NFRMPO
NORTH FRONT RANGE METROPOLITAN PLANNING ORGANIZATION

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NFRMPO TECHNICAL ADVISORY COMMITTEE MEETING AGENDA

April 15, 2015
Windsor Community Recreation Center
250 N. 11th Street- Pine Room
Windsor, CO

1:00 to 4:00 p.m.

1. Public Comment
2. Approval of March 18, 2015 Meeting Minutes (Pg. 2)

CONSENT AGENDA:

No Items this Month

ACTION ITEM:

3. 2040 Regional Transit Element Chapters 1 and 2 and Appendix A — Karasko

OUTSIDE PARTNERS REPORTS *(verbal):*

4. NoCo Bike Ped Collaborative
5. Regional Transit Items
6. Senior Transportation

PRESENTATION:

7. CDOT 2015 Permanent Water Quality Call for Projects — Drew Beck
8. 2040 Travel Demand Model Results — Horn

DISCUSSION ITEMS:

9. 2040 Regional Transit Element Chapters 4-8 and Appendices C- E (Pg. 72) — Karasko
10. 2040 Regional Transportation Plan: Chapters 2, 3, & 5 (Pg. 98) — Karasko

REPORTS:

Public Outreach Updates — Gordon
TIP Administrative Modification Updates (Pg. 202) — Johnson
Roundtable — All

MEETING WRAP-UP:

Final Public Comment *(2 minutes each)*
Next Month's Agenda Topic Suggestions

TAC MEMBERS: If you are unable to attend this meeting, please contact Becky Karasko at (970) 416-2257 or RKarasko@nfrmpo.org. Thank you.

March 2015 TAC Meeting Minutes

MEETING MINUTES of the
TECHNICAL ADVISORY COMMITTEE (TAC)

North Front Range Transportation and Air Quality Planning Council

Windsor Recreation Center - Pine Room
250 North 11th Street
Windsor, CO

March 18, 2015
1:02 – 3:48 p.m.

TAC MEMBERS PRESENT:
Eric Bracke, Chair – Greeley
Suzette Mallette, Vice-Chair – Larimer County
Dawn Anderson – Evans
Aaron Bustow – FHWA
John Holdren - Severance
David Klockeman- Loveland
Janet Lundquist – Weld County
Karen Schneiders – CDOT
Gary Thomas – SAINT
Marissa Gaughan, CDOT Alternate
Dennis Wagner – Windsor
Will Jones, Greeley-Evans Transit

NFRMPO Staff:
Terri Blackmore
Aaron Buckley
Alex Gordon
Angela Horn
Josh Johnson
Becky Karasko

TAC MEMBERS ABSENT:
Stephanie Brothers – Berthoud
Gary Carsten – Eaton
Jim DiLeo – APCD
John Franklin – Johnstown
Eric Fuhrman – Timnath
Seth Hyberger – Milliken
Jessica McKeown – LaSalle
Martina Wilkinson – Fort Collins

IN ATTENDANCE:
Will Jones – GET
Jeff Purdy – FHWA
Kathy Seelhoff – CDOT
Amanda Brimmer – RAQC
Jake Schuch – CDOT
Kurt Ravenschlag – Transfort
Christopher Barnes – COLT
Jeff Boring – Larimer County/NoCo Bike Ped

CALL TO ORDER:

Chair Bracke called the meeting to order at 1:02 p.m.

PUBLIC COMMENT:

There was no public comment.

APPROVAL OF THE FEBRUARY 18, 2015 TAC MINUTES:

Holdren made a motion to approve the minutes of the February 18, 2015 meeting. Mallette supported the motion and they were approved unanimously.

CONSENT AGENDA:

No Items this Month.

ACTION ITEMS:

No Items this Month.

OUTSIDE PARTNERS REPORTS (verbal):

NoCo Bike/Ped Collaborative – Boring discussed funding updates on state-wide and regional bicycle and pedestrian grants including GOCO Paths to Parks, and the Long View Corridor Trail. He provided additional details about the upcoming conference on November 5, 2015 at the UNC University Center. The Collaborative has secured Mark Fenton to speak about the economic benefits of bicycle and pedestrian infrastructure.

Regional Transit Items – Ravenschlag gave a year-end report for Transfort. MAX increased service level by 50 percent overall in Fort Collins, and replaced two routes resulting in a 94 percent increase in ridership along the route. Ravenschlag also thanked CDOT for TAP funding they received for secure bicycle storage along the MAX line.

Barnes gave a year-end report for COLT including a current strategic planning phase that is expected to progress through 2015 with the new Public Works director.

Senior Transportation – Thomas reported on the recent meeting with Hill-n-Park residents, Senior Resource Center, Commissioner Conway, NFRMPO staff, and Colorado Trust concerning connecting residents with GET.

PRESENTATIONS:

8-Hours Ozone: Proposed New Standards and Implementing Current Standard **Brimmer**
Brimmer presented on the proposed 8-hour NAAQS for ozone. She discussed the implications of the December 23, 2014 DC Circuit Court ruling, including SIP requirements for the non-attainment area. Brimmer then discussed proposed ozone standards due out in October 2015.

North Front Range Conformity Determinations **Horn**
Horn presented the positive transportation conformity determinations for the NFRMPO including ozone and carbon monoxide emissions results. These results will be presented to the Air Quality Control Commission on March 19, 2015 for their concurrence.

Presentation on 2040 Regional Transit Element Chapters 1-3 **Karasko**
Karasko presented the updated information in Chapters 1-3 of the 2040 RTE, which was distributed to TAC prior to the meeting. The next step is for TAC to provide feedback on Chapters 1-3. TAC will receive Chapters 4-8 and Appendices prior to the April meeting. Karasko reported TAC will receive the draft final report in May with final action scheduled for June.

DISCUSSION ITEMS

Discussion of 2040 Regional Transit Element Chapters 1-3 **Karasko**
TAC discussed the 2040 RTE chapters and provided comments and suggestions regarding minor edits to the document. Ravenschlag asked what methodology was used to determine peer cities for the NFRMPO. Ravenschlag suggested using peer cities for each individual transit agency instead of the region as a whole, to ensure the comparison is accurate. Klockeman noted the concept of an implementation plan and explained the RTE should be used as a guidance document because it does not contain committed projects. Karasko asked that any additional comments and edits to be sent to her to be incorporated into the document.

Updated 2040 Regional Transportation Plan Schedule **Karasko**

Karasko informed TAC of FHWA's October 24, 2015 deadline for the 2040 RTP adoption, and presented an updated schedule for RTP chapter review. TAC discussed the importance of chapters, specifically the Travel Demand Analysis and Financial chapters, needing more review time. TAC members recommended having two additional meetings for chapter reviews, one in May and one in June, to meet the FHWA deadline. Karasko agreed to send a poll to determine the additional meeting dates prior to the next TAC meeting.

REPORTS:

Public Outreach Updates **Gordon**

Gordon reported 349 survey responses have been received to-date for the 2040 RTP. Staff will be going to the US 287 Corridor Coalition and the Greeley Chamber of Commerce for the last events in "phase one" of public outreach for the 2040 RTP. Staff is looking to release the RTP draft to the public in June and July. Gordon also reminded TAC about the Community Remarks Page, an online GIS tool, which is available for the pubic to make comments on the regional transportation system.

TIP Administrative Modification Updates **Johnson**

Johnson reported no administrative modifications were submitted in March. TIP amendments and modifications are due by April 3rd. Johnson also reminded TAC that community images/photos are needed for inclusion in the RTP. Johnson asked TAC for any construction projects or websites including local construction projects to include in the April MPO Newsletter. Schneiders mentioned CDOT produces a Lane Closures newsletter every Monday which could be included.

Roundtable

Bracke reported Greeley will start construction on the triangle intersection at 9/10th Street and 23rd Avenue near the end of March. This project is locally funded and will receive needed geometric improvements as part of the 10th Street Corridor Project.

Schneiders reported the CDOT Local Agency Training will be held on Wednesday, March 25, 2015 at the Southwest Weld Complex. The training will introduce new members of the Local Agency Team and go over the project development process for federal-aid or CDOT funded local agency projects.

MEETING WRAP-UP:

Final Public Comment - There was no final public comment.

Next Month's Agenda Topic Suggestions – TAC requested a presentation on the 2040 Regional Travel Demand Model.

Meeting adjourned at 2:48 p.m.

Meeting minutes submitted by:
Angela Horn, NFRMPO staff.

The next meeting will be held at 1:00 p.m. on Wednesday, April 15, 2015 at the Windsor Recreation Center, Pine Room.

ACTION ITEM: 2040 Regional Transit Element
Chapters 1 and 2 and Appendix A

AGENDA ITEM SUMMARY (AIS)

North Front Range Transportation & Air Quality Technical Advisory Committee (TAC)

Meeting Date	Agenda Item	Submitted By
April 15, 2015	2040 Regional Transit Element Chapters 1 and 2 and Appendix A	Becky Karasko

Objective / Request Action

Staff is providing the first group of chapters and appendices for the 2040 Regional Transit Element (RTE) for TAC review and comment.

- ☐ Report
- ☐ Work Session
- ☐ Discussion
- ☑ Action

Key Points

- MPO staff is updating the RTE ahead of the 2040 RTP
- Although the RTE was originally anticipated to be an update, there have been too many significant changes in transit services
- The 2040 RTE evaluates nine corridors for transit service in the North Front Range region, as identified in Supporting Information
- Transit corridors are evaluated in the transportation model to determine potential demand for transit service in key regional corridors

Committee Discussion

At their March 18, 2015 meeting, TAC discussed Chapters 1-3 of the 2040 RTE. Staff has made the requested changes to Chapters 1 and 2 and is requesting TAC take Action to approve these chapters.

Supporting Information

The 2040 RTE evaluates the following corridors:

- Evans-to-Milliken-to-Berthoud along SH 60 and SH 56
- Greeley-to-Denver along US 85
- Greeley-to-Windsor-to-Fort Collins along SH 257 and SH 14
- Greeley-to-Longmont along US 85, SH 66, and SH 119
- Greeley-to-Loveland along US 34
- Fort Collins-to-Bustang (Express Route)
- Greeley-to-Bustang (Express Route)
- Loveland-to-Bustang (Express Route)

The proposed North I-25 Commuter Rail line from Fort Collins-to-Longmont, while not being evaluated in this RTE, is discussed in the RTE as an important future corridor.

Advantages

Approving the chapters as they are completed allows TAC to maximize their time and input for reviewing the 2040 RTE chapters. This will reduce the amount of in depth document review TAC needs to review prior to final RTE Draft Report recommendation for Council approval.

Disadvantages

None noted.

Analysis /Recommendation

Staff requests TAC members approve Chapters 1 and 2 and Appendix A of the 2040 RTE.

Attachments

RTE Chapters:

- Chapter 1: Introduction
- Chapter 2: Socio-Economic Profile

RTE Appendices:

- Appendix A: Related Planning Studies

CHAPTER 1: INTRODUCTION

PURPOSE

The 2040 Regional Transit Element (RTE) replaces the 2035 RTE and will become a part of the 2040 North Front Range Regional Transportation Plan (RTP). The purpose of the RTE is to guide development of transit in the region, which encompasses the Fort Collins Transportation Management Area (TMA) and Greeley urbanized areas.

The 2035 RTE defined a vision for regional transit services by providing a framework to understand the types of regional transit services that may be needed in the future. Since its publication in 2011, the North I-25 Environmental Impact Statement (EIS), has provided a guide for how transit could be implemented along the I-25 corridor. Addressing transit service needs along the major corridors in the region is a necessary step to connect the region to the transit elements identified in the North I-25 EIS.

The 2040 RTE focuses on the steps necessary to translate a long-term regional transit vision into reality. It provides alternatives ranging from maintaining the status quo to rapid progress towards the service levels envisioned in the North I-25 EIS. This planning effort reflects a different approach and a more detailed level of analysis than has been done in the past. The 2040 RTE Alternatives:

- Define service levels to move a corridor from no service to a well-developed transit mode and illustrates the potential for service development in the region's primary corridors.
- Provides factual information on what is necessary to provide regional transit, at a variety of service levels. This information easily identifies what can be accomplished and that the development of regional services is manageable.
- Broadly identifies the funding and governance challenges needing to be addressed prior to implementing transit services.
- Provides strategies and tools for developing regional transit services.

PROJECT GUIDANCE

The North Front Range Metropolitan Planning Organization (NFRMPO) developed the 2040 RTE with input and guidance from the Technical Advisory Committee, the three transit providers, and the Larimer and Weld Mobility Councils. The Planning Council guided the development of the report and will adopt it as part of the regional planning process.

Key concepts of this plan include:

- How to connect communities in the region with each other and with activity centers outside the region;
- Practical and implementable results; and
- Strong public involvement.

The 2040 RTE builds on local planning efforts and other planning studies in the region. ***Appendix A*** contains a listing of relevant planning reports, including corridor plans, mode-specific plans, and local transit plans. Since the completion of the 2035 RTE in 2011, eight planning reports and plans have been completed, necessitating a full update of the RTE. These plans include:

- CDOT Statewide Transit Plan *(2015)*
- Interregional Connectivity Study *(2014)*
- 2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO) *(2013)*
- NFRMPO Coordinated Public Transit/Human Services Transportation Plan *(2013)*
- North Front Range Transit Vision Feasibility Study *(2013)*
- Colorado State Freight and Passenger Rail Plan *(2012)*
- The Greeley Transportation Master Plan Update *(2011)*
- The North I-25 Environmental Impact Statement *(2011)*

This study considers local transit plans, but does not address specific local transit services or schedules. All decisions about local levels of transit service remain with local entities. The regional services addressed in this plan are public, fixed-route services.

PLANNING PROCESS

The development of the 2040 RTE has proceeded in two major phases. The first phase documents regional characteristics; existing and planned transit services; analysis of demand for the transit; and the development of alternatives for developing regional transit services.

The planning activities for this RTE began with the solicitation of comments from the Mobility Councils and residents in Larimer and Weld Counties. The public involvement continued with public meetings in each County to solicit comments on the RTE corridors. In addition, it included a series of meetings with the jurisdictions in the region to solicit their views on the alternatives for developing regional transit services.

PLANNING ISSUES

Within the region, local governments have developed transit services primarily to meet the local travel needs of residents within their communities. As the region has grown there has been an increasing need for transit services between communities and to major activity and employment centers.

The North Front Range MPO region is growing rapidly, with the population projected to increase by 78 percent from 488,513 in 2010 to 896,191 by 2040. Much of the future development in the region is anticipated to occur within the center of the region and in unincorporated areas where transit services may not exist or are not as well developed as in the urbanized areas.

The region's rapid development also taxes the transportation network. Travel forecasts project regional congestion levels will require significant investment in the transportation infrastructure for all modes. This raises the issue of transit's role in the future regional transportation network. Transit services could provide an effective alternative during peak period travel times as a feeder service to regional transit corridors.

Many questions still must be answered. What transit services are needed in the future? How will they be delivered? How will they be funded? A significant amount of planning work has gone into addressing the question of what services are needed within and between communities. The preferred alternative developed in the North I-25 EIS includes significant regional transit services. The outstanding issues are how the services will be developed, funded, and delivered.

The funding of transit services is a perennial challenge and the development of regional transit services requires stable funding across and between communities. Currently, each community is responsible for determining how they fund their local transit services and any connections to other communities through regional services.

While it is widely recognized that regional transit services are important to Northern Colorado's future, an implementation plan does not exist for developing such services. There are two possible approaches: 1) extend out from existing services or 2) establish new routes in corridors where conditions are conducive to establishing transit services. Pilot route services have been started, but permanent financing for successful services are still needed.

Recognizing these issues and challenges, this RTE will focus on the practicalities of identifying how to move forward in the development of transit services for the region.

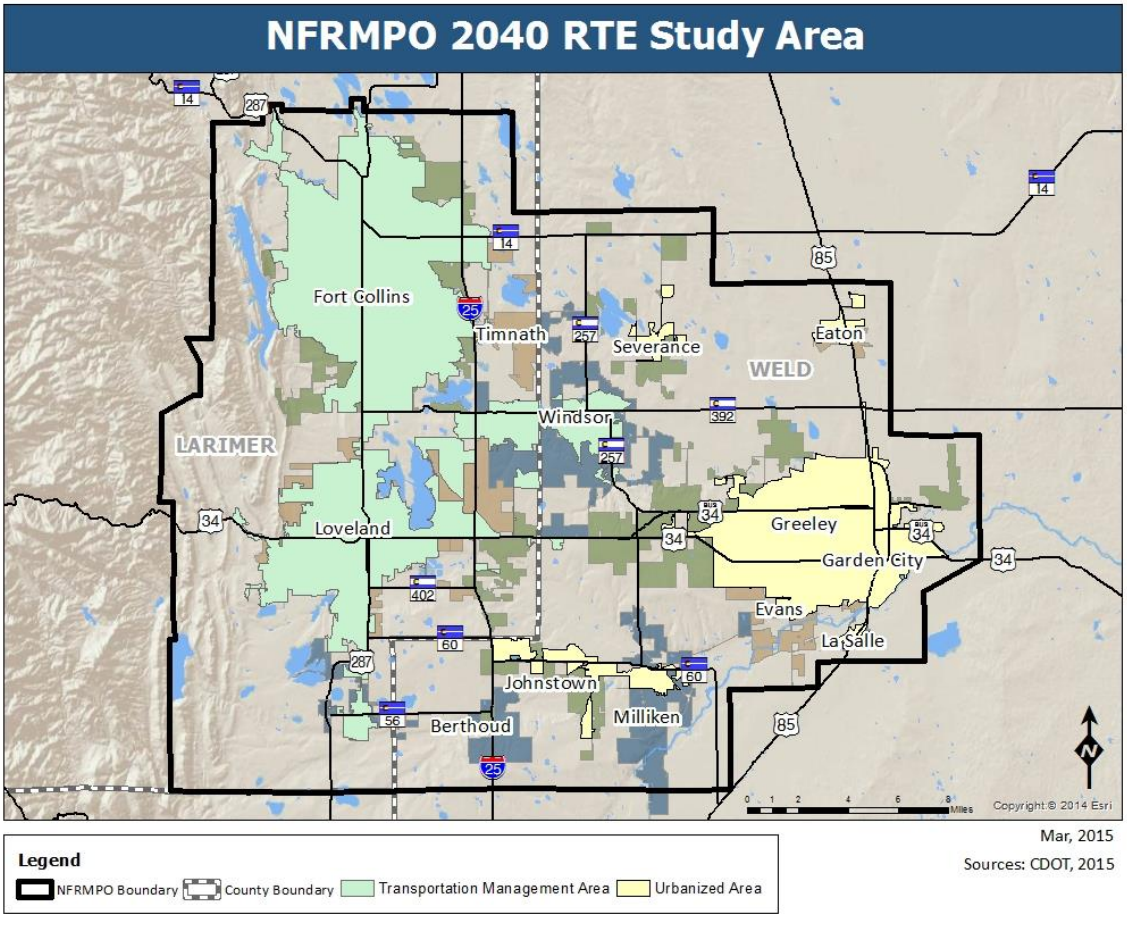
CHAPTER 2: SOCIO-ECONOMIC PROFILE

STUDY AREA

The study area for this RTE is the NFRMPO region, also designated by the Colorado Department of Transportation (CDOT) as the North Front Range Transportation Planning Region. The NFRMPO boundaries lie within Larimer and Weld Counties. The largest communities within the region are Fort Collins, Greeley, and Loveland, but the area includes many smaller municipalities. These MPO communities are within commuting distance to Denver, Boulder, Longmont, and Cheyenne, WY.

The NFRMPO includes the Fort Collins-Loveland Transportation Management Area, a large urbanized area; the Greeley-Evans small-urbanized area; and the small urban and rural areas outside these boundaries. ***Figure 2.1*** illustrates the study area within the MPO boundary.

Figure 2.1 NFRMPO 2040 RTE Study Area



Source: *NFRMPO Staff, 2014*

POPULATION

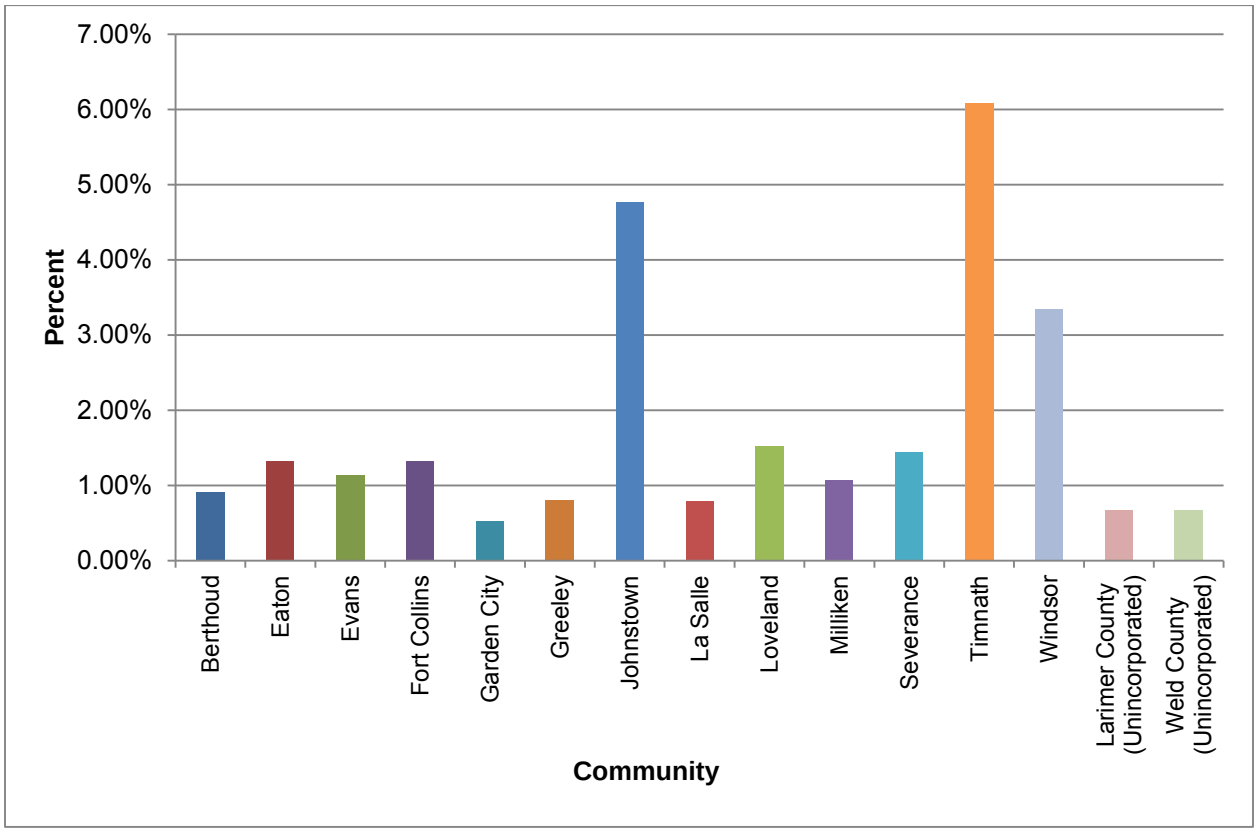
The three largest cities within the MPO boundary, Fort Collins, Greeley, and Loveland, had a 2013 population of 152,205 residents, 96,306 residents, and 71,224 residents, respectively. The communities of Berthoud, Eaton, Evans, Garden City, Johnstown, La Salle, Milliken, Severance, Timnath, and Windsor are also members of the MPO. The population within these communities range from 240 to 21,407 residents, as shown in ***Table 2.1***. The balance of the population in the region resides in unincorporated portions of Larimer and Weld Counties. According to the Colorado State Demography Office, the population in the North Front Range modeling area was approximately 434,492 in 2010, 8.6 percent of the State of Colorado's total population.

Table 2.1 NFRMPO Region Population Estimates, 2010-2013

Community	2010	2011	2012	2013	Average Annual Growth Rate
Berthoud	5,123	5,156	5,203	5,313	0.91%
Eaton	4,385	4,441	4,525	4,622	1.32%
Evans	18,649	18,931	19,315	19,508	1.13%
Fort Collins	144,416	145,809	149,110	152,205	1.32%
Garden City	235	235	238	240	0.53%
Greeley	93,253	94,189	95,212	96,306	0.81%
Johnstown	9,988	10,411	11,042	12,034	4.77%
La Salle	1,962	1,979	2,003	2,025	0.79%
Loveland	67,046	69,150	70,191	71,224	1.52%
Milliken	5,634	5,695	5,775	5,879	1.07%
Severance	3,204	3,272	3,332	3,392	1.44%
Timnath	626	784	791	793	6.09%
Windsor	18,769	19,238	20,094	21,407	3.34%
Larimer County (Unincorporated)	48,884	49,324	49,768	50,215	0.67%
Weld County (Unincorporated)	12,318	12,429	12,541	12,654	0.68%
TOTAL	**434,492**	**441,043**	**449,140**	**457,817**	1.32%

Source: *Colorado State Demography Office, http://www.colorado.gov/cs/Satellite/DOLA-Main/CBON/1251593300013*

Figure 2.2 Average Annual Growth Rate, 2010-2013



Source: *Colorado State Demography Office, 2015*

The average annual growth rate among all the jurisdictions in the region is approximately 2 percent. When taken individually, the average annual growth rate varies significantly by jurisdiction. As ***Figure 2-2*** shows, the average annual growth rate is highest in Timnath, where the population increased from 626 in 2010 to 793 in 2013, an average annual rate of 6.09 percent. Other communities with high growth rates include Johnstown and Windsor with 4.77 percent and 3.34 percent respectively.

FORECASTS

In May 2012, Steven Fisher, Ph.D. and Phyllis Resnick, Ph.D. were contracted by the NFRMPO to develop a regional forecast for the North Front Range. The goal of the forecast was to predict population, households, and employment in five-year increments from 2010 to 2040. These socioeconomic data have been added to the NFRMPO land use and travel demand models, which allocates the growth by traffic analysis zone and projects the number of vehicle trips. The outputs from these models is used for air quality modeling and conformity.

The modeling area in Fisher and Resnick's report **2040 Economic and Demographic Forecast**, is divided into seven regions and do not exactly correspond with the MPO or municipal boundaries, ***Figure 2.3***. The sub-region referred to as Surrounding Area or Wellington includes unincorporated portions of Larimer and Weld Counties as well as Ault, Eaton, La Salle, Pierce, and Severance. The I-25 sub-region includes Johnstown, Milliken, Timnath, and Windsor. The Loveland sub-region includes Berthoud and Loveland. The Greeley sub-region includes Evans, Garden City, and Greeley. The Fort Collins sub-region contains only the City of Fort Collins.

By 2040, the region's population is estimated to reach 896,191.[1] The forecasts from the report were adopted by the MPO Planning Council in June 2013 and are the basis for the Land Use and the travel models, providing consistency for both the population and travel forecasts.

Population growth will not be uniform throughout the region. ***Table 2.2*** provides the population forecasts for the seven sub-regions during the 30 year period between 2010 and 2040, in five-year increments. The Greeley/Evans, I-25 Corridor, and Loveland sub-regions are expected to grow at a faster rate than the Fort Collins and the Surrounding Area sub-regions. ***Figure 2.4*** shows the average annual growth rate per sub-region between 2010 and 2040. Overall, the average population increase for all sub-regions between 2010 and 2040 is 85 percent.

Figure 2.5 illustrates the relative population levels of each of the five sub-areas used in the model. Fort Collins will continue to decrease its percentage of the overall population from 34.6 percent of the total population in 2010 to 28.5 percent by 2040. Greeley/Evans will increase its share of the total population to 24.7 percent by 2040, only four percent less than Fort Collins. The I-25 sub-region will see the greatest increase, from 8.9 percent of the total population in 2010 to 13.6 percent by 2040.

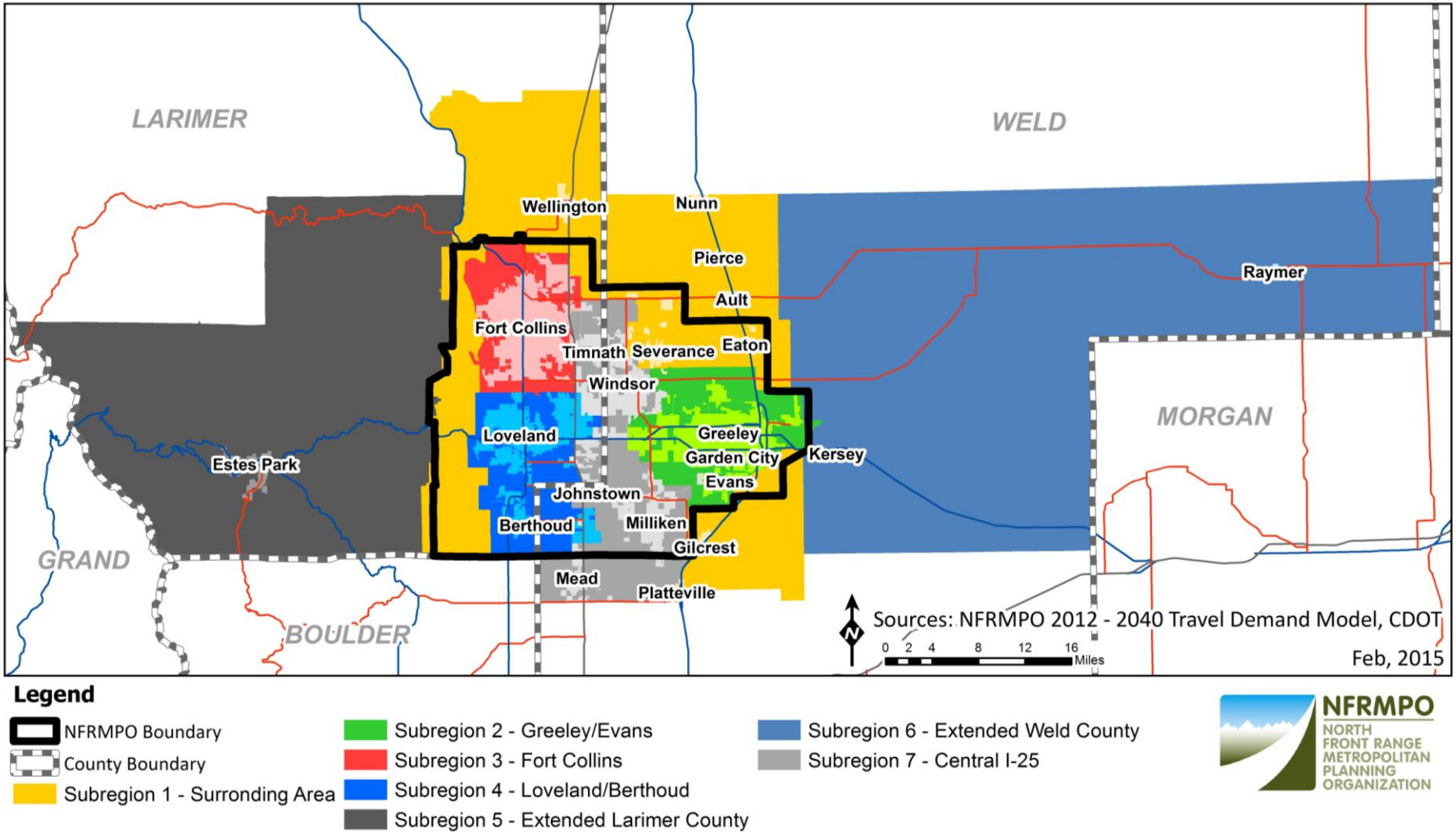
Table 2.2 Population by Sub-Region, 2010-2040

Sub-Region		2010	2015	2020	2025	2030	2035	2040	Average Annual Growth Rate
1	Surrounding Area	50,762	53,518	63,796	68,312	75,874	82,312	89,518	1.91%
2	Greeley/Evans	111,301	122,195	137,435	160,366	178,119	199,694	217,182	2.25%
3	Fort Collins	164,594	178,509	192,277	200,389	222,570	230,290	250,450	1.41%
4	Loveland	77,962	88,605	99,654	112,695	125,172	136,966	148,958	2.18%
5	Estes	20,963	21,467	25,590	28,415	31,561	36,176	39,345	2.12%
6	Weld	7,736	8,389	9,438	10,486	11,648	13,352	14,520	2.12%
7	I-25	42,305	51,213	61,049	83,128	92,328	110,262	119,918	3.53%
Total		**475,624**	**523,989**	**589,239**	**663,790**	**737,273**	**809,051**	**879,891**	**2.07%**

Source: *2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO), 2013*

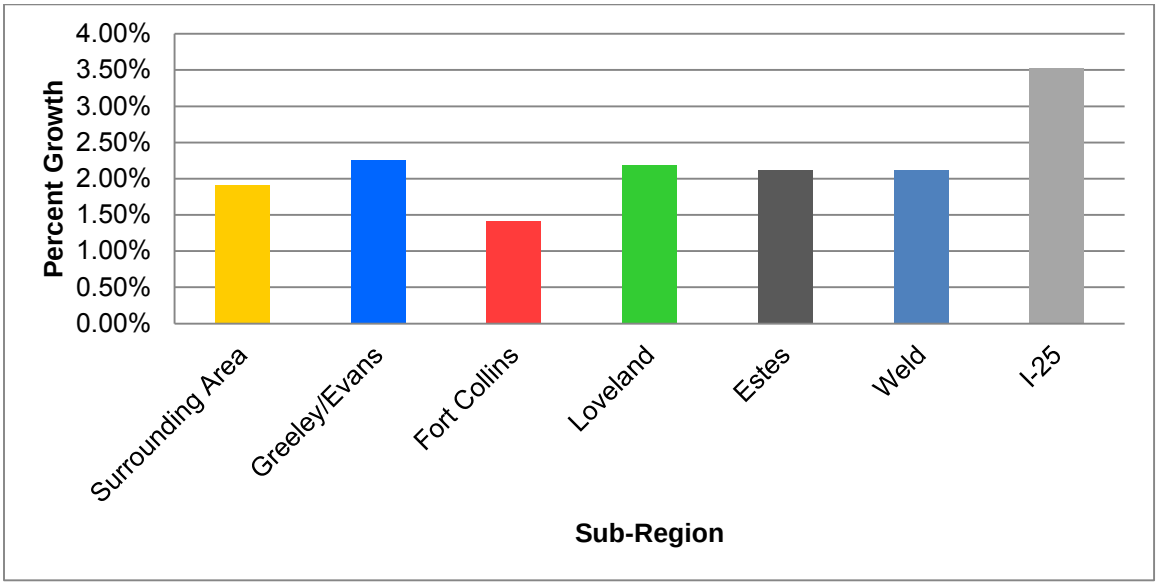
[1] *"2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO) 2012-2013",* is available in its entirety at http://nfrmpo.org/ResourcesDocuments.aspx

Figure 2.3 NFR Modeling Area and Sub-Regions



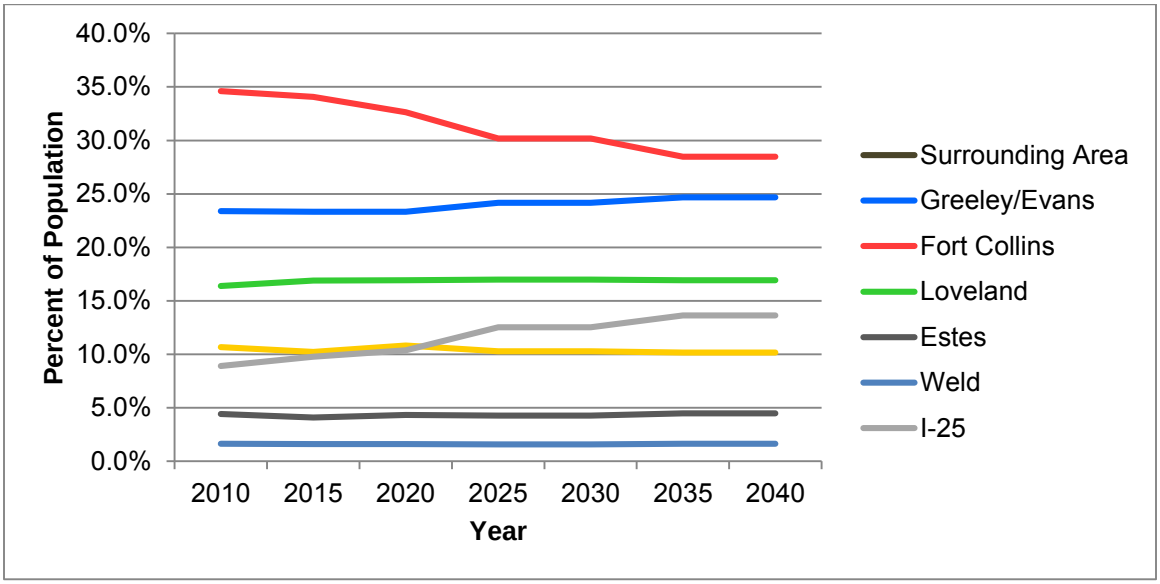
Source: *NFRMPO 2012-2040 Travel Demand Model, 2015*

Figure 2.4 Average Annual Growth Rate by Sub-Region, 2010-2040



Source: *2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO), 2013*

Figure 2.5 Percentage of Total Population by Sub-Region, 2010-2040



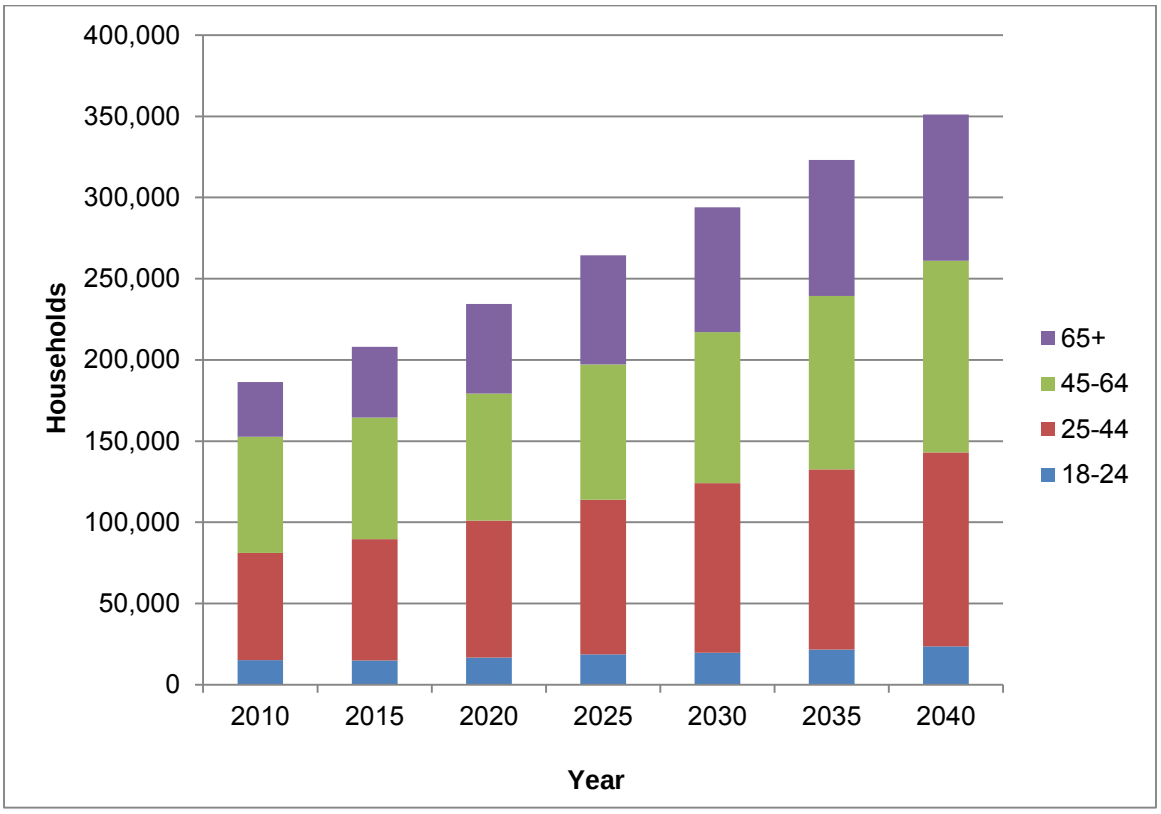
Source: *2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO), 2013*

The population in the North Front Range region will grow in all age cohorts (***Figure 2.6***); however, households headed by the oldest cohort, those aged 65 years and older, will grow the fastest. This cohort will grow from 18 percent of the population in 2010 to 26

percent of the population by 2040. This equates to a growth rate of over 166 percent, from 33,000 in 2010 to over 90,000 in 2040. Additionally, this cohort will increase on average more than 3 percent every year through 2040. This is over twice the growth rate for the group with the smallest gains, the 18-24 cohort. The average annual growth rate for all segments is shown in ***Figure 2.7***.

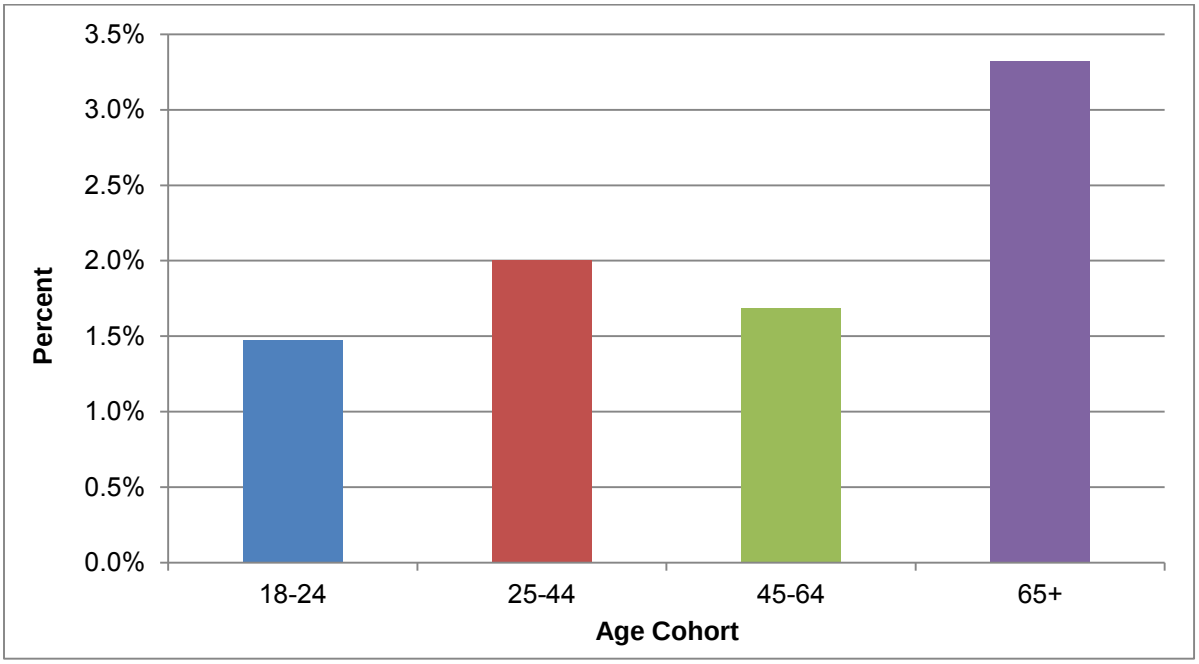
Knowing the age cohort growth projection rates is important for transportation as it allows time to plan to better meet the needs of the age groups needing additional or specialized transit services. Based on this projection, providing more transportation options for the aging population should be a priority in the region over the next 25 years.

Figure 2.6: Household Growth by Head of Household Age Group, 2010-2040



Source: *2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO), 2013*

Figure 2.7: Average Annual Household Growth Rate by Age Group, 2010-2040



Source: *2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO), 2013*

EMPLOYMENT AND TRAVEL PATTERNS

The current and projected employment levels were also provided by the **2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO) 2012-2013**.

Total jobs in the North Front Range Forecast Area are estimated at 230,000 in 2010 and projected to grow to 415,000 by 2040. The growth varies by area with the most rapid growth projected to occur in the I-25 sub-region (3.71 percent annual average) and the smallest growth projected to occur in the Fort Collins area (1.24 percent annual average). The Loveland, Greeley/Evans area, and the Surrounding Area are projected to have 2.2 percent, 2.29 percent, and 1.93 percent growth, respectively. ***Table 2.3 and Figures 2.8 and 2.9*** illustrate projected job growth by sub-region.

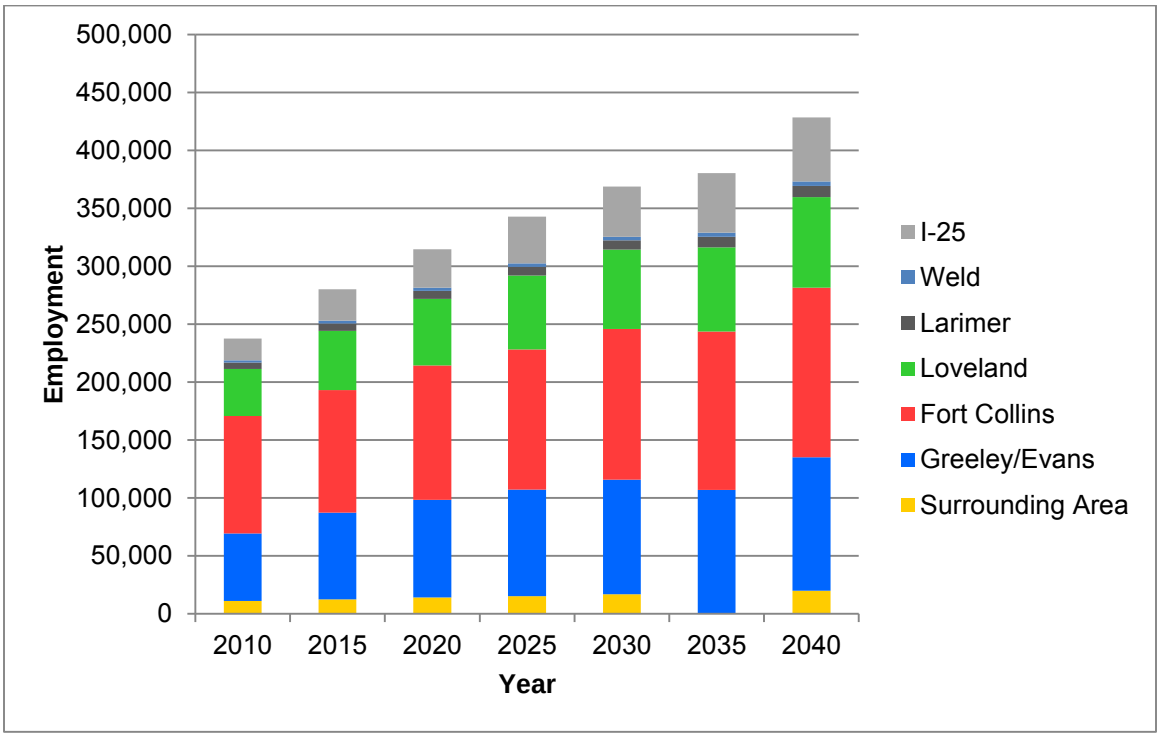
Fort Collins, Greeley/Evans, and Loveland are still projected to contain the majority of the region's employment by 2040.

