Collins
17	LCR17	US 287 to LCR 14	Widen from 2 to 4 lanes	\$8.5	Berthoud/Larimer
17	LCR17	Trilby to Carpenter	Widen from 2 to 4 lanes	\$5.9	Fort Collins
17	LCR17	Fossil Creek to Trilby	Widen from 2 to 4 lanes	\$5.9	Fort Collins
17	LCR17	LCR-28/57th Street to LCR-30	Widen from 2 to 4 lanes	\$44.8	Loveland/ Larimer
18	LCR19	Harmony to GMA	Widen from 2 to 4 lanes	\$11.9	Fort Collins
18	LCR19	Vine to Mulberry	Widen from 2 to 4 lanes	\$5.9	Fort Collins
19	WCR13	WCR-54 to WCR-60	Widen from 2 to 4 lanes	\$22.5	Johnstown
19	LCR1	South GMA to Harmony Rd	Widen from 2 to 4 lanes	\$13.2	Timnath
20	WCR17	WCR-54 to WCR-56	Widen from 2 to 4 lanes	\$12.6	Johnstown
21	83rd Ave	WCR 64 to WCR54	Widen from 2 to 4 lanes	\$9.8	Greeley
22	35th Ave	49th St to 37th St / WCR 54	Widen from 2 to 4 lanes	\$8.0	Evans
23	WCR74	WCR-27 to SH-257	Widen from 2 to 4 lanes	\$6.3	Severance
23	Harmony Rd	RR tracks to I-25	Widen from 2 or 4 to 6 lanes	\$7.5	Timnath
25	65th Ave	42nd St to WCR-54/37th St	Widen from 2 to 4 lanes	\$9.4	Evans
25	59th Ave	US34 Bypass to 20th St	Widen from 2 to 4 lanes	\$9.8	Greeley
25	59th Ave	C St to 4th St	Widen from 2 to 4 lanes	\$2.8	Greeley
25	59th Ave	WCR64 to F St	Widen from 2 to 4 lanes	\$4.9	Greeley
26	O St	WCR-47 to 23rd Ave	Widen from 2 to 4 lanes	\$70.0	Greeley
28	Prospect Rd	Taft Hill to Overland	Widen from 2 to 4 lanes	\$9.7	Fort Collins

Table B-2: Fiscally Unconstrained Transit Capacity Projects

RTC	Agency	Corridor	Project Type	Capital Cost through 2045 (\$M, YOE)	Operating Cost through 2045 (\$M, YOE)
F	Unidentified	Harmony Road/WCR74	New Bus Service	\$1.7	\$1.3
G	CDOT	Greeley to Fort Morgan	New Bus Service	\$2.9	\$1.6
H	CDOT	Loveland to Estes Park	New Bus Service	\$2.9	\$1.2
I	Unidentified	Windsor to Loveland	New Bus Service	\$1.9	\$0.8
J	Unidentified	Regional Rail, Greeley to Fort Collins	New Rail Service	\$40.2	\$8.3
K	Unidentified	Regional Rail, Greeley to Loveland	New Rail Service	\$40.2	\$6.1
N/A	Unidentified	Front Range Passenger Rail	New Rail Service	\$1,041.8	\$0

2019 System Performance Report

2045 Regional Transportation Plan



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Performance Measure Scorecard

Category	Performance Measure	Benchmark*	Target	Status	Page
Highway Safety	Number of fatalities	600	644	✓	8
	Rate of fatalities per 100M VMT	1.09	1.20	✓	9
	Number of serious injuries	2,340	2,909	✓	10
	Rate of serious injuries per 100M VMT	4.384	5.575	✓	11
	Number of non-motorized fatalities and serious injuries	512	514	✓	12
Bridge and Pavement Condition	Percent of Interstate pavement in Good condition	42.4%	47%	✗	14
	Percent of Interstate pavement in Poor condition	0.98%	1%	✓	14
	Percent of Non-Interstate NHS pavement in Good condition	41.4 %	51%	✗	14
	Percent of Non-Interstate NHS pavement in Poor condition	2.21%	2%	⚡	14
	Percent of NHS bridges in Good condition	47.4%	44%	✓	14
	Percent of NHS bridges in Poor condition	3.8%	4%	✓	14
System Performance	Percent of person-miles traveled on Interstate system that are reliable	80.7%	81%	⚡	15
	Percent of person-miles traveled on non-Interstate system that are reliable	86.2%	64%	⚡	15
	Truck travel time reliability index	1.37	1.5	✓	15
	VOC Reduction	672.780 kg/day	105.000 kg/day	⚡	15
	CO Reduction	9,998.719 kg/day	1,426.000 kg/day	⚡	15
	NOx Reduction	1,663.534 kg/day	105.000 kg/day	⚡	16

Status Key:



Achieved



In Progress



Negative

Category	Performance Measure	Benchmark*	Target	Status	Page
Regional Performance Measures	Population within publicly-operated paratransit and demand response service area within the NFRMPO boundary	65.1%	≥ 75%	✘	19
	Non-motorized facility miles	3,352	↑ 50%	⊖	19
	Percent of non-single occupant vehicle commuter trips	23%	≥ 25%	⊖	19
	Fixed-route revenue hours per capita within service areas	0.65	↑ 10%	⊖	19
	Daily VMT per capita	24	≤ 24	✔	19
	Federally-funded projects within the NFRMPO boundary reported as financially inactive for more than three quarters	0	0	✔	20
	Travel Time Index on RSCs	90%	90% ≤ 1.5	✔	20
	Miles of fiber for connected roadways		250 miles		20

Status Key: ✔ Achieved ⊖ In Progress ✘ Negative

Agency	Percent Revenue vehicles Meeting or Exceeding Useful Life Benchmark	Benchmark (years)	Target	Status	Page
Transfort	Bus	15	25%	✘	17
	Articulated Bus	17		✔	
	Cutaway	12		✔	
	Automobile	10		n/a	
	Minivan	10		n/a	
	Truck/SUV	10		n/a	
GET	Bus	14	5%		17
	Cutaway (Fixed-Route)	7	10%		
	Cutaway (Paratransit)	8	20%		
Statewide Tier II	Bus	14	20%	✔	17
	Cutaway	10	7%-20%	✘	
	Automobile	8	50%	N/A	
	Minivan	8	38%	✔	

Status Key: ✔ Achieved ⊖ In Progress ✘ Negative

Agency	Percent Service Vehicles Meeting or Exceeding Useful Life Benchmark	Benchmark (years)	Target	Status	Page
Transfort	Automobile	10	25%	❌	18
	Truck and other rubber-tire vehicles				
GET	Equipment	10	1%		18
Statewide Tier II	Automobile	8 to 14	28%	✅	18
	Truck and other rubber-tire vehicles				