Table 2.3 Number of Jobs by Sub-Region, 2010-2040

Sub-Region		2010	2015	2020	2025	2030	2035	2040	Average Annual Growth Rate
1	Surrounding Area	11,288	12,608	14,211	15,239	16,937	18,04	20,007	1.93%
2	Greeley/Evans	58,263	74,862	84,111	91,957	98,991	107,112	115,059	2.29%
3	Fort Collins	101,158	105,794	116,102	121,177	129,915	136,565	146,459	1.24%
4	Loveland	40,763	51,130	57,447	63,732	68,607	72,862	78,267	2.20%
5	Larimer	5,397	6,178	6,941	7,419	7,986	8,911	9,572	1.93%
6	Weld	2,173	2,487	2,795	2,989	3,218	3,593	3,860	1.93%
7	I-25	18,574	27,147	33,219	40,305	43,388	51,550	55,374	3.71%
Total		**237,615**	**280,207**	**314,827**	**342,818**	**369,042**	**398,996**	**428,599**	1.99%

Source: *2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO), 2013*

Figure 2.8 Employment Growth by Sub-Region



Source: *2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO), 2013*

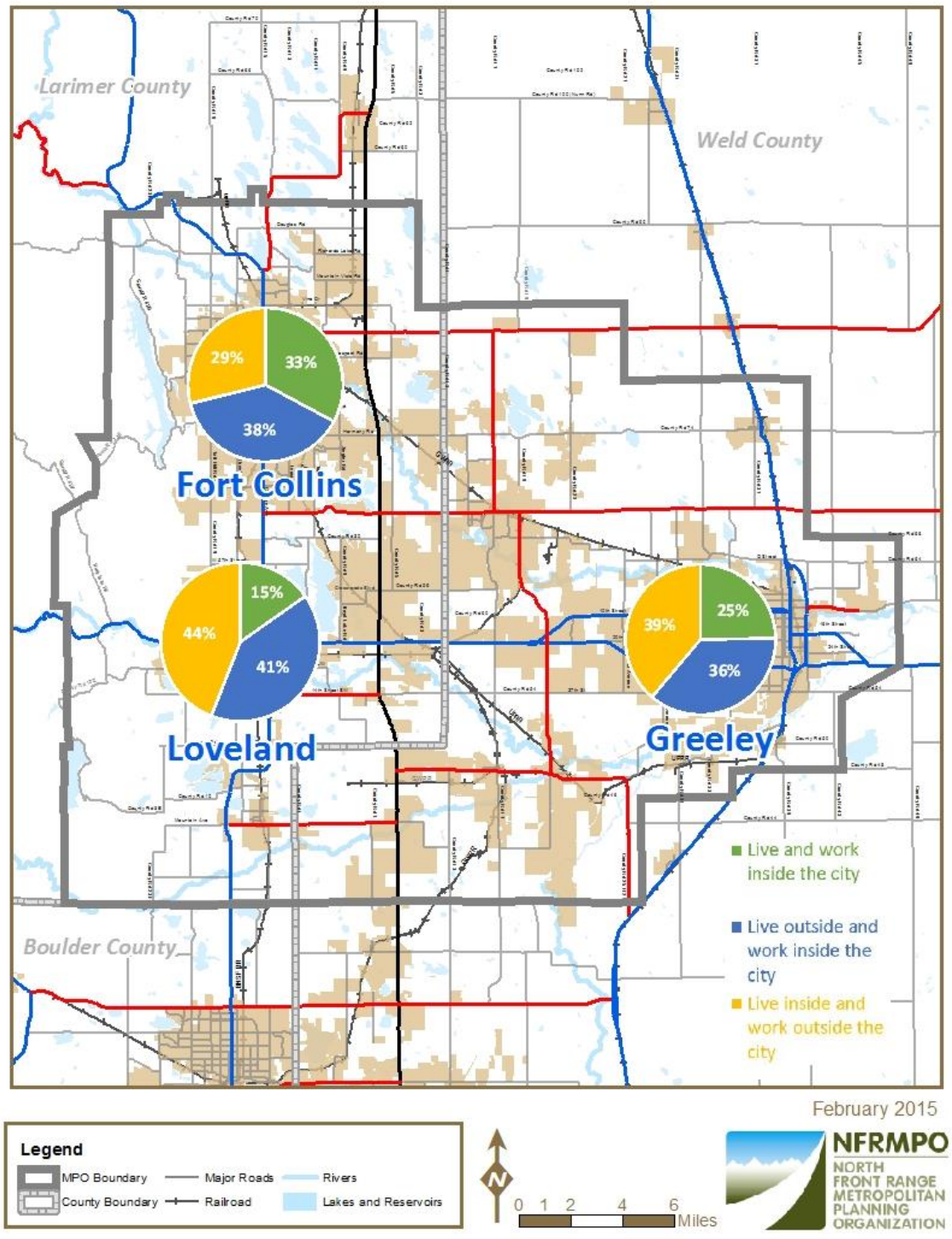
TRAVEL PATTERNS

Travel patterns for commute trips are another important element in this analysis. There is a high level of commuting into and out of the North Front Range modelling region. Data from the Census Department's OnTheMap Version 6 was analyzed for the three largest cities in the North Front Range: Fort Collins, Greeley, and Loveland. OnTheMap is an online mapping and reporting tool depicting where workers are employed and where they live using a variety of data sources, including Longitudinal Employer-Household Dynamics (LEHD) Origin Destination Employment Statistics (LODES) and US Census data.[2]

The percentage of persons who live and work in the same jurisdiction for Fort Collins, Greeley, and Loveland changed from 2002-2011. Over that 10 year period, Greeley and Loveland saw a steady decrease in the number of residents who live and work in the same community. In 2011, only a quarter of Loveland's residents worked in the City of Loveland, the lowest of the three largest cities. Approximately 40 percent of Greeley's residents lived and worked in Greeley in 2011. Unlike Loveland and Greeley, the number of residents living and working in Fort Collins has stayed relatively steady over same 10 year period, between 50 and 55 percent. The 10 remaining communities in the North Front Range region have very low percentages of residents living and working in the same community, from 1 to 10 percent. These patterns are shown in ***Figure 2.10***.

[2] OnTheMap website, http://lehd.ces.census.gov/applications/help/onthemap.html#!what_is_onthemap.

Figure 2.10 Regional Travel Patterns



Source: *OnTheMap, 2015*

In 2011, 74 percent of Loveland's workforce commuted to Loveland from another community; this percentage increased steadily over the last 10 years, starting at 62 percent in 2002. Greeley and Fort Collins have experienced similar growth in the percentage of workers commuting into their jurisdiction, though these percentages are lower than Loveland's.

Loveland also has the highest percentage of its total workforce leaving the community to work elsewhere at 76 percent in 2011. Greeley and Fort Collins are slightly lower at 60 percent and 56 percent, respectively. All three cities have seen an increase in the percentage of their total workforce leaving the community to work elsewhere over the last 10 years.

The **Front Range Travel Counts: NFRMPO Household Survey**, published in 2010, showed trips from rural Larimer County are strongly oriented to Fort Collins and Loveland. The trips from rural Weld County are oriented towards the nearest urban center. Although Greeley captures most of these trips, trips from the western and central portions of the county generally end in Loveland. Trips from the southern part of the county are generally oriented to Broomfield, Denver, or Longmont.

Three important things to note from these forecast and commuter trends:

1. The population in the modeling area will nearly double over the next 30 years. Population and employment growth are occurring fastest within the I-25 sub-region.
2. The population is aging; growth is fastest among those aged 65 and older.
3. Greater numbers of people are commuting to other jurisdictions for work.

These three important trends indicate the area will experience population and socio-economic changes that will likely increase the need for travel in general and transit in particular.

LAND USE

Early development throughout the region was relatively compact, with downtown core areas surrounded by residential development followed by grid-pattern development. As communities expanded, employment and activity centers followed residential development further out from these early urban cores. Today the region contains three core cities, Fort Collins, Greeley, and Loveland, with growth occurring along the I-25 corridor and between the three core cities. Fort Collins, Greeley, and Loveland have all expanded towards I-25. The communities of Berthoud, Johnstown, Timnath, and Windsor are anticipated to absorb much of the growth along this corridor in future years. The area surrounding the intersection of I-25 and Highway 34 has become a hub for medical and commercial services.

In general, outside the older communities' cores, the region has developed in a largely suburban pattern, with relatively low-density development and employment and activity centers located throughout the region. This land use pattern, where residential and employment centers are widely dispersed is difficult to serve effectively and efficiently with transit.

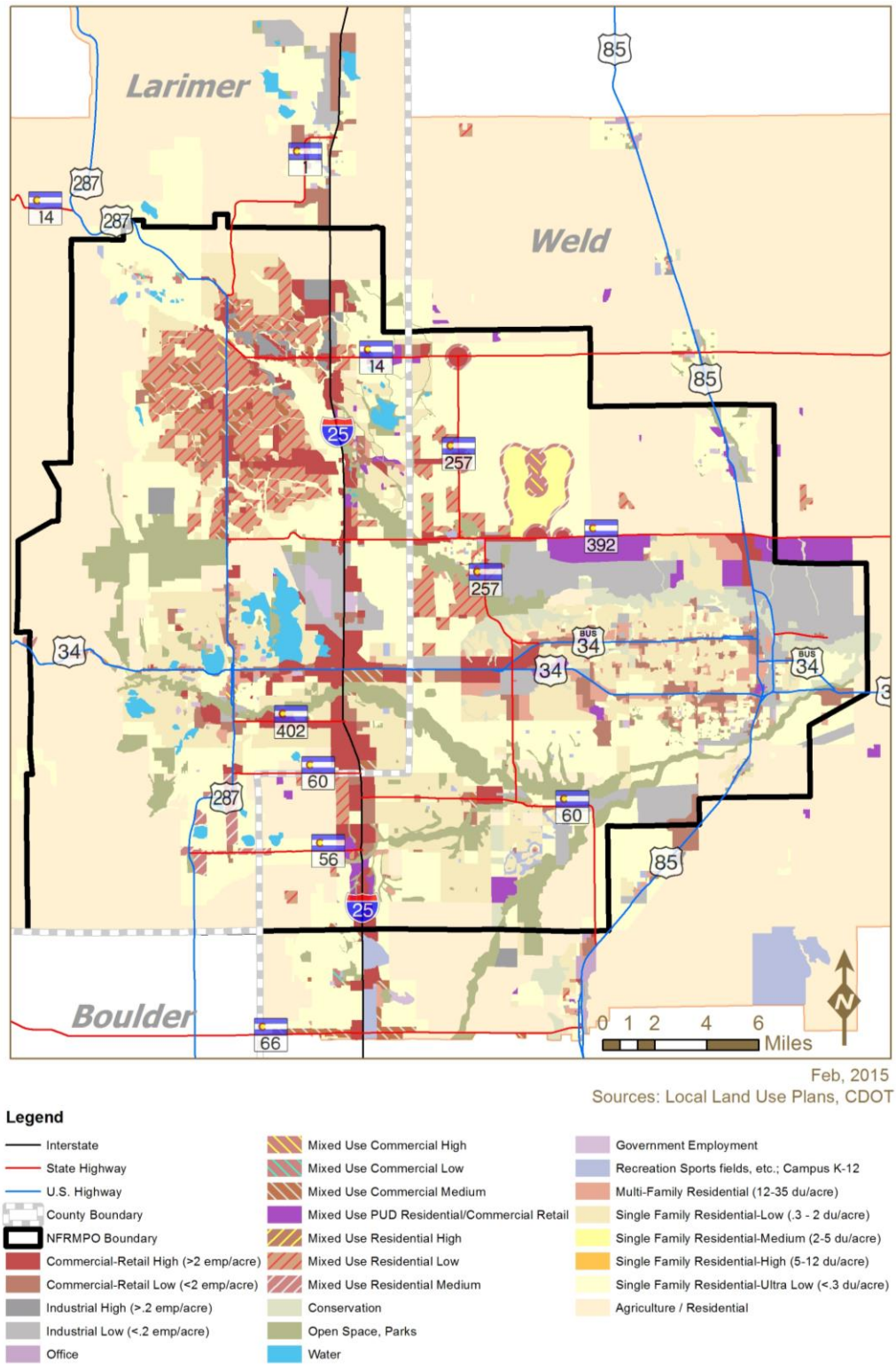
The region's future land use pattern, ***Figure 2.11***, shows most of the region's anticipated growth is expected to occur between the existing urban areas.

CHAPTER SUMMARY

Summary points from the analysis of the land use, demographic, and employment data which will figure prominently in the development of the transit network are listed below.

- The entire North Front Range region will see significant population growth, with 84 percent more people in 2040 than in 2010. The I-25 sub-region will have the highest growth rates resulting in a population 183 percent higher in 2040 than in 2010.
    - Fort Collins will remain the largest community, but will have the smallest rate of growth, adding 52 percent more people.
    - Greeley will become larger than Fort Collins is today.
    - Loveland will become larger than Greeley is today.
- The population in the modeling area will nearly double over the next 30 years. Population and employment growth are occurring fastest within the I-25 sub-region. The I-25 sub-region will also have the highest levels of employment growth. The more developed and built out the city, the less population and employment growth is projected to occur.
- The percentage of residents age 65 and over will increase from 18 percent of the population in 2010 to 26 percent of the population by 2040.
- The current population growth rate in the region outpaces the growth rate of jobs, this imbalance will cause even more residents to commute outside the region for employment.

Figure 2.11 North Front Range Future Regional Land Use



Source: *NFRMPO 2012-2040 Land Use Allocation Model, 2015*

APPENDIX A: RELATED PLANNING STUDIES

Extensive local transit planning has occurred in the North Front Range region since the 2004 edition of the RTE. As mentioned in **Chapter 1**, this RTE does not take the place of these transit plans, but rather uses this work as a foundation. These previous regional studies include, but are not limited to:

- North Front Range 2040 Regional Transportation Plan *(2015)*
- CDOT Statewide Transit Plan *(2015)*
- Interregional Connectivity Study *(2014)*
- 2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO) *(2013)*
- NFRMPO Coordinated Public Transit/Human Services Transportation Plan *(2013)*
- North Front Range Transit Vision Feasibility Study *(2013)*
- Colorado State Freight and Passenger Rail Plan *(2012)*
- The Greeley Transportation Master Plan Update *(2011)*
- The North I-25 Environmental Impact Statement *(2011)*
- Rocky Mountain Rail Authority High-Speed Rail Feasibility Study *(2010)*
- Amtrak Pioneer Route Passenger Rail Study *(2009)*
- COLT Transit Plan Update *(2009)*
- Transfort Strategic Plan *(2009)*
- 2008 Colorado Statewide Intercity and Regional Bus Network Plan *(2008)*
- The Greeley Evans Transit Strategic Plan *(2006)—update coming in 2015*
- Johnstown, Milliken & Windsor Short-Range Transit Plan *(2006)*
- The Mason Corridor Plan *(2000)*

DISCUSSION ITEM: 2040 Regional Transit Element
Chapters 4-8 and Appendices C- E

AGENDA ITEM SUMMARY (AIS)

North Front Range Transportation & Air Quality Technical Advisory Committee (TAC)

Meeting Date	Agenda Item	Submitted By
April 15, 2015	Discussion of 2040 Regional Transit Element Chapters 4-8 and Appendices C-E	Becky Karasko

Objective / Request Action

Staff is providing the final group of chapters and appendices for the 2040 Regional Transit Element (RTE) for TAC review and comment.

- ☐ Report
- ☐ Work Session
- ☑ Discussion
- ☐ Action

Key Points

- MPO staff is updating the RTE ahead of the 2040 RTP
- Although the RTE was originally anticipated to be an update, there have been too many significant changes in transit services
- The 2040 RTE evaluates nine corridors for transit service in the North Front Range region, as identified in Supporting Information
- Transit corridors are evaluated in the transportation model to determine potential demand for transit service in key regional corridors

Committee Discussion

At their February 18, 2015 meeting, staff provided TAC with the proposed schedule detailing when staff would request Committee input and review on the 2040 RTE. This is the second of two groups of RTE chapters and appendices staff will bring to the Committee.

Supporting Information

The 2040 RTE evaluates the following corridors:

- Evans-to-Milliken-to-Berthoud along SH 60 and SH 56
- Greeley-to-Denver along US 85
- Greeley-to-Windsor-to-Fort Collins along SH 257 and SH 14
- Greeley-to-Longmont along US 85, SH 66, and SH 119
- Greeley-to-Loveland along US 34
- Fort Collins-to-Bustang (Express Route)
- Greeley-to-Bustang (Express Route)
- Loveland-to-Bustang (Express Route)

The proposed North I-25 Commuter Rail line from Fort Collins-to-Longmont, while not being evaluated in this RTE, is discussed in the RTE as an important future corridor.

Advantages

Providing the chapters in smaller groups allows TAC to maximize their time and input in reviewing the 2040 RTE chapters. Staff will provide presentations on the changes to the RTE to summarize changes to assist TAC in their review.

Disadvantages

None noted.

Analysis /Recommendation

Staff requests TAC members review the portions of the 2040 RTE Chapters 4-8 and Appendices C through E applicable to their jurisdictions for accuracy and content.

Attachments

RTE Chapters:

- Chapter 4: Demand Analysis
- Chapter 5: Service and Corridor Alternatives
- Chapter 6: Funding and Governance
- Chapter 7: Public Involvement
- Chapter 8: Implementation Plan

RTE Appendices:

- Appendix C: Demand Analysis
- Appendix D: Data on Cost Calculations
- Appendix E: CDOT Survey Results

CHAPTER 4: DEMAND ANALYSIS

A variety of factors influence the demand for transit services. One factor is community values and the support of alternative transportation modes. Other factors include land use patterns, travel patterns within the communities and region, population and employment densities, transportation infrastructure, and the affordability and availability of viable transit services, including connecting services.

This chapter focuses on the potential demand for transit services in the proposed corridors, illustrated in ***Figure 4.1***. The corridors evaluated in the 2040 RTE are similar to the corridors evaluated in the North I-25 Environmental Impact Statement (EIS) completed in December 2011 and in the 2035 RTE.

In addition to the services identified in the North I-25 EIS, additional services will be needed to connect communities within the region to one another and to the services outlined in the EIS. As a result, nine potential transit corridors were analyzed:

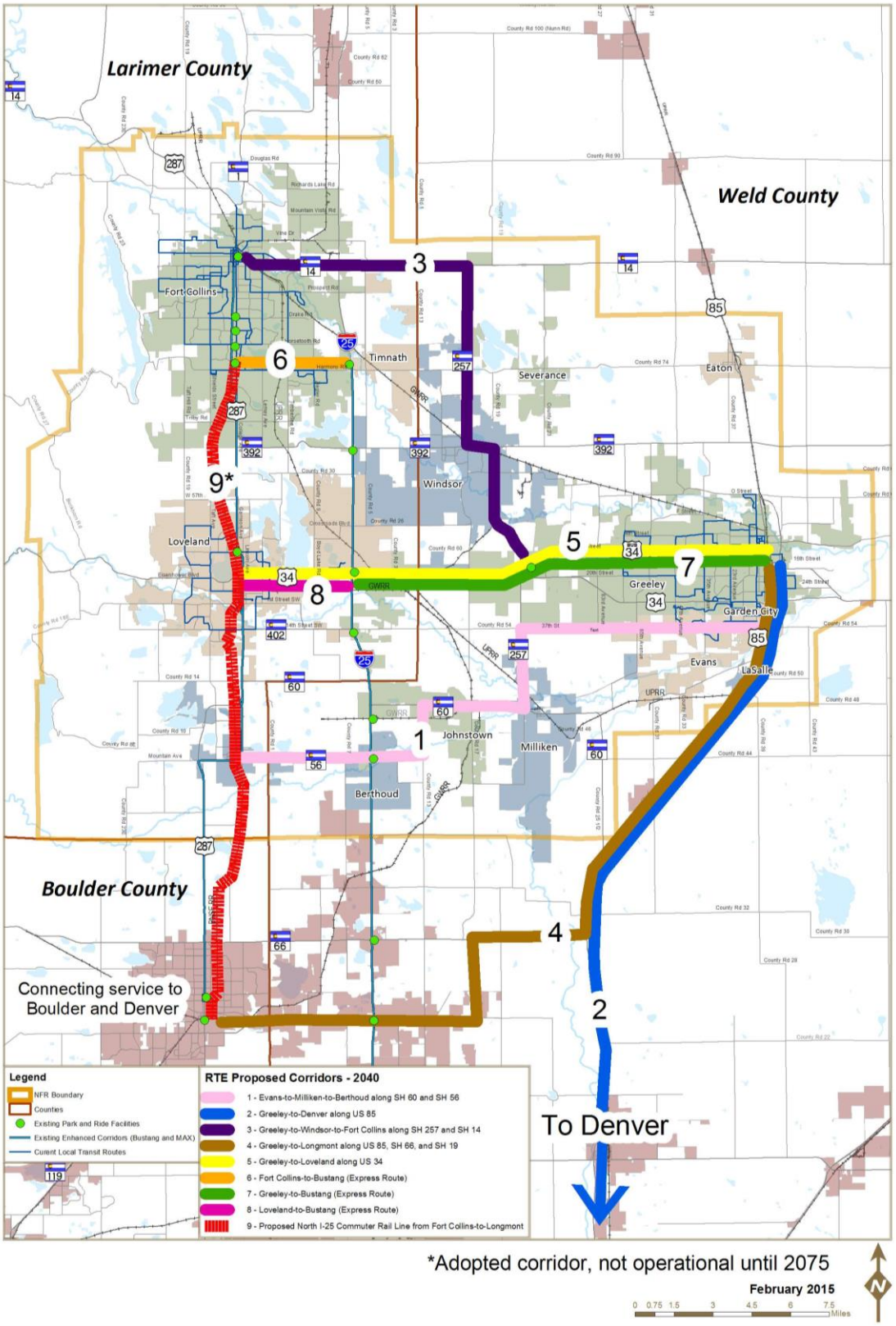
1. Evans-to-Milliken-to-Berthoud along SH 60 and SH 56
2. Greeley-to-Denver along US 85
3. Greeley-to-Windsor-to-Fort Collins along SH 257 and SH 14
4. Greeley-to-Longmont along US 85, SH 66, and SH 119
5. Greeley-to-Loveland along US 34
6. Fort Collins to Bustang (Express Route)
7. Greeley to Bustang (Express Route)
8. Loveland to Bustang (Express Route)
9. Proposed North I-25 Commuter Rail Line from Fort Collins-to-Longmont

Tools for calculating future transit demand include basic demographic information and travel model outputs. For this RTE, the 2040 NFRMPO land use model and travel model, with a 2012 base year, evaluated potential transit demand.

The NFRMPO travel model includes trips internal to the region, as well as trips originating or ending outside the region (internal-external or external-internal), and originating and ending outside of the region (external-external). The NFRMPO completed a Household Survey in 2010 and used this information to complete the 2014 update to both the regional land use and travel models.

Using the updated regional travel model, the current and forecasted 2040 traffic volumes can be examined. ***Figures 4.2 and 4.3*** show the congestion levels are very high on major regional roadways, and traffic begins to move to alternate routes (for example, from US 34 to SH 402 in Loveland); however, these routes also quickly become congested. Given the high levels of congestion, it will be important to emphasize how the various forms of passenger vehicle travel (automobile, carpools, vanpools, and transit) can work together to improve the overall carrying capacity of the roadway network.

Figure 4.1 Regional Transit Corridors for Evaluation



For the proposed transit corridor analysis, staff used the travel demand model's subregion structure built in the travel model, detailed in **Chapter 2** and shown in ***Figure 2.3***. Each subregion is made up of aggregated Traffic Analysis Zones (TAZs), smaller areas defined for use in travel modeling[1]. These subregions were used to provide information on where trips originated and were destined and the regional corridors in which they are most likely to travel. The subregions, along with detailed trip tables with calculations for each subregion, are presented in ***Appendix C***.

The travel demand analysis included the following steps:

1. Creation of trip matrices for 2012, 2020, 2030, and 2040 to show all daily trips from TAZ to TAZ using the NFRMPO Travel Model.
2. The TAZ trip matrices produced were aggregated by subregion. There are seven subregions in the modeling area. Currently, no fixed-route transit exists or is proposed in subregions 5 or 6 and they were removed, leaving five subregions for analysis.
3. The trip matrices were organized by mode share and all transit related tables were used, including: walk to local transit, walk to express, walk to premium, drive to local transit, drive to express, and drive to premium. An example of an express route is the MAX in Fort Collins. An example of a premium route is the CDOT Bustang on I-25.
4. The trip matrices were validated based on current assumptions in the transit portion of the travel model. Examples include, but are not limited to:
    a) No fixed-route service currently exists between Greeley and Fort Collins, resulting in zero trips.
    b) More trips occur inside Fort Collins (subregion 3) due to increased availability of transit service.
    c) 'Other' (subregion 1) is farther away from transit service resulting in the least amount of trips.
    d) Trips are allocated between Loveland and Greeley/Evans in year 2020 because of the connection to the CDOT Bustang route.

The evaluation of the zone-to-zone trips showed some important changes as the region moves towards 2040:

- Overall trips nearly double in this time period. In 2012, the model estimates 2.9 Million daily person trips, while in 2040; the model estimates 5.1 Million daily person trips.
- Much of the growth is projected to occur in the middle of the region, along the I-25 corridor – from Timnath south to Mead and from Johnstown north to west Greeley.

[1] Land use model results are typically reviewed and analyzed by TAZ. TAZs are small areas defined for use in travel modeling. They are usually bordered by roadways or geographic features which limit direct travel between TAZs. They are often, but not always, made up of homogenous activity (i.e., all residential activity, all commercial activity, etc.).

Figure 4.2 2012 Base Year Model Volumes and Level of Service

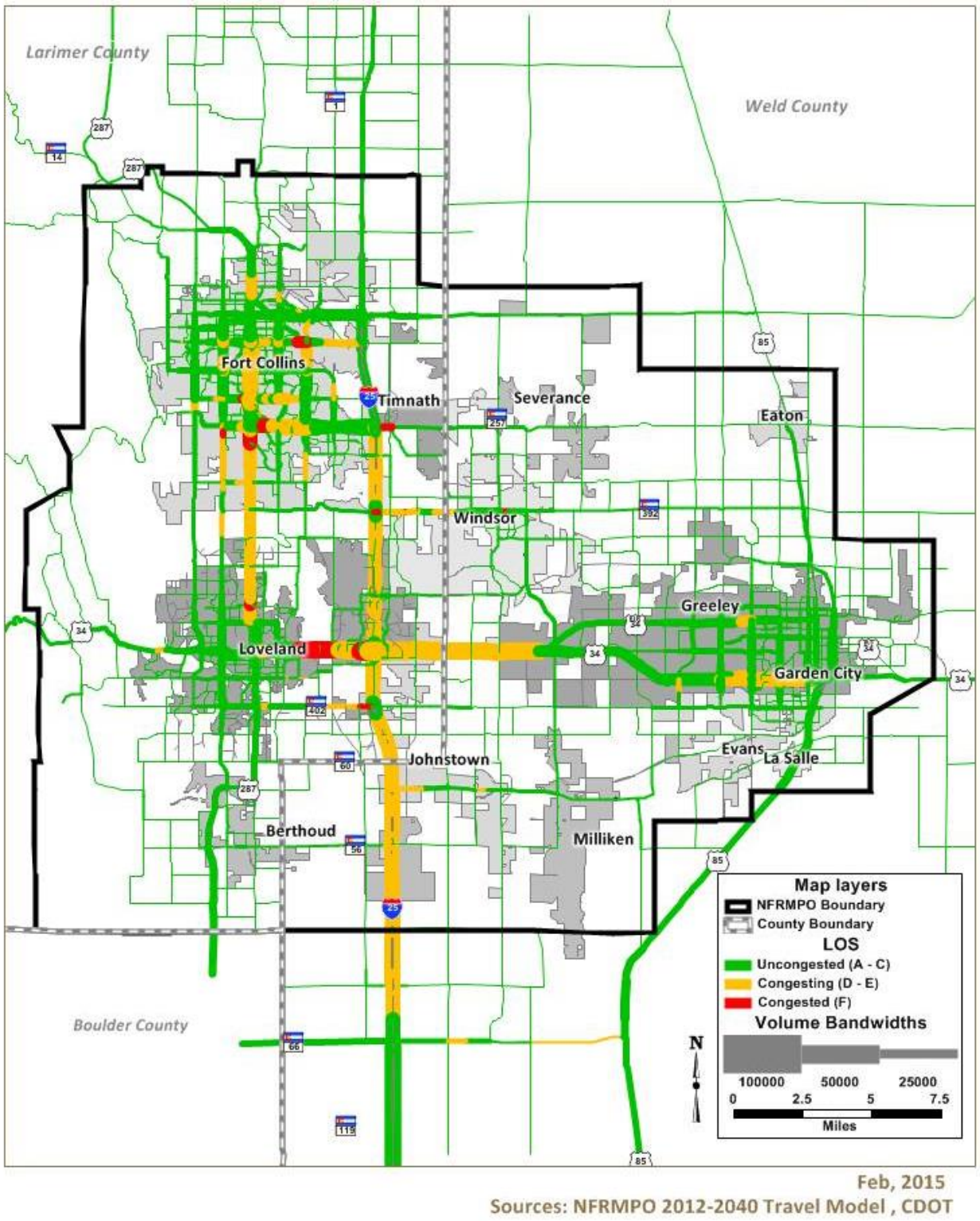
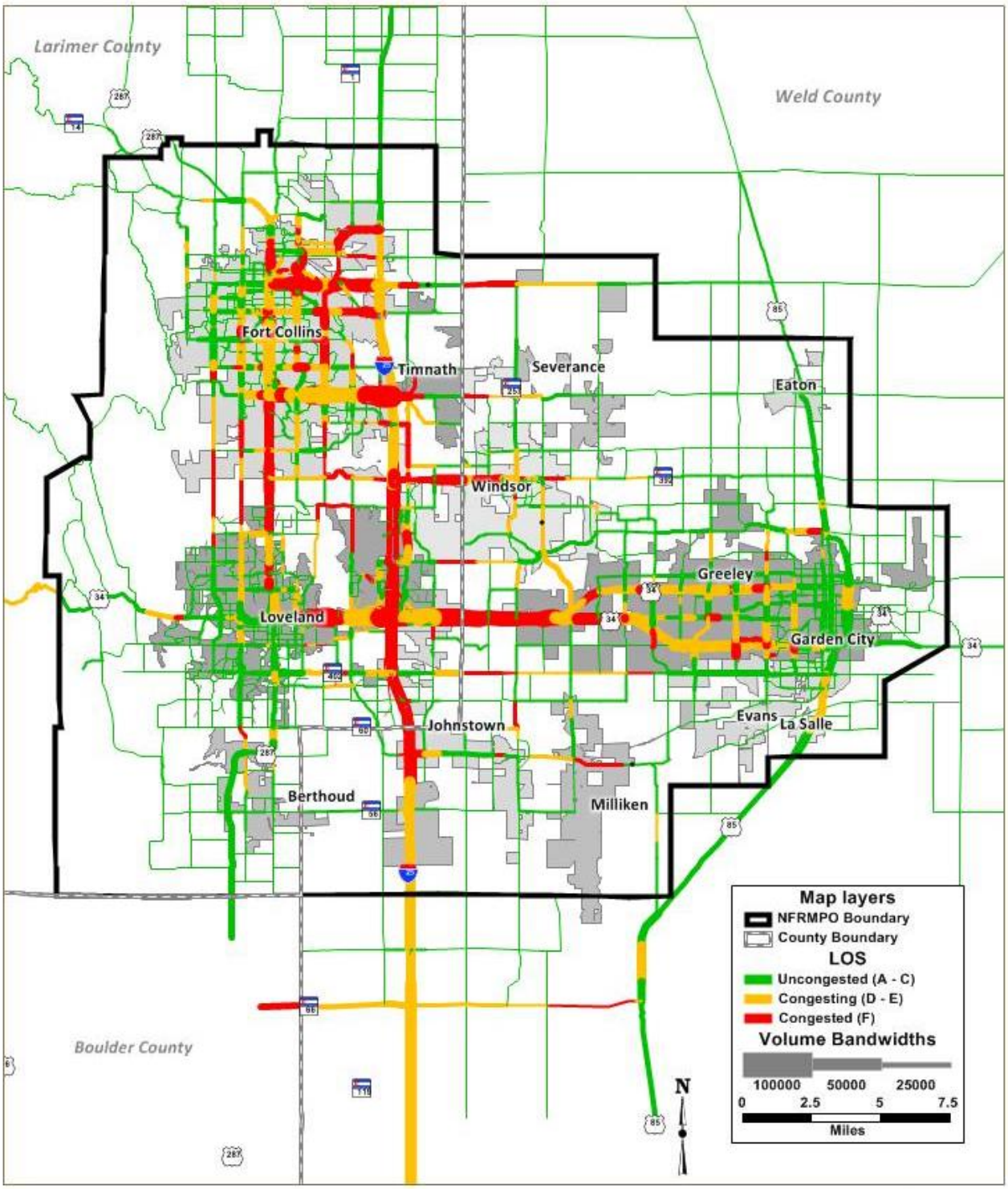


Figure 4.3 2040 Model Volumes and Level of Service



SERVICE LEVEL ALTERNATIVES

Four service level alternatives have been identified for the North Front Range regional transit network. Each reflects a different vision for the level of regional transit services that could be provided by 2040 and the rate at which these services could be developed. The alternatives are:

1. **Status Quo:** Regional services are available in the US 287 corridor, between Fort Collins and Longmont, with the 2016 extension to Boulder. This service would operate at a higher level than FLEX operates today, allowing for anticipated growth in ridership. Service would be provided every 30-minutes in peak hours and hourly the rest of the day on weekdays and on Saturdays. Bustang service would be provided as anticipated by CDOT. No other regional services are provided except for vanpools/carpools.
2. **Basic:** A basic level of regional transit service would be available between communities in the North Front Range region and to Boulder, Longmont, and Downtown Denver, traveling on primary corridors. These services provide an alternative for residents who wish to use transit or do not have access to automobile transportation. Selected corridors would have services run during the peak hour with four to five trips in the morning and afternoon, only on weekdays.
3. **Moderate:** Regional services provide an alternative to automobile transportation, with express trips available on the busiest corridors. Residents could use transit for many trips, with frequent service and Saturday operation in busy corridors. Services within the corridors would vary between peak hour only service with four to five trips in the morning and afternoon to 30-minute service in the peak hours with hourly mid-day service, only on weekdays.
4. **High:** Regional transit services will be available in most corridors, connecting to local services in the communities in the North Front Range. Transit options will be available for a full range of trips, operating through the evening hours and on Saturdays and Sundays. Park-n-Ride lots would provide auto access for regional services. Services within the corridors would vary between peak hour only service with four to five trips in the morning and afternoon, 30-minute service in the peak hours with hourly mid-day service, to 15-minute service in the peak hours with 30-minute mid-day service.

The alternatives reflect varying levels of service in each of the corridors identified in ***Figure 4.1***. More information on the individual corridors is provided later in this chapter. Each successive alternative builds on the previous one. For example, if the selected alternative is a high level of service, the region still needs to begin with a basic level of service and build up to the high level.

Both the moderate and high alternatives are supportive of the larger vision of a region connected with future rail service along US 287. Both of these visions would develop bus services in the key rail corridors prior to the programmed development of rail services. The status quo and moderate alternatives recognize the financial constraints on local government organizations. While the basic alternative is a step towards developing regional services, it would not result in the level of service and ridership that is a desirable precursor to commuter rail services; however, nothing in these alternatives precludes the development of commuter rail services.

Regional Rail Service

A fifth alternative incorporating regional commuter rail service was also identified to reflect a very high level of services. This alternative can be described as minimizing growth in Vehicle Miles Traveled (VMT) and meeting mobility needs through the construction of a robust regional transit system. With the anticipated population growth in the region, this would require a comprehensive set of strategies including changing land use policies and shifting significant resources from roadways to transit. This alternative would result in rail transit services in the busiest corridors, providing reliable and competitive services between communities on the rail line and to Boulder, Longmont, and Denver. Park-n-Ride lots would be located near most stations. This alternative would also require extensive local transit services within individual communities to connect to these regional corridors.

This alternative reflects the current vision of passenger rail services connecting the North Front Range and the Denver metro area. It also reflects the North I-25 EIS, where commuter rail service is included, and the **Rocky Mountain Rail Authority High Speed Rail Feasibility Study** (2010), where high-speed rail is proposed along the I-25 corridor. The planning horizon for commuter rail service included in the North I-25 EIS is 2075 and beyond the planning horizon of this current effort; however, rail service in major corridors in the future is a very real possibility.

While a rail vision for the region is viable, it is not included in this RTE analysis for three reasons:

1. Adequate analysis is beyond the scope and time horizon of this study making accurate comparisons difficult; however, regional rail is being addressed outside of this planning effort. CDOT's Division of Transit and Rail completed the **Colorado State Freight and Passenger Rail Plan** in 2012. The approval of this plan by the Colorado Transportation Commission in March 2012 allows CDOT to be eligible for Federal Railroad Administration (FRA) funds.
2. The stakeholders for such an analysis and the format for public participation and involvement are not adequate to address such a major regional policy discussion; and
3. The focus of this plan is on building a foundation for regional transit services.

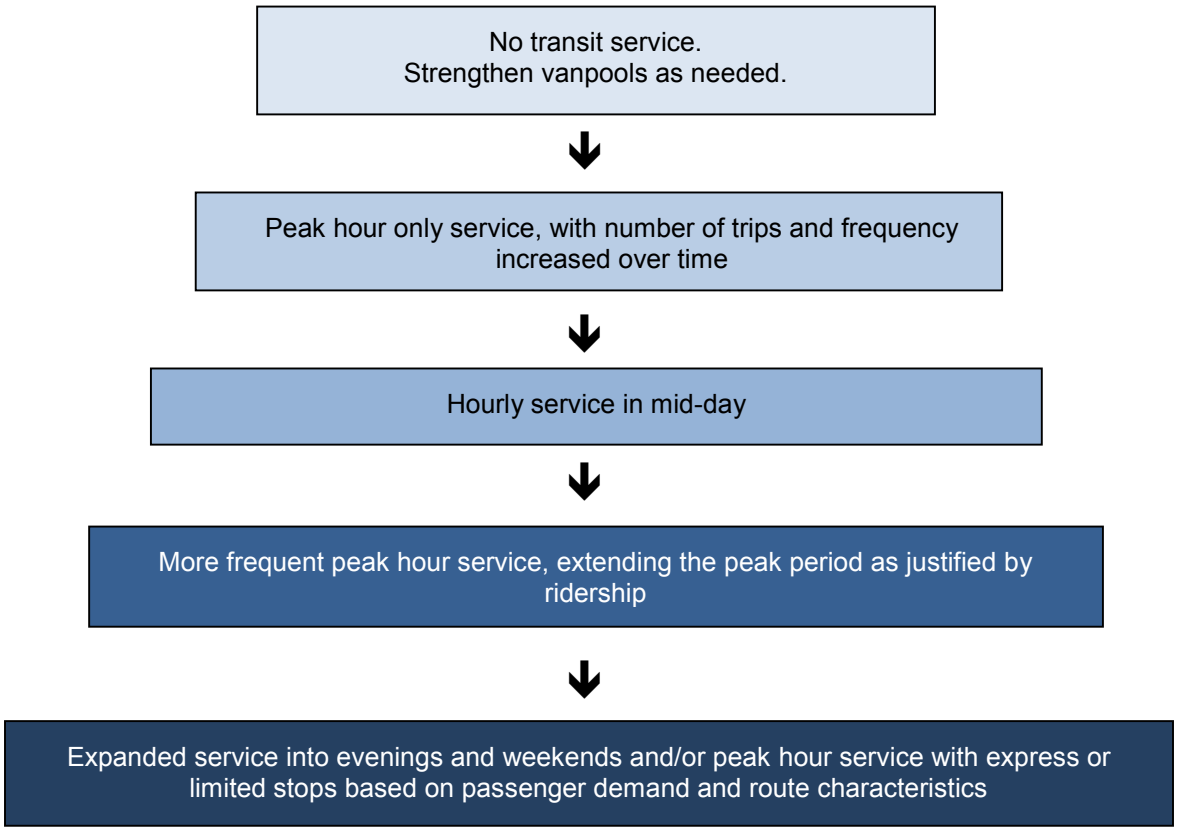
COMPARING SELECTED SERVICE ALTERNATIVES

To function effectively in the transportation network, regional transit services must be integrated with local transit services, park-n-ride facilities, and with other travel modes including bike and walk connections. In the Status Quo, Basic, and Moderate scenarios, vanpools and carpools will serve an important role in offering connections where transit services are limited, especially for areas without direct transit connections on one or both ends of the trip. Even at the high service level, vanpools and carpools will continue to play an important role in providing a diverse range of transportation options. Active promotion of the linkages between modes, Transportation Demand Management (TDM) techniques, and support for pedestrians and bicyclists is essential at all service levels.

Specialized transportation will continue to be provided at the local level, with local providers connecting individuals who require assistance to regional trips. Volunteer driver programs will also continue to be an important part of the regional system. At the Basic service level, only local connections will be available for the general public. For the Moderate and High service levels, scheduled trips are included between the most common destinations within the North Front Range region. The Moderate service level includes three express trips per day in the busiest corridors within the region, one each in the morning, mid-day, and late afternoon. The High service level expands this to five trips per day in the busiest corridors, with two trips in the morning and evening peaks, and one trip mid-day.

The development of transit service is illustrated in ***Figure 4.4***. The growth and development of transit service in each corridor follows the same pattern. The application of this development for each alternative is illustrated in ***Table 4.1***.

Figure 4.4 Growth of Transit Service



For this analysis, it is useful to compare the basic demand estimations from this local analysis. ***Table 4.1*** identifies each corridor and the estimates for daily ridership demand.

Travel models are calibrated using real-world experience to insure the ridership and traffic volumes predicted by the model match the observed volumes in the initial year. The difficulty with this is that these are new transit service corridors with no ridership with which to compare.

Table 4.1 Comparison of Potential Demand by Corridor

Corridor	NFRMPO Travel Model Analysis for 2040			
	Status Quo	Basic	Moderate	High
1: Evans/Milliken/Johnstown	0	0	210	37
2: Greeley to Denver (US 85)	0	0	358	232
3: Fort Collins/Windsor/Greeley	0	116	38	84
4: Greeley to Longmont	0	0	0	321
5: Greeley to Loveland (US 34)	0	1,456	1,366	2,019
6: Fort Collins to Bustang (Express Route)	0	405	313	309
7: Greeley to Bustang (Express Route)	0	0	73	9
8: Loveland to Bustang (Express Route)	0	0	77	3
FLEX Route	857	1,117	1,112	1,174
TOTAL	**857**	**3,505**	**3,547**	**4,185**

The estimates in ***Table 4.1*** chapter reflect the ridership numbers from the NFRMPO travel demand model and the service levels discussed in detail in **Chapter 5**.

CHAPTER 5: SERVICE & CORRIDOR ALTERNATIVES

This chapter describes the four transit service alternatives for the 2040 planning horizon. These alternative visions focus on developing services along regional transit routes.

This is a long-range plan with a 25-year planning horizon. With the projected population growth, regional transit services are anticipated to be part of the future transportation network. The region's desire for commuter rail service is also reflected in the North I-25 EIS. The preferred plan includes bus and rail services with a comprehensive set of regional routes connecting the cities and towns with each other and with Boulder and Denver metro areas.

Three key challenges in this planning effort are:

- Refining the vision for regional transit services;
- Identifying how the vision impacts near-term choices for service development, finance, and governance; and
- Setting practical, near-term objectives and strategies to move the region towards attaining this vision.

The North I-25 EIS identified a multi-modal solution to address the anticipated north-south transportation needs for the corridor from a statewide perspective. This 2040 RTE examines many of the same corridors, but adds a focus on the east-west connections needed for regional mobility and connectivity. The focus is also on the practical steps necessary to develop the foundations for these regional services.

North Front Range communities support the BATS, COLT, GET, and Transfort systems through local general funds or sales tax. Berthoud, Fort Collins, Loveland, and Boulder County developed the FLEX regional service along the US 287 corridor; however, the region lacks the governance and operating foundation necessary to move forward to develop additional regional services. A plan which includes a vision for developing regional transit services, a conceptual network plan, which goes beyond goals and strategies providing options for governance, funding, and operations could move the region towards implementing a cohesive regional transit service network.

Figures 5.1 through 5.4 illustrate each of the four service alternatives and the level of service that could be expected for each by 2040. Based on these projected levels[1], ***Table 5.1*** provides information on the routes and service levels in each alternative. ***Table 5.2*** is intended to provide an understanding of the level of service proposed in each alternative and the associated costs to help frame the discussion for governance and financing.

[1] Hours for each route have been calculated using current drive times plus an allocation of time for stops along the route. The number of stops and dwell time within each stop significantly affects overall route travel time. Increasing congestion has been assumed over time.

Figure 5.1 Status Quo Alternative

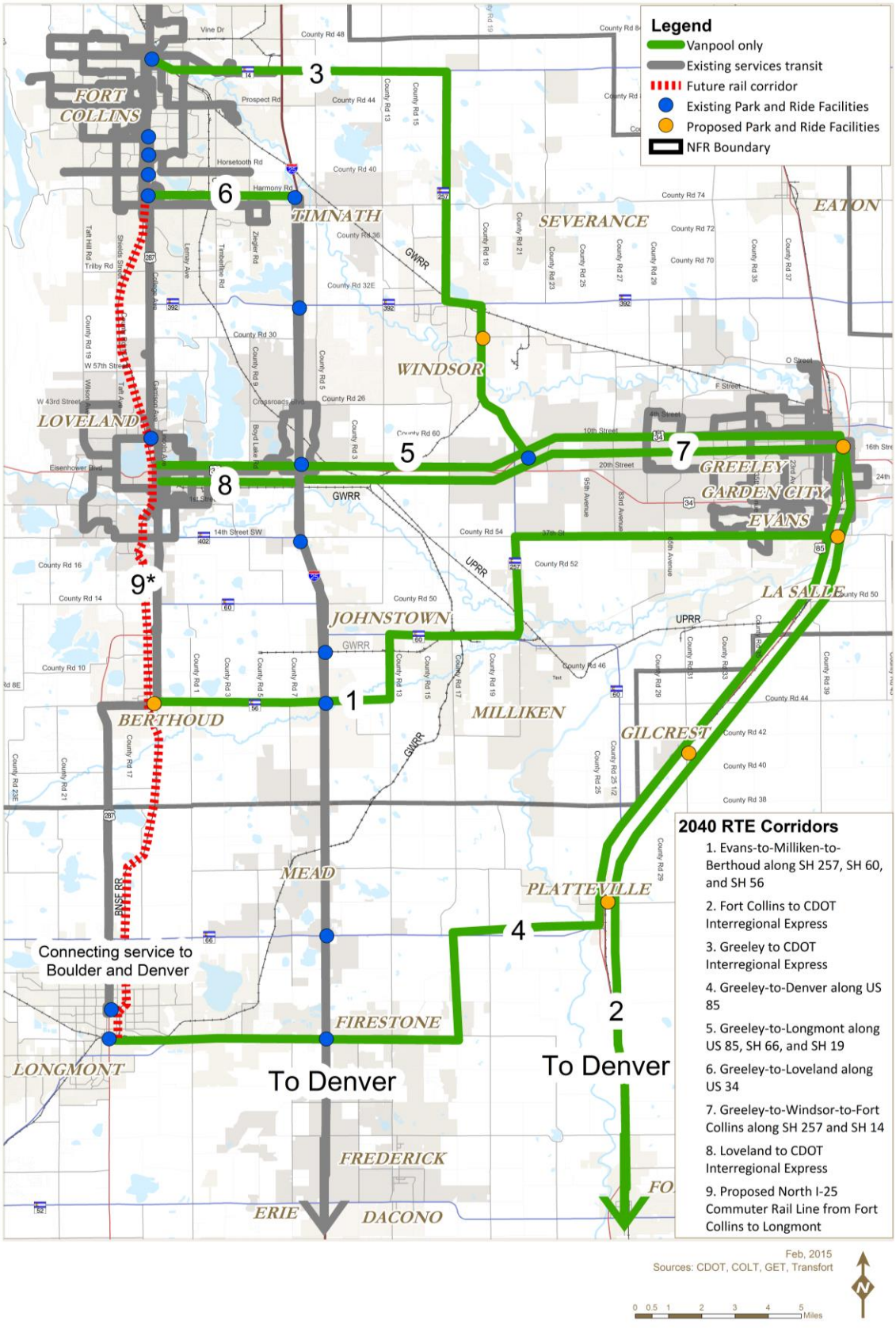


Figure 5.2 Basic Alternative

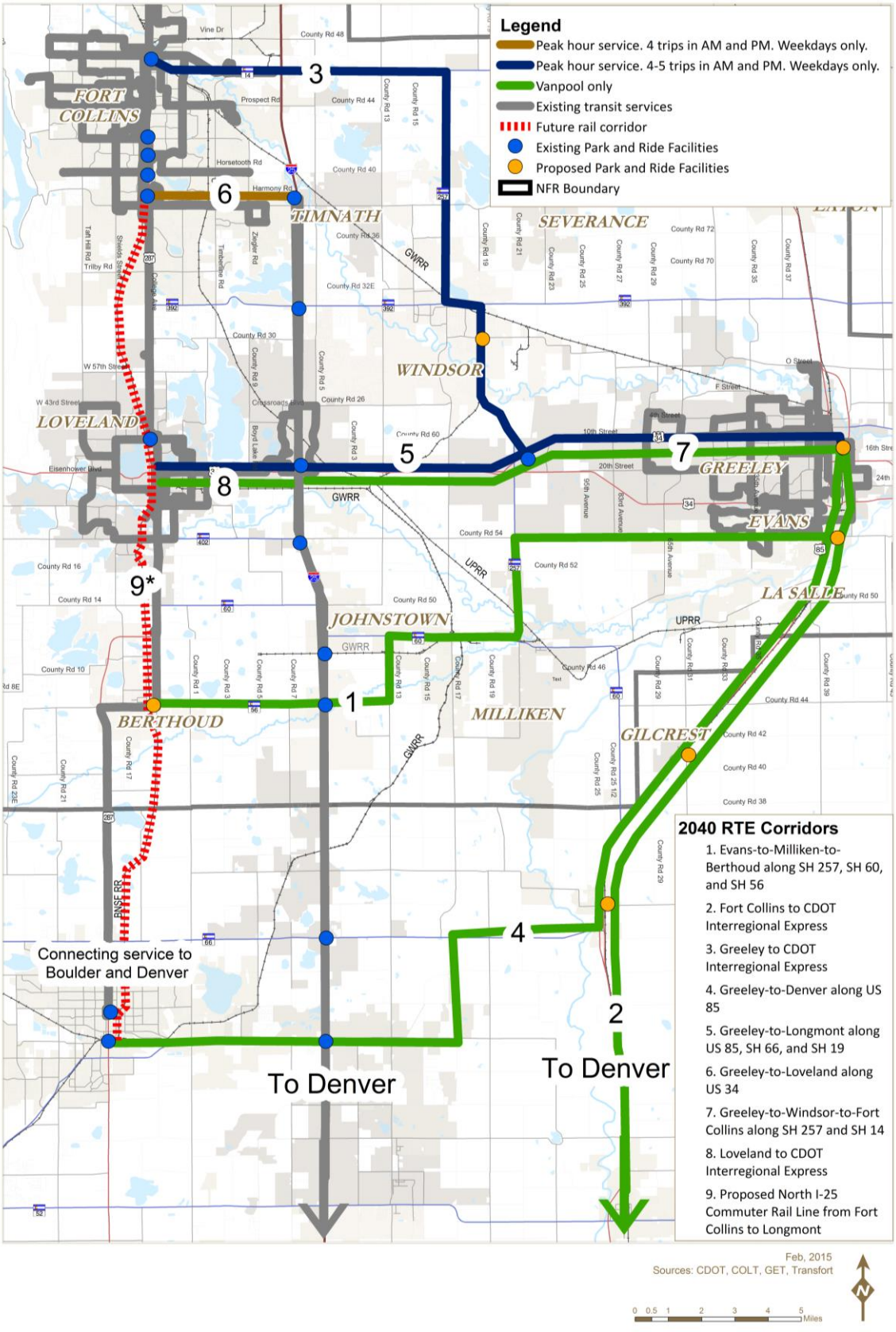


Figure 5.3 Moderate Alternative

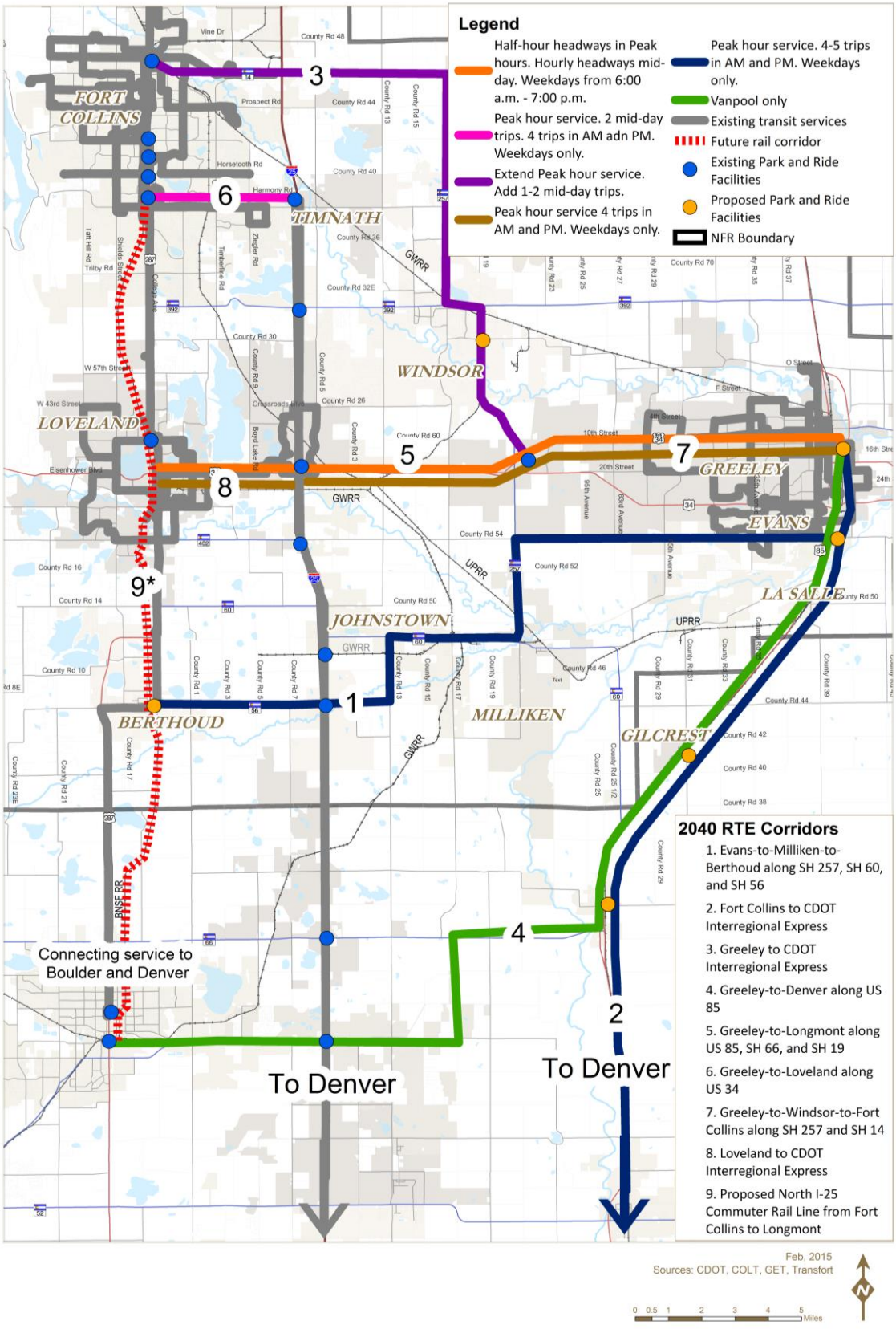


Figure 5.4 High Alternative

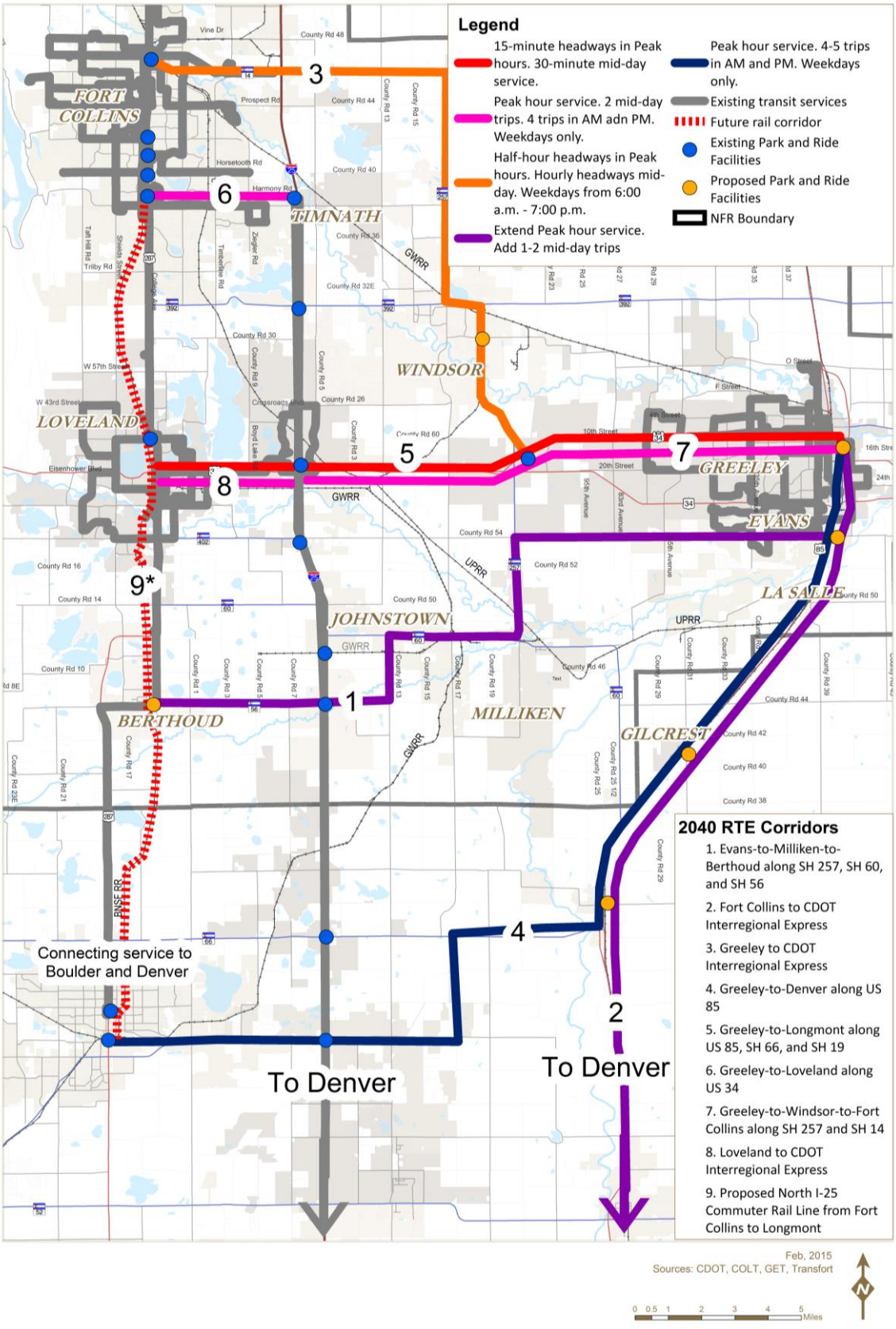


Table 5.1 Corridor Characteristics for Alternatives

Corridor	Alternative			
	Status Quo	Basic	Moderate	High
Evans-to-Milliken-to-Berthoud along SH 60 and SH 56	Vanpool Only	Vanpool Only	Peak hour service. 4-5 trips in AM and PM. Weekdays only.	Extend Peak hour service. Add 1-2 mid-day trips
Greeley-to-Denver along US 85	Vanpool Only	Vanpool Only	Peak hour service. 4-5 trips in AM and PM. Weekdays only.	Extend Peak hour service. Add 1-2 mid-day trips
Greeley-to-Windsor-to-Fort Collins along SH 257 and SH 14	Vanpool Only	Peak hour service. 4-5 trips in AM and PM. Weekdays only.	Extend Peak hour service. Add 1-2 mid-day trips	Half-hour headways in Peak hours. Hourly headways mid-day. Weekdays from 6:00 a.m.-7:00 p.m.
Greeley-to-Longmont along US 85, SH 66, and SH 119	Vanpool Only	Vanpool Only	Vanpool Only	Peak hour service. 4-5 trips in AM and PM. Weekdays only.
Greeley-to-Loveland along US 34	Vanpool Only	Peak hour service. 4-5 trips in AM and PM. Weekdays only.	Half-hour headways in Peak hours. Hourly headways mid-day. Weekdays from 6:00 a.m.-7:00 p.m.	15-minute headways in Peak hours. 30-minute mid-day service.
Fort Collins to Bustang (Express Route)	Vanpool Only	Peak hour service. 4 trips in AM and PM. Weekdays only.	Peak hour service. 4 trips in AM and PM. 2 mid-day trips. Weekdays only.	Peak hour service. 4 trips in AM and PM. 2 mid-day trips. Weekdays only.
Greeley to Bustang (Express Route)	Vanpool Only	Vanpool Only	Peak hour service. 4 trips in AM and PM. Weekdays only.	Peak hour service. 4 trips in AM and PM. 2 mid-day trips. Weekdays only.
Loveland to Bustang (Express Route)	Vanpool Only	Vanpool Only	Peak hour service. 4 trips in AM and PM. Weekdays only.	Peak hour service. 4 trips in AM and PM. 2 mid-day trips. Weekdays only.

Table 5.2 Characteristics of Alternatives

Characteristic	Status Quo	Basic	Moderate	High
Annual Service Hours	17,737	42,479	85,382	160,820
Annual Miles	372,572	883,116	1,719,958	3,010,330
Peak Period Vehicles	4	11	17	30
Operating Costs at $75/hour	$1.1 M	$2.5 M	$6.0 M	$12.1 M
Annualized Vehicle Costs ($500,000/vehicle)	$0 M	$0.1 M	$0.2 M	$0.4 M
Annualized Operating Facility Costs	$0 M	$0.1 M	$ 0.2 M	$0.3 M
TOTAL ANNUAL COSTS	**$1.5 M**	**$3.8 M**	**$7.4 M**	**$13.8 M**

There is a general level of service, fleet size, and expenditure associated with each alternative. It is recognized actual development and demand may occur at a different rate in some corridors than is envisioned. This would likely result in resources shifting between corridors rather than increasing the overall level of service.

Regional services cannot exist apart from local and feeder services. Continued evolution of local transit services, as currently anticipated in the planning documents for each community, is anticipated. While residents will be able to access regional services by bus and car, it is important to provide effective transit access through local transit, bicycle and pedestrian facilities for residents who do not have access to automobiles.

The region is diverse and communities have varying levels of local services. Some areas do not provide local transit at all. Selecting a uniform vision for regional transit services is not required. When a transit service is being developed in a corridor, the emphasis will need to be on agreement of the communities to a specific level of regional services which will connect them and assuring adequate access is provided so the service can be successful.

EVALUATION OF ALTERNATIVES

Perspectives on the preferred alternative vision for the region were solicited through meetings with local governments in the region and the City of Fort Collins Planning, Development, and Transportation Open House held at the Fort Collins Museum of Discovery on February 20, 2014. Considerations in evaluating the alternatives included:

- **Transportation Network Diversity.** What is the relative importance of providing a diverse set of transportation options, and providing alternative transportation for

various trip markets? Of serving peak commuter needs? Of building a foundation for more extensive service?

- **Corridors.** Are the corridors included in each alternative for transit service appropriate?
- **Regional Services Parallel to Local Service Levels.** How well do the proposed regional services match with planned local transit service levels? Unless it is anticipated that most riders will walk or drive to the regional stops, lack of adequate feeder service will diminish ridership on regional routes. Similarly, residents and social service programs will likely want services that are balanced, with local services parallel in quality to regional options.
- **Financing.** Do the residents support taxes that would be needed to finance public transit? What is the capacity to finance the various levels of service? Financing of transit services in regional corridors will require partnerships between communities within the MPO as well as with entities outside the NFRMPO boundaries and the State; however, a significant portion of the costs will be borne by local entities.
- **Quantitative Performance Measures.** These may include riders per trip or service mile; passenger miles provided or reduced vehicle miles traveled; fare recovery ratio; or cost per trip.
- **Congestion Mitigation.** To what extent should regional services focus on meeting the needs of the transit dependent population including veterans and the increasingly aging population and to what extent should it provide congestion relief?
- **Reduce Emissions.** What impact do the regional transit services have on the environment, and in particular air quality?

Ultimately the choices made on the appropriate level of regional transit services will reflect the priorities of the region. It is likely different communities will select different alternatives, reflecting the diversity in the region.

CORRIDOR DEVELOPMENT

The basic service alternative was built from the corridors identified in **Chapter 4**. The service alternatives used mode share calculations to identify the approximate level of ridership anticipated in each corridor, appropriate for the conceptual level of planning undertaken in this current effort. It is useful to compare the corridors on other factors as well to identify the potential of and priorities for developing corridor services. This section identifies a variety of tools for evaluating the corridors and provides a summary comparison between the corridors.

Designing service for each of the potential corridors will require additional analysis for the exact routes, level of service, and phasing. Additionally, there will need to be a discussion of which local transit agency (COLT, GET, or Transfort) will operate the new service. Considerations such as proximity to an existing local service as well as ridership will need to be taken into account when determining the service operator. The development of corridor service plans for each corridor is recommended. These plans would address detailed transit service planning issues as well as evaluate the potential for TDM activities.

Each route also has unique logistical and access issues which must be considered. The timing and through routing must also be considered when routes are designed. The travel time and length of a route must be factored into the time needed to serve the route and the number of buses needed to keep it on schedule. This technical analysis should, and will necessarily, be supplemented by social and political considerations. If the residents and workers in a corridor demonstrate their desire for transit service by supporting it financially or demanding it politically, then transit service may be appropriate in the corridor despite receiving a lower ranking based on ridership predictions. Ultimately, the best transit service plan will balance all of these factors: technical feasibility, social need, and political support.

EVALUATION OF POTENTIAL CORRIDORS

A variety of tools can be used to help decision-makers determine how to allocate resources between corridors. Criteria are identified for initiating services in a corridor and for maintaining and expanding services. They can assist the MPO communities in building and supporting a comprehensive and cohesive network of regional services. These criteria can also be used to identify priorities for services among various corridors.

Service Development Criteria

- Number of housing units and jobs within walking distance (½-mile) of bus stops.
- Number of housing units within driving distance, extending from ½- to 5-miles from park-n-ride facilities or bus stops with parking.
- Level of transit service connections.
- Number of vanpool riders traveling in a corridor. While the unique characteristics of vanpools make them an imperfect predictor of future transit systems, high numbers of vanpoolers in a corridor provide a ready market for a new transit system which may offer lower cost transportation to the passenger, independence, and more flexibility in travel time.
- Directness of service measured in travel time for the bus portion of route. If travel time is less than 1.5 times auto travel time, the corridor could be considered to

have high potential; between 1.5 and 2 times auto travel time – medium potential; or more than 2 times auto travel time – low potential.[2]

- Is the land use development along a corridor conducive to transit service with good bicycle/pedestrian and bus access? Serving developments by diverting regional buses from their main route is typically unproductive. The gain in passengers from a specific development is offset by the loss of passengers frustrated by the additional time en route.

Service development criteria are used to compare the efficiency of various corridors. It is also useful to consider when development is anticipated to occur and the transit services that might be appropriate over time.

The corridor between Greeley to Loveland, along the US 34 corridor (Corridor 5) stands out. This corridor performed the best in the transit model analysis and would allow an east-west transit connection currently missing in the region. While a trial transit service, the 34 Xpress, operated along this corridor for almost two years and subsequently terminated due to low ridership and overall transit travel time, the corridor analysis shows there is a future demand for this service. It is recommended the Greeley to Loveland along the US 34 corridor be high on the list of corridors where detailed service planning is carried out with implementation as soon as feasible.

Another corridor where early development of services planning may also be useful is the Greeley to Denver along the US 85 corridor (Corridor 2). This is a corridor with logistical complexities, including roadway access for pedestrians, park-n-ride access, set-backs for buildings, and local transit connections. It may be useful to identify how to connect riders for the first and last miles of their trips. Working through these issues early in the process provides more opportunities to overcome difficulties and establish successful services.

Criteria for Maintaining or Expanding Services

It will be important to establish criteria for maintaining and expanding services, similar to the criteria for initial development. Categories for maintaining or expanding services may be quantitative or qualitative. Quantitative measures could include:

- Passengers per trip or per hour;
- Total cost and fare recovery per trip; and
- Passenger miles traveled or vehicle miles reduced.

These quantitative measures will need to show the investment in these services generally compare fairly with other transit service investments. The scales for the routes will be different due to distance traveled, making passengers per trip a better measure across corridors than passengers per hour or per mile.

[2] TCRP Report 165: Transit Capacity and Quality of Service Manual, Third Edition

The qualitative measures are more difficult to capture and will be guided by the network plan, goals, and objectives. Important categories include:

- Providing stable and continuous services;
- Building on successes; and
- Providing a comprehensive network with services to all major population and activity centers.

The quantitative measures are supportive of each other, for example, a route with high ridership will rank well in each category. On the other hand, the qualitative measures require finding balance. Where resources are limited, choices to build on successes and placing additional resources into an existing route will pull resources away from establishing services in new corridors. This requirement for balance can be addressed in the development of the network plan and goals and also in evaluating governance and financing options.

Additionally, Environmental Justice (EJ) must be considered. EJ is *the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies*.[3] This analysis includes the following principles:

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.[4]

CONCLUSION

This chapter has provided the big picture of four basic service alternatives:

- Status Quo
- Basic
- Moderate
- High

A rail alternative was also described; however, detailed planning was not completed as it is outside the scope and time horizon of this 2040 RTE. The alternatives are described by the level and type of regional services that would be provided in each corridor.

[3] http://www.epa.gov/environmentaljustice/
[4] http://www.epa.gov/environmentaljustice/

Additionally, information has been provided on how the individual corridors compare with each other and tools for developing services. These include:

- Criteria for developing regional transit services;
- Criteria for maintaining or expanding regional services; and,
- The recommendation that detailed service planning occurs for each corridor prior to implementing transit services.

In considering the basic service alternatives, it will also be useful to explore the detailed financial analysis presented in **Chapter 6**. This provides a break-out of how costs might be split between federal, state, and local sources.

SUMMARY OF RECOMMENDATIONS FROM CHAPTER 5

- Select an overall level of service (Status Quo, Basic, Moderate, or High) to use as a foundation for regional services, after considering the financial impacts of each alternative.
- Prepare more detailed corridor service plans for the top ranked corridors. The initial analysis suggests the Greeley to Loveland along the US 34 corridor (Corridor 5) is the top ranked corridor. The Greeley to Denver along the US 85 corridor (Corridor 2) also shows significant potential. Final decisions on the ranking of the corridors must take public and local government comments into consideration.
- Assisting smaller communities within the region with senior transit services between communities and to transit centers is a recommended priority for essentials, such as medical and grocery store trips.
- Criteria for developing and maintaining services in each corridor will be important for a successful regional transit network.

CHAPTER 6: FUNDING & GOVERNANCE

Governance is often considered to be the institutional structure used to oversee and provide services. The options in this chapter range from institutional structures to the initial processes used to make decisions. Funding is closely related as funding options are often defined or limited by governance structures. The funding options also influence the governance structure by defining the agencies that pay for service and the control they have over those services.

Regional transit services have not been thoroughly developed for the North Front Range. This planning process is the continuation of the effort to present a network plan for regional transit services with recommendations and strategies for achieving this goal. These are seen as precursors to more in-depth discussions about governance and funding.

FUNDING

The transit alternatives presented in **Chapters 4 and 5** require reliable and stable funding sources. Even the Status Quo alternative, which continues the current FLEX service with the 2016 expansion to Boulder, requires stable, ongoing funds for operation. Additionally, if the service continues or expands, capital for replacement and expansion vehicles is needed. Currently within the region:

- Local communities have difficulty funding local transit services. Federal Transit Administration (FTA) funds are available, but these must be augmented with local funds to cover operational costs. Systems with more extensive transit services must also augment their FTA funds to maintain their capital foundation.
- There is uncertainty in the level of FTA funding that will be available in the future, due to potential changes in urbanized area boundaries and because new transportation legislation is needed.
- The role of the State in funding regional transit services is new, appears to be limited, and continues to change.

There will need to be local funding to support regional services once federal and state funding can be determined. It is likely voters will have to approve any support for regional service if they are willing to fund it.

Several partners may share funding responsibilities for regional transit services and each corridor could have a different set of partners. Additionally, funding may include federal, state, and local funds. There are sources of operating funding available for pilot projects (CMAQ), but providing long-term regional transit services requires stable, on-going funding sources.

The cost estimates for each of the transit alternatives were identified in **Chapters 4 and 5**. This section explores:

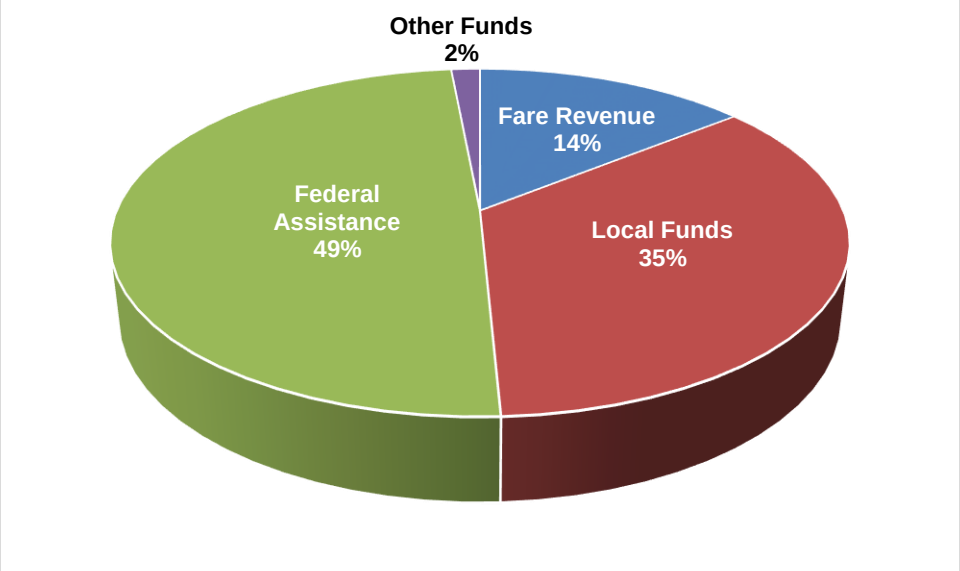
- The eligibility for federal funds, the funding match requirements, and anticipated fare revenues for each alternative;
- Potential federal, state, and local fund sources; and
- The availability of funding for regional services, including potential new sources.

It concludes with a discussion of the funding issues needing to be addressed as the region and State begin to develop regional transit services.

REVENUE BREAKOUTS: FEDERAL, MATCH, AND FARES

Funds for transit come from a combination of federal funds, matching funds, and operating revenues (including fares and advertising). The percentage that would come from federal, State, local and operating revenues can be estimated. This estimate provides a basis for discussing the funds required for each alternative and the role of federal, State, and local funding for capital and operating expenditures.

Figure 6.1 Typical Transit Operating Revenues, 2012 Data



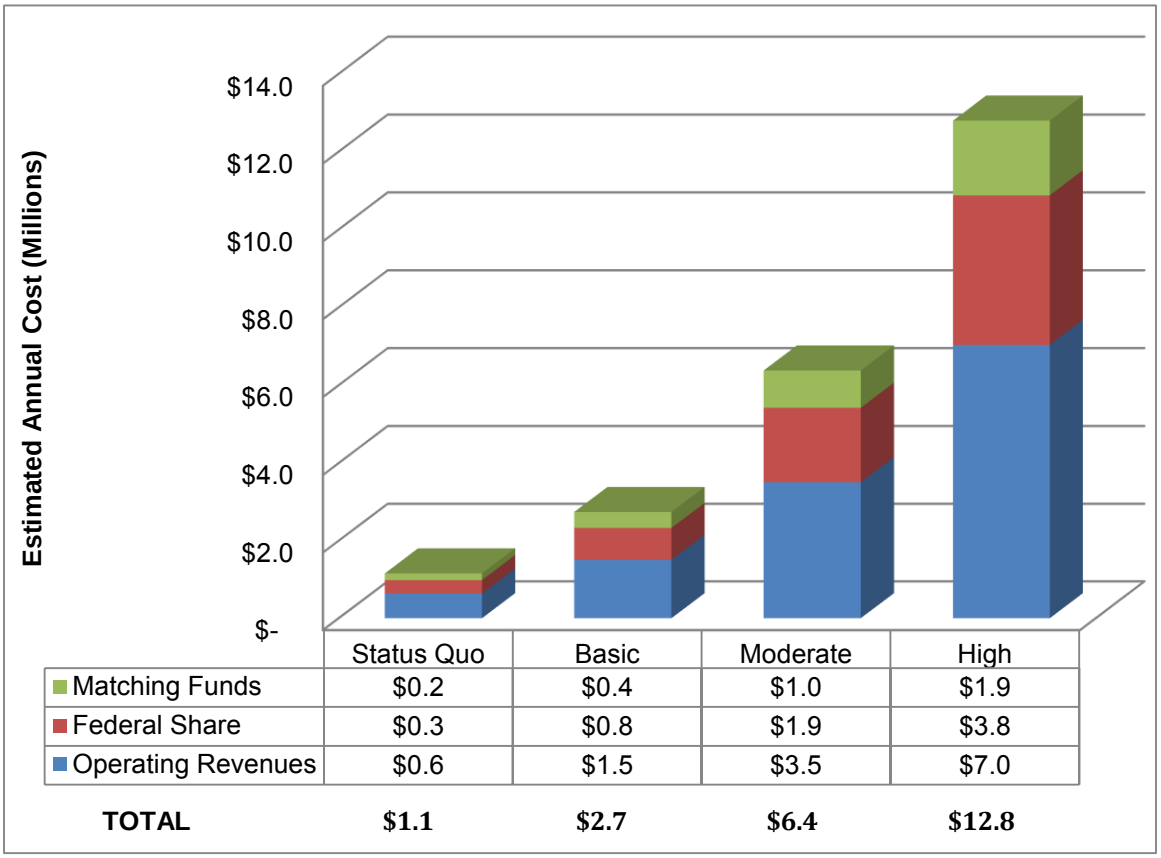
Source: *NTD Transit Profiles, 2015*

Figure 6.1 illustrates the typical breakout of revenues from 2012 for the operating expenses associated with regional transit services. The percent of funding from fare revenues or other operating revenues, such as advertising, will vary by corridor. Currently, fare and operating revenues make up 14 percent of the funding for existing transit services. Federal and local/matching funding make up a majority of the revenues for the transit services at 49 and 35 percent, respectively. Matching funds may be sales

tax, student fees, or revenues from State sources. The remaining two percent of the funding comes from other funds such as advertising.

In estimating eligibility for federal revenues, the funding rules which apply to large urban areas are assumed to apply here. This means federal transit funds may not be used for operations, except for what is referred to as the "capital cost of contracting".[1] This generally equates to around 35 percent of net expenditures, but depends on contracting arrangements. The remaining balance would be local or State matching funds. On the capital side, 80 percent of the funding is assumed to come from federal sources and 20 percent from local matching funds. Combining the revenue sources for operating and capital expenses results in the annual estimated funding requirements for each alternative, illustrated in ***Figure 6.2***.

Figure 6.2 Estimated Funding Requirements for Alternatives



	Status Quo	Basic	Moderate	High
Matching Funds	$0.2	$0.4	$1.0	$1.9
Federal Share	$0.3	$0.8	$1.9	$3.8
Operating Revenues	$0.6	$1.5	$3.5	$7.0
TOTAL	**$1.1**	**$2.7**	**$6.4**	**$12.8**

[1] The capital cost of contracting is defined by the FTA as costs attributable to privately owned assets that are consumed in the course of a contract. In addition, the FTA provides assistance for maintenance. To avoid burdensome rules, the FTA allows recipients to use a percentage of leased service or contracted maintenance capital costs without detailed justification and will pay for 80% of this amount as a capital expense. For example, under a service contract where the contractor provides maintenance and transit service and the public agency provides vehicles, 40 percent of the contract is eligible for 80 percent Federal share. ***Source: Federal Transit Administration Circular 9030.1D, May 1, 2010, Chapter III, section 4 &Exhibit III-1.***

TOTAL FUNDING

The funding levels required for the Status Quo, Basic, Moderate, and High alternatives are listed in ***Table 6.1***. For this RTE, funding requirement estimates for the regional rail alternative were not completed as this service is not expected to be operational until 2075.

The costs in ***Table 6.1*** are based on operating costs of $75.00 per hour and capital costs of $350,000 per vehicle. Capital costs have been amortized over 12 years.

Table 6.1 Funding Requirements per Capita

Alternative	Annual Expense in 2012 USD[2]	Per Capita $ based on 2012 Population[3]	Per Capita $ for 2040 Population[3] (Current $)
Status Quo	$4.6 M	$9.62	$5.20
Basic	$7.8 M	$16.45	$8.89
Moderate	$12.8 M	$26.91	$14.55
High	$20.7 M	$43.50	$23.51

As a comparison, ***Table 6.2*** lists the total transit budgets for Greeley, Fort Collins, and Loveland to show how expenditures on local transit services compare to the regional transit alternatives. These amounts are based on 2012 operating budgets and 2012 city population estimates.

Table 6.2 2012 Costs per Capita for Local Transit Services

City	Operating Estimate	Capital Estimate	Total Estimate
Greeley	$20.56	$8.68	$29.24
Fort Collins	$48.29	$0.98	$49.27
Loveland	$13.61	$0.06	$13.67

Capital can vary widely from year-to-year and is included as an estimate of 10 percent of operating expenditures when averaged out over time. The numbers in ***Table 6.2*** show a significant difference in expenditures per capita among the three largest transit communities.

[2] *These are net costs, exclusive of fare revenues, and are slightly lower than the totals in* ***Figure 6.2***
[3] *Modeling Area Population: 2010 = 475,624; 2040 = 879,891*

FEDERAL, STATE, AND LOCAL FUND SOURCES

The basic funding options are listed in ***Table 6.3*** with a discussion of what each source can be used to fund. This begins with federal sources and then moves to state and local revenue sources.

Table 6.3 Key Funding Sources

Funding Source	Description
FTA 5307: Urbanized Area Formula Grants	Capital or operations, depends on size of area
FTA 5339: Bus and Bus Facilities	Capital funding. Formula funds
FTA 5311: Formula Grants for Rural Areas	For rural areas only. Used for administration, operating and capital
FHWA & FTA CMAQ: Congestion Mitigation and Air Quality Improvement (CMAQ) Program	Can fund up to 3 years of operating or capital project costs
Other FHWA	If other FHWA funds, i.e. STP Metro, are transferred to transit, they assume characteristics of FTA program
State of Colorado FASTER: Funding Advancements for Surface Transportation and Economic Recovery Act of 2009 (FASTER)	May be used for regional operating assistance through a competitive application process beginning in FY2016. May be used for capital purchases
Local General Fund	Generally unrestricted; can be used for operating or capital.

Federal

The most common source of federal funding for transit services are FTA funds. There are a variety of programs, with the Urbanized Area formula funds (Section 5307 funds) and the Bus and Bus Facility funds (Section 5339 funds) most commonly used in the region. Rural transit providers can also use Formula Grants for Rural Areas funds (Section 5311 funds).

- Section 5307 funds are allocated to an agency known as the Designated Recipient. For the Fort Collins/Loveland Transportation Management Area (TMA) this is the City of Fort Collins. For the Greeley/Evans urbanized area this is the City of Greeley.

- Section 5307 formula funds are distributed to the TMA and the City of Greeley based on a formula allocation for areas of 50,000 to 199,999 or areas with over 200,000 in population.
    - The City of Greeley receives funding based on population and population density, and number of low-income individuals.
    - The TMA receives funding based on a combination of bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, and fixed guideway route miles, as well as population and population density and number of low-income individuals.[4]
- Transfort is the designated recipient for the Fort Collins TMA and is responsible for facilitating the allocation of Section 5307 funds between member jurisdictions in the TMA through an approval process. The NFRMPO Planning Council must approve the final allocation of the funds.
- The Bus and Bus Facilities funds (Section 5339 Funds) replaced the Section 5309 Funds. Funds are allocated directly to urban TMAs and eligible to be transferred by the state to supplement rural formula grant programs (5307 and 5311, respectively).[5]
- Section 5307 funds are fully used for current services, although the agencies within the TMA do transfer funds amongst themselves based on need and availability of local matching funds. Agencies within the TMA currently providing transit services and participating in this internal allocation include the cities of Fort Collins and Loveland, and the Town of Berthoud.
- Other FHWA funds, for example, CMAQ and Surface Transportation Funds (STP), which can be flexed for transit are transferred into the existing FTA programs and must abide by the same rules as other FTA funds.

As mentioned above, CMAQ funds are another important source of funds. These funds can be used at an 80 percent federal match level for starting new services. They can fund up to five years of operating service (two years at 80 percent federal and the final three years at a lower match) and can also be used for purchasing equipment.

Other federal funds eligible for "flexing" or transferring to FTA for transit projects include National Highway System (NHS), Interstate Maintenance, STP, Highway and Bridge Replacement and Rehabilitation (HBRRP), and Highway Safety Improvement Program (HSIP) funds. A well-defined process has been laid out by FHWA and FTA and as with the transit funds these are fully utilized in the region. There may be opportunities to

[4] FTA Fact Sheet: Urbanized Area Formula Grants, Section 5307 & 5340: http://www.fta.dot.gov/documents/MAP-21_Fact_Sheet_-_Urbanized_Area_Formula_Grants.pdf
[5] FTA Fact Sheet: Bus and Bus Facilities, Section 5339: http://www.fta.dot.gov/documents/MAP-21_Fact_Sheet_-_Bus_and_Bus_Facilities.pdf

transfer funds to take advantage of local overmatching if any occurs, but with such limited funding for transportation this cannot be counted upon.

State Funds

In March 2009, the Funding Advancements for Surface Transportation and Economic Recovery Act of 2009 (FASTER) was signed into law. Through the increase or creation of fees, fines, and surcharges this law generates increased revenues for transportation improvements statewide.[6] These funds can be used for transit capital and as of 2016 for limited transit operating for regional service. The FASTER Safety funds could potentially be used for improvements at certain transit facilities, such as park-n-ride facilities. Compared to the need for transit funding the amounts are limited, but the availability of these funds is an important step. FASTER Transit funds may be used for regional operating assistance through a competitive application process.

FASTER Transit funds are split into two categories: local transit grants ($5 Million per year) and statewide projects ($10 Million per year). The local grant funds are awarded on a competitive basis by the central CDOT Division of Transit and Rail (DTR). The statewide funds are also awarded by DTR to statewide, interregional, and regional projects.[7] Local grant recipients are required to provide a 20 percent local match. Since the inception of FASTER Transit, 138 projects across the State have been funded.

The Colorado DTR does not have a source of local matching funds, which places CDOT in a position similar to local jurisdictions when it comes to providing operating funds for regional services. Transit is not currently an allowable expenditure for HUTF, the State's primary source of State matching funds for roadway projects.

CDOT also is responsible for administering and allocating federal transit funds for several programs. These include the section 5311 Rural Transit and 5310 Elderly & Disabled Capital programs. The 5311 program is for rural areas only; the 5310 funds are for the entire MPO region. Of these funds, only 5311 could potentially help fund the proposed regional transit services.

These program restrictions can be confusing and it can be challenging to blend the various funding sources into a cohesive program which supports regional goals. Another important consideration is over the 25-year timeframe of this plan; many areas are anticipated to go from rural to urban, based on US Census definitions. Guidance is needed on how to transition between the fund sources.

Local Funds

Currently, matching funds for transit come from the local general funds of most jurisdictions operating transit in the North Front Range region. Additional funding will be needed for implementing regional transit services. In 2009, MPO staff prepared a report on transportation impact fees. Currently, development impact fees can only be used for

[6] Office of State Planning and Budgeting FASTER Fact Sheet
[7] CDOT FASTER Transit Grants website: https://www.codot.gov/projects/faster/faster-transit-grants

capital expenditures. Some states allow such fees to be used for transit operations. As Colorado considers how to fund transit services as part of a multi-modal transportation network, it may useful to explore this possibility.

FUNDING AVAILABILITY

Local agencies combine multiple federal funding sources to operate transit in the region. When planning for the addition of routes, these agencies should consider Section 5307 and CMAQ funding for the additional operating costs.

The three large transit agencies in the region use FTA Section 5307 as a source for the majority of their operating and capital funding. As described in MAP-21, Section 5307 funding is allocated by FTA based on a formula which considers a variety of factors based on the size of the urbanized area. Because of the multiple inputs, there is not one specific formula allocation. Additionally, Section 5307 funding requires a local match.

Section 5307 funding can also be used for non-motorized improvement projects, operating assistance, and the cost of vehicle-related equipment. At least one percent of the funding apportioned to each area must be used for transit enhancement activities such as historic preservation, landscaping, public art, pedestrian access, bicycle access, and enhanced access for persons with disabilities.[8] In the case of the RTE corridors, local governments could take advantage of the up to 50 percent federal match for operating assistance. It is important to note the addition of routes does not correlate to an automatic increase in federal funding. Additional routes may remove funding from existing routes unless the routes lead to an increase in population or density served.

Federal funds are allocated by a process run by Designated Recipients (DR). As of FY 2013, the FTA has used 2010 Census data in its apportionment calculations[9]. For the North Front Range region, both the City of Fort Collins and CDOT are considered DRs. Fort Collins is the DR for the Fort Collins Transportation Management Area (TMA), and handles the allocation of funding for Transfort, COLT, BATS and VanGo. Because Greeley is a stand-alone Urbanized Area and is not part of the TMA, CDOT serves as its DR.

For FY 2014, Fort Collins received more than $2.8M in Section 5307 funds on behalf of the TMA compared to nearly $2M in Greeley.[10] It is not expected there will be a large increase in available funding for transit projects; however, with the change in the allocation of the VanGo miles to the Fort Collins TMA from the Denver TMA, it is anticipated the funds will increase in 2016.