Status Key: Achieved In Progress Negative

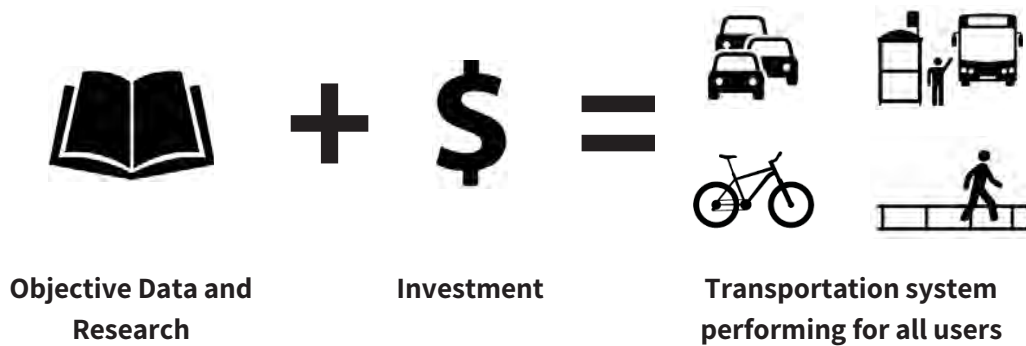
Agency	Percent Passenger and Maintenance Facilities Rated Below Condition 3	Target	Status	Page
Transfort	Passenger Facility	25%	✅	19
	Passenger Parking		n/a	
	Maintenance		✅	
	Administrative		n/a	
GET	Administrative	10%	✅	19
Statewide Tier II	Passenger Facility	19%	n/a	19
	Passenger Parking		n/a	
	Maintenance		✅	
	Administrative		n/a	

Status Key: Achieved In Progress Negative

Introduction

Performance measures at the local, regional, state, and federal levels are based on the Transportation Performance Management (TPM) approach set forth by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). TPM is a strategy which helps decisionmakers understand the impacts of transportation investment decisions based on data and objective information. A graphical representation of TPM is shown in **Figure 1**. This *2019 System Performance Report* is drafted to make the connection between data and research, the transportation system, investments, and system performance.

Figure 1: Transportation Performance Management



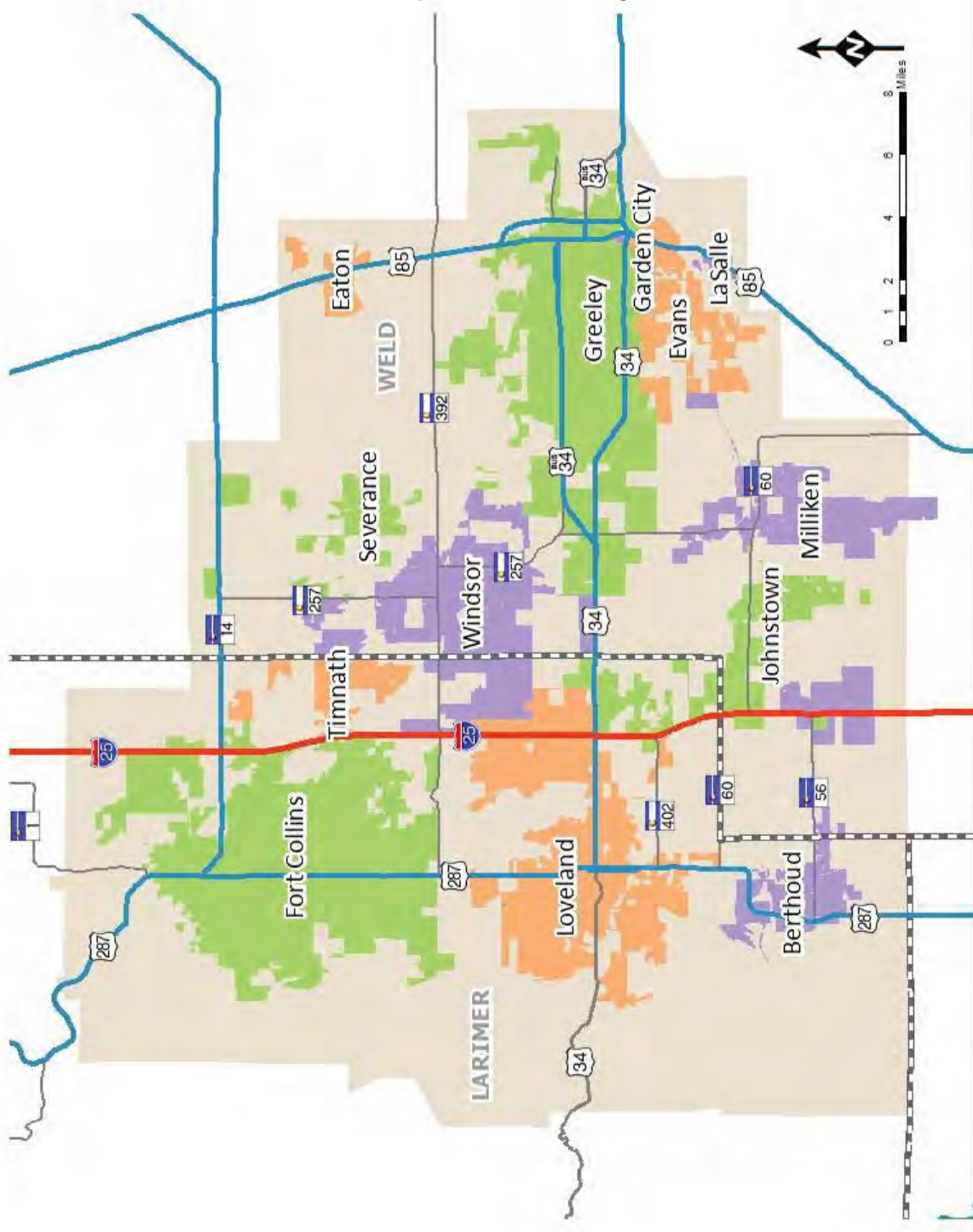
The North Front Range Metropolitan Planning Organization (NFRMPO) works with the Colorado Department of Transportation (CDOT), its member communities, transit agencies, and the general public to establish targets based on the federally-required and regionally-selected performance measures for the region shown in **Figure 2**. The NFRMPO has 180 days to set targets after CDOT adopts Statewide targets to adopt its own regional targets or agree to support CDOT's targets. CDOT sets targets for the NHS, shown in **Figure 3**. These targets form part of the NFRMPO's Goals, Objectives, Performance Measures, and Targets (GOPMT), which was first established in the *2040 Regional Transportation Plan (RTP)*.