The use of CMAQ funding for operating for the first three years of service is a valuable strategy, as it allows time for the federal apportionment to be increased to reflect the additional service being operated. This also allows time to determine if other federal funds

[8] http://www.fta.dot.gov/grants/13093_3561.html
[9] http://www.fta.dot.gov/12853_13935.html
[10] http://www.fta.dot.gov/documents/Section_5307-STIC-GS-HD_Breakout_FINAL_051214.pdf

can be flexed to fill in the gap and to determine how local matching funds will be provided so the service will remain stable. CMAQ can also be used for capital expenses.

Within the region, CMAQ funds have been utilized as a tool for piloting bus routes in the region. To extend the FLEX route from Loveland to Longmont, CMAQ funding was used for three years. In seeing the successful extension of the route, local jurisdictions provided funding to keep the route running after the CMAQ funding ended. For the routes proposed, CMAQ should be considered as an important tool to bridge the gap while other funding sources are located.

Matching Funding Availability

The need for local matching funds depends on the type of project involved. FTA Section 5307 can be used for up to 50 percent operating assistance but can also be used for up to 80 percent for capital assistance or ADA non-fixed-route paratransit service.[11]

A majority of the services in this RTE are recommended as part of the North I-25 EIS. These services present Colorado with a new situation. How much of the funding responsibility for the transit services recommended in the North I-25 EIS should fall to the State and how much to the local jurisdictions?

Local jurisdictions do not have the political mandate to fund the local match for such regional transit services. Local jurisdictions, NFRMPO, and CDOT will need to work cooperatively to address the issue of how to provide matching funds for these services.

Colorado also has FASTER funds available to use for regional transit services. Through the creation of the Division of Transit and Rail, CDOT received the authority to operate transit services. In the North Front Range region, Transfort has already applied for FASTER funding for FY 2016 operating funds.

The question is complicated by the rules that have been set up to govern the federal funding programs.

- Transit funding, like highway funding, is authorized in different programs – for urban and rural services, for operating and capital expenses.
- At the federal level, the transportation authorizing legislation allows for flexible funding, but the funds must be used for the category for which they were originally authorized, generally capital funding.
- Transit services ultimately must form a cohesive network and these networks will need to connect local and regional services. Effective regional services must be well integrated with local services.

[11] http://www.fta.dot.gov/documents/MAP-21_Fact_Sheet_-_Urbanized_Area_Formula_Grants.pdf

The State and local governments will need to engage in discussions of how matching funds can be provided for the services planned as part of the North I-25 EIS.

In addition, local jurisdictions will need to discuss how to divide their funding responsibility for regional services. Cost sharing could be based on miles traveled in each jurisdiction, passengers boarding in each jurisdiction, or a combination of these[12]. Existing funding mechanisms for the FLEX service include funding arrangements between regional jurisdictions (Berthoud, Fort Collins, and Loveland) and jurisdictions outside of the MPO region (Boulder County and the City of Longmont). This agreement could serve as a model for future intra- and interregional services.

It is important to understand the magnitude of funding which might be required under each alternative, and what the State and local jurisdictions will need to contribute for matching the federal funds if adequate federal funding exists. It will be necessary to address the question of funding responsibility to identify the funding levels the local jurisdictions and State would be responsible for under each regional alternative. ***Appendix D*** presents numbers for the regional alternatives illustrating a variety of cost sharing scenarios.

This leads to the topic of governance. In selecting the governance structure it is important to remember the control should rest with those agencies responsible for funding the services. As with the funding discussions, it is critical to engage CDOT in the governance options discussions.

GOVERNANCE

From the perspective of the efficient delivery of transit services, a single entity responsible for providing regional transit services is desirable. However, the jurisdictions within the region have different community values, priorities, and methods of delivering and funding services. It is likely a solution will be needed which can reflect the different values across the region and coordinate services across jurisdictions.

It is useful to consider the other governance requirements for delivering transit services. Local communities currently provide individual governance for local transit services. Governance options that unify and simplify this process would be valuable but would require trust.

[12] The current IGA for FLEX services is based on dividing local costs in thirds, with Larimer County, Loveland, and Fort Collins each responsible for one-third. Other costs are covered by Federal funds and partners outside the region.

ROLES

In Colorado local jurisdictions have typically been instrumental in establishing regional transit services. As the region grows and as transit options become more integrated into the overall transportation network, the roles of different levels of government are changing.

Local

The voters, or their elected officials at the city and county levels, have the power to authorize an institutional structure for regional services. Some institutional structures, such as an intergovernmental agreement (IGA) or a Regional Service Authority (RSA) can be established by elected officials. For small communities, an IGA or purchase of service agreement (PSA) with larger entities would be a good starting point to extend service to their residents. Others, such as a Regional Transportation Authority, must be authorized by the voters. The voters must authorize any increase in taxes used to fund regional transit services.

Additionally, the local transit agencies and the member governments of the interregional transit service provider(s), should work together to develop a regional transit pass option for a rider that is valid on all member transit services. The specifics for this agreement, including the percentage of the transit fee to be delegated to each member community, would be detailed in an IGA between the member governments. A regional transit pass structure would simplify transfers for riders and speed up boarding for those transfer riders.

MPO

The MPO does not have direct involvement in determining a governance structure for regional transit services, but has a role in:

- Facilitating discussions and building consensus;
- Adopting policies supportive of regional governance options that provide for coordinated service delivery and service levels reflective of community values;
- Setting policies for funding or recommending funding for services that best fit within the adopted plan; and
- Adopting policies to link TDM activities and regional transit services, monitoring the effectiveness of the investment in these regional transportation services.

The MPO Planning Council has a role in developing a regional consensus and setting policies. The Technical Advisory Committee has a role on matters related to the transit mode, evaluating efficiency and related issues.

State

The role of the State is changing. In the North I-25 EIS, transit services are part of the long-term solution, yet it is only recently that the State has been given the authority to fund and contract for transit services. State-level policies regarding funding of transit services,

whether it is through flexing of federal funds or providing matching dollars for such funds, have not been developed.

The potential of CDOT contracting for the operation of regional transit and rail services is one option which has been identified and will be important to consider.

GOVERNANCE OPTIONS

Local communities which provide transit services have explored options for providing regional transit services. Governance options were explored thoroughly in the 2013 **North Front Range Transit Vision Feasibility Study**, collaborative effort between the cities of Fort Collins and Loveland, the Town of Berthoud, Larimer County, and the NFRMPO. Basic options include:

- Intergovernmental Agreements (IGA): Easiest to establish for a single route with a limited number of partners. Relies on annual budgetary commitment and renewal.
- Regional Service Authority (RSA): A RSA can provide either local or regional services or both. Local jurisdictions can purchase transit services at the level they desire from the RSA. These can be established by jurisdictions or by voters; with voter approval it can levy a property tax. The Transfort Strategic Operating Plan Update recommends this alternative.
- Regional Transportation Authority (RTA): Provides for transit services within a flexible boundary. Generally used for both local and regional services and requires a vote to establish. Can levy sales tax, motor vehicle registration fees, and visitor benefit taxes, with approval of voters.
- Mass Transit Authority: Counties can establish Mass Transit Authorities with the ability to levy a sales tax. This option is generally used in rural counties, as in Eagle and Summit Counties. County Commissioners serve as the Board and cities do not have a formal role on the board.
- State: CDOT now has the authority to operate transit and rail services, but this is still in development.
- Combination Options: Some areas combine one or more options, using special districts in addition to local authority. For example, a RTA could be set up for the purpose of providing regional services. Local jurisdictions would still operate transit services within their jurisdictions. Only the costs of providing regional services would be shared by participants in such a structure. The costs of local services would remain with each jurisdiction.

In considering options, it will be important to consider the role of the State, and this will reflect their role in funding services. If services are funded locally, will the State have

voting rights for regional services? Similarly, if services are funded by the State, what would be the role of local governments? In a blended system, how would the funding and decision-making control be balanced? It is useful to note the RSA specifically allows for the State to be a member organization. The State could also be a party to an IGA.

If the State was responsible for operating regional transit services, it is likely a combination governance structure would be needed as the State would only be interested in providing for services of statewide interest, and not the local connecting services.

RELATIONSHIP OF FUNDING AND GOVERNANCE

Earlier it was noted the choice of governance structures can impact or limit the options for local funding. ***Table 6.5*** identifies the primary local fund sources associated with each governance option. As NFRMPO works with CDOT and local jurisdictions to determine funding and operating responsibilities, these will be important considerations.

Table 6.5 Funding and Governance

Governance Structure	Impact on Funding Options
Intergovernmental Agreements (IGA)	May use any local general fund source. New revenues would need voter approval, but could come from a wide variety of sources.
Regional Service Authority (RSA)	Jurisdictions can purchase services from RSA, with local funds coming from General Funds. If additional revenues are needed and with voter approval, RSAs can levy a property tax.
Regional Transportation Authority (RTA)	A RTA has a flexible boundary and with voter approval, can levy a sales tax or vehicle registration fees. Different sales tax levels can exist in different jurisdictions within the RSA.
Mass Transit Authority	Can only be established at the County level. With voter approval can levy an up to one-cent sales tax.
State Governance	CDOT has authority to operate services statewide.

MOVING FORWARD

There is a need for a significant discussion at the regional level, the State level, and between regional representatives and CDOT about the roles and responsibilities of each of these entities in both the funding and governance of regional transit services for the North Front Range region.

At the regional level, this will result in a key activity: the establishment of a regional transit network plan for the region. The service alternatives in this RTE provide options ranging from simply maintaining existing services, including the FLEX service, to aggressive alternatives providing high levels of transit services on State highways. The High service alternative is similar to the plan adopted in the North I-25 EIS.

At the state level, CDOT will need to address their role in funding and/or operating regional services. These questions will need to be considered in light of statewide responsibilities, including the I-25 and I-70 corridors. Funding, bus operations, and rail operations also need to be considered.

This RTE illustrates how the definition of the roles and responsibilities of local and state partners will impact the financing levels and choices each party will need to consider. It is recommended the North Front Range region:

- Engage member agencies in addressing regional transit issues and developing policy responses;
- Formally initiate discussions with CDOT regarding the roles, responsibilities, and funding of regional transit services in the North Front Range; and
- Participate in statewide efforts to address these questions.

CHAPTER 7: PUBLIC INVOLVEMENT

Public involvement is essential for the planning process and requires a varied approach to be successful. In the case of the 2040 RTE, the NFRMPO approached the general public as well as local communities and transit providers for input. As with the 2035 RTE, the 2040 RTE incorporates the public's guidance for priorities, needs, and values regarding the development of regional transit services. Local governments act as a key audience as they are the entities responsible for fiscally balancing the needs for local and regional services. Working on both a local and regional level, local governments foster relationships, establish governance structures, and set local priorities.

The NFRMPO has taken steps to create a more robust public involvement program. Staff held meetings and gave presentations throughout 2013 and 2014 to educate the public and officials, while also staffing public meetings and attending community events. Through this process, the MPO has devised a plan which reflects the needs and values of the communities based on their input.

MOBILITY COUNCIL INITIAL COMMENTS

In April 2013, MPO staff presented information to the Larimer County Mobility Council (LCMC) and the Weld County Mobility Council (WCMC) at their respective meetings. The Mobility Councils consist of transit and human service agency representatives, bringing together individuals who work with transit-dependent populations. Following the presentations, members provided feedback and described the needs and values of their organizations.

Both mobility councils described the difficulty individuals with disabilities have to get to work or to medical appointments. Appointments, both within and outside of the region, can be difficult to reach for those who have mobility issues.

Both LCMC and WCMC members mentioned the need for improved intra- and interregional connections. For Weld County, connections along I-25, US 85, and US 34 were cited as the most important. Larimer County stated connecting Fort Collins to other major municipalities in the region is a priority, especially as a way to improve employment transportation for its growing workforce.

Both LCMC and WCMC members highlighted the need to connect the major urban centers within the region to Metro Denver. Many people have medical appointments and/or are employed in the Metro area, but do not have reliable transportation options. LCMC members stated, while there are transportation alternatives like Connecting Health Van, VanGo, and Greyhound, each of these have a variety of issues, including price and schedule which are not convenient for a majority of work schedules or appointments.

INITIAL PUBLIC OUTREACH

PRESENTATIONS TO LOCAL STAKEHOLDERS

MPO staff provided local jurisdictions with the opportunity to participate in the public involvement phase of this RTE. Local jurisdictions referred the presentations to the Transportation Advisory Boards (TAB), a collection of city staff and appointed members who consider local and regional transportation issues with the potential to update their local Transportation Master Plans. Additionally, staff reached out to other local groups, transportation or otherwise, to have a wider range of feedback and participation.

The organizations and events the MPO reached out to in late 2013/early 2014 included:

- Greeley Citizen Transportation Advisory Board;
- Windsor Business Expo;
- Larimer County Mobility Council
- Weld County Mobility Council;
- City of Fort Collins Transportation Board;
- Fort Collins Transportation and Planning Open House;
- Fort Collins Salud Family Health Centers “Block Party”; and
- City of Loveland Transportation Advisory Board.

Information presented to each group included an overview of the MPO, project goals for the RTE, and how the RTE fits in with previous and existing planning efforts. Staff stressed the RTE does not replace local plans, but rather works in tandem with them.

Feedback from the public was wide-ranging and informative. Board member comments mentioned the need for better connectivity to work, better services between cities, as well as improved services for those who face economic hardships. Transit is seen as a way to help connect people to jobs, especially for those individuals without cars. Board members also asked about what impediments exist for implementing and operating transit within the region.

Public comments also recommended transit services be extended into southeastern Fort Collins, specifically in the area south of Harmony Road. Intense development has led to insufficient transit connections in this area.

PARTNERSHIP WITH CDOT

In addition to working with local jurisdictions, MPO staff worked with CDOT as they completed their Statewide Transit Plan. Partnering with CDOT allowed the MPO to understand the local trends, needs, and capabilities in the larger statewide arena. CDOT undertook the *Statewide Transit Survey of Older Adults and Adults with Disabilities* as part of the Statewide Transit Plan outreach. CDOT provided the North Front Range Transportation Planning Region survey responses to the MPO, allowing the MPO to incorporate the responses into this RTE. These are included in **Appendix E**.

Along with the Statewide Transit Plan, CDOT has worked on a plan to connect the North Front Range to Denver Union Station via the Bustang interregional express bus and the potential for a future commuter rail connection.

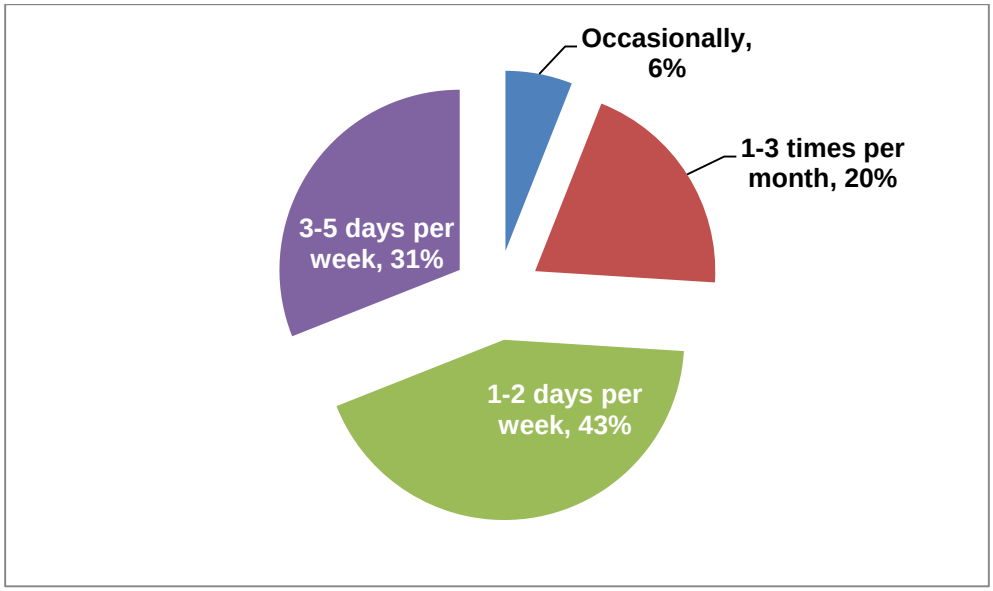
SURVEY

In 2013, MPO staff developed a survey to obtain feedback from the public on transit in the region, it is included in **Appendix F**. Specifically staff was interested in what improvements are needed to increase ridership and usage. The survey was available at the public outreach events as well as online beginning in August 2013 through September 2014. Combined, 138 completed surveys were received, providing feedback on the perception of transit in the region. Participants ranged in age, occupations, needs, and values and provided insight into how transit is viewed in the region.

The survey was short, with seven questions asking if transit usage would increase if more transit was provided, where the respondents' journeys might begin and end, and the purpose of potential transit trips. Respondents were not required to answer every question, but were invited to choose multiple options from the list or create their own answers.

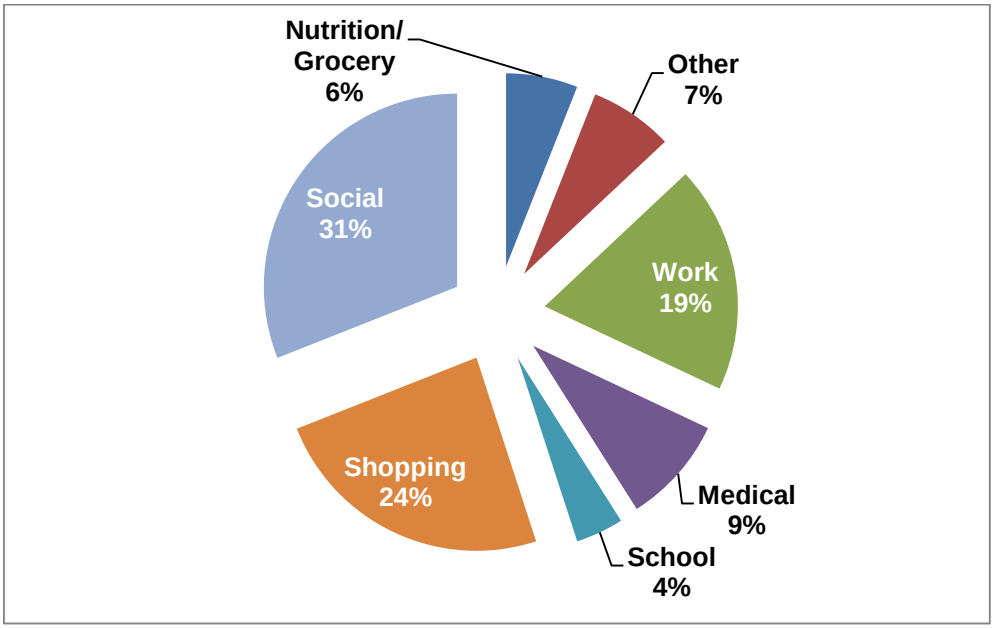
Figures 7.1 through 7.4 summarize the responses to this survey. Nearly half of respondents stated they would take transit one to two days per week, and nearly a third would take it multiple days per week. Social reasons provide the most potential transit trips followed by shopping. Frequency and saving time and money were most important to potential transit users. Fort Collins provides the highest number of potential transit users with a strong demand for service to Metro Denver. Conversely, the smaller communities of Eaton, Johnstown, Milliken, and Severance provide few potential transit trips.

Figure 7.1 Frequency of Use of Potential Transit Options



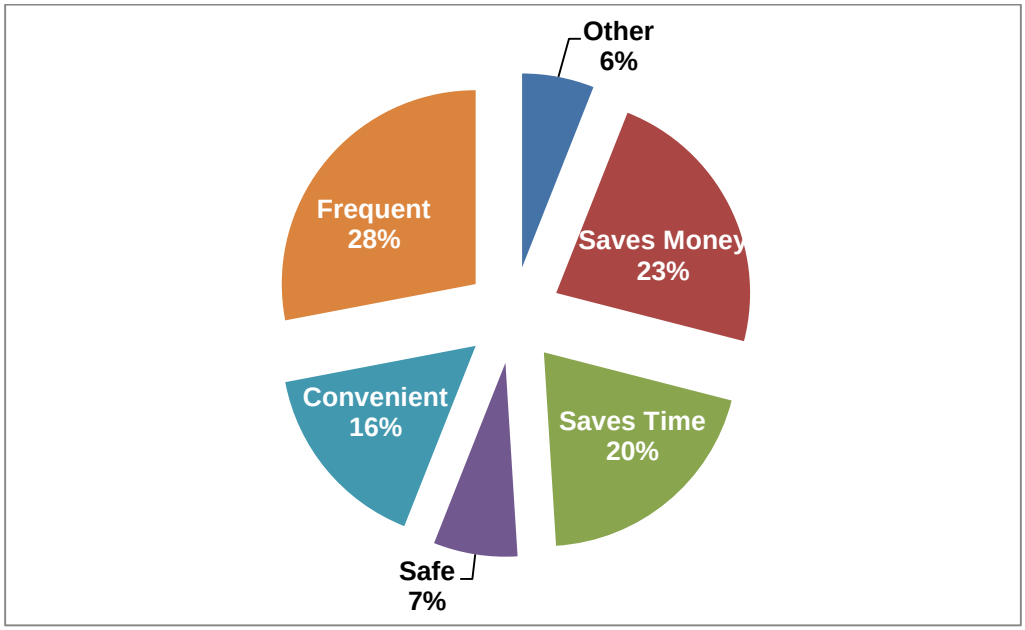
Source: *NFRMPO 2040 RTE Survey Responses, 2014*

Figure 7.2 Reasons to Take Potential Transit Trips



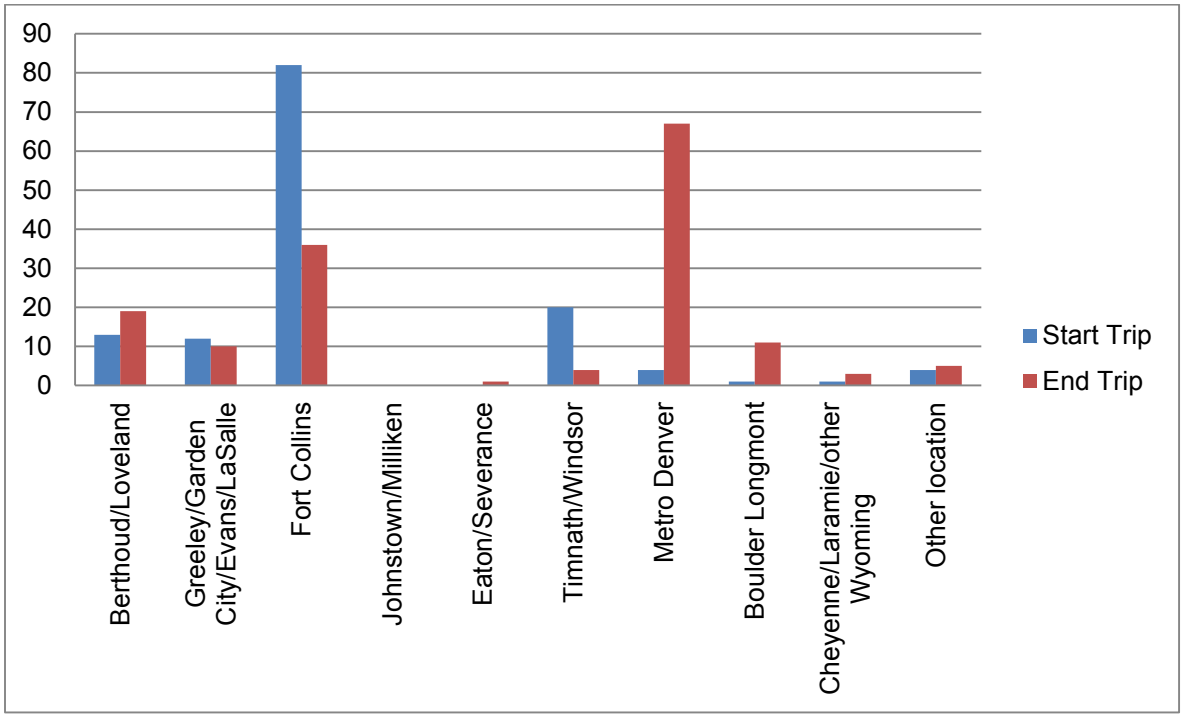
Source: *NFRMPO 2040 RTE Survey Responses, 2014*

Figure 7.3 Reasons to Use Transit



Source: *NFRMPO 2040 RTE Survey Responses, 2014*

Figure 7.4 Potential Transit Start and End Points



Source: *NFRMPO 2040 RTE Survey Responses, 2014*

TAC AND PLANNING COUNCIL

At the October 2014 TAC meeting, staff presented four additional corridors to be considered as the 2040 RTE Transit Scenarios, for a total of nine corridors. These nine corridors are shown in ***Figure 4.1*** in **Chapter 4** and include:

1. Evans-to-Milliken-to-Berthoud along SH 60 and SH 56
2. Greeley-to-Denver along US 85
3. Greeley-to-Windsor-to-Fort Collins along SH 257 and SH 14
4. Greeley-to-Longmont along US 85, SH 66, and SH 119
5. Greeley-to-Loveland along US 34
6. Fort Collins to Bustang (Express Route)
7. Greeley to Bustang (Express Route)
8. Loveland to Bustang (Express Route)
9. Proposed North I-25 Commuter Rail Line from Fort Collins-to-Longmont

TAC concurred with the recommended removal of the FLEX service to Longmont and the Bustang from Fort Collins-to-Denver as these corridors are committed or currently in service. The North I-25 Commuter Rail was included, although the anticipated year of operation, 2075, is beyond the scope of this RTE.

Staff provided an update on the transit corridor additions at the Planning Council Meeting on November 2014. Councilmembers were given time to critique the possible transit corridors and

favored the corridors being considered. The public in attendance also provided comments concerning the most important routes to consider, specifically mentioning the connection between Greeley and I-25; one of the RTE Corridors to be evaluated.

2014-2015 PUBLIC MEETINGS

As part of the public outreach for the 2040 Regional Transportation Plan, MPO staff attended multiple events and meetings to discuss the RTE corridors. Staff brought a large map of the corridors to these events and discussed transit needs in the region with the public. To engage a wide audience, staff participated in a wide variety of meetings and staffed booths at local events. The events and meetings staff attended included:

- Larimer County Mobility Council—December 18, 2014;
- Greeley Citizens Transportation Advisory Board (CTAB)—January 26, 2015;
- Weld County Mobility Council—January 27, 2015;
- Loveland Transportation Advisory Board—February 2, 2015;
- GET Open House—February 9, 2015;
- Loveland Public Library—February 10, 2015;
- Transfort South Transit Center—February 12, 2015;
- Colorado State University Student Union—February 17, 2015;
- Fort Collins Transportation Board—February 18, 2015;
- US 85 Coalition—March 12, 2015;
- Hwy 287 Corridor Coalition—March 26, 2015; and
- Greeley Chamber of Commerce Local Government and Business Affairs Committee—April 3, 2015.

Comments were varied; however, they focused on the need for regional transit connections. Both bus and commuter rail connections were brought up to help solve connectivity issues within the region and to Denver. A common issue cited was the need for an east-west connection between Greeley and Fort Collins and Greeley and Loveland, similar to the 34-Express bus. One key recommendation was that staff should analyze why routes like the 34-Express had not been successful in the past to ensure the same mistakes do not happen in the future. Additionally, there should be more connections to DIA which do not require a transfer at Denver's Union Station.

A Greeley CTAB board member contended the region should not be looking at buses for 2040 because transportation technology is improving rapidly. A large number of citizens wondered why the commuter rail service to Denver is expected in 2075. Many commented they would support the service if it started sooner.

Students at CSU provided input regarding transit at the CSU Transit Center. Students mentioned the low frequency of the buses leads to crowding on routes that serve the CSU Transit Center. In inclement weather, when more students ride the bus, they stated it is common to miss the bus due to overcrowding. Students also mentioned connections to Denver as one of

their primary concerns. One student stated they cannot connect to the CSU campus via transit because there are no routes from LaPorte.

CTAB suggested staff maintain a regional dialogue about transit by having transportation experts from around the country discuss and present to the public on transportation issues. Because many citizens are not aware of new technologies, laws, or policies impacting transportation, the region may benefit from a series of speakers on these topics.

Staff collected verbal and written responses received at the public meetings and events. These testimonies are available at the NFRMPO offices.

CHAPTER 8: MOVING FORWARD

PREFERRED ALTERNATIVE

For the 2035 RTE, the NFRMPO Planning Council selected the Basic Alternative with the addition of service along US 85 (Corridor 2) as the preferred alternative. This is identified as the Basic+ Alternative, shown in ***Figure 8.1***. The recommendation of this RTE remains similar, with the addition of service along the US 34 corridor (Corridors 5, 7, and 8) and SH 14/257 (Corridor 3).

The preferred alternative provides a benchmark for the level of service the NFRMPO Planning Council envisions for its 2040 RTP. As identified in **Chapter 6**, there are significant questions to resolve regarding governance, funding, and service delivery. As other interested parties participate in the discussion of how to govern, fund, and deliver services, the region may find funding is available at a different level than envisioned in this RTE. The recommended corridor plans will also refine the planning and result in changes as services are implemented. Changes can be made and are likely to be made over time during the initial planned level of service.

SERVICE COMPONENTS OF BASIC+ ALTERNATIVE

Table 8.1 shows the general characteristics of the Basic+ Alternative. This alternative includes:

- Full-day service along the FLEX route, with Saturday service included. Hourly service would be provided mid-day and half-hourly service in the commuting peak periods.
- Peak hour service in the US 34 (Corridors 5, 7, and 8), US 85 (Corridor 2), and SH 257/392 (Corridor 3) corridors, with 4-5 trips in the morning and afternoon peak periods.
- The remaining corridors (Corridors 1 and 4) would only be served by vanpool services, and vanpools will continue to remain an important component of the regional network in all corridors.

Figure 8.1 Basic+ Alternative

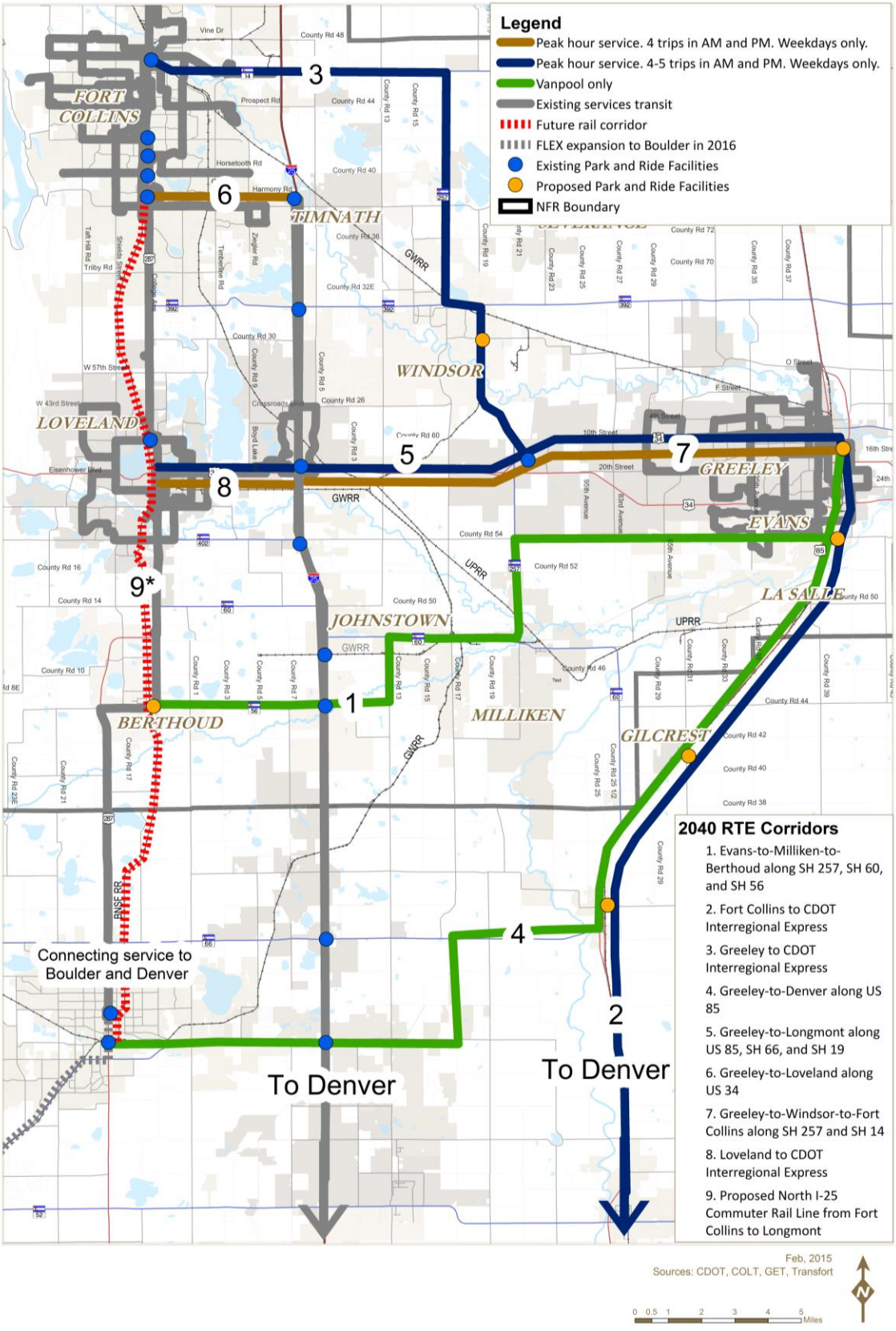


Table 8.1 Basic + Potential Demand by Corridor

Corridor	Basic+
1: Evans/Milliken/Johnstown	**0**
2: Greeley to Denver (US 85)	**287**
3: Fort Collins/Windsor/Greeley	**116**
4: Greeley to Longmont	**0**
5: Greeley to Loveland (US 34)	**1,571**
6: Fort Collins to Bustang (Express Route)	**396**
7: Greeley to Bustang (Express Route)	**11**
8: Loveland to Bustang (Express Route)	**6**
FLEX Route	**1,117**
TOTAL	**3,505**

FINANCIAL CHARACTERISTICS

When calculating the costs for the Basic+ Alternative, it should be recognized that services would be developed and built up over many years to reach the service build out for the Basic+ Alternative. The vehicles necessary for each corridor in the alternative; however, would need to be purchased up front.

The fleets or number of vehicles necessary for each route will need to be calculated and should include a spare ratio of 20 percent in the capital costs. A small fleet could initially be accommodated in existing facilities within the region, but as regional services develop additional maintenance and operating facility capacity will be needed. The appropriate location of the maintenance facilities will also need to be considered for the regional services if they are bidirectional. Furthermore, costs of additional park-n-ride facilities as well as expansion of existing facilities will need to be calculated. Additional park-n-ride capacity needed should be identified as part of the corridor plans.

OVERVIEW OF ACTION PLAN

Two simultaneous phases are recommended for implementing new regional services. The first aspect involves building consensus among local and regional entities and CDOT on how services will be funded and governed. The other is aligning the processes within the MPO to support the development of regional transit services. This will begin in the 2040 RTP and also involves the annual processes for selecting projects and allocating funds.

Both aspects can and should occur simultaneously. This will be an iterative process and at times one portion may need to wait for the other before continuing forward. There will also be overlap between the two approaches and the decisions and activities occurring in each will impact the other. For example, the stakeholders in the corridor planning process may be influenced by decisions on governance and funding. Local decisions on funding and delivering services may impact the choices and attractiveness for the funding and governance of regional services.

The following Action Plan includes sections on policy framework, funding and governance, and service development. Activities specific to the MPO and those that involve working with external entities are included in the section.

POLICY FRAMEWORK

A challenge in implementing regional transit services is the current system for developing transit services is at the local level or at the State level. The proposed regional services cross many jurisdictional lines and are part of both local plans and the North I-25 EIS. Leadership and cooperation among the various stakeholders will be required to move forward and develop sustainable services. Important activities for the Planning Council include:

- Setting a policy framework which includes all transit modes.
- Adopting policy positions, such as those contained in this RTE, on items such as funding or connectivity and supporting activities at all levels of government that promote these policy positions.
- Encouraging member agencies to continue to work cooperatively with one another and with entities outside the MPO boundaries to develop and fund regional transit services.
- Developing expertise at the Planning Council and staff levels to support the development of effective regional transit services.
- Continuing to provide community and public outreach activities to develop consensus around the evolving plans for regional transit services.

These are explored in more detail in the remainder of this chapter.

GOVERNANCE AND FUNDING

This is the area with the most questions needing to be answered. It will require a high level of cooperation among regional entities and will provide a foundation for the development of all recommended regional services. It will also likely take the longest to resolve and should be started first. Other activities can proceed concurrently as the governance and funding issues are worked through.

KEY ISSUES

The following issues were identified in the development of the 2035 RTE are still true for the 2040 RTE:

Fund Sources and Availability. What funding source(s) can be used for both operating and capital expenses? What flexibility in funding sources should be considered, especially understanding the high level of needs for all transportation modes? If additional local funding is required as the plan assumes, should this be considered simply on a local level, a regional level, a State level or more broadly at all levels?

Funding Responsibilities. For services included in the North I-25 EIS, what are the funding responsibilities of the State and local governments?

Balancing Local and Regional Funding. At the local level, what balance of funding between local and regional feeder services is acceptable? At the State level, what balance needs to be considered between the North Front Range and Upper Front Range or modal priorities?

Governance. What governance structures should be considered for the near-term and long-term? What balance of control should there be for local and State governments?

CDOT's Role in Regional Transit and Rail. One governance option identified in **Chapter 6** was for CDOT to operate regional services, keeping local connecting services with local agencies. This option, for both transit and rail, needs to be vetted by CDOT.

The key issues stated in this section are complex and will require participation by a broad range of stakeholders. Local consensus is desirable to enable the region to speak with a unified voice. Issues as complex as these will require room for all opinions.

At the same time the NFRMPO Planning Council is addressing these items, other jurisdictions may be addressing similar issues. In 2009, CDOT created the Division of Transit and Rail which helped the agency to define its roles and responsibilities related to transit. Local entities which operate transit services may pursue alternate governance and/or funding arrangements.

Resolution of some issues may also require in-depth analysis or legislative action. If a particular topic was not addressed adequately in the 2008 Rail and Transit Governance Study, it is reasonable for CDOT to require additional analysis before committing to a position.

It is crucial to remember resolution of these issues is in the hands of local and State governments. The MPO's role is a supporting one.

The following is a recommended action for the NFRMPO Planning Council:

- Establish an MPO process to involve local stakeholders in the development of regional services. This could include:

  - The creation of a standing committee of three to five Planning Council members to lead the development of regional transit services. An MPO staff member would be assigned to provide support.

  - Determine how the region can be represented in discussions of governance and funding issues with CDOT and other regional entities. As the region moves through this process, it will be necessary for regular communication with all Planning Council members to build trust and regional consensus. It is anticipated DRCOG, RTD, and the Upper Front Range would also participate in such regional discussions with CDOT.

  - Establish routine communications to involve local jurisdictions in the consensus-building process and to maintain a broad awareness of regional transit issues. Local jurisdictions are the ones who will make many of the funding and governance decisions. The MPO's role is to facilitate discussions and help to build consensus. These communications should be informative, making it easy for Planning Council representatives to keep their Council, Board, or Commission members current on activities. They should also provide a forum for local entities to weigh in on current issues.

FUNDING

Funding issues occur at all levels. They are intertwined with planning processes, local budgets, federal budgets, and State laws. There is uncertainty about the next version of federal transportation legislation, how the economy will continue to recover, and the fluctuation in gas prices. This uncertainty makes now a good time to address these funding issues. When there is uncertainty, there may be openings for change that otherwise would not be considered. Pursuing funding issues now will position local and regional entities to be ready to act when new legislation is passed and when the economy has fully recovered from the recent recession.

Some of the following actions can be carried out internally by the MPO, while others require a cooperative effort with other stakeholders.

- Allocate federal funding received by regional agencies to support the maintenance and development of regional transit and TDM services. This will include operations as well as the administrative and overhead costs of the TDM and transit programs.

  - Request staff and member agencies, through TAC participation, identify baseline numbers for the costs and revenues associated with current

regional services. Develop a methodology consistent across the vanpool and transit programs to identify revenues specific to regional services in addition to changes in revenue and expense levels. For both programs, the vehicle revenue and passenger miles will be key indicators for the Section 5307 fund allocations.

  - Identify issues related to a strong regional transit and vanpool program. Explore policy options to strengthen the funding base for existing and proposed services and allocate changes in revenues due to the operation of regional transit and vanpool services towards maintenance or expansion of these services.

- Work with CDOT to continue and expand funding for transit on State highways. These expanded options should include weekend and event services for complete transit connecting the North Front Range to Denver.
- Adopt policy positions which support local, State, and federal initiatives providing for:
  - Operating funds for intraregional transit services that link communities;
  - Local and State match for operational costs; and
  - Flexibility in using transportation funding to develop multi-modal transportation networks which respond to community priorities and needs.

These policy positions could be used as a basis for taking a position on local, regional, State, or federal legislative proposals.

- Work with local communities to develop and support finance options which recognize and allow for funding of regional services in addition to local transit services.
  - Work with local and regional providers to develop a fare structure for regional services which may be used on all regional corridors and provides connectivity to at least one local transit system.

MONITORING AND PLANNING

There are a variety of ways the MPO can monitor the development of regional transit services and engage in activities to move the region towards a transportation network that is more balanced between modes.

At the most basic level, it is recommended the MPO staff provide an annual report on progress made towards the development of regional and intraregional transit services. Less formal reporting may occur more frequently.

- Annual progress reports should include actions completed, identifying any new issues or changed conditions, and updating objectives for the upcoming one to three years. It is recommended this be done in conjunction with the Congestion Management Plan (CMP) to allow for a unified process for meeting overall goals.
- Tracking and reporting on progress should also be a part of communication with member agencies. The reporting should cover both activities accomplished and concerns raised by member or stakeholder agencies.

The MPO also undertakes a range of planning and monitoring activities through its routine planning processes. As these are carried out or updated, it is recommended the development of regional transit services be integrated in these processes.

GOALS, OBJECTIVES, AND STRATEGIES

It is recommended the MPO work towards the development of multi-modal goals and objectives. The RTP contains a Value Statement and Goals, Objectives, Performance Measures, and Targets (GOPMT) which provide an understanding of the role of the MPO in regional transportation issues, the importance of working in partnership and actively engaging the governing bodies of member entities, and some specific propositions regarding a vision of decreasing reliance on single occupant vehicles and increasing the availability and importance of transit and alternative modes.

The 2015 CMP will include the GOPMT adopted by the Planning Council in September 2014. These provide a useful framework for developing a multi-modal transportation network. The four goals and their associated objectives include:

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

    - *Objective:* Conforms to air quality requirements
    - *Objective:* Maintain transportation infrastructure and facilities to minimize the need for replacement or rehabilitation.
    - *Objective:* Investment in infrastructure

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

    - *Objective:* Use the Congestion Management Process (CMP) to reduce congestion.
    - *Objective:* Reduce number of sever traffic crashes
    - *Objective:* Reliable Travel times

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

- *Objective:* Support Transportation services for all including the most vulnerable and transit dependent populations.
- *Objective:* Implement RTE, Regional Bicycle Plan, and North I-25 EIS.
- *Objective:* Develop infrastructure that supports alternate model and connectivity.

4. Optimize operations of transportation facilities.

    - *Objective:* Use Transportation Demand Management techniques to reduce congestion and optimize the system.
    - *Objective:* Implement intelligent transportation systems (ITS).
    - *Objective:* Enhance transit service in the NFR
    - *Objective:* Reduce project delivery time frame.

Each of the objective has a performance measure and a target to help the region meet the goals, ***Table 8.2***.

Table 8.2 MPO Performance Measures and Targets

Performance Measure	Target
Air quality conformity tests on plans and programs	Passes conformity
Number of facility samples with poor surface conditions	Reduce by 1%
Bridges with a sufficiency rating below 50.0	Less than 5% of bridges
Five-year rolling average of injury and fatal crashes	No increase in crashes
Regionally significant congested corridor with a travel time index of 2.5 times or less than free flow	Maintain at least 80%
Population and essential destinations within paratransit and demand response service area within the MPO boundary.	At least 85%
Non-motorized facilities per capita	Increase by at least 2%
Fixed-route revenue hours per capita within service areas	Increase by 30%
Transit service vehicles within useful life parameters established by FTA	Maintain 75%
VMT growth per capita	Change in VMT should not exceed change in population
Fixed-route ridership per capita within service areas	Increase by 10%

PLANNING

Through the North I-25 EIS process the region's citizens developed a clearer vision of a future transportation network with regional transit services. Many challenges exist to transforming this vision to reality. Addressing the outstanding issues and building a consensus on how to move forward rests solidly in the planning arena. The MPO's Planning Council can serve a crucial leadership role in addressing the outstanding issues. A solid commitment and clear vision will be necessary to implement new regional transit services.

The MPO has responsibilities for planning and prioritizing projects and for programming funds. In this role the MPO can:

- Only support regional service projects that meet certain standards, and could include:
  - A completed corridor plan showing the viability of planned services
  - Having funding that can sustain the service in place
- Make it a priority to develop regional transit services and complete the steps identified in this RTE.

Another action the MPO can take is to consolidate and use resources towards the common goal of developing alternative transportation services. The RTP recommends corridor studies for those corridors where regional services will be established. The TDM Plan recommends comprehensive planning, data gathering, and monitoring activities. It is recommended the two programs work together in this area.

It is recommended corridors be prioritized so resources can be targeted effectively. The TDM resources for data collection and monitoring and transit planning funds should also reflect these priorities.

Recommended planning activities include:

- Establishing corridor priorities for studies in each of the corridors in the RTE. From the data, the top priorities appear to be maintaining and expanding the FLEX service, US 34 corridor (Corridors 5, 7 and 8), and the US 85 corridor (Corridor 2).
  - Program funding for corridor studies.
  - Identify how the development of regional transit services will support TDM activities and how TDM activities can support transit service development and integrate this into the MPO's Unified Planning Work Program (UPWP).
- As project evaluation criteria are revised or developed for various funding sources and project selection activities, the importance of developing regional transit services must be taken into consideration.

- Include the degree to which projects support the goals of the RTE and the corridor priorities set by the MPO in the section criteria for transit projects.

SUMMARY OF RECOMMENDED ACTIONS

It is anticipated it will take at least three years to establish service in a new corridor once the financial and institutional issues are addressed. The three year estimate allows time for programming the project, budgeting funds, acquiring equipment, and implementing service.

The initial steps forward of working with CDOT to address the financial and governance issues surrounding the development of services in the North I-25 EIS will provide a foundation for most other activities. While the MPO can and should move forward with those items under their control, implementation of the preferred alternative will not occur until the financial and governance issues are resolved. The process of reaching a satisfactory arrangement between CDOT and local governments could take from one to three years. If legislative or voter approval is needed, more time could be required.

Table 8.3 summarizes the actions completed in the region since 2011, when the 2035 RTE was published and the North I-25 EIS was completed.

Table 8.3 Summary of Actions Since 2011

Action	Date	Result
Examination of Regional Transit	2013	North Front Range Transit Vision Feasibility Study
MAX BRT Service Began	May 2014	Increased use of transit in the Mason Corridor
Funding source for FLEX route established	2014	Application to DRCOG CMAQ funding to extend FLEX service to Boulder.
Extension of Transfort service to Bustang	February 2015	Link between local transit route and interregional route.
Establish Bustang	Spring/Summer 2015	Service between Fort Collins/Loveland and Denver

Table 8.4 lists those actions recommended to move the North Front Range towards a regional transit system.

Table 8.4 Summary of Recommended Actions

Action	Timeframe	Responsibility
Establish multimodal actions and strategies as part of 2015 CMP update	2015	MPO staff lead
Establish corridor priorities • Program funding for corridor studies • Align resources for regional transit service development and TDM activities	2015-2016	Planning Council
Establish MPO process for involving stakeholders in development of regional transit • Standing committee with staff support • Representation in regional discussions • Communication channels	2016	Planning Council
COLT extension to Bustang	2016	COLT
FLEX extension to connect CSU and CU	2016	Transfort
Adopt policy positions which support local, state, and federal initiatives that help to build funding options for regional transit services.	2016-2017	Planning Council
Park-n-Ride to accommodate Bustang	2016-2017	MPO staff lead
Support local finance options that recognize and allow for funding of regional services.	Ongoing	Planning Council
Include development of regional transit services as a priority in project evaluation and selection criteria	Ongoing	Planning Council with MPO staff support
Monitor progress towards completing these actions	Ongoing	MPO staff lead
Work actively with CDOT and other stakeholders to address governance and funding issues	Ongoing	MPO staff lead
Work with local providers to develop a regional fare structure to provide distance-based fares and seamless transfers between systems	Ongoing	MPO staff lead
Extend MAX hours of service and route further south	Ongoing	Transfort

CONCLUSION

This RTE provides a long-range vision for regional transit services, but the focus of the recommended actions is short term. It is through cooperative action and many small steps that the vision will become a reality.

APPENDIX C: DEMAND ANALYSIS

The travel demand analysis included the following steps:

1. Creation of trip matrices for 2012, 2020, 2030, and 2040 to show all daily trips from Traffic Analysis Zone (TAZ) to TAZ using the NFRMPO Travel Model.

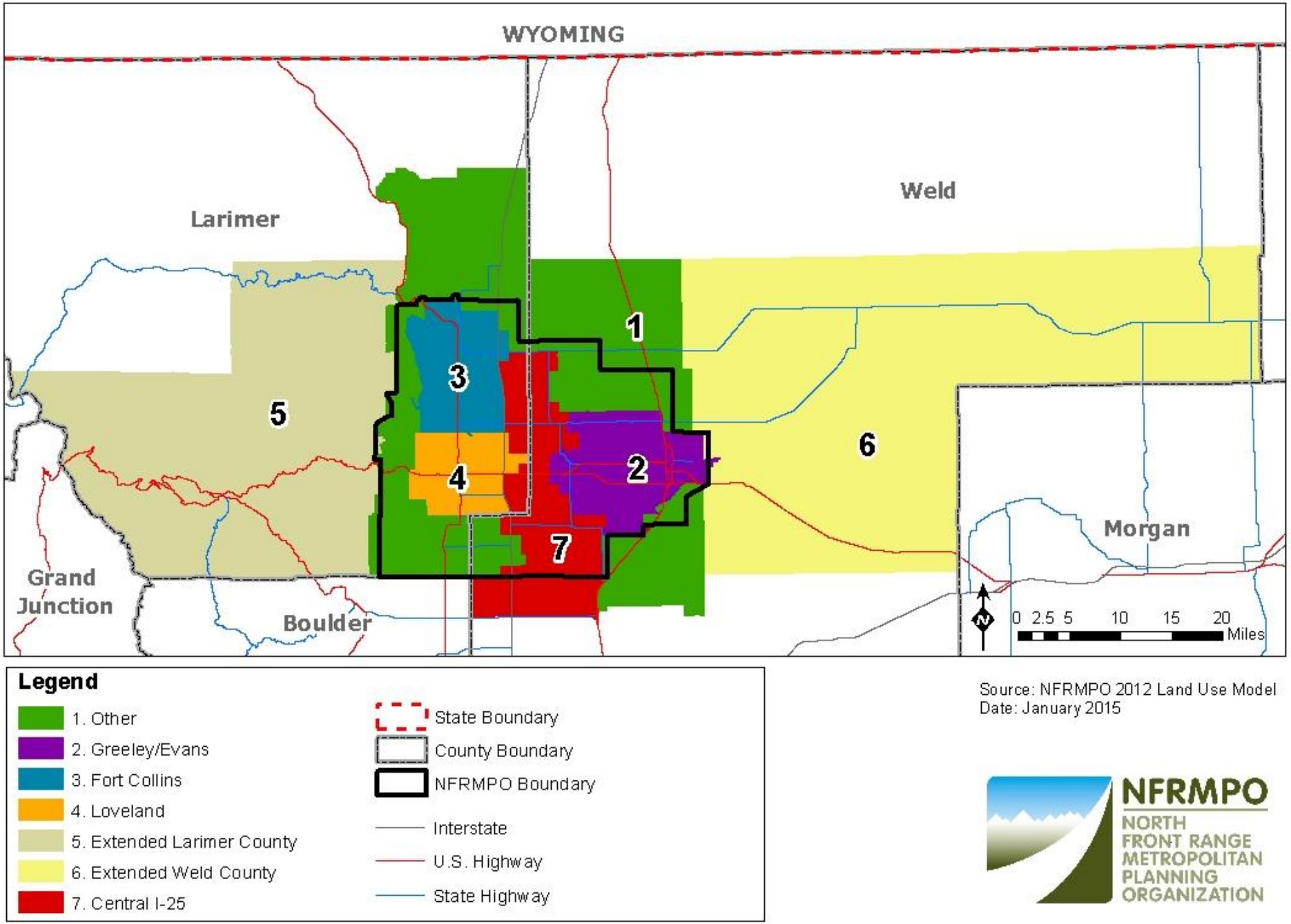
2. The trip matrices produced were aggregated by subregion. There are seven subregions in the modeling area. Currently, no fixed-route transit exists or is proposed in subregions 5 or 6 so they were removed, leaving five subregions for analysis.

3. The trip matrices were organized by mode share and all transit related tables were used, including: walk to local transit, walk to express, walk to premium, drive to local transit, drive to express, and drive to premium. An example of an express route is the MAX in Fort Collins. An example of a premium route is the CDOT Bustang on I-25.

4. The trip matrices were validated based on current assumptions in the transit portion of the travel model. Examples include, but are not limited to:
    - **a)** No fixed-route service exists from Greeley to Fort Collins, resulting in zero trips.
    - **b)** More trips inside Fort Collins (subregion 3) due to increased availability of transit service.
    - **c)** 'Other' (subregion 1) is farther away from service resulting in the least amount of trips.
    - **d)** Trips are allocated between Loveland and Greeley/Evans in year 2020 because of the connection to the CDOT Bustang route.

Figure D.1 shows the regional model's subregions. Tables are also included showing each transit trip table. The summary is presented by year (2012, 2020, 2030, and 2040) and then for each mode share as explained in step 3.

Figure D-1: Map of Subregions



Source: NFRMPO 2012 Land Use Model
Date: January 2015

NFRMPO
NORTH FRONT RANGE METROPOLITAN PLANNING ORGANIZATION

Total Transit Trips in Subregions
(2012, 2020, 2030, and 2040)

2012 Total Transit Trips					
Subregion	1	2	3	4	7
1	0.302249	0.017418	70.581863	29.260921	0.171634
2	0.249004	789.15698	0	0	0
3	30.671244	0	6158.7163	13.896188	0.287766
4	68.918182	0	304.44424	384.06897	1.489053
7	0.124145	0	0.97078	3.463137	0.065847

2020 Total Transit Trips					
Subregion	1	2	3	4	7
1	5.166989	0.086133	78.135503	93.545127	10.402236
2	5.074603	919.18408	9.619768	0.000003	0.001203
3	270.86942	0	2627.46	30.500271	2.494927
4	78.224197	0	82.925678	331.06632	2.134064
7	4.319334	0	0.826385	1.232461	0.244381

2030 Total Transit Trips					
Subregion	1	2	3	4	7
1	6.927782	0.115026	115.25202	95.898003	15.961254
2	6.220092	1011.7441	10.068281	0.000028	0.001097
3	337.4058	0	2964.2108	32.349952	2.457655
4	88.843782	0	93.073849	369.32379	4.984965
7	6.517692	0	1.969484	4.730233	0.726882

2040 Total Transit Trips					
Subregion	1	2	3	4	7
1	13.359252	0.1987	168.26032	88.560858	13.883645
2	36.441015	1173.8563	7.674283	0.013672	0.041363
3	359.72947	0	3264.5315	95.981775	3.631879
4	87.653656	0	173.05861	458.16067	7.420274
7	28.886776	0	4.226872	5.867521	1.068119

Total Transit Trips in Subregions - Driving to Premium
(2012, 2020, 2030, and 2040)

2012 Total Drive to Premium Transit Trips					
Subregion	1	2	3	4	7
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
7	0	0	0	0	0

2020 Total Drive to Premium Transit Trips					
Subregion	1	2	3	4	7
1	1.449042	0	0.053992	0.006948	0.000214
2	0.000158	0	9.619636	0.000003	0.00012
3	0.000387	0	190.66872	1.273187	0
4	0.00008	0	17.913092	0	0.000002
7	0.000024	0	0.19315	0.000619	0.000031

2030 Total Drive to Premium Transit Trips					
Subregion	1	2	3	4	7
1	2.066251	0	0.056723	0.006841	0.000771
2	0.000716	0	10.067297	0.000028	0.00018
3	0.000286	0	207.25203	1.129658	0
4	0.000059	0	20.176685	0	0.000003
7	0.000017	0	0.427195	0.00069	0.000039

2040 Total Drive to Premium Transit Trips					
Subregion	1	2	3	4	7
1	4.341418	0	2.209179	0.050896	0.024095
2	0.123694	0	7.328702	0.01367	0.004957
3	34.358891	0	395.52243	18.983261	0.120047
4	0.255143	0	64.571663	6.59728	0.070025
7	3.740354	0	2.296173	0.167028	0.187036

Total Transit Trips in Subregions - Driving to Express
(2012, 2020, 2030, and 2040)

2012 Total Drive to Express Transit Trips					
Subregion	1	2	3	4	7
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
7	0	0	0	0	0

2020 Total Drive to Express Transit Trips					
Subregion	1	2	3	4	7
1	3.411463	0	9.208811	10.544762	5.769111
2	4.462962	0	0.000132	0	0.001083
3	62.598118	0	0	0	0.00007
4	3.725879	0	0	0	0.000008
7	2.424868	0	0	0	0.000144

2030 Total Drive to Express Transit Trips					
Subregion	1	2	3	4	7
1	4.449793	0	13.870559	9.358322	7.877994
2	5.347093	0	0.000984	0	0.000917
3	78.515594	0	0	0	0.000195
4	5.869981	0	0	0	0.000009
7	3.19241	0	0	0	0.000164

2040 Total Drive to Express Transit Trips					
Subregion	1	2	3	4	7
1	8.777694	0	17.154818	7.059377	5.106394
2	35.313606	0	0.345581	0.000002	0.036406
3	24.62759	0	0	0.047772	0.000086
4	12.677208	0	0.012999	0	0.016838
7	20.682579	0	0.001219	0	0.012301

Total Transit Trips in Subregions - Walking to Premium Transit
(2012, 2020, 2030, and 2040)

2012 Total Walk to Premium Transit Trips					
Subregion	1	2	3	4	7
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
7	0	0	0	0	0

2020 Total Walk to Premium Transit Trips					
Subregion	1	2	3	4	7
1	0.020668	0	39.750725	0.000152	0.000102
2	0	0	0	0	0
3	103.81763	0	1026.8746	17.707773	0.163665
4	0.000283	0	52.359798	0	0.000495
7	0.003542	0	0.050215	0.000036	0.000073

2030 Total Walk to Premium Transit Trips					
Subregion	1	2	3	4	7
1	0.026693	0	52.112709	0.000159	0.000107
2	0	0	0	0	0
3	129.98407	0	1087.7223	16.600889	0.237373
4	0.000272	0	55.885181	0	0.000775
7	0.003559	0	0.211389	0.000032	0.000097

2040 Total Walk to Premium Transit Trips					
Subregion	1	2	3	4	7
1	0.05191	0	42.834236	0.000823	0.000266
2	0	0	0	0	0
3	195.7272	0	1102.0986	47.567444	0.720388
4	0.000435	0	48.798645	0	0.001589
7	0.003418	0	0.149375	0.000138	0.000183

Total Transit Trips in Subregions - Walking to Express Transit
(2012, 2020, 2030, and 2040)

2012 Total Walk to Express Transit Trips					
Subregion	1	2	3	4	7
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
7	0	0	0	0	0

2020 Total Walk to Express Transit Trips					
Subregion	1	2	3	4	7
1	0.001346	0	13.565547	14.023744	3.507531
2	0	0	0	0	0
3	84.633614	0	0	0.493575	0.041737
4	24.59758	0	0.134796	0	0.035411
7	1.670061	0	0.007789	0.001468	0.005702

2020 Total Walk to Express Transit Trips					
Subregion	1	2	3	4	7
1	0.001346	0	13.565547	14.023744	3.507531
2	0	0	0	0	0
3	84.633614	0	0	0.493575	0.041737
4	24.59758	0	0.134796	0	0.035411
7	1.670061	0	0.007789	0.001468	0.005702

2040 Total Walk to Express Transit Trips					
Subregion	1	2	3	4	7
1	0.000855	0	27.830683	17.006975	5.23599
2	0	0	0	0	0
3	81.911873	0	0	0.619573	0.092557
4	28.644835	0	0.406553	0	0.051124
7	4.167819	0	0.097499	0.002401	0.015288

Total Transit Trips in Subregions - Walking to Local Transit
(2012, 2020, 2030, and 2040)

2012 Total Walk to Local Transit Trips					
Subregion	1	2	3	4	7
1	0.3	0.0	70.6	29.3	0.2
2	0.2	789.2	0.0	0.0	0.0
3	30.7	0.0	6158.7	13.9	0.3
4	68.9	0.0	304.4	384.1	1.5
7	0.1	0.0	1.0	3.5	0.1

2020 Total Walk to Local Transit Trips					
Subregion	1	2	3	4	7
1	0.28447	0.086133	15.556428	68.969521	1.125278
2	0.611483	919.18408	0	0	0
3	19.819672	0	1409.9166	11.025736	2.289455
4	49.900375	0	12.517992	331.06632	2.098148
7	0.220839	0	0.575231	1.230338	0.238431

2030 Total Walk to Local Transit Trips					
Subregion	1	2	3	4	7
1	0.384048	0.115026	25.684555	75.355118	3.534412
2	0.872283	1011.7441	0	0	0
3	26.237595	0	1669.2365	13.915969	2.126154
4	59.438808	0	16.676987	369.32379	4.953976
7	0.381665	0	1.261743	4.72737	0.717892

2040 Total Walk to Local Transit Trips					
Subregion	1	2	3	4	7
1	0.187375	0.1987	78.231407	64.442787	3.5169
2	1.003715	1173.8563	0	0	0
3	23.103912	0	1766.9104	28.763725	2.698801
4	46.076035	0	59.268753	451.56339	7.280698
7	0.292606	0	1.682606	5.697954	0.853311

APPENDIX D: DATA ON COST CALCULATIONS

OPERATING COSTS

An operating cost of $80 per hour was used to project regional system expenses. This cost is in 2012 dollars and was not inflated for this report. The FTA's National Transit Database reports an average hourly cost for metropolitan transportation systems of $144 in 2012, the most recent year for which data is available. The reported 2012 operating costs for the transit systems in the NFRMPO ranges from a low of $60/hour (GET) to $85/hour (Transfort). For 2012, the operating cost per hour for the FLEX service was $80 per hour. Using the operating cost per hour of an existing regional transit service is justifiable for the region.

VEHICLE COSTS

A vehicle cost of $500,000 per vehicle was used in the analysis, with an average 12-year useful life per vehicle. There is a wide variation in vehicle costs, from $98,000 for a small transit vehicle to $770,000 for an articulated bus. The selected vehicle type for this analysis is similar to that currently used for the FLEX service.

MAINTENANCE FACILITY COST

Facility costs vary widely due to variations in geographic location, land cost, types of buses stored and maintained, community aesthetic requirements, first-cost versus long-term cost trade-offs, and other factors. Recently constructed facilities in Vermont, California, and Arizona cost $60,000 per bus stored and maintained, $133,000 per bus, and $200,000 per bus, respectively. Proposals to build facilities in Glenwood Springs and Avon, Colorado will cost more, due to their challenging mountain environments, at approximately $350,000 per bus.

Given the generally milder topography and more moderate climate compared to these Colorado examples, facility costs for this report have been estimated as $150,000 per bus - the lower end.

Since status quo service is being provided using existing maintenance facilities, no facility expansion is necessary. The basic, moderate, and high service alternatives call for the addition of 11, 17, or 30 buses respectively which must be housed and maintained at a new facility. Since it would be unreasonable to build a 30-bus facility when only 11 are needed and since it would be equally unreasonable to be limited to an 11 bus facility when 30 will eventually be needed, a phasing plan is necessary.

The phasing plan should consider that although the service alternatives show discreet steps from the basic to moderate to high service levels, service will evolve more organically and many years are required to bring a facility from planning, through land acquisition, to construction and completion. Existing bus facilities around the region will

stretch to accommodate additional buses until these facilities are expanded or an entirely new, dedicated regional bus maintenance facility is built. For these reasons, a 20-bus facility would be an appropriate initial target with a phasing plan to expand storage capacity in two 10-bus increments would be appropriate, requiring an initial facility of $3 Million with two $1 Million expansions.

PARK-N-RIDE COSTS

Accurate costs for park-n-rides have not been developed for this report; however, they should be included in the corridor analysis plans. The cost for park-n-rides in the I-25 corridor will be developed as part of the fiscally constrained plan for North I-25.

For example, rough cost estimates for the Harmony Park-n-Ride are estimated at $60,000 per space x 1,000 spaces = $60 Million. This estimate is for the construction of a structure adding 1,000 spaces at the current location, which has 250 spaces in the existing lot.

Location	Corridor
I-25 at Harmony Timnath	6:Fort Collins to Bustang (Express Route)
I-25 at 392 Windsor	N/A
I-25 US 34 east of Loveland	5: Greeley-to-Loveland along US 34 7: Greeley to Bustang (Express Route) 8: Loveland to Bustang (Express Route)
I-25 CO 60 Johnstown	N/A
I-25 CO 56 between Berthoud and Milliken	1: Evans-to-Milliken-to-Berthoud along SH 60 and SH 56
I-25 CO 66 Mead	N/A
I-25 CO 119 east of Longmont	4: Greeley-to-Longmont along US 85, SH 66, and SH 119
SH 257 east side of Windsor	3: Greeley-to-Windsor-to-Fort Collins along SH 257 and SH 14
US 85 Evans	2: Greeley-to-Denver along US 85
US 85 Gilcrest	2: Greeley-to-Denver along US 86
US 85 Platteville	2: Greeley-to-Denver along US 87
Longmont	4: Greeley-to-Longmont along US 85, SH 66, and SH 119

NFRMPO
Regional Transit Element

Survey

Answering this questionnaire will help public agencies make plans for future regional transit services. **Regional transit would take riders to places where the Fort Collins, Greeley and Loveland public bus systems do not currently go.**

Thank you!

If regional transit service would become available, would I use it? ☐**Yes** ☐**No**

If "yes," how many times each week? ☐**1-2 days** ☐**3-5 days** **Other**_____ _____

My transit trips would be for:
Check the most likely purpose(s):

☐**Work** ☐**Medical** ☐**School** ☐**Shopping** ☐**Social** ☐**Nutrition/Grocery**

Other (not included above) ▪ *write in*: _____

My use of regional transit would be more likely if it would:
Check two of the most likely reason(s):

☐**save me money** ☐**save me time** ☐**make me feel safe** ☐**stop nearby so my walk would be short** ☐**run often during the hours I need it**

Other (not included above) ▪ *write in*: _____

I would start my transit trip from:

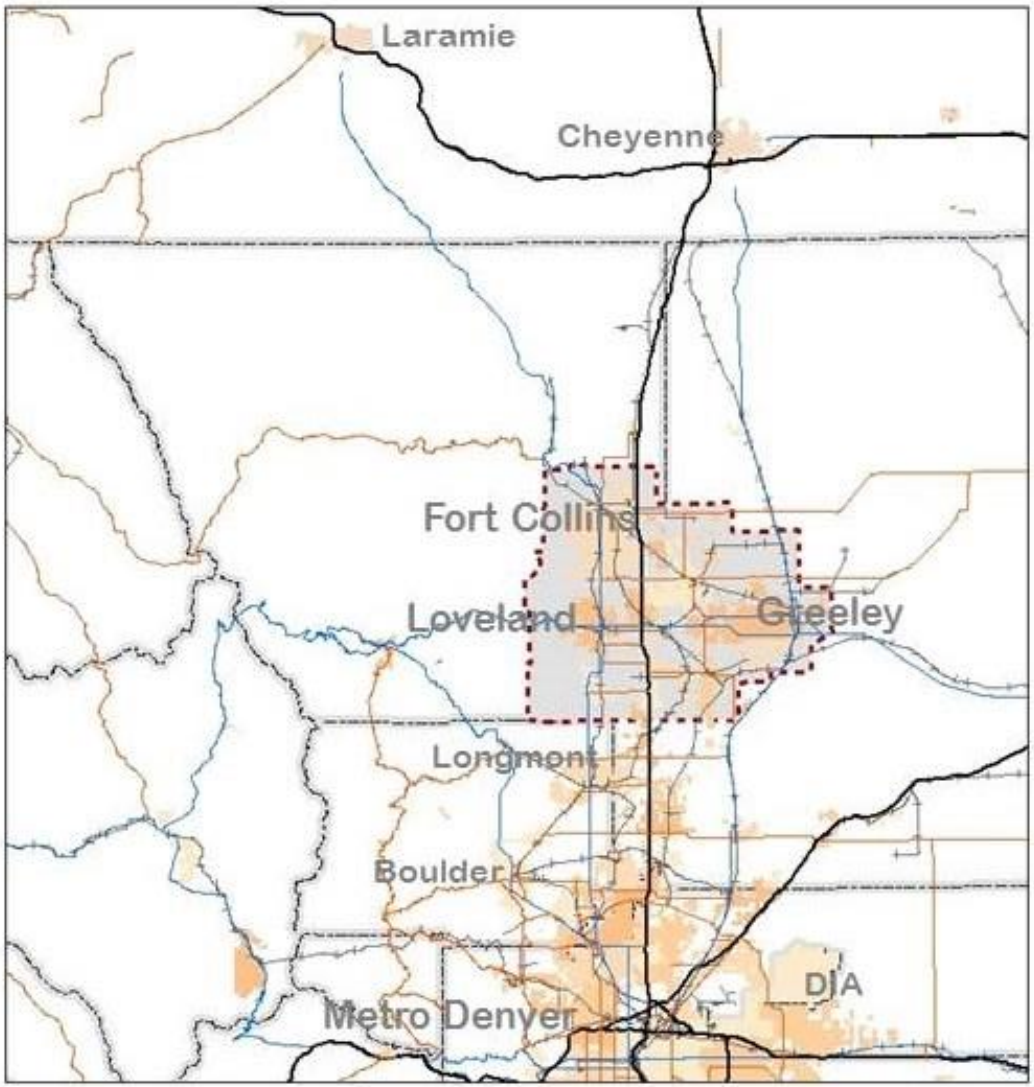
Choose only one:

Berthoud/Loveland	☐
Greeley/Garden City/Evans/LaSalle	☐
Fort Collins	☐
Johnstown/Milliken	☐
Eaton/Severance	☐
Timnath/Windsor	☐
Other Larimer County locations ▪ *write in*: _____	☐
Other Weld County locations ▪ *write in*: _____	☐
Metro Denver	☐
Boulder/Longmont	☐
Cheyenne/Laramie/Other Wyoming	☐
Other Colorado ▪ *write in*: _____	☐
Other (not included above) ▪ *write in*: _____	☐

More questions on next page

"NFRMPO" is the North Front Range Metropolitan Planning Organization **2013**

Potential Inter-Regional Connections



NFRMPO
Regional Transit Element

Where would you want transit services to go in the future?

Legend

- Interstate Highway
- U.S. Highway
- State Highway
- Railroad
- NFR MPO Boundary
- County Boundary

0 5 10 20 Miles

N W E S

NFRMPO
NORTH FRONT RANGE METROPOLITAN PLANNING ORGANIZATION

Survey

The top three places I would go on transit would be:

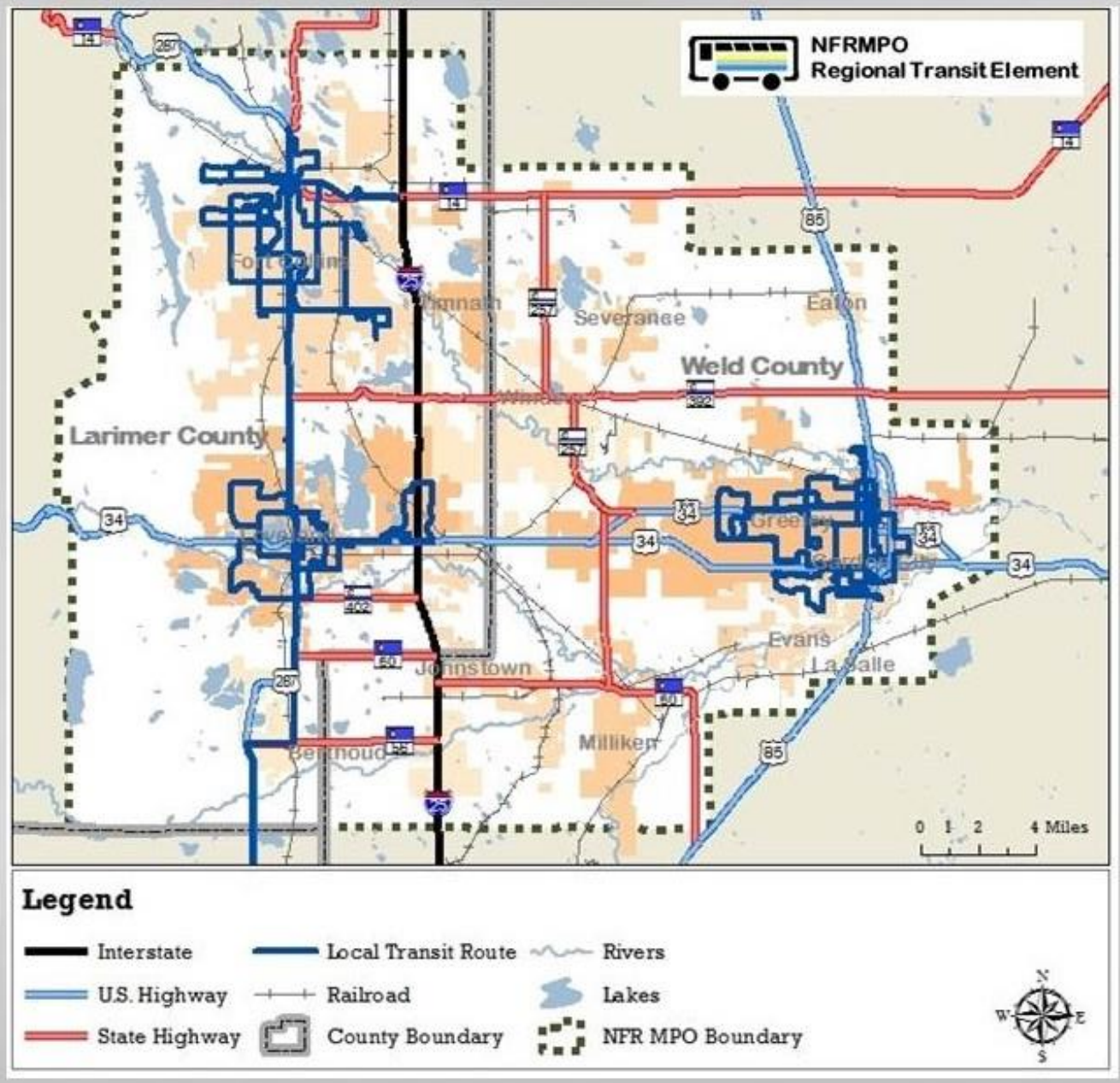
It is acceptable for two or three choices to be the same location if it is more important than others.

	1st Choice	2nd Choice	3rd Choice
Berthoud/Loveland	☐	☐	☐
Greeley/Garden City/Evans/LaSalle	☐	☐	☐
Fort Collins	☐	☐	☐
Johnstown/Milliken	☐	☐	☐
Eaton/Severance	☐	☐	☐
Timnath/Windsor	☐	☐	☐
Other Larimer County locations ▪ *write in*: _____	☐	☐	☐
Other Weld County locations ▪ *write in*: _____	☐	☐	☐
Metro Denver	☐	☐	☐
Boulder/Longmont	☐	☐	☐
Cheyenne/Laramie/Other Wyoming	☐	☐	☐
Other Colorado ▪ *write in*: _____	☐	☐	☐
Other (not included above) ▪ *write in*: _____	☐	☐	☐

Please share any additional comments about your transportation use or needs

This survey can be mailed to: **NFRMPO ▪ 419 Canyon Ave., Suite 300, Fort Collins, CO 80521**

Existing bus services - fixed routes



DISCUSSION ITEM: 2040 Regional Transportation Plan: Chapters 2, 3, & 5

AGENDA ITEM SUMMARY (AIS)

North Front Range Transportation & Air Quality Technical Advisory Committee (TAC)

Meeting Date	Agenda Item	Submitted By
April 15, 2015	Discussion of 2040 Regional Transportation Plan Chapters 2, 3, and 5	Becky Karasko

Objective / Request Action

Staff is providing the first of five groups of chapters for the 2040 Regional Transportation Plan (RTP) for TAC review and comment.

- ☐ Report
- ☐ Work Session
- ☑ Discussion
- ☐ Action

Key Points

- MPO staff is developing the 2040 RTP scheduled for September 2015 approval
- The 2040 RTP includes a long term transportation vision for the region

Committee Discussion

At their February 18, 2015 meeting, TAC requested staff provide a revised schedule of when staff would require Committee review and input on the 2040 RTP chapters.

Supporting Information

The 2040 RTP is a federally-mandated plan for MPOs and includes a long-term transportation vision for the region. The 2040 RTP summarizes the existing transportation system: roadways, transit, bicycle and pedestrian infrastructure, the environment, and includes a fiscally constrained corridor plan for the future.

Advantages

Providing the chapters as they are drafted allows TAC to maximize their time and input in reviewing the 2040 RTP chapters. Staff will provide presentations on the changes to the RTP to summarize changes to assist TAC in their review.

Disadvantages

None noted.

Analysis /Recommendation

Staff requests TAC members review the portions of the 2040 RTP Chapters 2, 3, and 5 applicable to their jurisdictions for accuracy and content.

Attachments

- Revised 2040 RTP Review Schedule

RTP Chapters:

- Chapter 2: Existing Transportation System
- Chapter 3: Socio-Economic Profile
- Chapter 5: Environmental Profile

Rev. 9/17/2014

Proposed 2040 RTP Schedule

(February-September 2015)

Action	Month									
	February	March	April	May		June		July	August	September
				Meeting #1	Meeting #2	Meeting #1	Meeting #2			
Online Survey	*	*								
Public Outreach Events	*	*		*	*	*	*			
Community Remarks online mapping and comment tool		*	*	*	*	*	*			
Set 1 of Chapters to TAC members with **April** TAC packet: --Chapter 2: Existing Transportation System --Chapter 3: Socio-Economic Profile --Chapter 5: Environmental Profile			X							
TAC Discussion of Set 1 of chapters			X							
Set 2 of chapters sent to TAC members with **1st May** meeting TAC packet: --Chapter 4: Performance-Based Planning --Chapter 7: Travel Demand Analysis --Chapter 10: Fiscally Constrained Plan*				X						
*Chapter 10: Fiscally Constrained Plan TAC Discussion				X	O					
*Chapter 10: Fiscally Constrained Plan TAC Action						X	O			
Set 3 of chapters sent to TAC members with **2nd May** meeting TAC packet: --Chapter 8: Plan Scenarios --Chapter 9: Vision Plan					X					
TAC Discussion of Set 3 of chapters					X					
Set 4 of chapters sent to TAC members with **1st June** meeting TAC packet: --Chapter 6: Safety and Security --Chapter 11: Congestion Management Process						X				
TAC Discussion of Set 4 of chapters						X				
Set 5 of chapters sent to TAC members with **2nd June** meeting TAC packet: --Chapter 1: Introduction --Chapter 12: Implementation							X			
TAC Discussion of Set 5 of chapters							X			
TAC Discussion of RTP document								X		
Council Discussion of RTP document									O	
30-Day Public Comment Period									*	
TAC Recommendation on RTP document									X	
Council Action on RTP document										O

***-Public Involvement Items**

X-TAC Input Items

O-Council Input Items

Date Created: 2/10/2015
Date Updated: 4/7/2015

Chapter 2: Existing Transportation System

A. Regionally Significant Corridors

The concept of Regionally Significant Corridors (RSCs) was used in previous regional transportation plans to focus limited transportation dollars on the corridors most significant to the region. Since this plan is corridor-based, the RSCs set the stage for the overall plan.

Identification and grouping of individual corridors was done in the 2030 RTP. The corridors were updated and affirmed in the 2035 RTP and carried forward in this RTP. The Technical Advisory Committee (TAC) assisted NFRMPO staff with the development of the RSCs. A RSC in the 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.*

Three criteria were used to identify RSCs:

1. Includes all State Highways

- The 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 are regional in nature, this was established as the first criteria.

2. Functional Classification

- Roadways must have a functional classification of arterial or higher, as defined by the appropriate member government.
- The higher the functional classification, the greater the likelihood trips are longer and the roadway connects more than one community.

3. Connectivity

- The corridor must go through, or plan to go through, more than one governmental jurisdiction and connect activity centers.

The plan used the Colorado State Parks' Colorado Front Range Trail Corridor Plan, the CDOT Eastern Colorado Mobility Study, and the NFRMPO's Regional Bike Plan to define the criteria for RSCs. **Table 2-1** describes the 39 RSCs which numbers correspond to the locations in **Figure 2-1 and Figure 2-2.**

Table 2-1: Regionally Significant Corridors		
Corridor	**Corridor Name/Component**	**Description**
Corridor 1	35th Ave (Greeley)	US 85 on the south to O street on the north
Corridor 2	65th Ave (Greeley)	59th Street on the south to SH 392 on the north
Corridor 3	Crossroads/O Street	US 85 on the east to I-25 on the west
Corridor 4	Harmony Rd/WCR 74 (Fort Collins/Weld County)	LCR 17 to MPO Boundary e/o Eaton
Corridor 5	LCR 3	Southern NFRMPO Boundary to Crossroads Blvd. on the north
Corridor 6	LCR 5	US 34 on the south to SH 14 on the north
Corridor 7	Shields Street / Taft Avenue / LCR 17	US 287 on the north to SH 56 on the south
Corridor 8	LCR 19	US 34 on the south to US 287 on the north
Corridor 9	Mulberry Street	Riverside Avenue (SH 14) to LCR 19
Corridor 10	Prospect Road (Fort Collins)	LCR 5 on the east to US 287 on the west
Corridor 11	Timberline/LCR 9/WCR 7	Southern NFRMPO boundary to Vine Drive on the north, follows WCR 7 to LCR 9E (road approximate) to Timberline Road
Corridor 12	Two Rivers Parkway/83rd Ave	Southern NFRMPO boundary to northern NFRMPO boundary, approximately WCR 27
Corridor 13	WCR 13	Southern NFRMPO boundary to SH 14 on the north
Corridor 14	WCR 17	Southern NFRMPO boundary to Crossroads extension on the north
Corridor 15	SH 392	US 85 on the east to LCR 17 on the west
Corridor 16	SH 1	US 287 on the south to the northern NFRMPO boundary
Corridor 17	SH 14	Eastern NFRMPO boundary to College Avenue (US 287)
Corridor 18	SH 56	WCR 17 on the east to US 287 on the west
Corridor 19	SH 60	Two Rivers Parkway on the east to LCR 17 on the west
Corridor 20	SH 257	SH 60 on the south to SH 14 on the north, includes offset in Windsor
Corridor 21	SH 392	US 85 on the east to US 287 on the west
Corridor 22	I-25	Southern NFRMPO boundary to northern NFRMPO boundary
Corridor 23	US 34	Eastern NFRMPO boundary to western NFRMPO boundary
Corridor 24	US 34 Business	Eastern NFRMPO boundary to US 34 on the west
Corridor 25	US 85	WCR 48 on the south to north of WCR 70

Table 2-1: Regionally Significant Corridors		
Corridor	**Corridor Name/Component**	**Description**
Corridor 26	US 85 Business	US 34 to US 85
Corridor 27	US 287	Southern NFRMPO boundary to northern NFRMPO boundary, includes Berthoud Bypass
Corridor 28	Big Thompson River	Regional Bike Corridor
Corridor 29	BNSF Fort Collins/Berthoud	Regional Bike Corridor
Corridor 30	Carter Lake/Horsetooth Foothills Corridor	Regional Bike Corridor
Corridor 31	Front Range Trail (West)	Regional Bike Corridor
Corridor 32	Great Western/Johnstown/Loveland	Regional Bike Corridor
Corridor 33	Greeley/LaSalle	Regional Bike Corridor
Corridor 34	Johnstown/Timnath	Regional Bike Corridor
Corridor 35	Little Thompson River	Regional Bike Corridor
Corridor 36	North Loveland/Windsor	Regional Bike Corridor
Corridor 37	Poudre River Trail	Regional Bike Corridor
Corridor 38	South Platte/American Discovery	Regional Bike Corridor
Corridor 39	US 34	Regional Bike Corridor

Figure 2-1: Regionally Significant Roadway Corridors

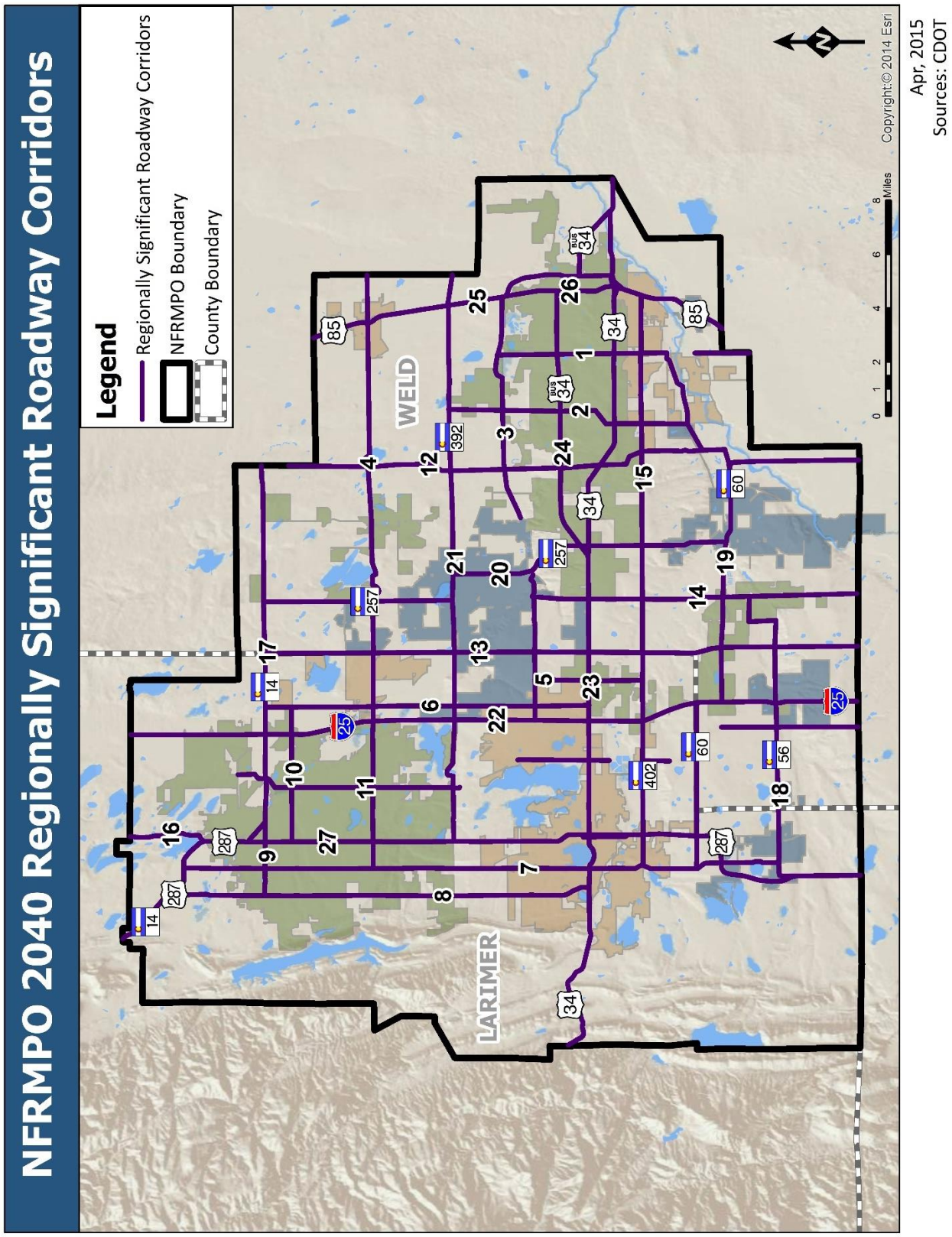
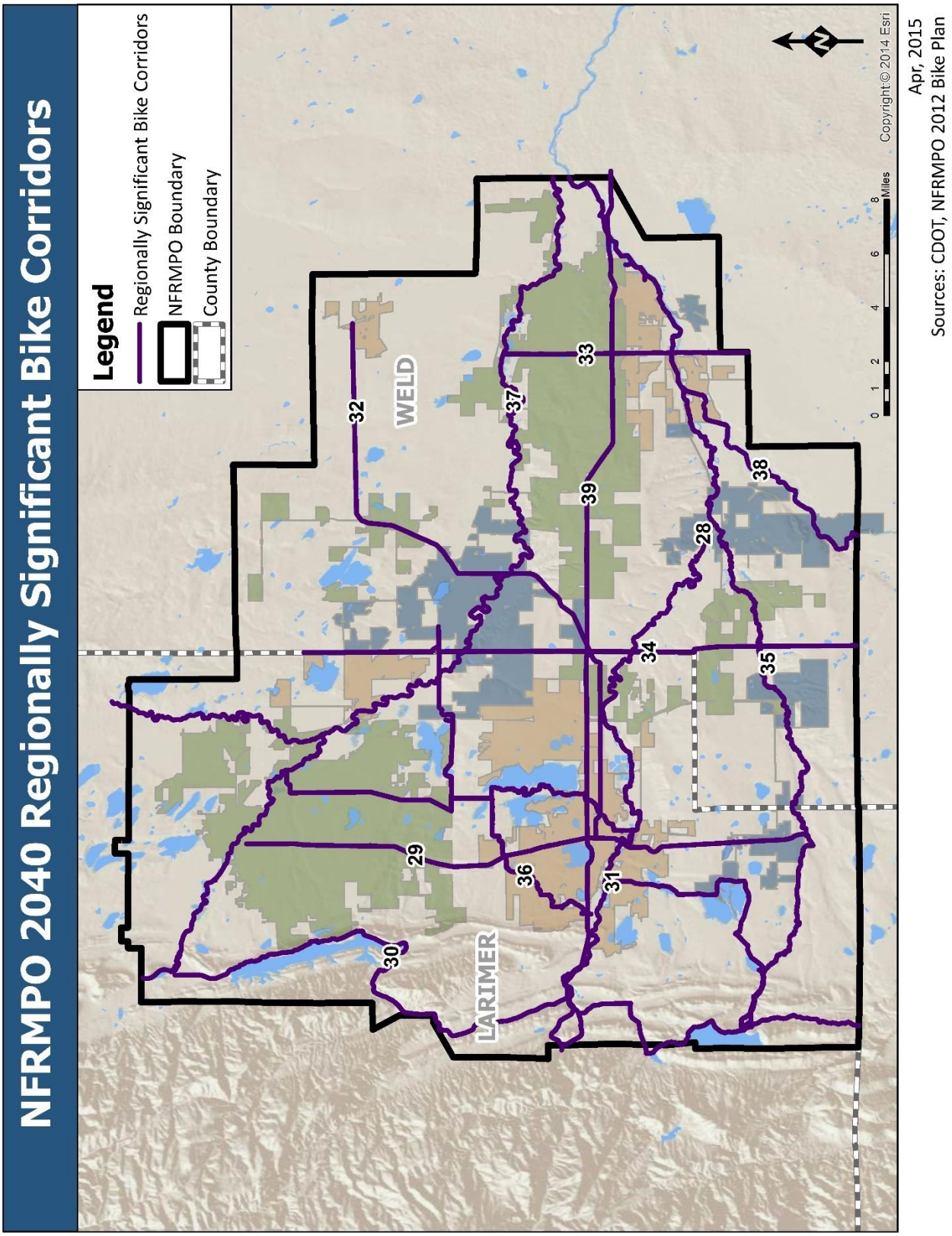


Figure 2-2: Regionally Significant Bike Corridors



B. Roadway System

Currently, the roadway system is the principal transportation component within the NFRMPO. This network provides a system for vehicular traffic, such as cars and trucks, but it also provides infrastructure for transit service and non-motorized traffic.