As of the adoption of the *2045 RTP*, the federally-required performance measures are divided into four categories, which include:

- Highway Safety
- Pavement and Bridge Condition
- System Performance
- Transit Asset Management (TAM).

These four categories, in addition to regionally-identified performance measures, make up the chapters of this *2019 Systems Performance Report*.

Figure 2: NFRMPO Region

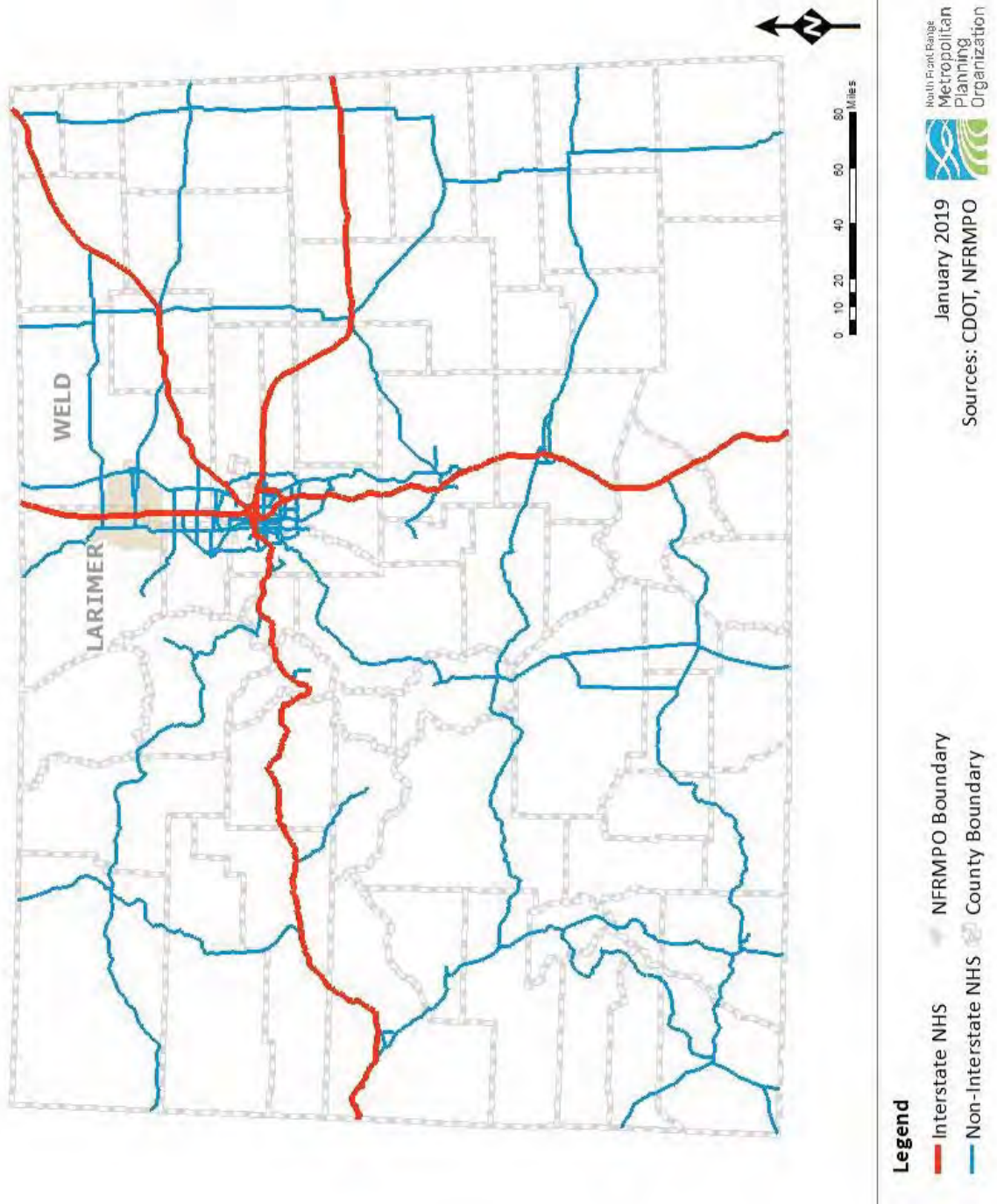


Legend

- Interstate NHS
- Non-Interstate NHS
- NFRMPO Boundary
- County Boundary

January 2019
Sources: CDOT, NFRMPO
North Front Range Metropolitan Planning Organization

Figure 3: Statewide NHS System



Process

The NFRMPO worked with CDOT, local agency, and transit staff to collect data on current conditions and to identify long-term needs. This data was presented to the NFRMPO's Technical Advisory Committee (TAC), which provided guidance on how to set targets. TAC's recommendation was taken to the North Front Range Transportation & Air Quality Planning Council (NFRT & AQPC, known as the Planning Council) for further discussion and adoption. Memos were included each of TAC and Planning Council's meeting packets for Discussion and Adoption. In the future, the NFRMPO expects to include a more robust public outreach process to ensure targets match the expectation of residents prior to adoption.




The NFRMPO can set regional targets or adopt the Statewide targets for Highway Safety, Bridge & Pavement Condition, and System Performance measures. The NFRMPO set targets by agreeing to program projects to help achieve the Statewide targets. For the transit measures, the NFRMPO worked with the transit agencies in the region and adopted each transit agency's targets as the regional target.

Highway Safety and TAM targets must be adopted annually, while the NFRMPO adopts the Bridge & Pavement Condition and System Performance measures every four years. These new targets will be reflected in the next Systems Performance Report to be completed in 2023.

Impact on NFRMPO Planning Process

The RTP and the Transportation Improvement Program (TIP) both acknowledge the need to invest in the regional transportation system. Projects are programmed into the short-range and long-range documents to move the region toward achieving targets set as part of this TPM process. The impact of TIP projects on performance measures and target achievement is explained in the TIP Narrative, available at <https://nfrmpo.org/tip/>.

Target Achievement

This Systems Performance Report uses a three-tier grading system:  means the State or the NFRMPO region has achieved the target based on baseline data;  means the State or the NFRMPO is making progress and is trending in the proper direction or is close to achieving a target but has not yet; and  means the target has not been achieved and not enough progress has been made.

GOPMT

The GOPMT is the guiding policy of transportation investments in the region and has been updated based on the guidance provided for performance measures and targets. The most recent GOPMT was adopted by the Planning Council on October 4, 2018. **Figure 3** shows the GOPMT as adopted by the Planning Council. Each performance measure and target apply to an MPO and national goal as well as an objective.

Figure 4: GOPMT Framework

MPO Goal	Goal Area 1 Economic Development Quality of Life	Goal Area 2 Mobility	Goal Area 3 Multi-Modal	Goal Area 4 Operations
	Foster a transportation system that supports economic development and improves residents' quality of life	Provide a transportation system that moves people and goods safely, efficiently, and reliably.	Provide a multimodal system that improves accessibility and transportation system continuity.	Optimize operations of transportation facilities
National Goals	Infrastructure condition	Safety	Infrastructure condition	Congestion Reduction
	Freight movement and economic vitality	Congestion Reduction	System reliability	Freight Movement and Economic Vitality
Objectives	Environmental Sustainability	System Reliability		Support transportation services for all including the most vulnerable and transit-dependent populations
	Conform to air quality requirement	Reduce number of severe traffic crashes	Increase mode share of non-single occupancy vehicles (SOV) modes	Optimize the transportation system
	Maintain transportation infrastructure and facilities	Reduce congestion	Develop infrastructure that supports alternate modes and connectivity	Enhance transit service in the NFR region
	Increase investment in infrastructure	Improve travel time reliability	Region	Reduce project delivery time frame
Performance Measures & Targets	Air Quality	Safety	Region	Reliability
	Pavement	Reliability	Region	Region
	Bridge	Reliability	Region	Region

Background Information

The following explain the intention of the performance measures in the following sections.

- **Federal-aid highway program** – The federal-aid highway program includes the Interstate Highway System, primary highways, and secondary local roads.
- **National Highway System (NHS)** – The NHS is a network of roadways important to the nation’s economy, defense, and mobility. **Figure 2** shows the NHS network in the North Front Range region.
- **Person-miles** – Person-miles are the distance traveled by each individual person. For example, a bus carrying five people traveling one mile is five person-miles while one person driving his or her car one mile is one person-mile.
- **Reliability** – Reliability is the ratio of the 80th percentile travel time (a particularly bad day) to the 50th percentile travel time (a normal day). If the ratio is less than 1.5, the roadway segment is considered reliable.
- **Vehicle Miles Traveled (VMT)** – VMT is the distance traveled by a vehicle, no matter the occupancy of the vehicle. For example, if a car travels one mile, that is 1 VMT regardless if there is one person in the car or if there are five.

Scenario Planning

The NFRMPO uses scenario planning as a technique for future planning in the *2045 RTP*. Based on public input, scenarios are designed and run using the NFRMPO’s Land Use Allocation Model (LUAM) and the Regional Travel Demand Model (RTDM). Both models use 2015 as a base year for data and can take into consideration changing demographics, roadway and transit improvements, and changes in travel behavior. The NFRMPO’s RTP must be fiscally-constrained, meaning the desired scenario will be one which considers current and future funding levels to afford projects.

Highway Safety

Highway safety targets are concerned with incidents involving motor vehicles on all local, state, and Interstate roads. The NFRMPO adopted highway safety targets by agreeing to support the State targets. Unlike the other performance measures, Highway Safety measures must be adopted on an annual basis rather than the two- and four-year basis. The following targets are the 5-year rolling averages for 2015-2019. Data for the NFRMPO-specific region is provided as it is available for informational purposes only.

Important trends to note for Highway Safety Targets:

- VMT has increased throughout Colorado, meaning vehicles are traveling farther each day and/or there are more vehicles on the road.

Sample strategies and projects in place to improve highway safety in the NFRMPO region include:

- The Colorado Legislature established the Road Safety Fund as part of the FASTER program to support the construction, reconstruction, or maintenance of projects that the state Transportation Commission, a county, or municipality determine are needed to enhance the safety of a state highway, county road, or city street.
- Safe Routes to School funds projects which improve connections for pedestrians and cyclists to local schools.
- The *I-25 North Express Lanes* project will feature safety improvements along one of the most heavily-trafficked corridors in Northern Colorado.
- Improvements along US85 between Weld County, CDOT, and the Union Pacific Railroad will streamline railroad crossings in the corridor, reducing the number of at-grade railroad crossings.

Number of Fatalities

Number of fatalities on all public roads is measured using a five-year rolling average. This smooths out fluctuations in the number of crashes over time. Unfortunately, fatal crashes in Colorado have increased in each year and it is expected to continue increasing. Fatal crashes are reported in the Fatality Analysis reporting System (FARS), with the data then analyzed by CDOT.

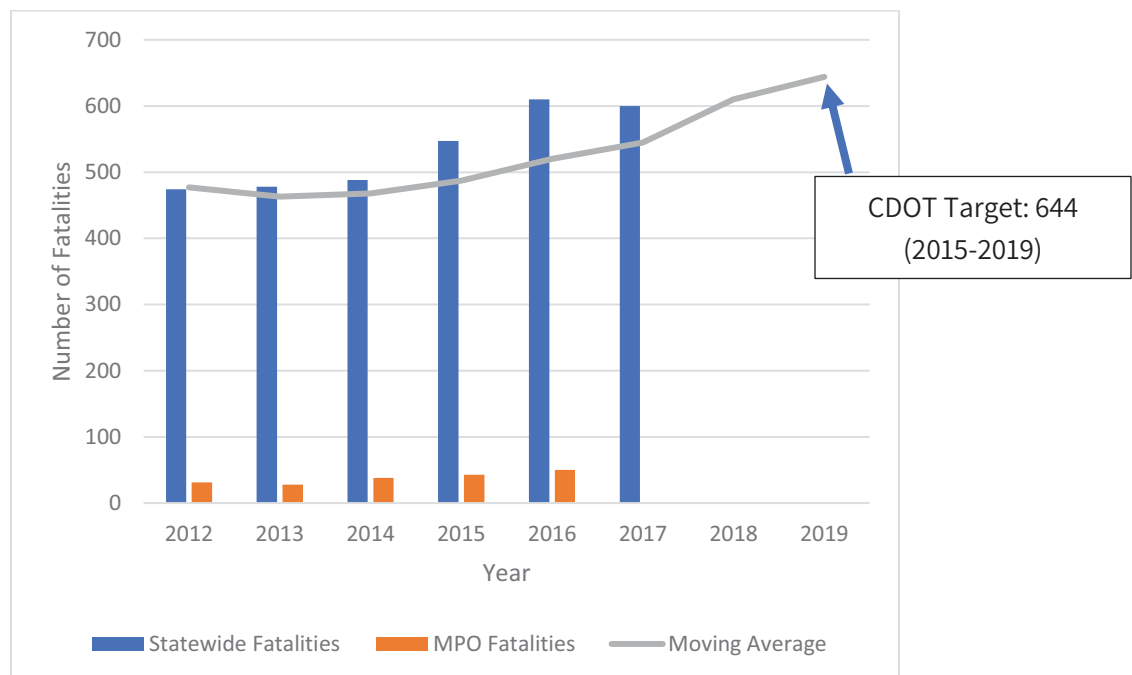
Desired Statewide trend: Decrease

Desired Regional trend: Decrease

Current Statewide trend: Increase

Current Regional trend: Increase

Figure 5: Number of Fatalities



Rate of Fatalities per 100 Million VMT

Converting numbers to rates adds context – for example, understanding the number of fatal crashes in the context of how many miles are driven can indicate the relative safety of the system. VMT has increased across the State in recent years as have crashes.