Functional Classification

The roadway network is comprised of a hierarchy of facilities defined by their functional classification and how they serve the mobility and access needs of the users. As mobility increases on a roadway, access decreases; and conversely, as access increases, mobility decreases.

The functional classification descriptions that follow are the basis for the 2012 North Front Range travel demand model. The definitions are based on the Federal Highway Administration's Highway Functional Classification Concepts, Criteria and Procedures document.[1] The functional classification of each roadway reflects its role in the regional system. Functional classification has specific implications for the administration of federal aid highway programs. Transportation planning agencies use functional classification as a means to identify corridor preservation, access management, and roadway design requirements.

- **Freeway**: A divided, restricted access facility with no direct land access and no at-grade crossings or intersections. Freeways are intended to provide the highest degree of mobility serving higher traffic volumes and longer-length trips. Freeways can have four, six, or more total travel lanes. All interstate facilities are freeways. I-25 is the only freeway facility in the North Front Range.
- **Freeway Ramp**: Provide connections between freeways, expressways, and other roadway facilities. Freeway to freeway movements are also handled by freeway ramps or in some cases a collector/distributor system. Generally, expressways only have ramps where access management techniques have been employed and/or grade separations occur.
- **Expressway**: These facilities permit traffic flow through urban areas and between major activity centers. They are similar to freeways, but can include some at-grade intersections at major cross streets. Access may be either fully or partially controlled with very limited direct land access. Expressways are intended to provide higher levels of mobility rather than local property access and are typically four to six total travel lanes. State and US Highways are often designated as expressways. Expressways can evolve over time to the freeway classification or to major arterials as rural lands are developed and local land access is provided.
- **Principal Arterial**: Principal arterials permit traffic flow through urban areas and between major destinations. They are important to the transportation system as they provide local land access by connecting major traffic generators, such as central business districts and universities, to other major activity centers. In urban areas, a grid pattern of arterials is often recommended with one-mile spacing for major arterials. They typically receive priority in traffic signal systems, have turn bays at intersections, medians or center turn lanes, and sometimes contain grade separations and other higher classification-type design features. State and US Highways are often designated as principal arterial.
- **Frontage Road**: Frontage roads serve a variety of functions, depending on their application. They run parallel to, and in close proximity with, a higher classification facility and can be used in conjunction with

[1] http://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf

both freeways and arterial streets. With freeways, their primary function is to collect and distribute traffic between local streets and freeway interchanges. They often provide access to local land uses along freeways. When accompanying arterials, they can be used to control access to the arterial, to function as a street facility serving adjoining property, and to maintain circulation of traffic on each side of the arterial. Frontage roads can be constructed in one-way and two-way configurations. Frontage road systems can have one or two travel lanes in each direction.

- **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 provide for land access and traffic circulation within and between residential neighborhoods, commercial, and industrial areas. They distribute traffic movements from these areas to the arterial streets. Collectors do not typically accommodate long through trips and are not continuous for long distances. In areas where arterial streets are adequately spaced, collector streets should enter, but not necessarily completely cross through, residential areas. Individual access from residential lots should be discouraged, particularly where bicycle lanes or routes are provided. 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 should be considered on collector streets adjacent to nonresidential development. Collector streets should generally be limited to two lanes, but sometimes have four-lane sections.
- **Local**: The primary function of local roads is to provide access to adjacent land uses in both urban and rural areas.

Table 2-2 summarizes these classifications and provides examples of roads within the North Front Range region. Note that the lane mileage provided represents the lane mileage included in the NFRMPO travel model and does not include all of the lane miles in the region.

Table 2-2: Examples of Functional Classification in the NFRMPO Model

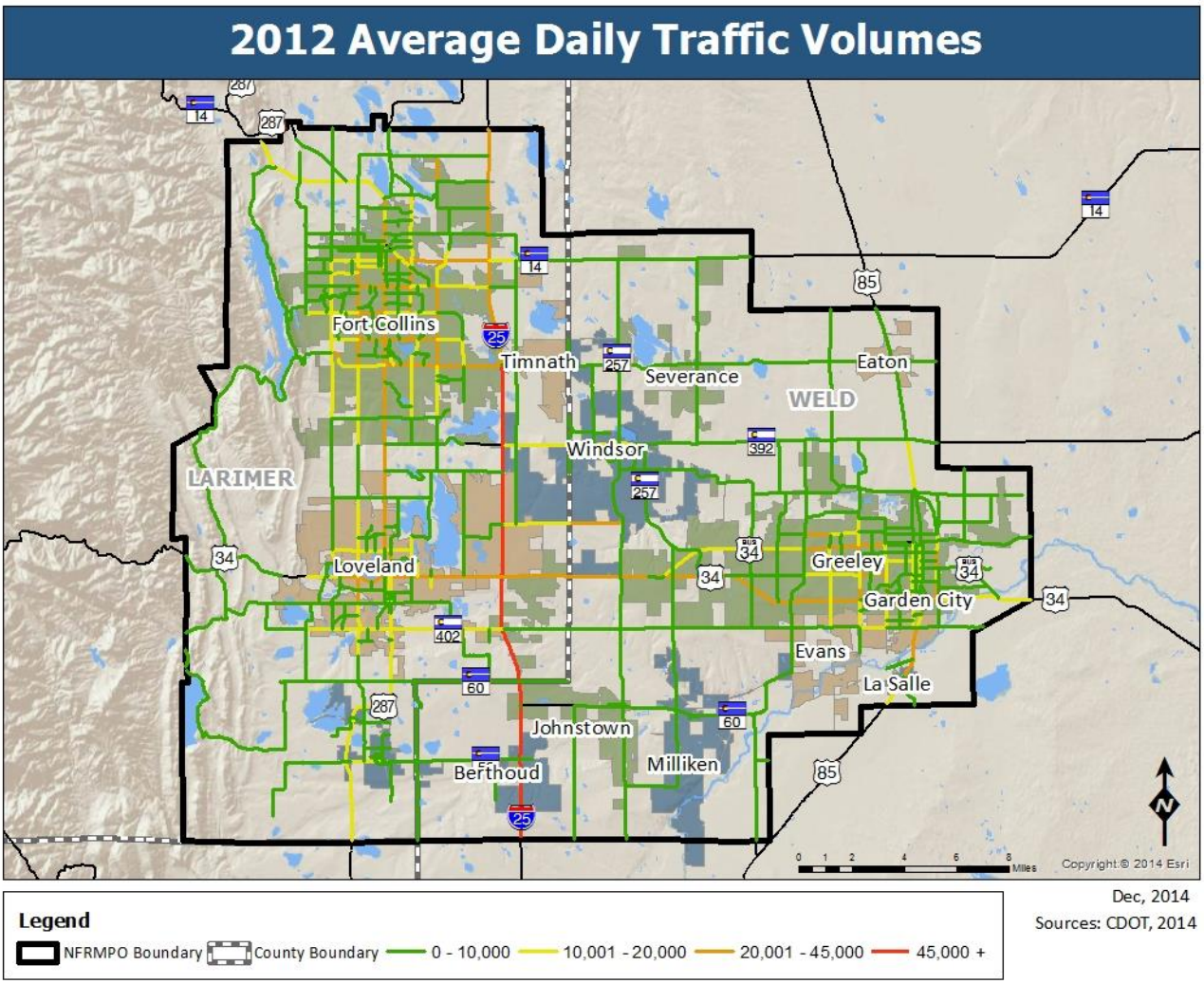
Functional Class	Lane Mileage (2012)	Regional Examples
Freeway	109	Interstate 25
Expressway	232	US Route 85, US Route 34
Principal Arterial	573	State Highway 392
Minor Arterial	737	State Highway 14/Mulberry Street
Collector	1,144	Weld County Route 39, Larimer County Route 19/Taft Hill Rd
Ramps	16	I-25 Entrance and Exit Ramps
Frontage Road	60	I-25 Frontage Road
Total	**2,870**	

Source: *North Front Range 2012 Base Year Regional Travel Model*

Existing Daily Traffic Volumes

Figure 2-3 shows the 2012 daily traffic volumes on major roadways on and off the National Highway System (NHS) in the North Front Range. As can be expected, the major traffic volumes are located along the major routes within the region. I-25 south of Harmony Road/Weld County Route 74 has the highest traffic volume in the region with over 45,000 daily trips, with US 34 and US 287 seeing heavy traffic as well. Conversely, many collectors see less than 10,000 trips per day.

Figure 2-3: 2012 Average Daily Traffic Volumes



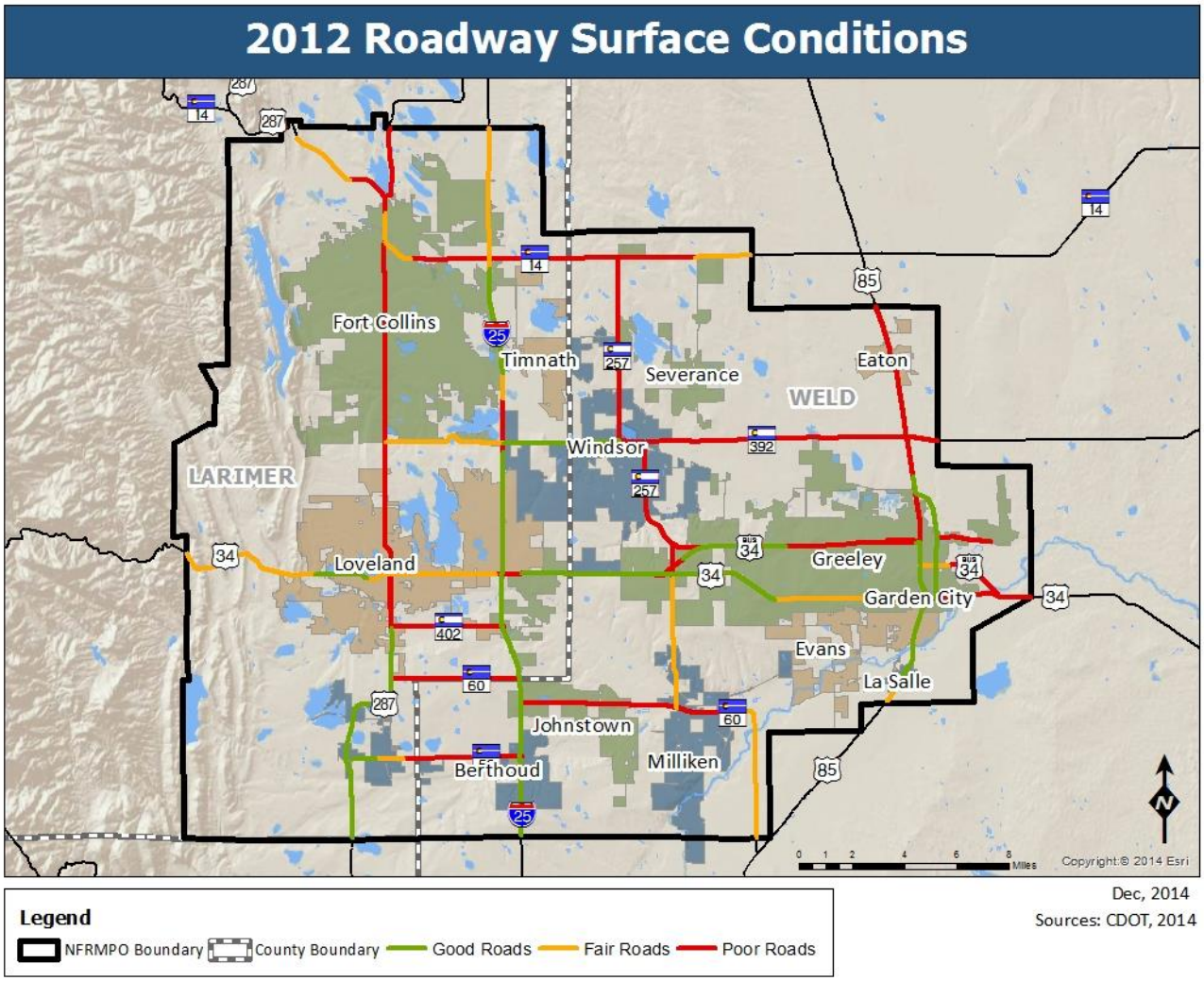
Roadway Surface Condition

CDOT monitors roadway conditions on the State Highway system on a weekly basis and completes a pavement review annually. Roadways are given a rank based on the roughness and rutting of the roadway surface, as well as the amount of cracking and patching. A “good” surface condition corresponds to a remaining service life greater than 11 years; a “fair” surface condition corresponds to a remaining service life between six and 11 years; and a “poor” surface condition corresponds to a remaining service life of less than six years. Roadway

conditions from CDOTS' system are shown in **Figure 2-4**. Many of the region's important highways and connections are in "poor" condition.

A variety of construction projects have improved roadway surface quality in certain areas, while other areas have not been improved and deteriorated. Noticeable improvements can be seen along the I-25 corridor south of CO 392 to the MPO boundary, and along portions of US 34. Meanwhile, US 287 has seen roadway surface quality decrease although there is significant construction underway or planned in 2015.

Figure 2-4: Roadway Surface Conditions



Special Roadway Corridors

Roadways are categorized by their regional and national significance or by their scenic or historic value. Multiple roadways within the MPO's boundaries fit the NHS criteria based on their significance and one regional highway is considered scenic and historic.

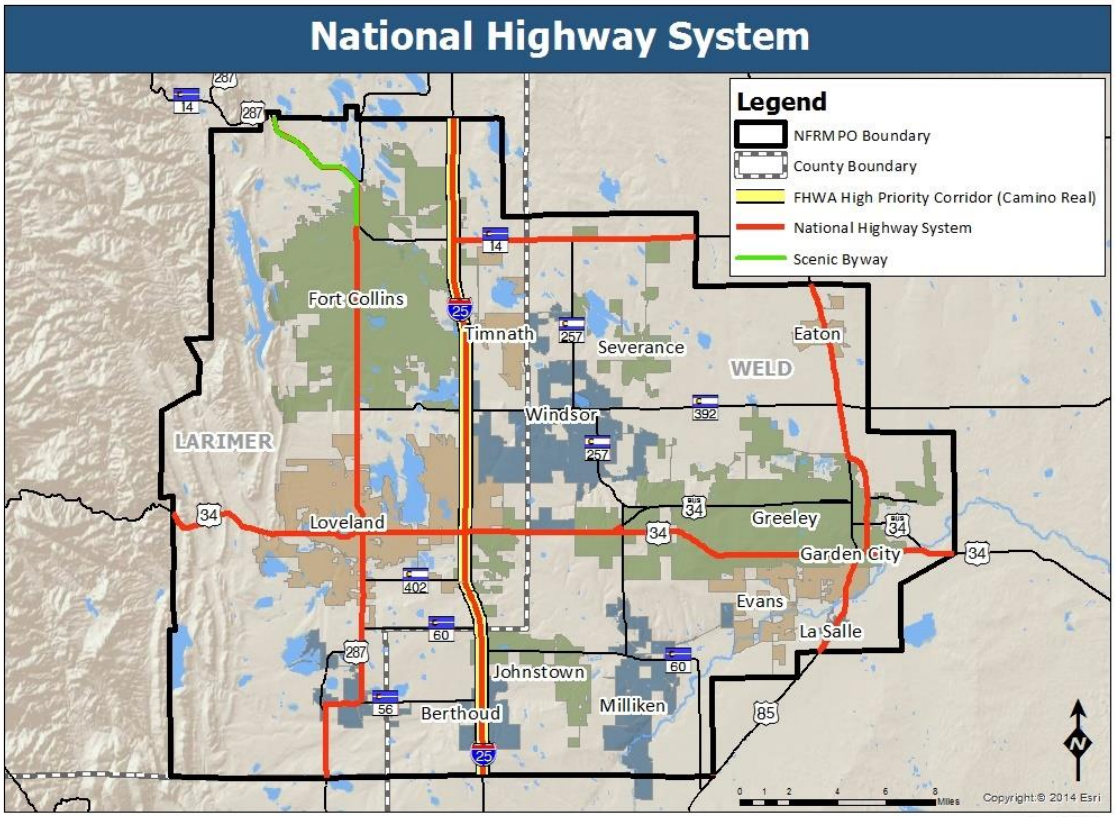
National Highway System

The NHS includes interstate highways as well as a portion of the urban and rural major arterial system. Approximately 102 miles of NHS roadways are within the boundaries of the NFRMPO, as shown on **Figure 2-5**. The Federal Highway Administration (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 (SH 14 and US 287) is the only designated Scenic Byway in the North Front Range region. Approximately seven miles of this byway are within the northern portion of the North Front Range. The route follows US 287 from the Cache La Poudre River northwest as shown in **Figure 2-4**.

Figure 2-5: National Highway System

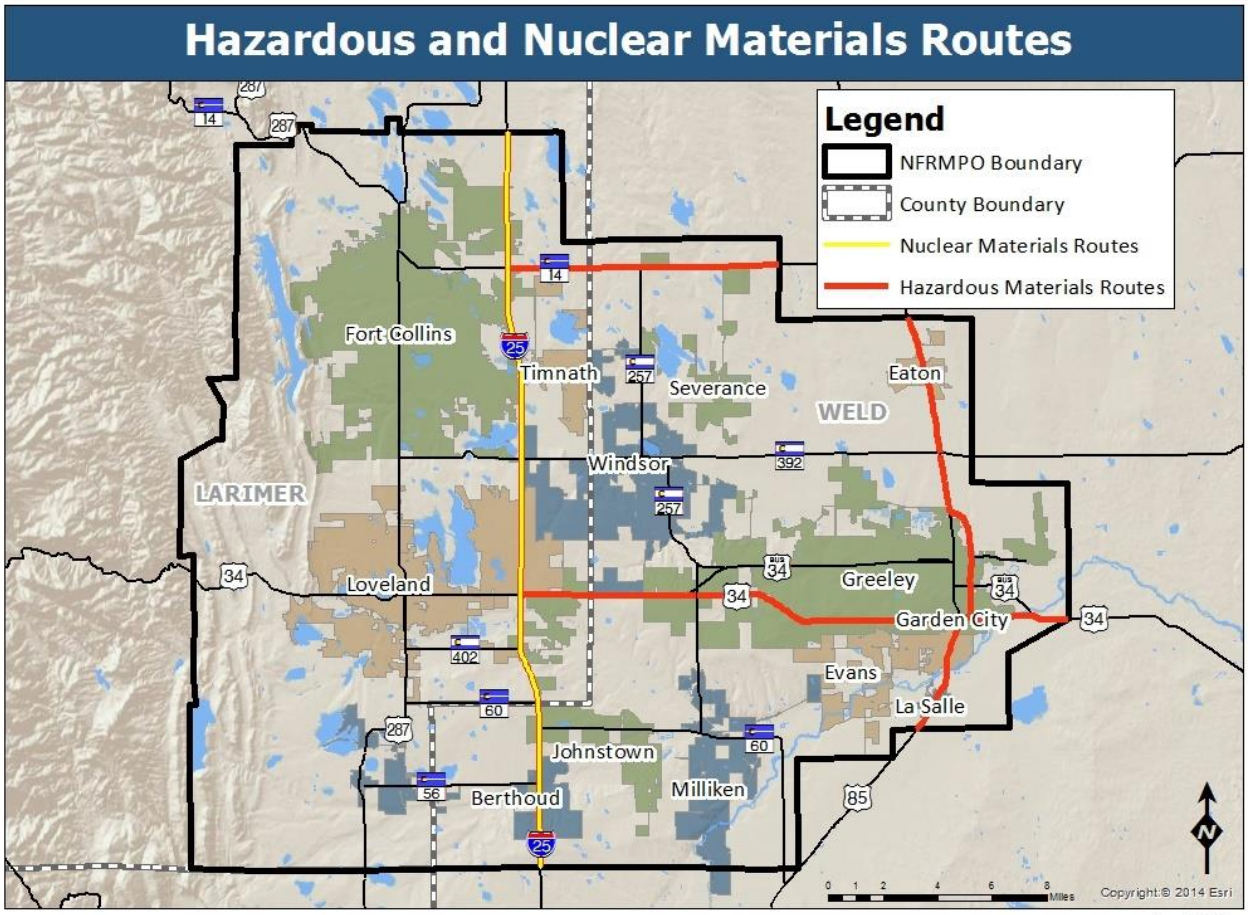


Hazardous and Nuclear Materials

Due to safety reasons, the transportation of hazardous and nuclear materials is limited to designated roadways. **Figure 2-6** illustrates the roadways in the region the State of Colorado has designated for the transportation of hazardous and nuclear materials. As shown, three routes are designated for transporting

hazardous materials (SH 14, US 34, and US 85), while one route is designated for transporting nuclear materials (I-25). Federal and State regulations prohibit these materials from being shipped using other routes.

Figure 2-6: Hazardous and Nuclear Materials Routes

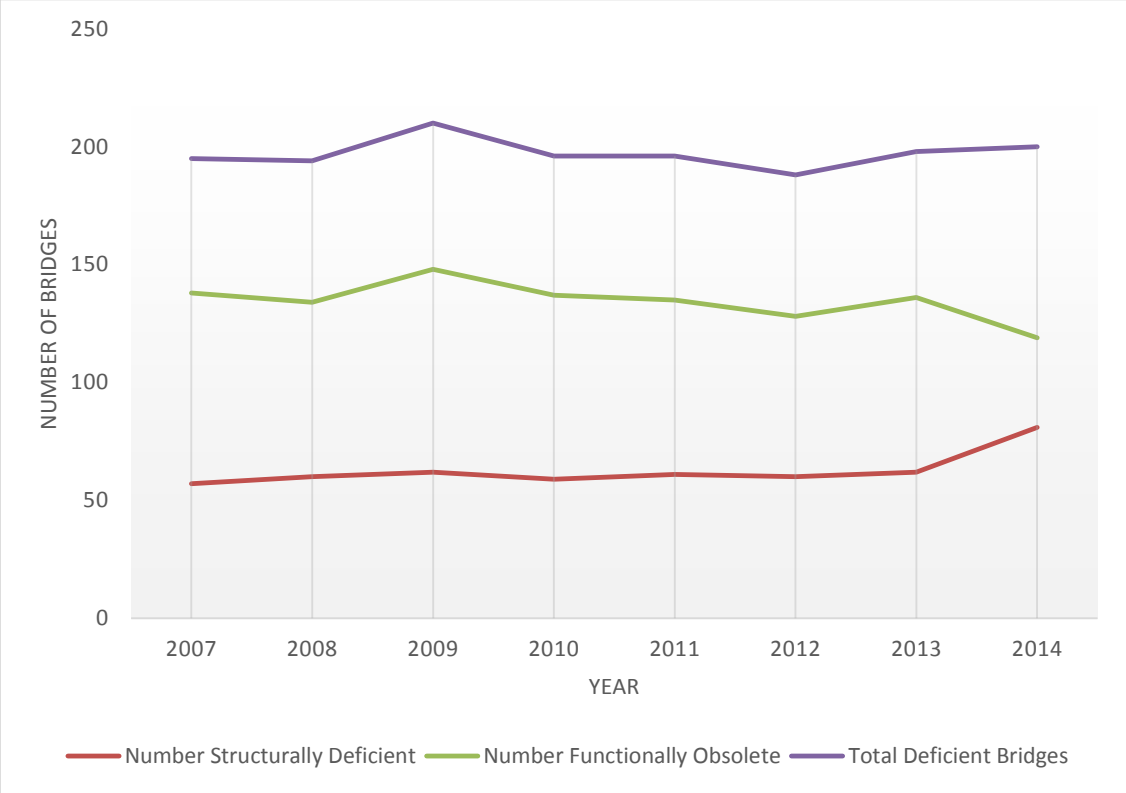


Bridge Conditions

Major strides have been made to fix and repair bridges within the State using HSIP or FASTER funding. In 2009, Colorado voters approved the Funding Advancements for Surface Transportation and Economic Recovery Act (FASTER). The FASTER program designated State funds for safety improvements, bridge repairs, and transit expansion. Working with CDOT, municipalities within the North Front Range have invested a variety of resources and funds to fixing bridges.

FHWA produces an annual National Bridge Inventory, which is the result of surveying the number of structurally deficient and functionally obsolete bridges across the country. Since 2007, 58 new bridges have been constructed in Larimer and Weld counties has increased by 58. The number of structurally deficient bridges has increased though the number of functionally obsolete bridges has decreased. **Figure 2-7** shows the combined number of structurally deficient, functionally obsolete, and total deficient bridges in Larimer and Weld counties from 2007-2014.

Figure 2-7 Bridge Conditions

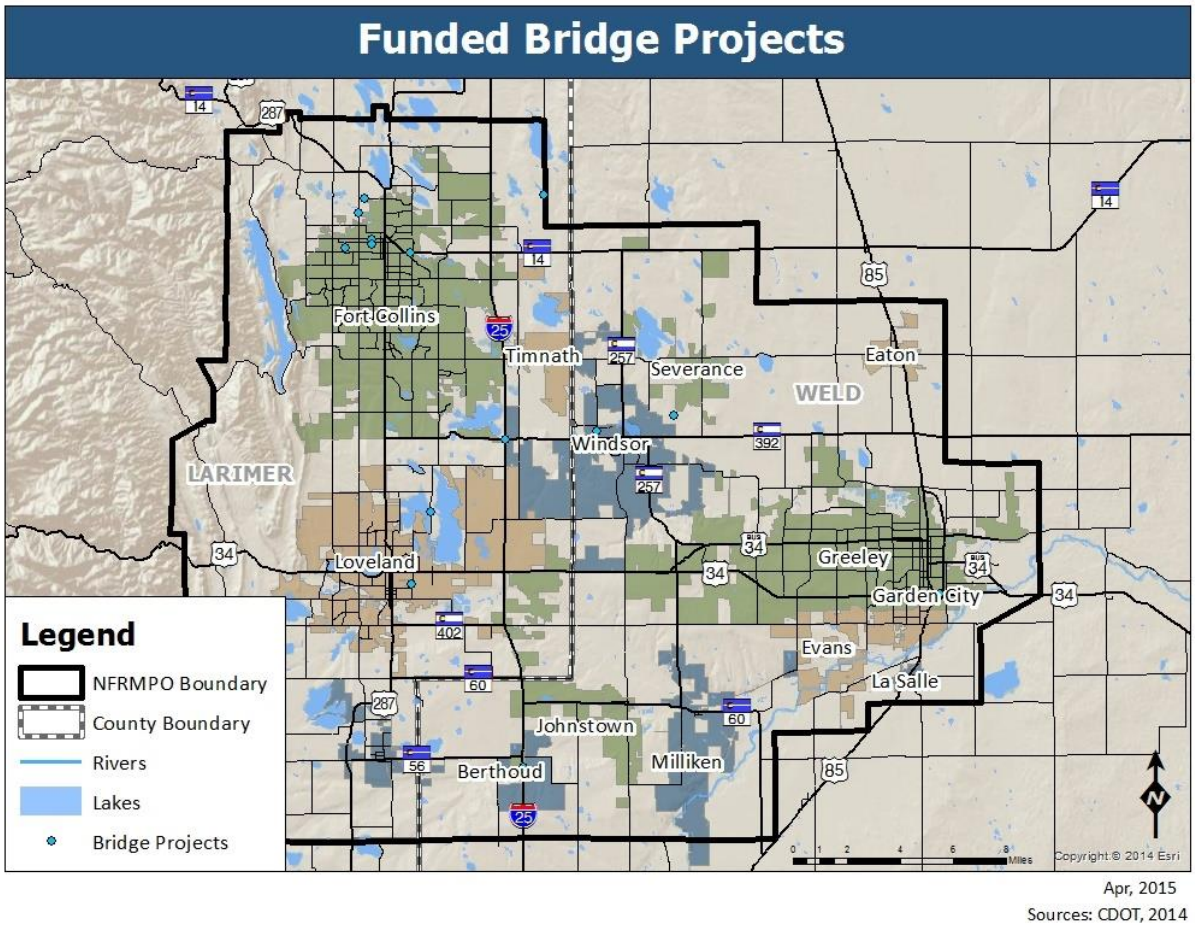


Source: *National Bridge Inventory, 2015*

Fifteen bridges have been or are in the process of being repaired using State funding, as shown in **Table 2-3**. These projects repair deficient bridges along major corridors within the region. **Figure 2-8** maps the projects listed in **Table 2-3**.

Table 2-3: Funded Bridge Projects			
Bridge	**Municipality**	**Project Status**	**Funding Source**
US 85 Bypass: 5th-US 34	Greeley	In design	Bridge On-System
US 34/85 Interchange	Greeley	In design	Bridge On-System
US 34 & US 85 Bridge	Greeley	In design	Bridge On-System
Larimer CR50 at Larimer and Weld Canal	Larimer County	In design	Bridge Off-System
Larimer CR 3 at Larimer County Canal	Larimer County	Under construction	Bridge Off-System
Larimer CR 17 at Poudre River	Larimer County	Under construction	Bridge Off-System
LaPorte-Whitcomb Bridge at Arthur's Ditch	Fort Collins	Complete	Bridge Off-System
Madison Ave at Greeley-Loveland Canal	Loveland	Complete	Bridge Off-System
Weld CR 21 at Greeley No. 2 canal	Weld County	Complete	Bridge Off-System
Shields St at Larimer Co Canal No. 2	Fort Collins	Complete	Bridge Off-System
Bryan Ave at Mulberry Street	Fort Collins	Complete	Bridge Off-System
Windsor 15th St at Greeley No. 2 Canal	Windsor	Complete	Bridge Off-System
Larimer CR 11C at Horseshoe Lake Spillway	Larimer County	Complete	Bridge Off-System
SH 14: Cache La Poudre	Fort Collins	Under construction	Bridge Enterprise Pool
I-25 Service Road Over Little Thompson	Berthoud	Complete	Bridge Enterprise Pool
Larimer County Road 48 over I-25	Larimer County	Not Yet Scheduled	Bridge Enterprise Pool
US 287 over Draw	Larimer County	Complete	Bridge Enterprise Pool
I-25 & SH 392 Interchange	Windsor	Under construction	Safety Pool
Source: *CDOT FASTER projects, http://www.coloradodot.info/projects/faster, 2014*			

Figure 2-8: Bridge Projects



In addition to the construction projects listed in **Table 2-3**, CDOT has identified additional bridges rated in poor condition. **Table 2-4** shows the bridges CDOT has identified. These bridges may receive funding to fix structural deficiencies as it becomes available.

Table 2-4: Bridges with Structural Deficiencies			
Bridge	**Municipality**	**Rating**	**Type of Work**
Prospect Road over I-25	Fort Collins	49	Replacement
US 287 over Draw	Larimer County	47.2	Replacement
Larimer County Road 48 over I-25	Larimer County	46.2	Yet to be Determined
I-25 Service Road over Little Thompson River	Weld County	45.3	Replacement
SH14 over Coal Bank Creek	Weld County	28.7	Replacement
Source: http://www.coloradodot.info/programs/BridgeEnterprise/poor-bridges/			

Safety

Crash data for State and federal roadways within the NFRMPO are collected annually by CDOT. **Table 2-5** shows the crash rate per 100M vehicle miles traveled (VMT) for the major State and federal highways based on crash data from 2008 to 2012. The Crash Rate per 100M VMT was calculated using FHWA's formula:

$$R = \frac{C \times 100{,}000{,}000}{V \times 365 \times N \times L}$$

R = Crash Rate
C = Number of Crashes
V = AADT
N = Number of years of data
L = Roadway Length

Table 2-5: Crash Rate per 100M VMT (2008-2012)

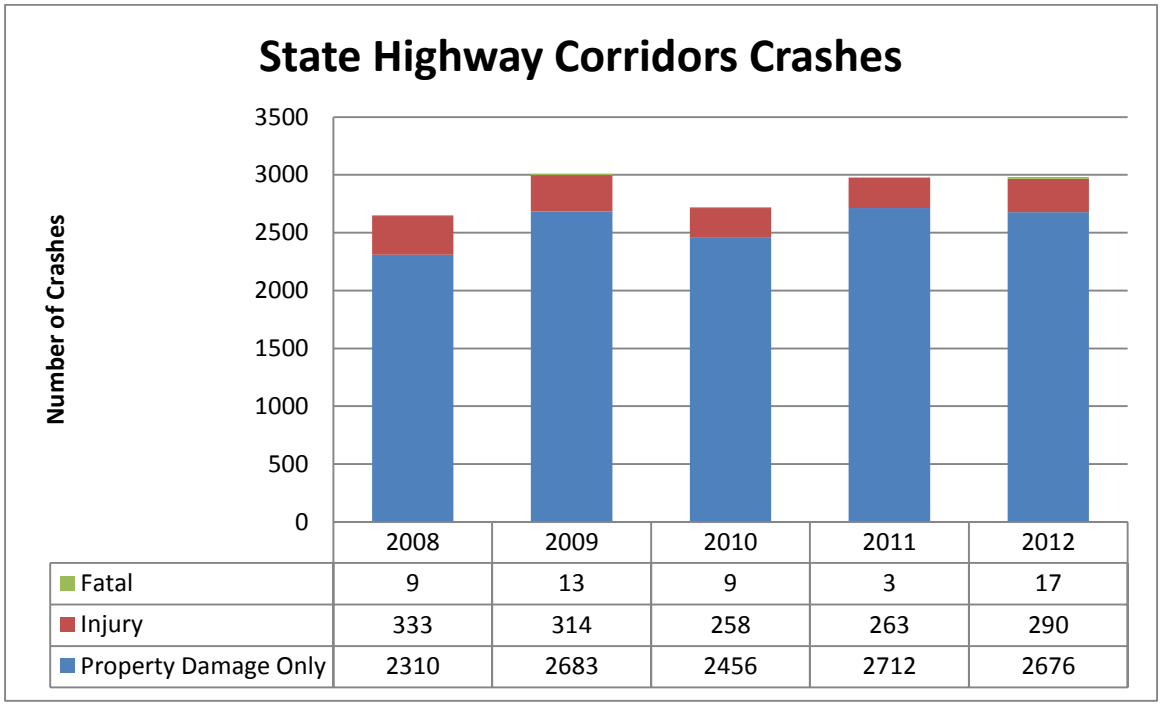
Route	Total Crashes	Crash Rate Per 100M VMT
I-25	3,024	83.23
US 287	4,281	359.52
SH 1	91	259.20
SH 257	325	120.82
US 85	952	209.26
SH 14	776	133.95
SH 392	677	173.56
US 34	2,265	140.81
US 34 Business	1,411	445.67
SH 60/SH 56	414	157.27
SH 263	34	152.96
SH 402	123	137.15
State Facilities Average	--	**197.78**

Source: *CDOT Crash Data, 2008–2012*

As shown in **Table 2-5**, many of the region's busiest roads have higher crash rates per 100M VMT than more rural facilities. These corridors should be targeted for safety improvements in the future.

Table 2-6 shows the total number of crashes on State and federal highways within the region divided into fatal, injury and property damage only (PDO) crashes. Crashes have steadily increased from 2008 to 2012, with a sharp increase in fatal and PDO crashes. In all, there were nearly 3,000 crashes within the region; of those, 300 crashes had at least one injury, while 17 were fatal. More severe crashes occurred within municipal boundaries at or near intersections. Arterial roadways, particularly through more densely populated areas, often experience high crash rates due to interchange access and intersection related crashes. Crashes along I-25 may be attributed to congestion and heavy directional flow during peak hours.

Table 2-6: Regionally Significant Corridor Crashes



	2008	2009	2010	2011	2012
Fatal	9	13	9	3	17
Injury	333	314	258	263	290
Property Damage Only	2310	2683	2456	2712	2676

Source: *CDOT Crash Data, 2008–2012*

C. Freight

FHWA estimates by 2040 the nation's transportation system will handle cargo valued at more than $39 Trillion, compared with $17.4 Trillion in 2012.[2] Volumes, in tons, will increase by nearly 45 percent over 2012 levels by 2040 from 19.7 Billion to 28.5 Billion respectively. These huge 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

Large amounts of freight moves by truck through the North Front Range region. **Table 2-7** 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.[3]

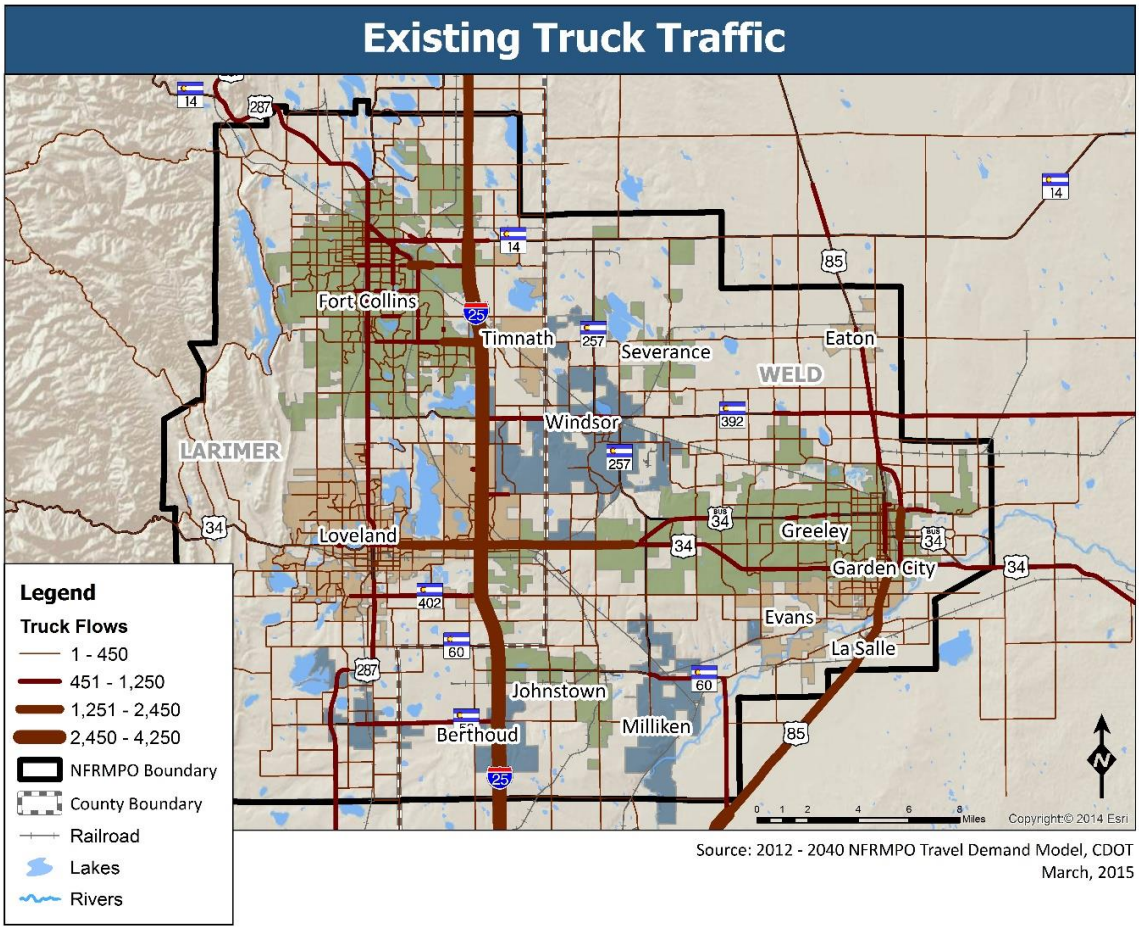
[2] FHWA Freight Facts and Figures 2013:
http://www.ops.fhwa.dot.gov/Freight/freight_analysis/nat_freight_stats/docs/13factsfigures/pdfs/fff2013_highres.pdf
[3] FHWA Freight Facts and Figures 2013:
http://www.ops.fhwa.dot.gov/Freight/freight_analysis/nat_freight_stats/docs/13factsfigures/pdfs/fff2013_highres.pdf

Table 0-7: Existing Commodity Flows (2010)						
County	Inbound Tonnage (thousands)		Outbound Tonnage (thousands)		Total Tonnage (thousands)	
	2010	2040	2010	2040	2010	2040
Larimer & Weld*	11,434.3	19,898.5	17,740.9	27,845.0	29,175.1	47,743.5
Source: *Transearch 2010; IHS Global Insight, CDOT, 2015*						

**Note: Includes entire counties of Larimer and Weld, not just the areas within the North Front Range.*

The most heavily used truck routes in the region are I-25, US 85, US 34, US 287, and SH 14. **Figure 2-9** shows the existing level of truck traffic from the travel model, 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 US 85 and US 34. The Port of Entry, located on I-25 in Fort Collins, recorded a total of 960,759 trucks in 2014, with 215,999 passing through the port itself.[4]

Figure 2-9: Existing Truck Traffic



Source: 2012 - 2040 NFRMPO Travel Demand Model, CDOT
March, 2015

[4] Colorado State Patrol, 2015.

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 2012, freight railroads originated 30.6M tons of commodities and terminated 29.7M tons within Colorado. **Table 2-8** and **Table 2-9** show the top five commodities originated and terminated within the State in 2012. Coal was the largest commodity shipped from and within Colorado, making up 74 percent of originating rail traffic and 58 percent of terminating rail traffic.

Table 2-8: Colorado Originated Rail Freight (2012)		
Commodity	**Percent of Total**	**Tons**
Coal	74%	22,776,000
Other	11%	3,354,000
Cement	6%	1,721,000
Food Products	3%	954,000
Waste & Scrap	3%	947,000
Source: *Association of American Railroads, Rail Fast Facts, 2015*		

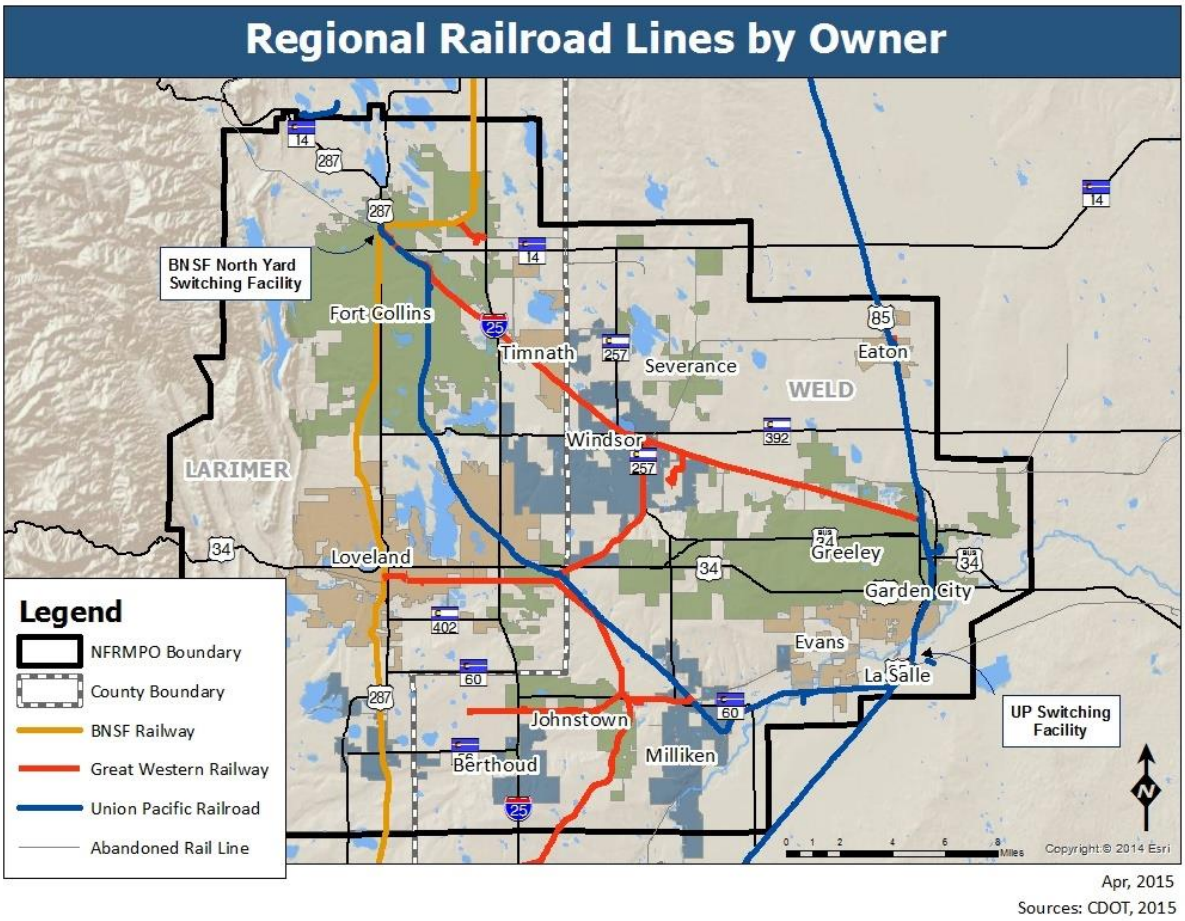
Table 2-9: Colorado Terminated Rail Freight (2012)		
Commodity	**Percent of Total**	**Tons**
Coal	58%	17,138,000
Other	23%	6,856,000
Stone, sand, gravel	8%	2,475,000
Intermodal	4%	1,132,000
Food Products	4%	1,059,000
Source: *Association of American Railroads, Rail Fast Facts, 2015*		

Railroads are classified according to the annual gross operating revenue from the railroad operations. A Class I Railroad has operating revenue of at least $433.2M in 2011. A regional or shortline railroad has annual operating revenue of less than $20M 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/shortline railway. These railroads are described in more detail in the following section and shown in **Figure 2-10**.