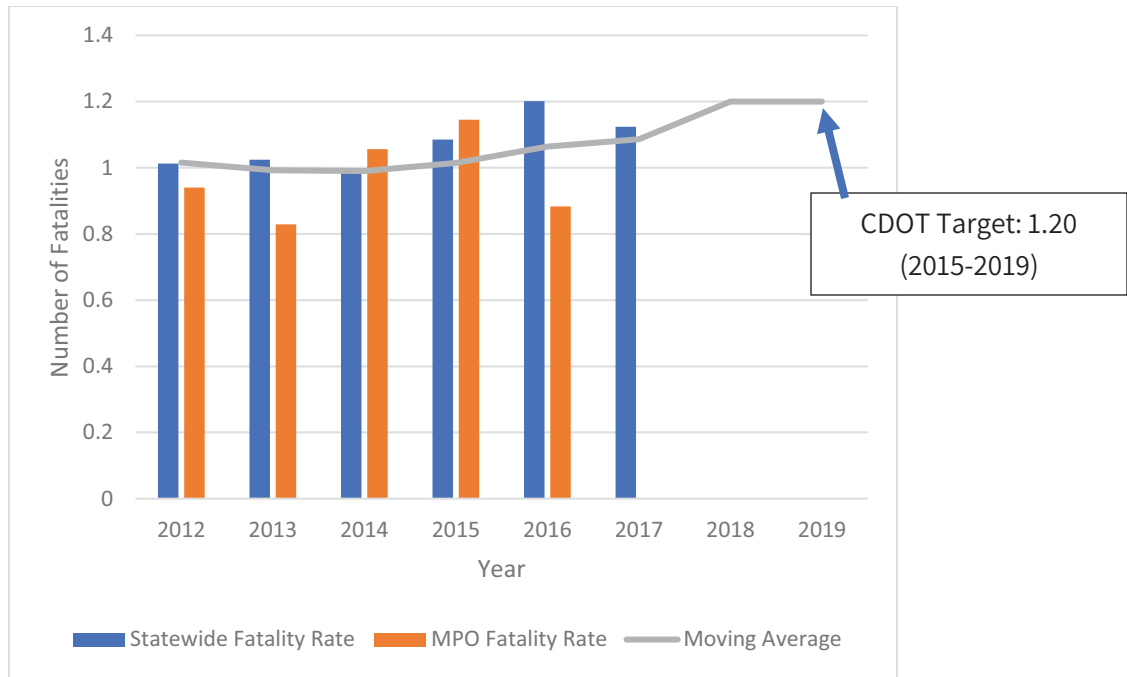
Desired Statewide trend: Decrease

Current Statewide trend: Increase

Desired Regional trend: Decrease

Current Regional trend: ??

Figure 6: Rate of Fatalities per 100M VMT



Number of Serious Injuries

Serious injury crashes include any injury other than a fatal injury which prevents the injured person from walking, driving, or from performing other activities which they performed before the accident. Statewide serious injury crashes generally decreased over the 2012-2017 time period.

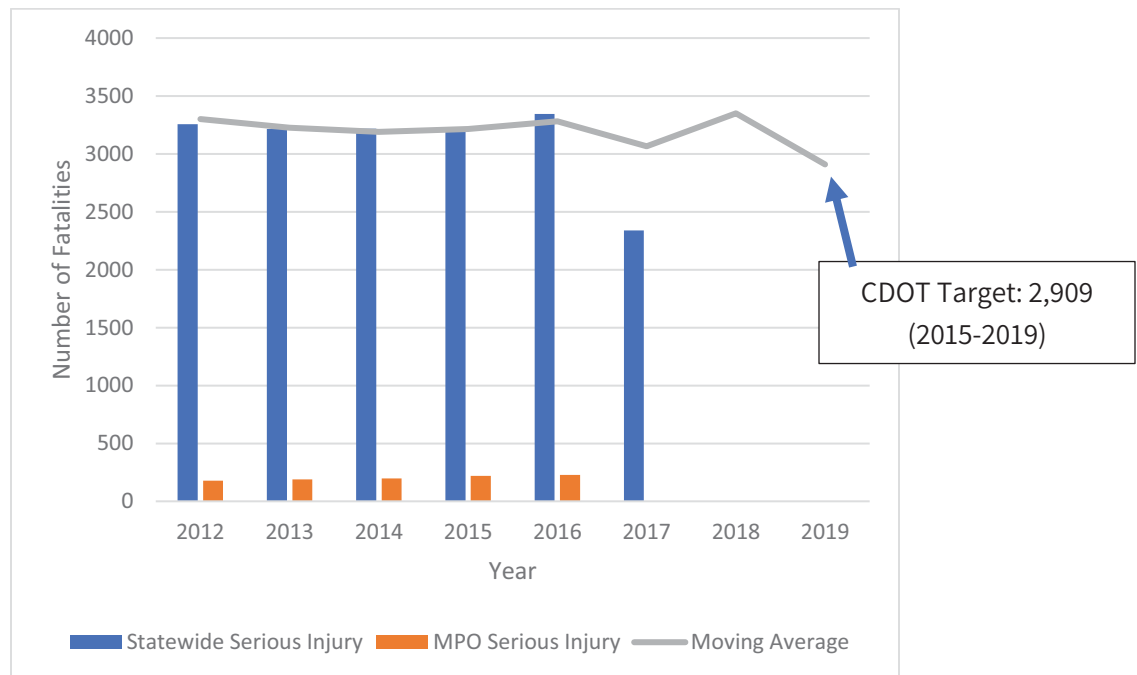
Desired Statewide trend: Decrease

Desired Regional trend: Decrease

Current Statewide trend: Decrease

Current Regional trend: Increase

Figure 7: Number of Serious Injury Crashes



Rate of Serious Injuries per 100 million VMT

Serious injury crashes are including any injury other than a fatal injury which prevents the injured person from walking, driving, or from performing other activities which they performed before the accident. Statewide serious injury crashes generally decreased over the 2012-2017 time period.

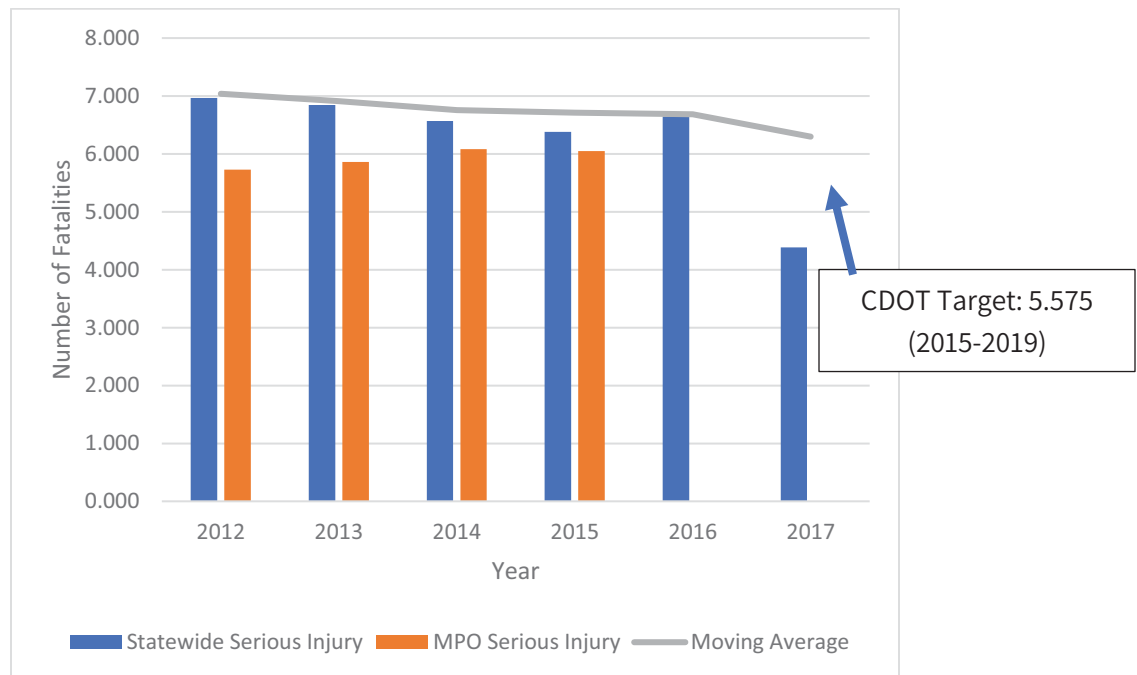
Desired Statewide trend: Decrease

Desired Regional trend: Decrease

Current Statewide trend: Decrease

Current Regional trend: Increase

Figure 8: Rate of Serious Injuries per 100 million VMT



Number of Non-motorized Fatalities and Serious Injuries

Serious injury crashes are including any injury other than a fatal injury which prevents the injured person from walking, driving, or from performing other activities which they performed before the accident. Statewide serious injury crashes generally decreased over the 2012-2017 time period.

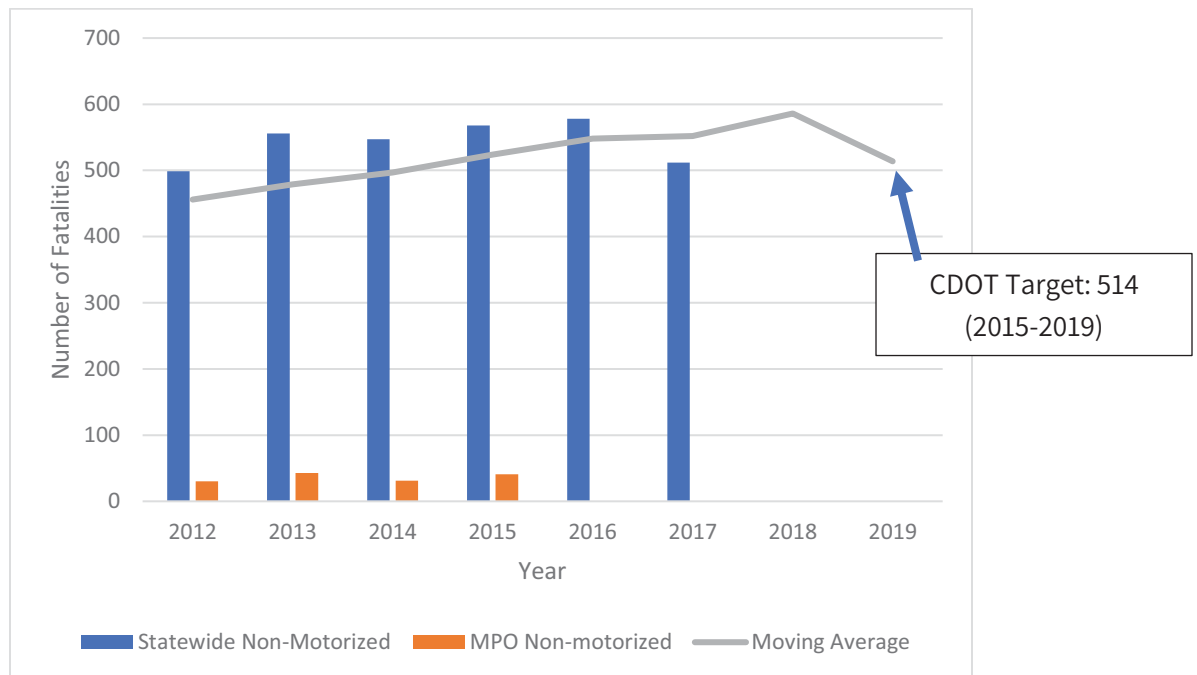
Desired Statewide trend: Decrease

Desired Regional trend: Decrease

Current Statewide trend: Decrease

Current Regional trend: Increase

Figure 9: Number of Non-motorized Fatalities and Serious injuries



Pavement and Bridge Condition

Pavement and Bridge Condition are measured solely for the Interstate and non-Interstate NHS for the purposes of this System Performance Report. The Statewide NHS system is shown in **Figure 3** and the NFRMPO NHS System is shown in **Figure 2**.

Pavement condition is measured using data submitted to the Highway Performance Monitoring System (HPMS), specifically the International Roughness Index (IRI), cracking percent, faulting, and rutting. The IRI is a system used to evaluate and manage the road system, while cracking percent, faulting, and rutting address various aspects of pavement condition. FHWA set certain metric thresholds in the final rule, defining good, fair, and poor conditions for each of these measurements. **Table 1** shows the metric categories for good, fair, and poor conditions used as part of this performance measure.