- **Union Pacific Railroad (UPRR):** UPRR is a Class I Railroad which has several rail lines in the North Front Range. The north-south line runs from the Denver metro region through the North Front Range to Wyoming, generally following the US 85 Corridor. The majority of the east-west line of the UP runs between Milliken and LaSalle, with a switching yard in LaSalle, and from Milliken into Fort Collins. There are 17 trains per day on the UP lines.
- **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 US 287, with a switch yard in Fort Collins. Six trains operate per day on the BNSF line.
- **Great Western Railway of Colorado (GWRR):** GWRR is a regional/shortline railroad. GWRR operates a total of 80 miles of track and interchanges with both BNSF and UPRR. The company operates

freight service between Loveland and Johnstown, with a spur lines to Milliken and Longmont. Another line connects north from Kelim (east of Loveland) to Windsor, and from there to Greeley and Fort Collins. GWRR also owns a branch line from Johnstown to Welty (just west of Johnstown). GWRR serves a diverse customer base including the Great Western Industrial Park. GWRR is managed by OmniTRAX.

Figure 2-10: Rail Lines by Owner



Freight Safety

Passenger vehicles and freight vehicles interact on the roadway system and at the 316 at-grade railroad crossings in the region. **Table 2-10** lists the number of crashes at these at-grade rail crossings. In the 10-year period between 2004 and 2014, 25 incidents between trains and passenger vehicles occurred at regional at-grade railroad crossings, with nine injuries and two fatalities.

Table 2-10: Railroad Crossing Crashes								
Year	Railroad	County	City/Town	Crossing ID	Roadway Name	Crossing Protection	Fatality	Injury
2005	GWRR	Weld	Windsor	S45106Y	SH257	Watchman	--	1
	UP	Weld	Eaton	804856D	CR 76	Stop signs	--	--
	UP	Weld	Greeley	816131K	22nd Street	Cross bucks	--	--
2006	GWRR	Larimer	Loveland	872128C	Denver Ave	Highway traffic signal, Cross bucks	--	--
	GWRR	Weld	Windsor	871917X	Eastman Park Drive	Cross bucks, Flagged by crew	--	--
	UP	Weld	Milliken	804538S	SH257	Standard Flashing Light Signal, Audible, Cross bucks	--	--
	UP	Weld	Milliken	804539Y	CR 52	Cross bucks	--	3
2007	BNSF	Larimer	Fort Collins	244622C	Horsetooth Road	Gates, Cantilever Flashing Light Signal	1	--
	UP	Weld	Eaton	804853H	2nd St	Gates, Standard Flashing Light Signal, Audible, Cross bucks	--	--
	GWRR	Weld	Windsor	244889T	CR 15	Cross bucks	--	--
2008	GWRR	Larimer	Fort Collins	244647X	Summit View	Gates, Standard Flashing Light Signal, Audible, cross bucks	--	--
	GWRR	Larimer	Loveland	921967R	Boise Ave	Highway Traffic Signals, Wigwags, Bells	--	--
	UP	Weld	Eaton	804852B	CR 72	Cross bucks, Stop sign	--	--
	UP	Weld	LaSalle	804355Y	CR 48	Cross bucks, Stop sign	--	--
2010	BNSF	Larimer	Fort Collins	244632H	Plus St	Cross bucks	1	--
	UP	Weld	Eaton	804855W	5th St	Cross bucks	--	--
	GWRR	Weld	Windsor	245106Y	CR 23	Cross bucks	--	1
2011	BNSF	Larimer	Loveland	245032J	Private	Stop signs	--	--
	UP	Weld	Eaton	804852B	CR 72	Stop signs	--	--
2012	UP	Larimer	Fort Collins	804501C	CR 32	Gates	--	--
	UP	Weld	Eaton	804856D	CR 76	Stop signs	--	1
2013	UP	Weld	Eaton	804856D	CR76	Stop signs	--	2
2014	UP	Larimer	Fort Collins	804514D	US 287	Highway Traffic Signals, Wigwags, Bells	--	--
	UP	Weld	Evans	804363R	31st Street	Gates	--	--
	UP	Weld	Milliken	804491Y	CR 17	Cross bucks	--	1
Source: *Federal Railroad Administration, Office of Safety Analysis, 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. **Table 2-11** compares total traffic, truck traffic, and the percent truck crashes along the heaviest-traveled corridors. This comparison can be used to evaluate safety on routes with high truck traffic**. Table 2-11** uses the percentage of truck traffic, which is a weighted average of the State Highway segments that comprise the corridor, and the percentage of truck crashes (the percent of the total crashes involving a truck), which is also a weighted average for the corresponding State Highway segments. Due to limitations in the data for non-State Highway facilities, this comparison is limited to the State Highway portions of the RSCs. The truck traffic is for the year 2012 and the truck crash percentages are for the five year period from 2008 to 2012. As shown in **Table 2-11**, the percent of truck crashes and the percent of truck traffic tend to be closely related. The exception is I-25, where truck crashes occur at half the rate of truck traffic.

Table 2-11: Truck Crash Rates

Roadway	Trucks	Total Vehicles (including trucks)	Percent Truck Traffic*	Total Crashes	Truck Crashes	Percent Truck Crashes*
I-25	340,017	2,767,107	12.3%	3,024	184	6.1%
US 85	63,566	842,976	7.5%	952	78	8.2%
SH 392	30,440	490,484	6.2%	677	29	4.3%
SH 60	12,169	256,076	4.8%	312	18	5.8%
Riverside Avenue	8,463	196,308	4.3%	N/A	N/A	N/A
SH 14	37,531	942,445	4.0%	776	36	4.6%
SH 257	5,977	158,819	3.8%	325	13	4.00%
US-34	87,056	2,767,685	3.1%	3,676	95	2.6%
Prospect Road	17,278	682,050	2.5%	N/A	N/A	N/A
Harmony Road	22,882	912,171	2.5%	N/A	N/A	N/A
Sources: *NFRMPO 2012-2040 Travel Demand Model; CDOT, 2015*						

** Truck crashes are based on information provided by CDOT, while Truck Traffic is provided by the NFRMPO 2040 Travel Demand Model. CDOT defines trucks based on weight, specifically vehicles over 10,001 pounds. The NFRMPO 2040 Travel Demand Model defines trucks based on axles, specifically vehicles with three or more axles.*

D. Bicycle and Pedestrian System

Bicycle System

Regional Bicycle Plan

The NFRMPO completed and adopted the NFRMPO Regional Bicycle Plan on March 7, 2013. This plan reports existing and proposed bicycle facilities on RSCs. The purpose of the plan is to:

- Provide a summary of existing bicycle facilities;
- Identify opportunities to connect and enhance the regional bicycle system;
- Identify regional bicycle corridors and providing implementation steps;

- Provide member governments with tools to support local bicycle planning;
- Position the NFRMPO to pursue multiple funding sources (including State and federal sources); and
- Fulfill the federal requirement to address bicycle planning as a component of the RTP.

The plan identifies existing facilities within the NFRMPO region, as well as 12 regional bicycle corridors which could serve as main routes for bicycle and pedestrian travel between and through local communities as well as connections to areas adjacent to the region. While certain segments of the regional bicycle corridors exist today, much of the network remains conceptual. One of the goals outlined in the plan is for the MPO to provide local assistance in the planning and funding of these corridors. **Table 2-1** lists locations of the 12 regional bicycle corridors as outlined in the plan.

Existing Bicycle Facilities

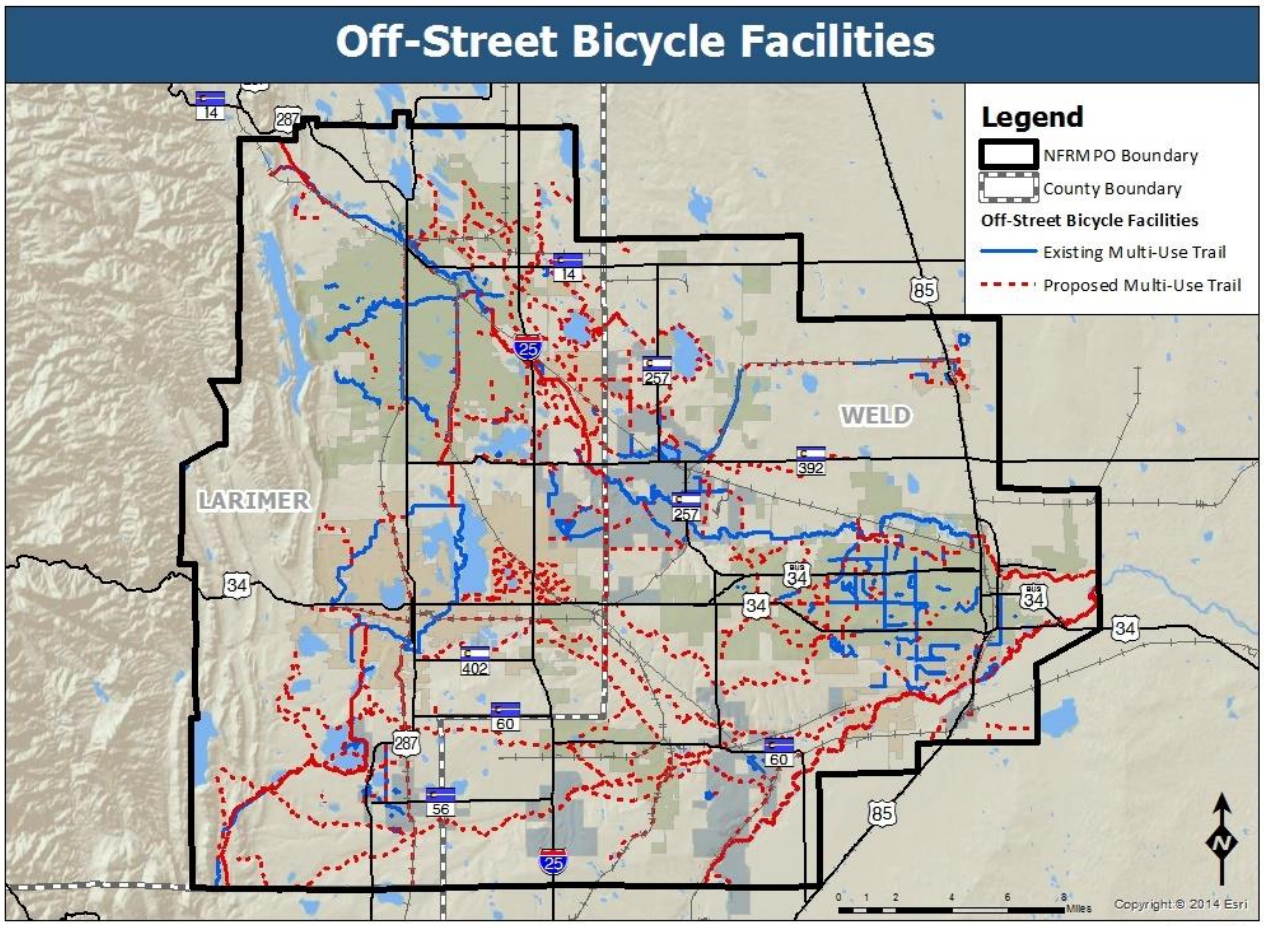
Facilities identified in the plan include multi-use off-street trails, on-street bicycle lanes, and on-street bicycle routes. The following are common definitions of these facilities:

- **Multi-Use Off-Street Facility** – a hard or soft surface trail designed to be used by commuters and recreationalists. These facilities are accessible to bicycles, pedestrians, equestrians, and other non-motorized users.
- **On-Street 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.
- **On-Street 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.

The facilities shown in **Figures 2-11 and 2-12** were identified from a number of sources, the NFRMPO Regional Bicycle Plan, 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 2-12** shows how many miles of bicycle facilities currently exist within the region.

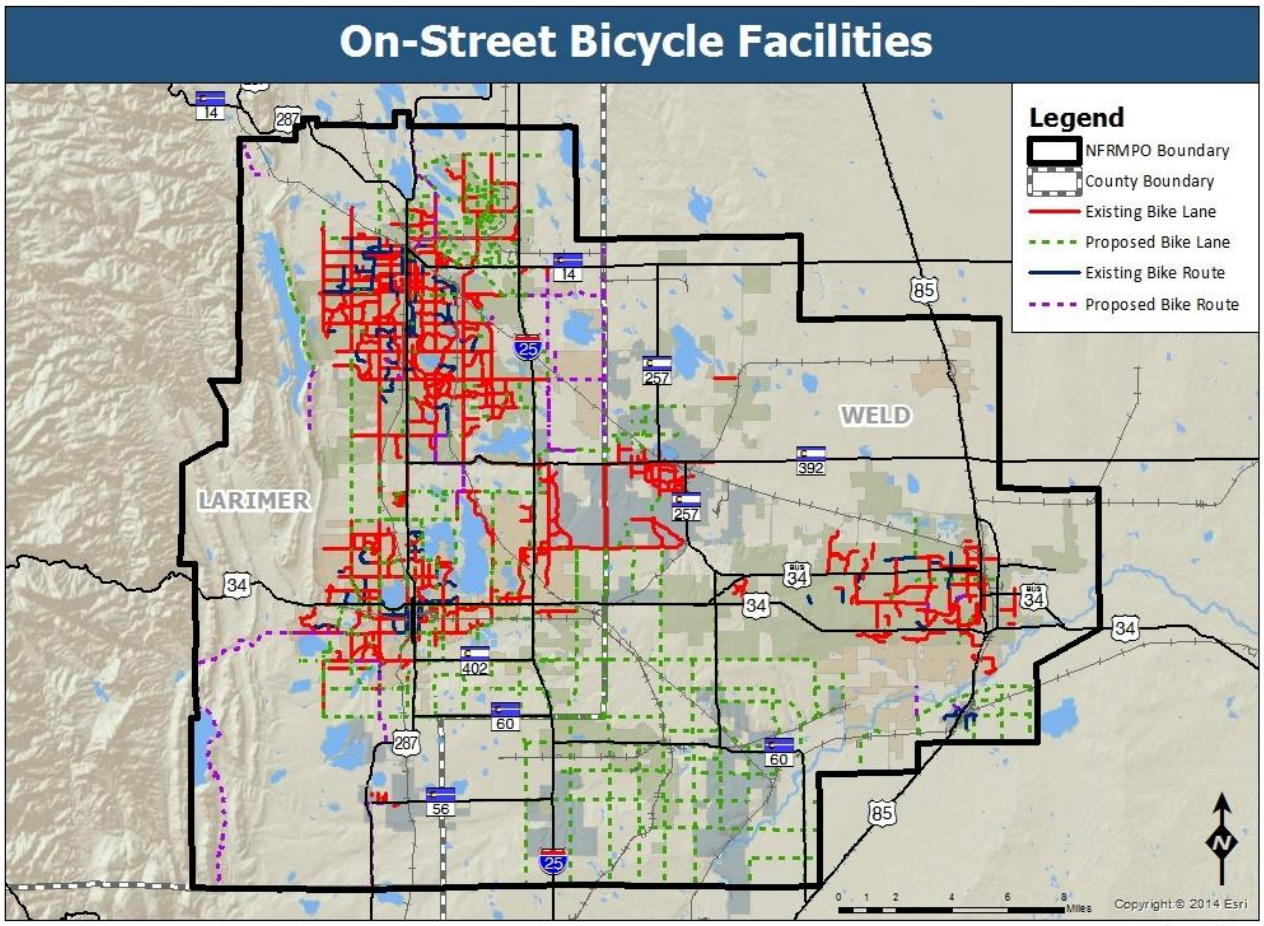
Table 2-12: Existing Bicycle Facility Miles			
Community	**On-Street Bike Lane Miles**	**On-Street Bicycle Route Miles**	**Multi-Use Off-Street Facility Miles**
Berthoud	2	0	1
Eaton	0	0	2
Evans	0	0	24
Fort Collins	142	25	31
Greeley	44	39	34
Garden City	0	0	0
Johnstown	2	0	0
LaSalle	0	2	0
Loveland	83	15	3
Milliken	0	0	4
Severance	1	0	0
Timnath	0	0	1
Windsor	20	0	22
Larimer County	69	2	26
Weld County	11	0	59
Total:	**374**	**83**	**207**
Source: *NFRMPO Regional Bicycle Plan, 2013*			

Figure 2-11: Off-Street Bicycle Facilities



Apr, 2015
Sources: CDOT, 2014

Figure 2-12: On-Street Bicycle Facilities



Pedestrian System

Existing Pedestrian Facilities

The MPO also gathered data on existing pedestrian facilities, which include multi-use off-street trails and sidewalks. The following are common definitions of these types of facilities:

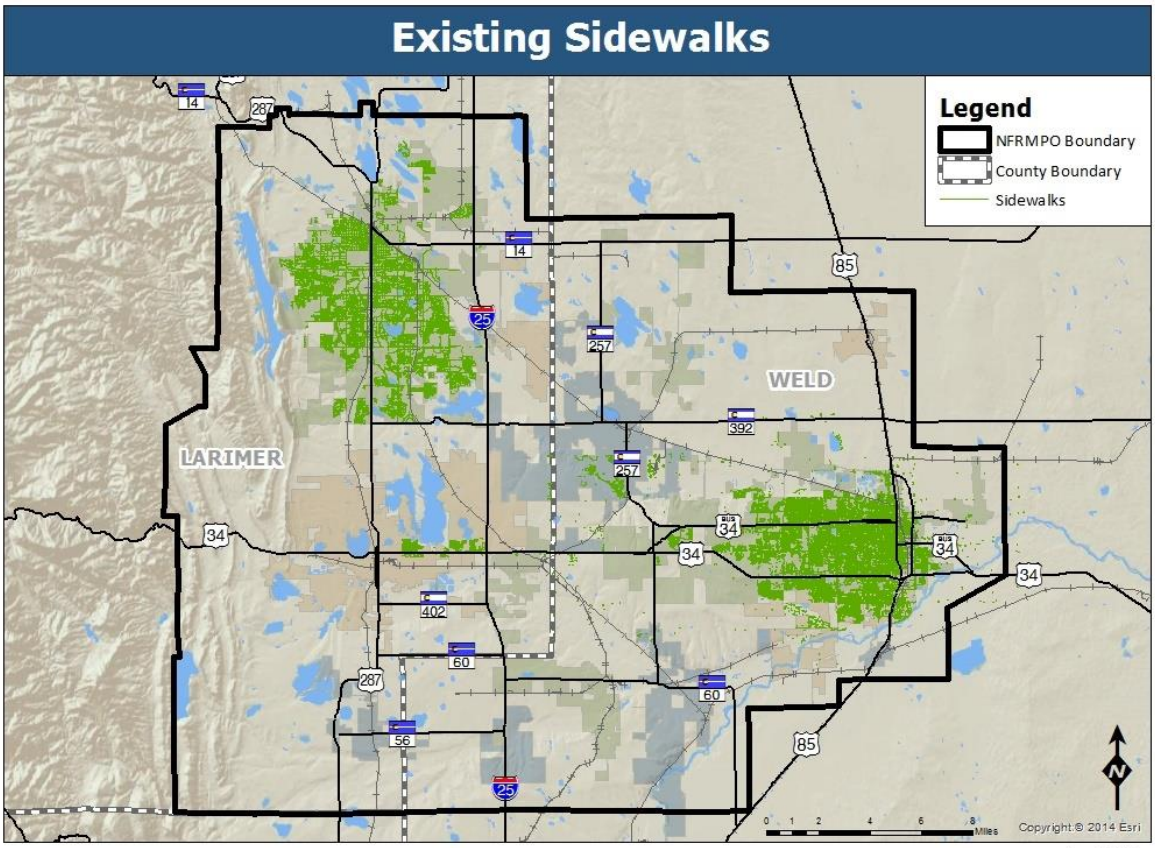
- **Multi-Use Off-Street Facility** – a hard or soft surface trail designed to be used by commuters and recreationalists. These facilities are accessible to bicycles, pedestrians, equestrians, and other non-motorized users. **Figure 2-9** shows multi-use off-street facilities.
- **Sidewalk** – a paved walkway along the side of an existing street or roadway.

The facilities in **Figure 2-13** were identified from a number of sources, the NFRMPO Regional Bicycle Plan, local Master Street Plans and Standards, as well as existing local bicycle and pedestrian plans. They were further refined by discussions with individual local governments. Sidewalk totals were only gathered for the communities of Evans, Fort Collins, Greeley, and portions of Loveland and Windsor due to limited Graphic Information Systems (GIS) resources in many of the member communities.

Table 2-13 shows current data gathered on how many miles of pedestrian facilities within the NFR region.

Table 2-13: Existing Pedestrian Facilities		
Community	**Multi-Use Off-Street Facility**	**Sidewalk Miles**
Berthoud	1	--
Eaton	2	--
Evans	24	147
Fort Collins	31	844
Greeley	34	968
Garden City	0	--
Johnstown	0	--
LaSalle	0	--
Loveland	3	--
Milliken	4	--
Severance	0	--
Timnath	1	--
Windsor	22	--
Larimer County	26	--
Weld County	59	--
Total:	**207**	**1,959**
Sources: *NFRMPO Regional Bicycle Plan, 2013; NFRMPO Cities, Towns, and Counties, 2014*		

Figure 2-13: Existing Sidewalks



Bicycle and Pedestrian Count Locations

One challenge to implementing a regional bicycle system is documenting the system's performance. In 2010, CDOT established a formal bicycle and pedestrian counting program which included the purchase of permanent and mobile bicycle and pedestrian counters for the state. In November 2014, NFRMPO staff met with CDOT, the City of Fort Collins, and Colorado State University to establish a location for a permanent counter along a regional and local bicycle facility. It was determined a counter should be placed at the intersection of the Mason Corridor Trail (Regional Bicycle Corridor #8, BNSF Fort Collins/Berthoud Trail) and the Spring Creek Trail in Fort Collins to gather accurate, year-round information on both bicycle commuters and recreational trail users. Regional Bicycle Corridor #8 was identified as a possible location for a permanent bicycle counter location in the Regional Bicycle Plan.

Currently, the cities of Fort Collins, Greeley, and Loveland are the only municipalities that have collected count data on their bicycle and pedestrian trail systems. Greeley and Loveland used mobile electronic counters to gather data, while Fort Collins recruited volunteers to conduct manual counts at the locations provided in **Tables 2-14 through 2-16**. Counts were collected between January, 2013 and September, 2014.

Table 2-14: Fort Collins Bicycle and Pedestrian Counts	
Location	**Estimated Daily Average**
Ziegler Road and Kechter Road	200
Power Trail at Horsetooth Road Trailhead	500
Mason Trail at Horsetooth Road Trailhead	650
Spring Creek Trail at Drake Road Trailhead	1,400
Horsetooth Road and Shields Street Intersection	450
Fossil Creek Trail at Spring Canyon Park Trailhead	900
Poudre River Trail at Lincoln Avenue Trailhead	950
Spring Creek Trail at Lee Martinez Park Trailhead	1,700
Mountain Avenue at Mason Street Intersection	1,150
Laurel Street and Remington Street Intersection	1,800
Prospect Road at Remington Street Intersection	1,800
Spring Creek Trail at Centre Avenue Trailhead	1,200
Taft Hill Avenue at Laporte Avenue Intersection	750
Mountain Avenue at Remington Street Intersection	450
Source: *City of Fort Collins, 2014*	

Table 2-15: Greeley Bicycle and Pedestrian Counts				
Location	**Daily Average**	**Peak Day Volume**	**Peak Day**	**Count Month**
Poudre River Trail at Island Grove Trailhead	69	211	Monday	January
Poudre River Trail at 25th Ave Trailhead	72	335	Sunday	January
Poudre River Trail at 35th Ave Trailhead	149	437	Sunday	May
Poudre River Trail at 35th Ave Trailhead	240	403	Saturday	July
Source: *City of Greeley, 2014*				

Table 2-16: Loveland Bicycle and Pedestrian Counts				
Location	**Daily Average**	**Peak Day Volume**	**Peak Day**	**Count Month**
N Taft Ave – Between 8th St & 10th St	46	49	Wednesday	June 4 – December 31, 2013
Source: *City of Loveland, 2014*				

E. Transportation Demand Management Program

Transportation Demand Management (TDM) strategies are actions which improve transportation system efficiency by altering transportation system demand rather than roadway capital expansion. TDM strategies include the following:

- Reducing trip length or time;
- Encouraging off-peak travel; and
- Reducing single occupancy vehicles (SOV) on roadways.

In 1996, the NFRMPO began implementation of the SmartTrips™ program for Northern Colorado with designated staff from the NFRMPO and the communities of Fort Collins, Greeley, and Loveland. The program was part of a package of strategies developed to reach the goals established by the MPO which include reducing the number of trips made by SOVs by 10 percent by the year 2015.

The NFRMPO currently provides several TDM programs, including the VanGo™ vanpooling program, ride matching through the Go Portal (www.smarttrips.org), and business outreach services and events.

NFRMPO Household Survey of 2010 and Implications for TDM

The NFRMPO conducted a household survey in 2009 for the four Front Range Colorado Metropolitan Planning Organization (MPO) sub-regions. The MPO collected data throughout the NFR region and documented it in the NFRMPO Household Survey of 2010. The survey was conducted in the same manner across all of the sub-regions, providing a snapshot of current travel behavior throughout the Front Range. The data has been used to target TDM service improvements for existing programs as well as exploring the potential for new services and programs in the region.

Key differences between the cities, towns, and rural areas in the NFR region are reflected in household travel behavior. Some characteristics include:

- **Fort Collins** – Fort Collins households report smaller-than-average household sizes and fewer vehicles. These households report the highest levels of non-motorized travel in a typical week and the highest levels transit pass ownership. Household members have higher-than-average education levels and more students per household than the other areas. Fort Collins respondents have a higher average number of bicycles per household and report riding a bicycle or walking to work or school more frequently than other parts of the region.
- **Greeley/Evans** – Households in the Greeley/Evans area are the most unique of the four areas. Consisting of more retirees and minorities than other areas, these households tend to be smaller, with fewer vehicles, fewer students, fewer workers, lower incomes, and the highest disability rates. The Greeley/Evans area has higher renter rates, and respondents are more likely to hold a transit pass than other areas of the region, with the exception of Fort Collins. Households in the Greeley/Evans area use transit more frequently than other parts of the region. Thirteen percent of Greeley/Evans drivers do not have a driver's license, which may contribute to higher levels of walking or transit use.

- **Loveland** – Loveland households tend towards average regional characteristics. They report somewhat smaller household sizes and number of workers per household, but higher-than-average renters. Loveland households have above-average transit usage for the region.
- **Larimer County** – Household size in non-urbanized Larimer County is smaller than average, but respondents report the highest number of vehicles per household. They have the highest licensure rate, lowest levels of disability, above-average number of workers per household, and have the highest reported income levels in the region.
- **Weld County** – Respondents in unincorporated Weld County are similar to those in Larimer County, with the exception that they have lower education rates and more Hispanic households than the regional average. They are younger, have more students, and report the largest household size. Transit use is lowest in unincorporated areas of Weld County.

I-25 Carpool Park and Ride Study

In the summer of 2010, the NFRMPO conducted a survey to determine how Park-n-Rides (PNRs) were being used along the I-25 corridor in Northern Colorado. The six regional PNRs were surveyed during the morning (a.m.) and evening (p.m.) peaks on weekdays during July and August 2010. The regional PNRs include:

- Harmony (Fort Collins) –Exit #265
- SH 392 (Windsor) – Exit #262
- US 34 (Loveland) – Exit #257
- SH402 (Loveland) – Exit #255
- SH 60 (Johnstown) – Exit #252 / 254
- SH 56 (Berthoud) – Exit #250

The results of the surveys show a significant change in PNR use compared to previous surveys. Highlights from the 2010 survey include:

- SH 402 and SH 60 approached or exceeded 100 percent capacity on the days surveyed. At the SH 402 PNR, which currently has 88 paved spaces, users were also parking in a makeshift unpaved extension of the lot.
- SH 392 had the largest drop in use (from 36 vehicles in previous surveys to 11-12 vehicles).
- License plate data collected from 532 license plates and matched with home addresses in Northern Colorado revealed 38 percent of the cars at the six PNRs were from the Fort Collins area, while 25 percent were from the Loveland area. Berthoud, Greeley, Johnstown, and Denver Metro each yielded between 9 and 10 percent.
- Carpools represent more than 70 percent of the overall usage at PNRs in the NFRMPO region. Vanpools accounted for 24 percent of the vehicles leaving in the morning and 20 percent of the vehicles arriving in the afternoon. Harmony Road PNR had the largest number of morning and afternoon carpools (39 and 48 vehicles, respectively).
- 54 percent of carpools in both the morning and afternoon contained two passengers while the three passenger vehicles accounted for 11 and 18 percent, respectively.

Regional TDM Efforts

The MPO serves as the regional coordinator for TDM programs in the NFR region. This includes the VanGo™ Vanpool Services program and business outreach.

SmartTrips™

SmartTrips™ is an NFRMPO program which provides resources, information, and incentives to help area residents travel by means other than single occupancy vehicles. The MPO has focused on regional modes of transportation, including carpooling and vanpooling along with the ridesharing website www.smarttrips.org.

VanGo™

The VanGo™ program, managed by the MPO, provides vanpool services to meet the origin and destination needs of commuters in the region and between the North Front Range and the Denver metro area. The program, which began in 1994, has grown over the last 20 years to more than 400 riders and 74 routes in 2014.

CarGo™

Carpool matching is provided by CarGo™, a ridesharing system available through the SmartTrips website. The CarGo™ program enables users to receive personalized carpool matches. The tool matches willing carpool participants who live near each other and are traveling in the same direction during the same time period to share the ride to school or work.

The Go Portal

The MPO has developed a free online commuter service, The Go Portal, which enhances the current services that enable commuters to find carpool matches, calculate commute savings, and get information on commute options. Commuters are able to track their carpool trips to earn incentives with The Go Portal, find rideshare matches, track their money and gas savings, and calculate emissions reduction. Users of both VanGo™ and CarGo™ can also track their savings, calories burned, and reduction in carbon monoxide (CO) emissions by using a savings calculator.

The Go Portal, provided free of charge, can also be used by employers to gather and promote data on how employees are reducing trips and CO_2 emissions, to provide incentives for employees, and assist employers in implementing successful commute programs.

Bicycle Programs

The NFRMPO works with CDOT and local governments to promote Bike Month and Bike to Work Day every June. Additionally, there are more than 290 miles of bicycle facilities (bike routes, paths, lanes, and off-street trails) within ¼ mile of the RSCs in the region (I-25, US 34, and US 287 and parallel facilities, as defined in *Section 2A*). The SmartTrips™ website allows users to track miles of bicycle travel. Tracking these miles serves as an important performance measure for the program. Personal and employer incentives will need to be employed to increase reporting participation.

Local Government TDM Efforts

Local governments in the region are also involved in TDM efforts. Transit and bicycle programs are the most common focus of TDM efforts in the NFRMPO region. Some local governments have also developed Intelligent Transportation Systems (ITS) which provide information to travelers about traffic, weather, construction, and other travel factors.

City of Fort Collins

The City of Fort Collins is the largest city in the NFRMPO region, with a population of 143,986 (2010 Census). It is an economic and academic hub within the region and is home to Colorado State University (CSU).

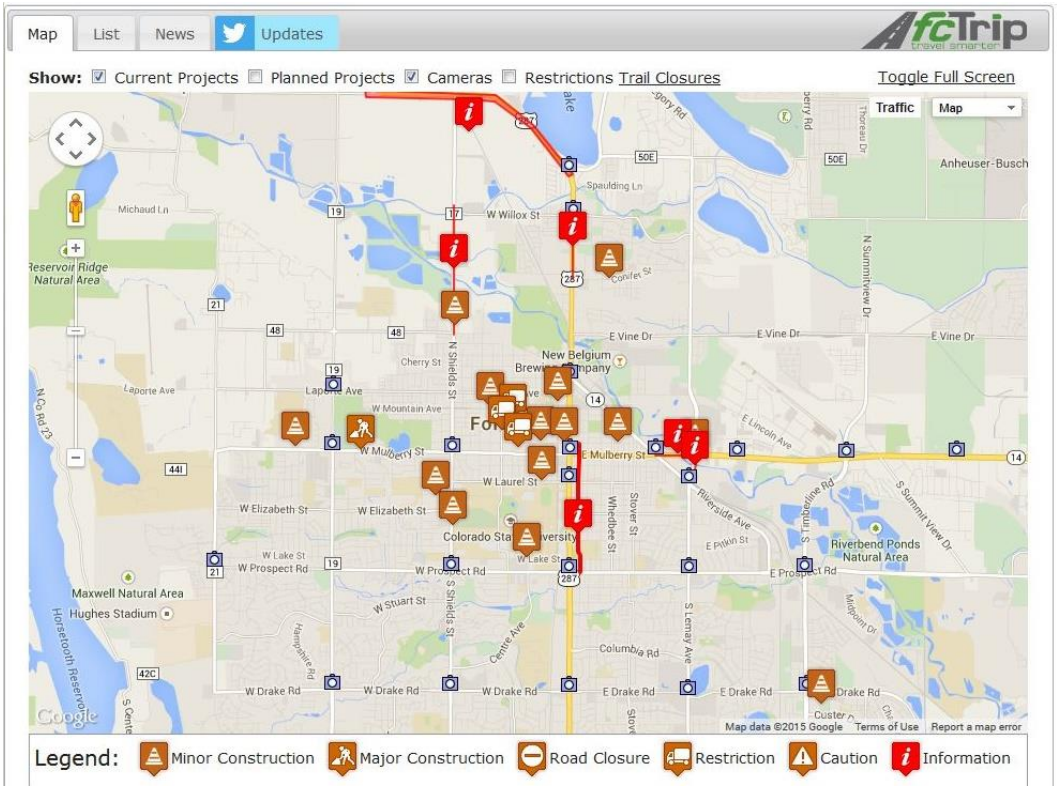
FCTrip

FCTrip is a web-based application that provides information to travelers in the City of Fort Collins, including:

- Timely and accurate information regarding traffic conditions;
- Information on weather conditions;
- Information on work area traffic, road construction, and road/lane closures; and
- Up to-the-minute photographs of major intersections.

FCTrips provides this information through a network of closed-circuit television cameras, video detectors, and pavement sensors. Users are able to view real-time maps that provide information on traffic conditions, construction, and road closures. An example FCTrip map is shown in **Figure 2-14**.

Figure 2-14: FCTrip Map



Fort Collins Bike Library

The Fort Collins Bike Library was established in conjunction with FC Bikes – City of Fort Collins, New Belgium Brewery, the Downtown Development Authority, and Bike Fort Collins – a non-profit group established in 2005 for bicycle advocacy. The Bike Library provides bicycle and equipment rental service for residents, students, and visitors to Fort Collins for a minimal cost (first day free, $10 each additional day). Members can borrow a bike for as short as one hour or for as long as seven days. The bike library provides a fleet of commuter bikes, cruiser bikes, children's bikes, striders, tandem bicycles, and bicycle trailers to attract a broad user base. As of February 2015, 23,719 registered patrons have checked out 23,940 bikes, logged 274,540 miles, 109,002 rider days, and prevented 122.19 metric tons of carbon dioxide (CO_2) from being released into the atmosphere.[5]

FC Bikes

FC Bikes is the bicycle program established for the City of Fort Collins. In 2014, Fort Collins completed an updated Bicycle Plan that covers a cost-effective approach to bicycle infrastructure, connectivity, policies, and programs. The plan aims to implement bicycle infrastructure improvements which will help the City achieve Diamond Status on Bicycle Friendliness by the League of American Bicyclists by the year 2020. The goals, principles, and policies that pertain to bicycling established in City Plan and the Transportation Master Plan have laid the foundation for the current policies, projects, and programs as well as the focus for the numerous recommendations provided. In addition, FC Bikes promotes bicycling in the City by sponsoring events such as Bike to Work Day, Winter Bike to Work Day (in December), and BikeWinter, encouraging cyclists to ride throughout the winter. Winter Bike to Work Day in December is the cornerstone event, with increased numbers of participants in each year since its inception in 2007. The City of Fort Collins Transportation Board incorporated a bicycle sub-committee in 2009.

Colorado State University – TDM Programs

With an enrollment of 26,775 students for the Spring Semester 2015,[6] CSU has a significant transportation impact on the City of Fort Collins. The presence of students and faculty impacts the City's demographics and transportation system. For example, Fort Collins has a higher level of bicycle commuting than the national average and other parts of the region. This can be partially attributed to the student population. In addition, more than 35 percent of Fort Collins households reported that someone walks or bicycles to work or school at least once a week (NFRMPO Household Survey of 2010). CSU has implemented TDM programs to alleviate parking issues and congestion on campus.

All CSU students, faculty, and staff receive a pass to ride the Transfort bus system at no cost. The transit center at Lory Student Center, opened in 2006, includes a Transfort customer counter, flat screen monitors displaying departure times and news stories, and an indoor passenger waiting area to increase comfort and convenience. The transit center is certified LEED Gold.

[5] According to FC Bikes and Bike Fort Collins

[6] Colorado State University Census Enrollment, spring 2015. Department of Institutional Research, Colorado State University

The Fort Collins Bike Library has a station at the Lory Student Center, providing students, faculty, and staff access to bicycles. CSU has hundreds of user-friendly bike racks to accommodate an estimated 14,200 bicycle parking spaces on the main campus and 1,100 spaces at the satellite campuses.[7] CSU also provides a full subsidy for employee vanpools through the VanGo™ program.

City of Loveland

In 2012, the City of Loveland completed their Bicycle and Pedestrian Plan which covers strategies and activities to increase the use and convenience of bicycle and pedestrian facilities throughout the city. The plan aims to provide goals and objectives to provide a safe and effective bicycle and pedestrian system, fill in missing segments in the bicycle and pedestrian infrastructure system, design and develop a complete streets system, and develop a continued source of funding for bicycle and pedestrian infrastructure.

Loveland also sponsors an annual Bike to Work Day event, including a business challenge to encourage employers to promote cycling as a transportation option to their employees. Additionally, the City of Loveland's Engineering Department has partnered with the Thompson School District to promote the Safe Routes to School Program, a federally-funded program through CDOT. This program benefits children and the community by reducing traffic congestion in school zones, improving air quality, increasing physical activity for children and adults, and promoting safe neighborhoods.

City of Greeley

The City of Greeley is home to approximately 115 miles of bike lanes, trails, and paths and was designated a Bronze Level Bicycle Friendly Community℠ by the League of American Bicyclists in May 2013. Greeley's Bicycle Master Plan is entering the final stages of approval and aims to increase investment in the bicycle and pedestrian system through a dedicated budget and implementation of a complete street program. The plan is set to be adopted in spring 2015.

The City also hosts a number of cycling events throughout the year, including bike to work day and pop-up demonstrations of enhanced bicycle facilities. Greeley has also used the Safe Routes to School Program to provide funding for school zone enhancements to the bicycle and pedestrian system.

Local Transit Programs

Transit is a large portion of TDM and *Section H* of this chapter provides more detail about the various transit programs.

Employer-based TDM programs

Employer-promoted TDM programs are an effective, locally-based mechanism to increase employee use of alternative modes for their commute to work.

A notable employer-based TDM effort in the region is the New Belgium Brewery. New Belgium actively promotes and supports bicycle commuting within their company and nation-wide. New Belgium employees receive a custom cruiser bicycle after one year of employment with the company. Team Wonderbike is New

[7] Colorado State University Bicycle Master Plan, 2014

Belgium's bicycle commuter advocacy program with more than 10,000 members who have pledged to offset more than eight million car miles per year by riding their bikes. New Belgium also offers local grants, sponsorships, and product donations to applicants whose objectives align with New Belgium's.

CDOT offers TDM programs to its employees located throughout Colorado. Employees who work in the NFRMPO region are provided with a monthly commuter check worth $35 to subsidize vanpool costs. Employees who travel to the Denver metro area for meetings are provided with a RTD Eco Pass allowing them to ride transit. Full-time employees who commute to the Denver region from the NFRMPO region are also provided with Eco Passes. CDOT sponsors Bike to Work Day events in June at all of its statewide offices and provides incentives for employees to ride their bikes to work through the month of July.

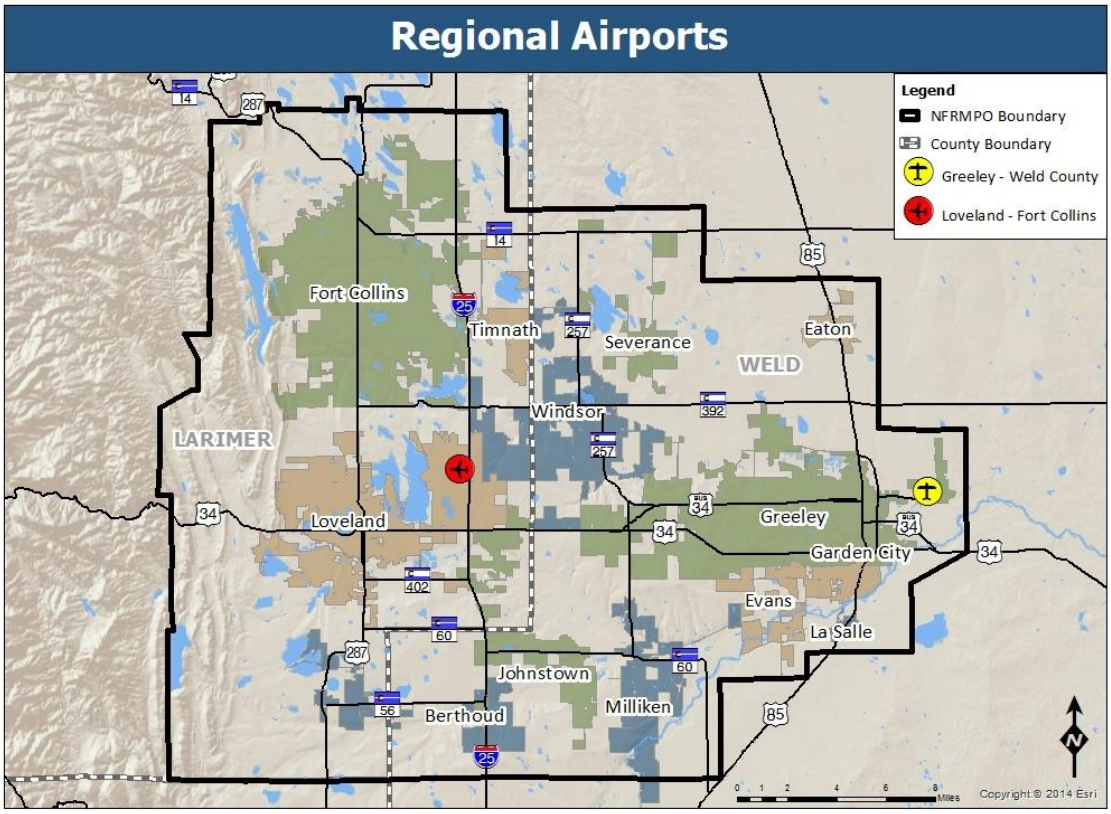
Several regional employers promote transportation alternatives in conjunction with other events at the workplace, most commonly health fairs, including:

- Hewlett-Packard
- Intel
- Weld County
- Hach
- AMD
- Avago Technologies
- Platte River Power Authority - Rawhide Power Plant
- LSI Corporation
- Advanced Energy, Inc.
- Rickards Long & Rulon, LLP
- Gallegos Sanitation
- Poudre River Public Library District
- State Farm Insurance – Great Western Region
- Woodward Governor
- McKee Medical Center

F. Aviation Facilities

Two airports currently operate within the NFRMPO region: Fort Collins-Loveland Municipal and Greeley-Weld County. The Fort Collins Downtown Airport closed in 2006. Each of the two operating facilities is described in more detail in the following sections. **Figure 2-15** shows the location of the two regional airports.

Figure 2-15: Regional Airports



Fort Collins-Loveland Municipal Airport

Fort Collins-Loveland Municipal Airport (FNL) is a Major Commercial Service Aviation airport, which operates under a limited Federal Aviation Regulation (FAR) Part 139 certificate. This Regulation establishes operation procedures for commercial service. The airport previously had regularly scheduled commercial service through Allegiant Air, which was discontinued in October 2012. The airport has two runways - 15/33 and 6/24. Runway 15/33 is 8,500 feet in length and has a width of 100 feet. This runway has an asphalt surface with high intensity runway lighting. Runway 6/24 is 2,273 feet in length and 40 feet in width. This runway has an asphalt surface, but does not have any runway lighting. The airport is equipped with a VHF (Very High Frequency) Omni-directional Range (VOR), an Instrument Landing System (ILS), and a Global Positioning Satellite (GPS) as navigation aids.

In 2013, the airport had approximately 95,000 flight operations including air carrier, private charter, corporate, air ambulance transport, aerial fire suppression, flight training, and general aviation usage. An estimated 4,000 inbound and outbound flight passengers used the airport via charter services.[8] According to the CDOT Division of Aeronautics, approximately 54,000 passengers arrive at the airport annually.[9] In 2013,

[8] City of Loveland. Fort Collins – Loveland Annual Report, 2013
[9] CDOT Economic Impact Study for Colorado Airports, 2013

the airport employed 826 people with a total payroll of approximately $24,825,000. The total economic impact of the airport (including direct, indirect, and induced impacts) is estimated to be $129,426,000.[10] The airport also has 215 based aircraft including single-use aircraft, multi-use aircraft, jet aircraft, and helicopters.

In 2007, a master plan for the airport was completed to evaluate existing and future aviation facilities and demands. The plan covers a 20-year time horizon and predicts future aviation and general development needs for the airport. 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. Future airport plans call for runway 15/33 to be expanded to 9,500 feet in length and 150 feet in width to accommodate larger commercial aircraft, as well as an increase in weight accommodation with an asphalt overlay. Runway 6/24 is expected to be expanded to 60 feet in width and maintain existing length. The airport also plans on constructing an additional runway west of 15/33 with a length of 6,700 feet and width of 75 feet to accommodate additional operations of smaller aircraft. The airport expansion plans are estimated to maintain 179,364 annual operations, an increase of 84,364 annual operations from 2013 estimates.

Table 2-17 shows changes in total employment and economic output at the Fort Collins–Loveland Airport from 2003–2013.