Table 1: Pavement Condition Metric Thresholds

	Good	Fair	Poor
IRI	<95	95-170	>170
Cracking Percent	<5	Concrete: 5-10	>10
		Jointed: 5-15	>15
		Asphalt: 5-20	>20
Rutting	<0.20	0.20-0.40	0.40
Faulting	<0.10	0.10-0.15	>0.15

Source: FHWA, 2019.

Bridge condition is measured using data reported to the National Bridge Inventory (NBI). The NBI is a rating scale from zero to nine, rated good, fair, and poor. Deck, superstructure, substructure, and culvert condition are graded and FHWA set the following thresholds. **Table 2** shows the thresholds for Bridge Condition metrics.

Table 2: Bridge Condition Metric Thresholds

	Good	Fair	Poor
Deck	≥ 7	5 or 6	≤ 4
Superstructure	≥ 7	5 or 6	≤ 4
Substructure	≥ 7	5 or 6	≤ 4
Culvert	≥ 7	5 or 6	≤ 4

Source: FHWA, 2019.

Strategies within the NFRMPO region to improve pavement and bridge condition include:

- CDOT repaved US287 within Loveland, Larimer County, and Fort Collins, and US85 between Greeley and Ault between 2016 and 2018.
- A number of bridges and much of the pavement along I-25 will be rebuilt or improved as part of the *I-25 North Express Lanes* Project between Johnstown and Fort Collins.
- Larimer County set a goal in its *2013-2018 Strategic Plan* to ensure all public bridges on heavily-traveled public roads in unincorporated Larimer County to be structurally sufficient by 2020.
- Weld County maintains a pavement management goal in its *2017-2021 Strategic Plan* as well as inspection and development of bridge engineering.

Percent of Interstate pavement in Good Condition

Statewide Baseline: 43.09%

Statewide Target: 47%

Status: ❌

Percent of Interstate pavement in Poor Condition

Statewide Baseline: 0.51%

Statewide Target: 1%

Status: ✅

Percent of Non-Interstate NHS pavement in Good Condition

Statewide Baseline: 49.4%

Statewide Target: 51%

Status: 🟡

Percent of Non-Interstate NHS pavement in Poor Condition

Statewide Baseline: 12.7%

Statewide Target: 2%

Status: ❌

Percent of NHS bridges in Good Condition

Statewide Baseline: 47.2%

Statewide Target: 44%

Status: ✅

Percent of NHS bridges in Poor Condition

Statewide Baseline: 3.8%

Statewide Target: 4%

Status: ✅

System Performance

A reliable transportation system is important for all aspects of the State’s economy and quality of life.

Travel time reliability indexing (TTRI) is a multi-stepped process to determine the ratio of peak travel periods to normal travel periods. Travel time reliability is calculated using the following equation:

$$\text{Travel Time Reliability} = \frac{\text{80th Percentile Travel Time}}{\text{50th Percentile Travel Time}}$$

Travel time is reported using the National Performance Management Research Data Set (NPMRDS) and is collected in 15-minute segments during all time periods between 6:00 a.m. and 8:00 p.m. local time. The 80th Percentile Travel Time represents congested periods, while the 50th Percentile Travel Time represents the average travel time. “Reliable” is considered a TTRI below 1.5.

Important to note is the National Performance Measures Research Data Set (NPMRDS) switched from using HERE data to INRIX data between 2016 and 2017. The updated data provided additional information and caused large jumps in reliability estimates.

Example projects and strategies to improve reliability in the NFRMPO region include:

- Investment in ITS and improved traffic signals throughout Fort Collins, Loveland, and Greeley to balance traffic needs.
- *I-25 North Express Lanes* project will add a managed lane between Johnstown and Fort Collins adding additional capacity.

Percent of person-miles traveled on Interstate system that are reliable

Statewide Baseline: 80.7%

Statewide Target: 81.0%

Status: 

Percent of person-miles traveled on non-Interstate system that are reliable

Statewide Baseline: 86.2%

Statewide Target: 64.0%

Status: 

Truck travel time reliability index (TTTRI)

Statewide Baseline: 1.37

Statewide Target: 1.5

Status: 

The following performance measures are required because the NFRMPO is part of the Denver Metro-North Front Range 8-Hour Ozone Nonattainment Area and the cities of Fort Collins and Greeley are both Maintenance Areas for Carbon Monoxide. Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx) are criteria pollutants for ozone. Because of the Maintenance Areas and the Nonattainment Area, the NFRMPO receives Congestion Mitigation and Air Quality (CMAQ) funding and must estimate the reductions in criteria pollutants during the project selection process.

Volatile Organic Compounds (VOC) Reduction

Statewide Baseline: 672.78 kg/day

Statewide Target: 105 kg/day

Status: 

Carbon Monoxide (CO) Reduction

Statewide Baseline: 9,998.719 kg/day

Statewide Target: 1,426 kg/day

Status: 

Nitrogen Oxides (NOx) Reduction

Statewide Baseline: 672.780 kg/day

Statewide Target: 105 kg/day

Status: 

Transit Asset Management

The NFRMPO region decided to keep each transit agency separate regarding performance measures. COLT and the VanGo™ program elected to join the Statewide Tier II TAM Plan and to support Statewide targets, while Transfort and GET elected to draft their own TAM plans.

The transit agencies each identified their current and expected needs and use the National Transit Database (NTD) to report data to FTA. This data is meant to help transit agencies identify need and invest limited funds where they are needed most. Anticipated Useful Life Benchmarks are identified by the FTA, but each agency identifies their needs and funding capabilities. These targets are set yearly by the transit agencies and then reported to the NFRMPO. The NFRMPO will report these targets with each update to the Systems Performance Report.

Strategies to improve transit investment include using Congestion Mitigation and Air Quality (CMAQ) funding to purchase new buses, assisting the transit agencies in purchasing new buses, and ensuring transit investments are represented in the *2045 RTE* and the *2045 RTP*.

Percent Revenue Vehicles Meeting or Exceeding Useful Life Benchmark

Revenue vehicles are vehicles providing revenue service, namely those vehicles which directly provide transit service to customers. A useful life benchmark (ULB) estimates how many years that vehicle can be in service and still be in a state of good repair. The ULB considers how long it is cost effective to operate an asset before ongoing maintenance costs outweigh replacement costs. ULBs are derived from FTA's Transit Economic Requirements Model (TERM).

Table 3 : Percent Revenue vehicles Meeting or Exceeding Useful Life Benchmark

Agency	Vehicle Type	Useful Life Benchmark	Target
GET	Bus	14	5%
	Cutaway (Fixed Route)	7	10%
	Cutaway (Paratransit)	8	20%
Statewide Tier II	Bus	14	20%
	Cutaway	10	7% - 20%
	Automobile	8	50%
	Minivan	8	38%
Transfort	Bus	15	25%
	Articulated Bus	17	
	Cutaway	12	
	Automobile	10	
	Minivan	10	
	Truck/SUV	10	

Percent Service Vehicles Meeting or Exceeding Useful Life Benchmark

FTA defines service vehicles as vehicles used to indirectly deliver transit service, maintain revenue vehicles, and perform transit-oriented administrative activities.

Table 4: Percent Service Vehicles Meeting or Exceeding Useful Life Benchmark

Agency	Vehicle Type	Useful Life Benchmark	Target
GET	Equipment	10	1%
Statewide Tier II	Automobile, Truck, and other rubber tire vehicles	8 – 14	28%
Transfort	Automobile, Truck, and other rubber tire vehicles	10	25%

Percent Passenger and Maintenance Facilities Rated Below Condition 3

Passenger and maintenance facilities include transit stations and centers, park-n-ride lots and garages, maintenance facilities, and administrative offices. The FTA provides grading criteria in its [Facility Condition Assessment Guidebook](#), leading to the TERM five-point scale. Condition 3 is considered “Adequate”.

Table 5: Percent Passenger and Maintenance Facilities Rated Below Condition 3

Agency	Vehicle Type	Target
GET	Administrative	10%
Statewide Tier II	Passenger Facility	19%
	Passenger Parking	
	Maintenance	
	Administrative	
Transfort	Passenger Facility	25%
	Passenger Parking	
	Maintenance	
	Administrative	

Regional Performance Measures

All the previously-identified performance measures relate back to federally-required performance measures; however, the NFRMPO region identified the following performance measures as important to the benefit of the transportation system in Northern Colorado.

Population within Publicly-Operated Paratransit and Demand Response Service Area Within the NFRMPO Boundary

Population for the paratransit and demand response service area are taken from the National Transit Database for the most recent year, while the population for the overall NFRMPO region is taken from Department of Local Affairs (DOLA) estimates. Current investments call for commuter transit investments which do not have a requirement for complementary ADA paratransit.

Baseline: 63%

Target: At least 75%

Status: ❌

Fixed-route Revenue Hours per Capita within Service Areas

Population in the NFRMPO region is growing at a quick rate, while investment in transit is holding steady. Investments like the Poudre Express service between Fort Collins, Windsor, and Greeley will increase transit revenue hours at a regional level.

Baseline: 0.65

Target: Increase by 10%

Status: ⚠️

Non-Motorized Facility Miles

Non-motorized facilities include sidewalks, trails, and bike lanes. The region has invested heavily in implementing the *2013 Bike Plan* and *2016 Non-Motorized Plan* regional trails, while individual communities have worked to ensure connectivity within their communities.

Baseline: 3,352 miles

Target: Increase by 50%

Status: ❌

Percent of Non-Single Occupant Vehicle Commuter Trips

Percent of non-single occupant vehicle commuter trips is a required performance measure for urbanized areas (UZAs) with more than 1,000,000 residents, but the NFRMPO will be required to set a target for this performance measure in 2022 (the second reporting period). As a result, the NFRMPO has decided to include a target for the lifespan of the *2045 RTP*.

Baseline: 23%

Target: At least 25%

Status: ⚠️

Daily VMT per Capita

VMT is estimated using the NFRMPO's Regional Travel Demand Model (RTDM), data provided by CDOT, and Census data. Population is estimated by DOLA. Investments should be made to ensure residents do not need to drive as far to run errands, commute, go to school, etc.

Baseline: 24

Target: 24

Status: ✅

Federally-Funded Projects within the NFRMPO Boundary Reported as Financially Inactive for more than Three Quarters

CDOT tracks financially inactive projects and reports them to the NFRMPO's Technical Advisory Committee (TAC) quarterly. Projects on this list have not billed within a certain amount of time.

Baseline: 0

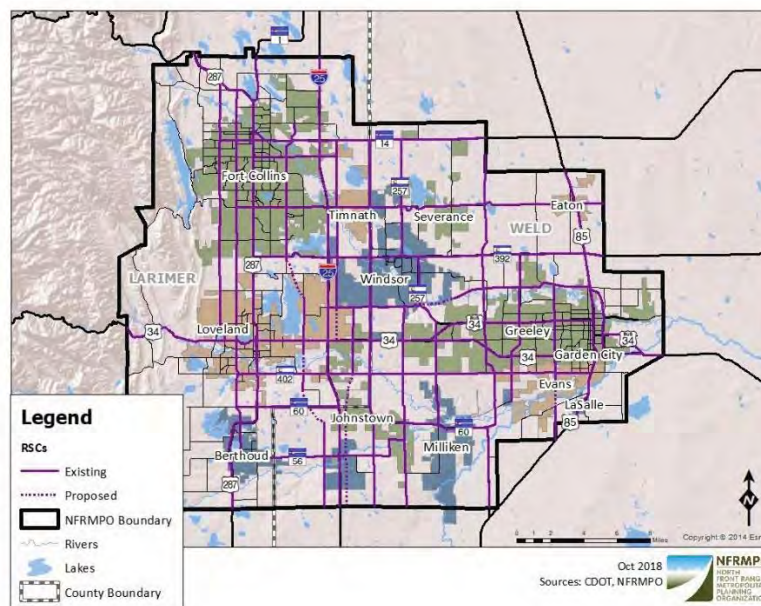
Target: 0

Status: 

Travel Time Index on RSCs

Regionally Significant Corridors (RSCs) include all Interstates, US, and State Highways; and roadways which are eligible to receive federal aid, connect more than one governmental jurisdiction and/or activity center, will be completely built by 2045, and serve regional traffic. The 2040 RSCs are shown in **Figure 10**. Travel Time Index (TTI) measures the ratio of peak-period travel time to the free flow travel time, with peak period being defined as 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m. Travel time data is not available for all RSCs, so a sampling is done and extrapolated to all RSCs.

Figure 10: 2040 RTP RSCs



Baseline: 90% of RSCs have a TTI \leq 1.5

Target: 90%

Status: 

Miles of Fiber for Connected Roadways

CDOT is investing heavily in their RoadX program, partnering with public and private organizations around the State to utilize technology in lieu of additional lane miles or other investments. Limited transportation funding at the State level means CDOT must find other ways to improve travel throughout the State.

Baseline: Under development

Target: 250 miles

Status: ??