Table 2-17: Fort Collins – Loveland Municipal Airport Economic Factors			
	2003	2008	2013
Total Employment	619	749	826
Total Economic Output	$37,178,00	$56,316,800	$129,426,000
Source: *CDOT Economic Impact Study for Colorado Airports, 2013*			

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 VOR, ILS, GPS, and NDB (Non-Directional Radio Beacon) 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 $30,784,000.[12] The total economic impact of the airport (including direct, indirect, and induced impacts) is

[10] CDOT 2014 Annual Report, Division of Aeronautics
[11] CDOT Economic Impact Study for Colorado Airports, 2013
[12] Airport Data, www.gxy.net/airport-data, 2015

estimated to be $94,091,000[4]. 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.

Table 2-18 shows changes in total employment and economic output at the Greeley – Weld County Airport from 2003–2013.

Table 2-18: Greeley – Weld County Airport Economic Factors

	2003	2008	2013
Total Employment	1,436	1,766	672
Total Economic Output	$73,102,000	$120,814,200	$94,091,000

Source: *CDOT Economic Impact Study for Colorado Airports, 2013*

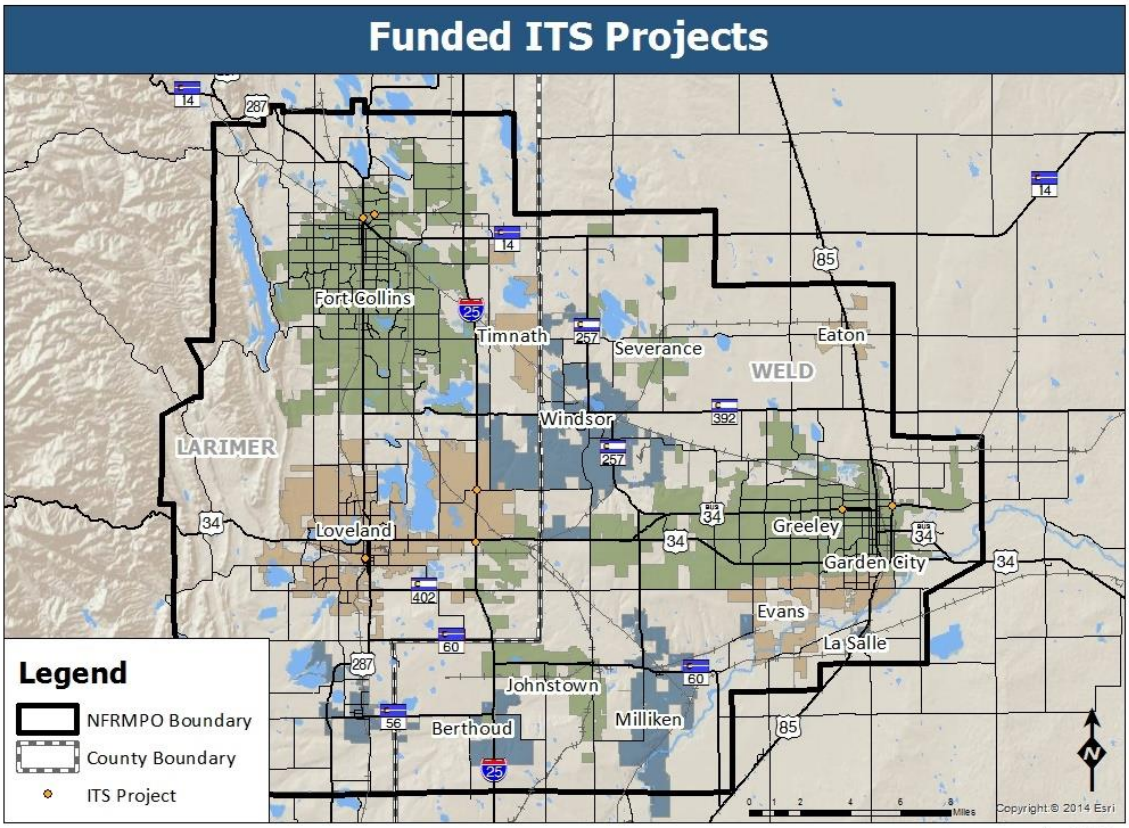
G. Intelligent Transportation System (ITS)

The uncertainty of funding for transportation and the need for continued bailout of the federal trust fund means that funding for large scale transportation projects cannot be guaranteed. ITS has become more popular because it improves the existing roadway system operations in a cost effective manner. ITS uses technology to improve mobility, increase safety, and reduce delays. Communities in the North Front Range have partnered with CDOT to implement varying projects throughout the region. In 2011, CDOT, the NFRMPO, and local jurisdictions developed the CDOT Region 4 Intelligent Transportation Systems Strategic Implementation Plan. The plan serves as the guiding document for ITS projects to 2021, and identifies the funding needs, recommended deployment time frames, and potential funding sources.

In addition to projects sponsored by local communities, CDOT operates its COTRIP website (www.cotrip.org) offering 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. The program takes advantage of previously completed ITS projects to offer commuters an idea of conditions before they begin their travel. Traffic cameras around the region provide live updates for traffic. The cameras are located in municipalities as well as key spots along the I-25 corridor. CDOT also provides an App, CDOT Mobile, which provides real-time travel information. Travelers can also sign up for text messages and emails which provide similar updates.

Figure 2-16 shows the projects funded in the FY2012-2017 TIP. Many of the projects were city-wide, including improvements to traffic control centers and traffic light upgrades. In these cases, the point shows the location of the traffic control center rather than a specific project location. **Table 2-19** shows the location and funding sources for each of the ITS project.

Figure 2-16: Funded ITS Projects



Apr, 2015
Sources: CDOT, 2014

Table 2-19: Funded ITS Projects		
Project	Funding Source	**Location**
Northern Fort Collins Rail Crossing Signals	CMAQ	Fort Collins
Greeley Fiber Optic Communication	CMAQ	Greeley
Loveland Traffic Signals Controllers	CMAQ	Loveland
Loveland I-25/US 34/Crossroads VMS	CMAQ	Loveland
Loveland Traffic Operations Center	STP-Metro	Loveland
Greeley Fiber Optic Communication	STP-Metro	Greeley
Implementation of Network Management System	FASTER	Fort Collins
Adaptive Signal Control US 85 (Greeley)	Illustrative	Greeley
US 34 Bypass (Greeley) Adaptive Signals	Illustrative	Greeley
US 34 from I-25 to West Yard Fiber Installation	Illustrative	Greeley
Source: *NFRMPO FY2012-2017 TIP*		

H. Transit System

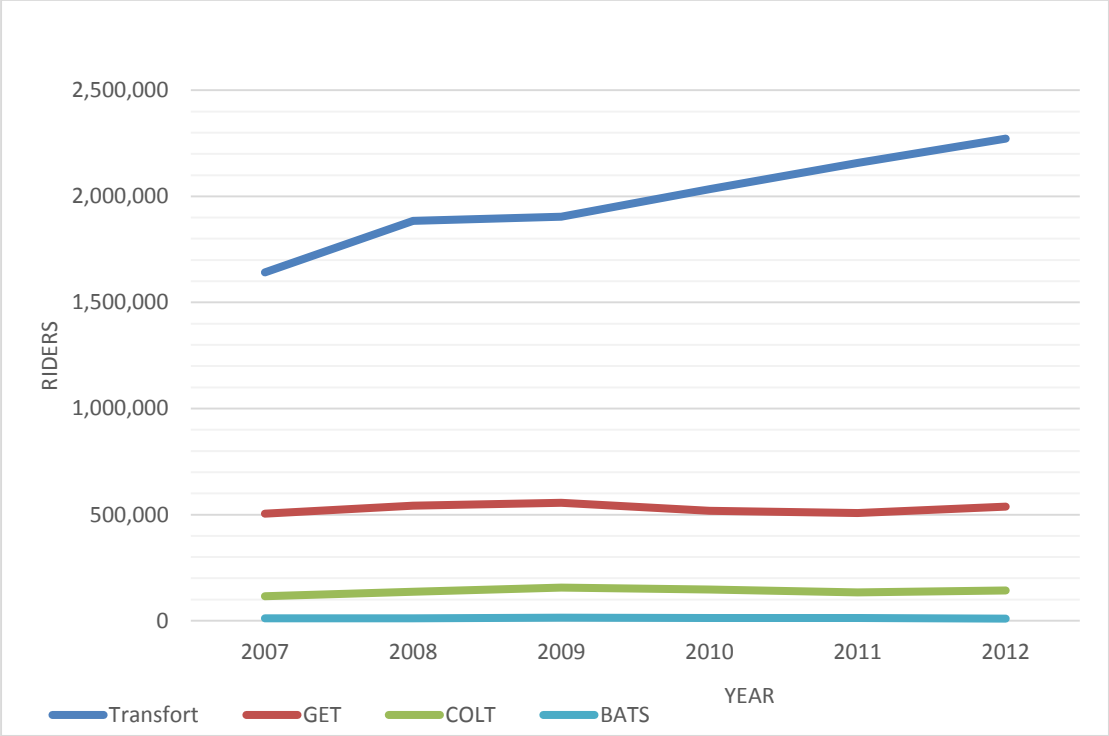
This section provides information on municipal, county, private, and non-profit transit providers. These entities operate services in both urban and rural areas, including limited interregional services.

Public Transportation Providers

Current public transportation systems in the North Front Range include those operated by the cities of Fort Collins, Greeley, and Loveland, and the Town of Berthoud. Other transportation services active in the region include transportation services provided by volunteers, such as Senior Alternatives In Transportation (SAINT) and Rural Alternative for Transportation (RAFT), several commercial transportation providers, and the NFRMPO VanGo subscription vanpool program.

Public transportation in the North Front Range region has evolved primarily as a city government function. SAINT and the Berthoud Area Transportation Services (BATS) evolved to meet the needs of seniors, while the transit services in Fort Collins, Greeley, and Loveland operate fixed-routes and paratransit services which serve broad markets. **Figure 2-17** illustrates the comparative levels of ridership among the publicly funded systems.

Figure 2-17: Ridership on Publicly Funded Services



Source: *BATS, COLT, GET, and Transfort, 2013-2015*

Transfort – The City of Fort Collins

The Transfort system is owned and operated by the City of Fort Collins. Transfort provides fixed-route and paratransit services. The paratransit service is known as Dial-a-Ride.

Transfort's fixed-routes are illustrated in **Figure 2-18**. Transfort operates 20 local routes, two late night weekend services, one bus rapid transit route, and one regional route. Routes generally run from 6:30 a.m. until 6:30 p.m., Monday through Saturday, but there is considerable variation with some routes to the Colorado State University (CSU) campus operating until 10:00 p.m.

Transfort charges a single ride fare of $1.25, discounted to $0.60 for seniors (60+) and disabled or Medicare passengers. The fare for the late night weekend service is $1.00 each way, discounted to $0.50 for seniors and disabled or Medicare passengers. There is no fare for transfers, youths (17 and under), and full-time CSU students, faculty, and staff with a valid RamCard.

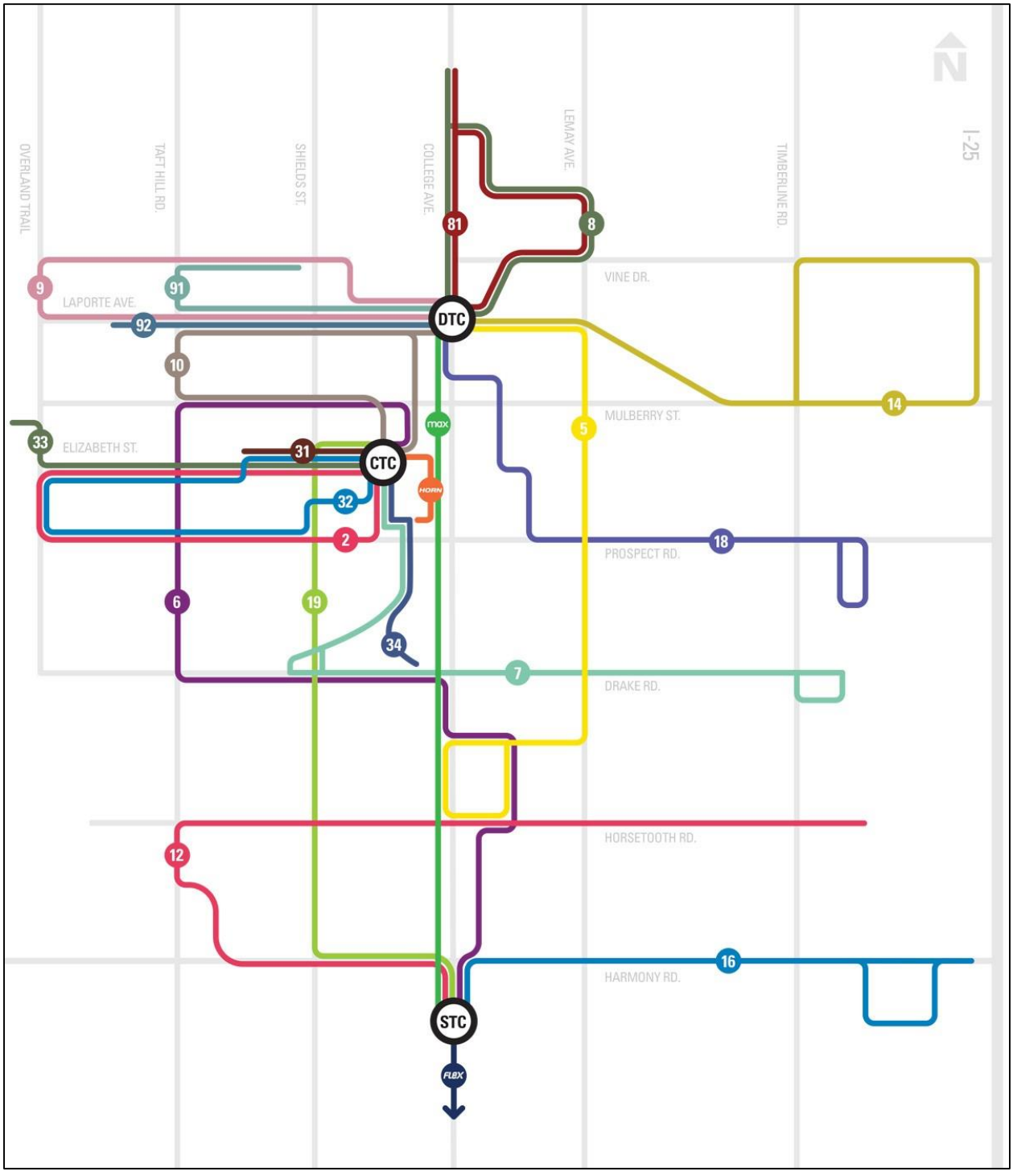
Service Characteristics

In 2012, Transfort carried more than 2.25 Million passengers on the fixed-route system, which increased from 1.9 Million passengers in 2009. The system has a productivity of 28.9 riders per hour. Routes 2, 3, and 11 serve the CSU campus and have some of the highest productivities in the system.[13] These three routes carry a combined average of 78 passengers per hour. Similarly, routes 91 and 92 are designed to serve PSD students and operate limited hours with high productivity. The remaining routes average 23.2 riders per hour.

As required by the federal government, Transfort operates Dial-a-Ride service within ¾-mile of regular fixed-routes. In 2012, the system provided 19,429 hours of service and carried 37,747 riders. Transfort provides travel training to Dial-a-Ride users who are interested in learning to use the fixed-route buses for some or all of their trips.

[13] In 2014, Route 3 became Route 32 and Route 11 became Route 31.

Figure 2-18: Transfort System Map



Source: *Transfort, 2015*

Vehicles

Transfort operates a fleet of 43 vehicles, ranging in age from two to 18 years old, with the average vehicle age of 7.6 years. All vehicles are Americans with Disabilities Act (ADA) accessible. The entire fleet is expected to be fueled by Compressed Natural Gas (CNG) within the next 2 years. Veolia Transportation leases six vehicles from Transfort to operate all paratransit service within the Transfort service area.

Excluding buses earmarked for disposal in 2015, there are currently six vehicles in the Transfort fleet in excess of FTA service life standards. Two of the six vehicles are five years past their service life and the remaining four are four years past their service life.

System Characteristics

Table 2-20 shows the system-wide characteristics over the six year period of 2007 to 2012. All categories show a steady increase, with a 38.4 percent increase in ridership and 17.81 percent increase in service hours.[14] There was a 24.68 percent increase in costs and a 44.01 percent increase in fare revenues during this period.

The City of Fort Collins funds Transfort with a combination of Federal Transit Administration (FTA) urbanized area funds, city general funds, operating revenues, and contract revenue for CSU and PSD students. **Table 2-21** illustrates system-wide performance measures for Transfort.

Table 0-20: Transfort Trends, 2007-2012

Year	Ridership	Annual Vehicle Miles	Annual Vehicle Hours	Annual Operating Costs	Annual Fares
2007	1,641,407	774,466	66,675	$5,857,751	$663,213
2008	1,884,197	798,952	68,368	$6,288,216	$699,681
2009	1,904,229	791,627	69,984	$6,001,968	$790,883
2010	2,034,195	913,682	75,563	$6,267,239	$869,409
2011	2,156,732	995,858	77,355	$7,121,053	$951,141
2012	2,271,732	1,028,405	78,551	$7,303,399	$955,073

Source: *Transfort, 2013*

[14] Population assumption of 148,167 in 2012, provided by Colorado's DOLA.

Table 0-21: Transfort 2012 System-Wide Performance Measures	
Performance Measure	**Total**
Cost per Operating Hour	$92.98
Passengers per Operating Hour	28.92
Cost per Passenger Trip	$3.21
Subsidy per Passenger Trip	$2.79
Farebox Recovery	13.1%
Ridership per Capita	15.33
Cost per Capita	$49.29
Source: *Transfort, 2013*	

Mason Express (MAX) Service

Construction began on the MAX bus rapid transit service in summer of 2012 and service began in May 2014. The service provides an express bus service at 10-minute intervals during peak hours, a trip that takes 20 minutes from the Downtown Transit Center to the South Transit Center along the Mason corridor; **Figure 2-19.**

The MAX serves major activity and employment centers throughout Fort Collins, including Midtown, CSU, and Downtown. The MAX links with other Transfort bus routes, Park-n-Rides, the City's bicycle/pedestrian trail system, and other local and regional transit routes providing seamless service for passengers.

The MAX's system has a partially dedicated corridor which runs parallel to the BNSF Railway Line, between the South Transit Center (south of Harmony Road) and Horsetooth Road and between Drake Road and University Avenue (CSU). This dedicated route is an integral part of the MAX service and is independent of traffic conditions. The MAX stations are spaced further apart than regular local-service bus routes, cutting transit commute times.

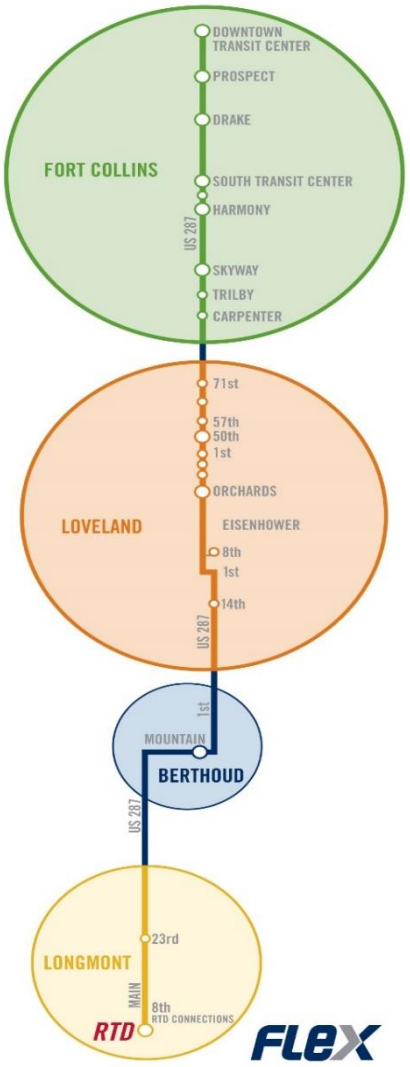
Source: *Transfort, 2015*

FLEX Regional Transit Service

In June 2010, the FoxTrot route was replaced with the FLEX route, extending service to Berthoud and Longmont. The route terminates at RTD's Longmont 8th and Coffman Park-n-Ride, **Figure 2-20**. The service is operated by Transfort and funded through a regional partnership between the cities of Fort Collins, Longmont, and Loveland, the Town of Berthoud, and Boulder County. This service began as a three-year pilot project to connect riders in the North Front Range with the Boulder and Denver metro areas. During peak morning and afternoon commute times, an express route operates on 30-minute headways at key stops between Fort Collins and Longmont. Off-peak service is provided at one-hour headways between Fort Collins and Loveland. In 2015, the service was awarded funding through the DRCOG CMAQ call for projects to expand service to the City of Boulder beginning in 2016.

In 2012, FLEX carried 184,649 passengers, 9,187 service hours, and 20.1 passengers per hour. Service characteristics and performance measures for FLEX are listed in **Tables 2-22 and 2-23**.

Figure 2-20: FLEX Service Route Map



Source: *Transfort, 2015*

Table 2-22: FoxTrot and FLEX Service Characteristics, 2007-2012						
Service	**Year**	**Ridership**	**Annual Vehicle Miles**	**Annual Vehicle Hours**	**Annual Operating Costs**	**Annual Fares**
FoxTrot	2007	89,642	67,128	3,930	$227,848	$14.827
	2008	108,176	66,911	3,918	$211,604	$15,958
	2009	111,228	67,347	3,973	$350,740	$14,965
FoxTrot & FLEX	2010	134,982	139,903	6,851	$594,555	$24,934
FLEX	2011	168,609	202,418	9,152	$759,359	$41,216
	2012	184,649	204,726	9,197	$744,654	$50,164
Source: *Transfort, 2015*						

Table 2-23: FLEX 2012 System-Wide Performance Measures	
Performance Measure	**Total**
Cost per Operating Hour	$80.97
Passengers per Operating Hour	20.08
Cost per Passenger Trip	$4.03
Subsidy per Passenger Trip	$10.71
Farebox Recovery	6.7%
Source: *Transfort, 2013*	

Greeley-Evans Transit (GET)

Greeley-Evans Transit (GET) is operated by the City of Greeley and provides fixed-route, paratransit services, and door-to-door on-demand service, Call-N-Ride, to the public.

In 2012, GET operated seven local fixed-routes, including a campus shuttle for the University of Northern Colorado (UNC), the UNC Boomerang. Additionally, GET provided evening demand-response service. **Figure 2-21** illustrates the system's fixed-routes. Routes generally run from 6:30 a.m. to 6:30 p.m., Monday through Friday and from 9:00 a.m. to 5:30 p.m. on Saturdays. The UNC Boomerang operates Monday through Friday when UNC is in session. Paratransit service, a door-to-door service for persons who qualify under the ADA, is operated within ¾-mile of fixed-routes from 6:15 a.m. to 7:00 p.m. Monday through Friday and 6:15 a.m. to 5:30 p.m. on Saturdays. Demand-response service operates within the same service area as paratransit and offers extended service during the evening for the general public, until 8:30 pm Monday through Saturday. Demand-response service is also available on Sunday from 7:45 a.m. until 1:45 p.m. There is no service on major holidays.

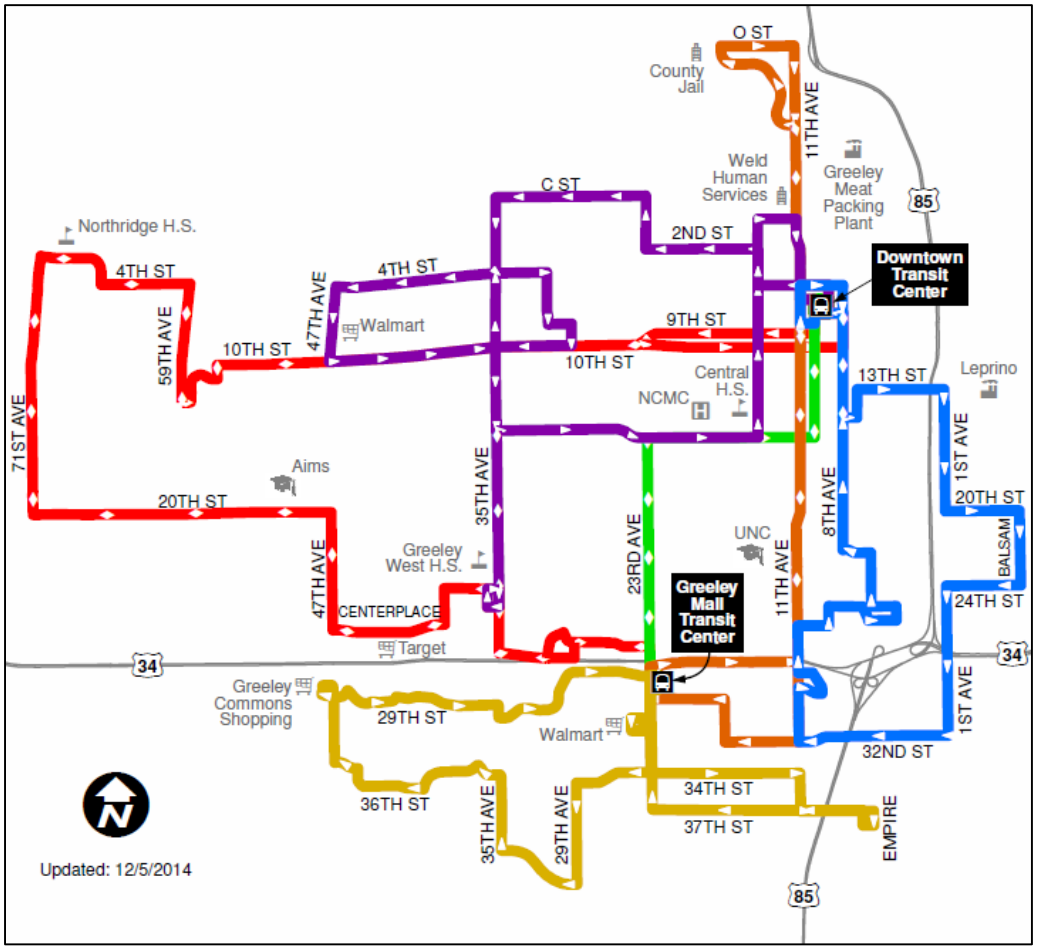
GET charges a basic single ride fare of $1.50, discounted to $0.75 for seniors, the disabled, Medicare recipients, and youth six to 18 years old. Children five years and under ride free. In August 2014, GET began its *Ride Free with a School ID* program which allows any student with a valid student ID to ride any GET bus for free. Student ridership increased from 12,858 in 2013 to 32,541 in 2014, a 153 percent increase. UNC students are not included in this program; however, they are allowed to ride for free under the University program. AIMS Community College students are eligible to purchase a semester pass for $64, but are not able to ride for free. A variety of multiple ride tickets and passes are also sold at a discount. Transfers are free.

Service Characteristics

GET carried over 500,000 passengers in 2012 on their fixed-route system. The fixed-route system's productivity was 16.68 riders per hour, as shown in **Table 2-24**. Ridership has varied over the past few years due to significant route changes to the UNC Boomerang, negatively impacting ridership. Without including the UNC Boomerang service, ridership throughout the GET system has continued to grow.

The paratransit and demand-response services combined, operated 13,016 hours of service, and carried 25,313 riders for an average productivity of 1.94 riders per hour. This is up from 1.7 riders per hour in 2009. The paratransit and demand-response services use ⅛ of the total system's service hours. GET provides travel training to assist riders in learning to use the fixed-route buses.

Figure 2-21: GET Fixed Route Services



Source: *City of Greeley – GET, 2015*

Table 2-24: GET Route and Service Statistics					
Year	**Ridership**	**Annual Vehicle Miles**	**Annual Vehicle Hours**	**Annual Operating Costs**	**Annual Fares**
2007	504,487	589,635	45,222	$2,111,672	$282,296
2008	541,770	557,739	45,997	$2,557,364	$349,936
2009	555,754	537,251	45,285	$2,553,479	$406,712
2010	517,582	527,931	44,369	$2,542,641	$366,671
2011	507,271	555,751	46,492	$2,684,182	$466,439
2012	538,034	571,576	44,568	$2,633,583	$481,126
Source: *GET, 2015*					

Vehicles

GET has a fleet of 27 vehicles, all running on diesel. GET uses nine vehicles for demand-response service and 18 for fixed-route service. All of the vehicles are wheelchair accessible, with two wheelchair tie-downs on the fixed-route vehicles and three on the demand-response vehicles.

System Characteristics

Trends in basic system characteristics are illustrated in **Table 2-25**. Over the six-year period from 2007 to 2012, ridership grew by 6.65 percent, service miles decreased by 3.06 percent, and service hours were reduced by 3.49 percent. Operating costs increased by 27.77 percent, while annual fare revenue increased by 70.43 percent. This increase in fare revenue was due to increased ridership on the fixed-route service as well as a fare increase in September 2008 and a bus pass increase in July 2010.

Table 0-25: GET Trends, 2007-2012					
Year	Ridership	Annual Vehicle Miles	Annual Vehicle Hours	Annual Operating Costs	Annual Fares
2007	504,487	589,635	45,222	$2,111,672	$233,344
2008	541,770	557,739	45,997	$2,557,364	$289,460
2009	556,065	537,251	45,285	$2,553,479	$355,518
2010	517,582	554,282	45,179	$2,419,007	$325,086
2011	507,271	560,188	46,492	$2,557,390	$388,272
2012	539,515	562,970	43,755	$2,633,583	$428,606
Source: *GET, 2013*					

GET funds its $2.6M annual operating costs through fares, UNC contract revenues, and local and FTA funding. Service is provided to the City of Evans through a purchase of service contract.

GET system performance measures are shown in **Table 2-26**. The system has a low cost per operating hour compared to COLT and Transfort at $60.19, reflecting the limited staff available to run the system. The other performance measures reflect a basic system with a high level of paratransit service compared to the fixed-route services provided.

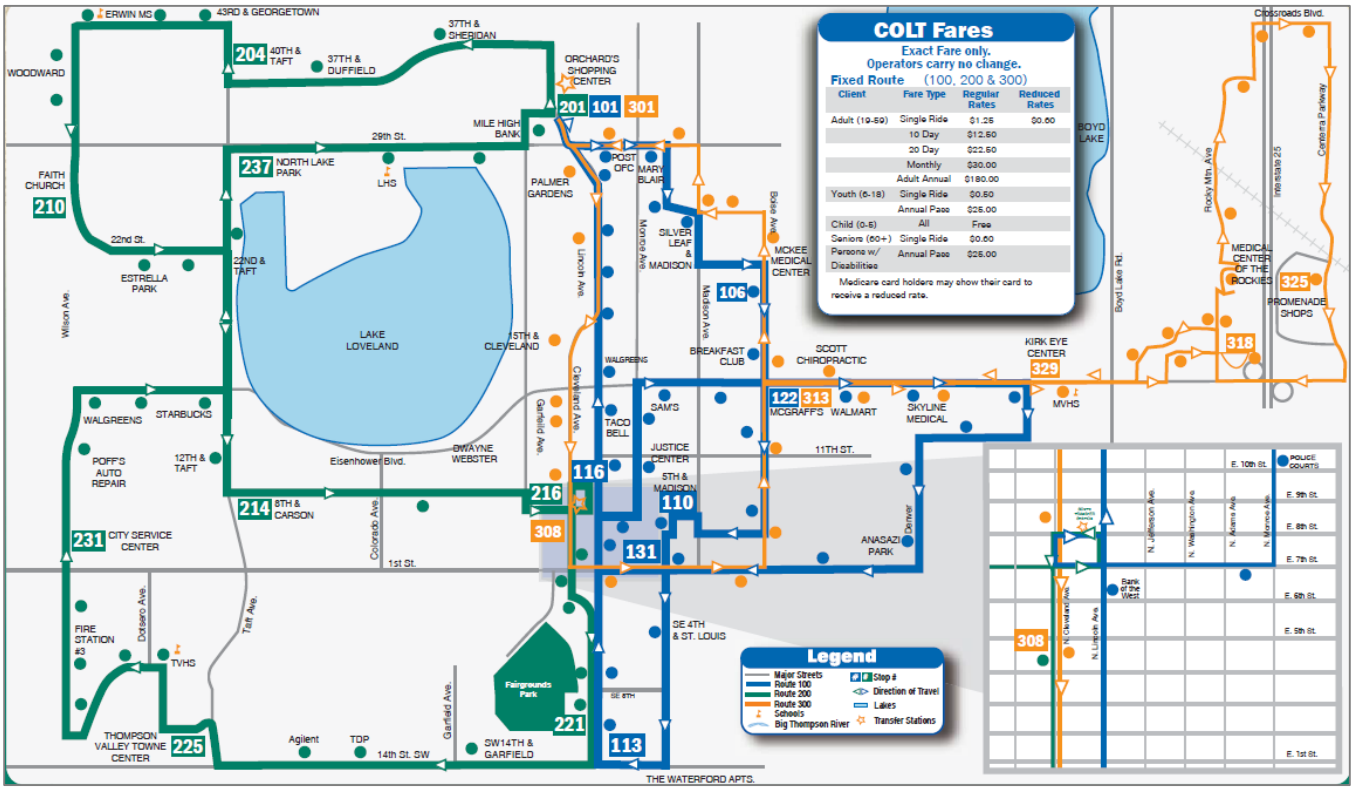
Table 2-26: GET 2012 System-Wide Performance Measures	
Performance Measure	Total
Cost per Operating Hour	$60.19
Passengers per Operating Hour	12.33
Cost per Passenger Trip	$4.88
Subsidy per Passenger Trip	$4.09
Farebox Recovery	16.27%
Ridership per Capita	4.58
Cost per Capita	$22.35
Source: *GET, 2013*	

City of Loveland Transit (COLT)

The City of Loveland Transit (COLT) system is operated by the City of Loveland's Public Works Department. COLT's fixed-route service runs from 6:48 a.m. to 6:40 p.m., Monday through Friday and from 8:48 a.m. to 5:40 p.m. on Saturdays, with one-hour headways. Paratransit and senior door-to-door service is available during the same hours for eligible passengers. The service is divided into three routes: 100, 200, and 300, as shown in **Figure 2-22**.

A regular one-way adult fare is $1.25 and reduced fares are offered for seniors, youth, ADA passengers, and those with limited income. COLT offers 10-day, 20-day, and monthly passes, as well as discounted annual passes for persons with disabilities, seniors, and students. Regular paratransit trips are $2.00 each way and $1.00 for ADA eligible passengers and those with limited income. COLT offers a monthly billing process for all paratransit passengers. Youth ages 17 and under ride free.

Figure 2-22: COLT Routes



Source: *City of Loveland– COLT, 2015*

Vehicles

COLT has a fleet of 10 vehicles:

- One Chevrolet Entervan,
- Three Ford cutaway paratransit buses,
- Three Ford cutaway fixed-route buses, and
- Three 32-passenger Gillig transit-style buses.

Of the 10 buses in the COLT fleet, currently only one vehicle is past its useful service life.

System Characteristics

While the smallest of the fixed-route systems, COLT saw increases in all of its service characteristics between 2007 and 2012, **Table 2-26**. During this period, ridership increased by 22.65 percent, service miles increased

by 16.49 percent, and vehicle hours increased by 3.49 percent. Financially, COLT has seen an increase of almost 27.77 percent in its annual operating cost and a 58.16 percent increase in annual fare revenues.

Table 2-27 shows COLT's system-wide performance measures. The system has the lowest cost per capita of all the fixed-route systems.

Table 2-27: COLT Trends, 2007-2012					
Year	Ridership	Annual Vehicle Miles	Annual Vehicle Hours	Annual Operating Costs	Annual Fares
2007	115,895	184,058	13,617	$900,070	$68,518
2008	136,255	192,481	14,112	$948,463	$75,332
2009	155,695	200,370	12,237	$978,013	$76,468
2010	146,467	194,753	12,041	$952,127	$79,705
2011	133,555	207,048	13,265	$1,071,550	$114,240
2012	142,144	214,414	14,092	$1,150,000	$108,368
Source: *COLT, 2013*					

Performance measures for the system show COLT's operational costs are average, as shown in **Table 2-28**, and the riders per hour are comparable to GET. As with GET, this reflects a relatively high percentage of demand-response service and healthy ridership on the fixed-routes. COLT has the lowest cost per capita of any of the fixed-route systems. This is a reflection both of the operational efficiency and level of service. The City of Loveland provides 0.19 service hours per capita, compared to 0.38 for Greeley and 0.55 for Fort Collins.

Table 2-28: COLT 2012 System-Wide Performance Measures	
Performance Measure	Total
Cost per Operating Hour	$79,72
Passengers per Operating Hour	12.18
Cost per Passenger Trip	$11.90
Subsidy per Passenger Trip	$10.71
Farebox Recovery	9.40%
Ridership per Capita	2.15
Cost per Capita	$17.42
Source: *COLT, 2013*	

Bustang

The CDOT Bustang is a proposed interregional express bus service provided by CDOT through a contracted operator. The Bustang service will provide a connection between the North Front Range region and Denver with six northbound and six southbound buses Monday through Friday. There will be three stops in the region: US 34 and I-25 in Loveland, Harmony Road, and the Downtown Transit Center in Fort Collins. The proposed schedule is shown in **Table 2-29.** No trips will be allowed that are entirely within either Larimer County or the RTD District. One-way and multi-trip discount tickets will be available, with single tickets available for purchase on all buses. There will also be a 25 percent discount for disabled persons and adults 65 years and over.[15] The service route shown in **Figure 2-22**, the line to the North Front Range region is shown in green.

Figure 2-23: Bustang Green Line Route

Source: *CDOT, 2015*

Table 2-29: Bustang Green Line Schedule

NORTH LINE - GREEN	SOUTHBOUND					
	North Line operates Monday - Friday Except Major Holidays					
	601	603	605	607	631	633
Downtown Transit Center *(Transfort)*	--------	--------	--------	--------	11:00 AM	3:00 PM
Harmony Road	5:20 AM	5:45 AM	6:15 AM	6:45 AM	11:20 AM	3:20 PM
U.S. 34 & I-25 Loveland	5:30 AM	5:55 AM	6:25 AM	6:55 AM	11:30 AM	3:30 PM
Denver Union Station Arrive	6:25 AM	6:50 AM	7:20 AM	7:50 AM	12:15 PM	4:15 PM
Denver Union Station Depart	6:30 AM	6:55 AM	7:25 AM	7:55 AM	12:20 PM	4:20 PM
Denver Bus Center	6:40 AM	7:05 AM	7:35 AM	8:05 AM	12:30 PM	4:30 PM

NORTH LINE - GREEN	NORTHBOUND					
	630	632	600	602	604	606
Denver Bus Center	7:00 AM	1:00 PM	4:05 PM	4:20 PM	5:00 PM	5:50 PM
Denver Union Station Arrive	7:10 AM	1:10 PM	4:15 PM	4:30 PM	5:10 PM	6:00 PM
Denver Union Station Depart	7:15 AM	1:15 PM	4:20 PM	4:35 PM	5:15 PM	6:05 PM
U.S. 34 & I-25 Loveland	8:05 AM	2:05 PM	5:10 PM	5:25 PM	6:05 PM	6:55 PM
Harmony	8:20 AM	2:20 PM	5:25 PM	5:40 PM	6:20 PM	7:10 PM
Downtown Transit Center *(Transfort)*	8:40 AM	2:40 PM	--------	--------	--------	--------

No Passengers will be handled where the entire trip is within Larimer County and within the RTD District

Source: *CDOT, 2015*

[15] www.ridebustang.com

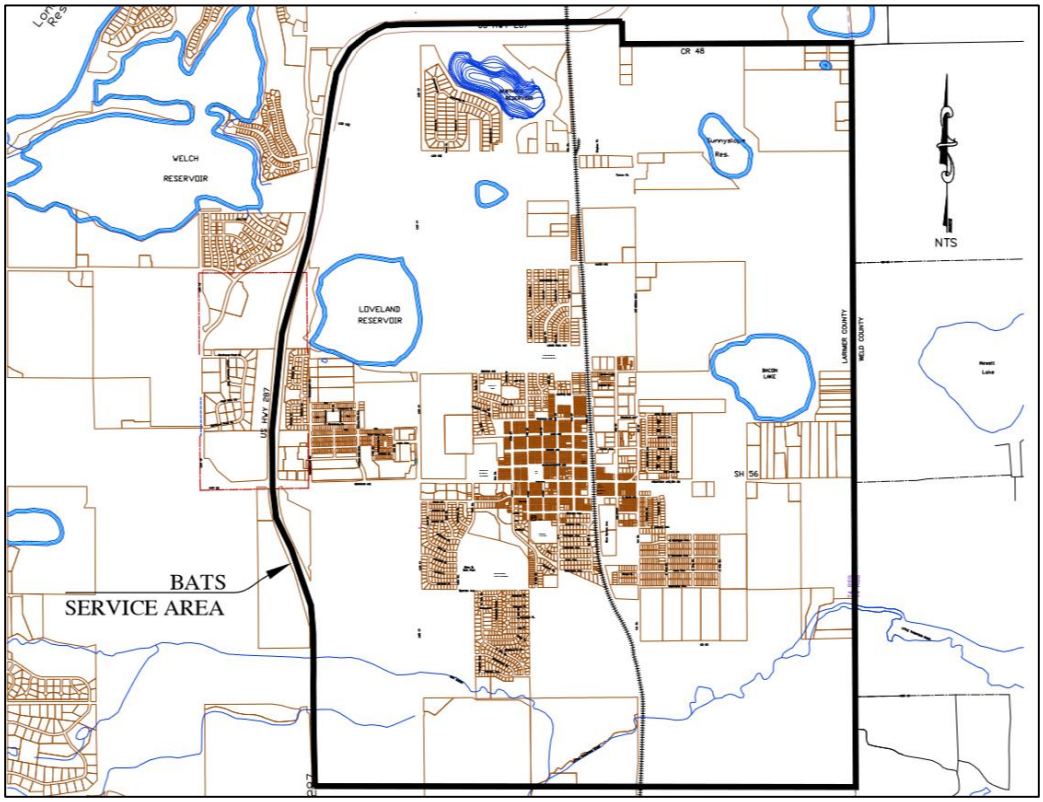
Berthoud Area Transportation Services (BATS)

Berthoud Area Transportation Service (BATS) is operated by the Town of Berthoud. BATS provides shared-ride demand-response service for residents in an approximately 8-square mile service area, **Figure 2-24**. The service area includes the developed portion of Berthoud and the immediate area surrounding the Town.

BATS transports riders to Longmont on Mondays, with trips to Loveland provided Tuesday through Friday. Out-of-town rider pickups begin at 8:00 a.m. with a return trip to Berthoud at 11:30 a.m. In-town trips are provided from 8:00 a.m. to 4:00 p.m. Monday through Friday. There is no service on holidays and all rides must be scheduled at least 24-hours in advance.

BATS fares are $1.00 for in-town trips and $4.00 for out-of-town trips, each way. The system has a small source of consistent revenue through a one-cent Town sales tax.

Figure 2-24: BATS Service Area



Source: *Town of Berthoud, 2015*

Vehicles

The BATS fleet includes three buses equipped with wheelchair lifts, acquired through CDOT grants.

BATS Service Characteristics

BATS service characteristics and performance measures reflect the demand-response service mode. In March 2013, the BATS service area was reduced to an 8-square mile area. From 2007 to 2012, BATS ridership decreased by 20 percent, vehicle miles increased by 1.3 percent, vehicle hours decreased by 2.9 percent,

operating costs increased by 12 percent, and annual fare revenues increased by 142 percent, see **Table 2-30**. BATS 2012 performance measures are shown in **Table 2-31**.

Table 2-30: BATS Trends, 2007-2012					
Year	Ridership	Annual Vehicle Miles	Annual Vehicle Hours	Annual Operating Costs	Annual Fares
2007	115,895	184,058	13,617	$900,070	$68,518
2008	136,255	192,481	14,112	$948,463	$75,332
2009	155,695	200,370	12,237	$978,013	$76,468
2010	146,467	194,753	12,041	$952,127	$79,705
2011	133,555	207,048	13,265	$1,071,550	$114,240
2012	142,144	214,414	14,092	$1,150,000	$108,368
Source: *Town of Berthoud—BATS, 2013*					

BATS service characteristics and performance measures reflect the demand-response service mode. Considering the large geographic area the system covers, the system productivity is relatively high. BATS characteristics can best be compared with SAINT, although BATS uses paid drivers rather than volunteers. Their budget and cost per hour remain low. While the riders per capita is low, considering this is a demand-response system, 1.4 riders per capita shows solid community use.

Table 2-31: BATS 2012 System-Wide Performance Measures	
Performance Measure	Total
Cost per Operating Hour	$40.28
Passengers per Operating Hour	1.9
Cost per Passenger Trip	$21.60
Subsidy per Passenger Trip	$19.48
Farebox Recovery	9.8%
Ridership per Capita	1.27
Cost per Capita	$27.53
Source: *Town of Berthoud—BATS, 2013*	

SAINT – Senior Alternatives in Transportation

SAINT is a 501(c)(3) non-profit providing rides to seniors 60+ and adults with disabilities in Fort Collins and Loveland. SAINT volunteers drive their own vehicles. SAINT staff recruits volunteers, schedules rides, and provides a mileage allowance and extra insurance to the volunteers. SAINT's 500 clients are served by 160 volunteers and four staff members (one full-time and three part-time). In 2012, volunteer drivers in Fort Collins and Loveland provided over 25,000 rides to seniors in need.[16]

SAINT operates from 8:15 a.m. to 4:00 p.m., Monday through Friday. Weekend and evening rides are available in Fort Collins by special request. Riders must call to make reservations at least three business days in advance,

[16] SAINT website: www.saintvolunteertransportation.org

with reservations taken Monday through Friday from 8:00 a.m. to 12:00 p.m. No fare is required; however, donations of $1.00 are suggested, with the average donation being $1.15.

Table 2-32 shows SAINT's performance measures for the period of 2007 to 2012. The number of passengers, service hours, and miles all increased by 26 percent, while the cost increased by 14 percent.

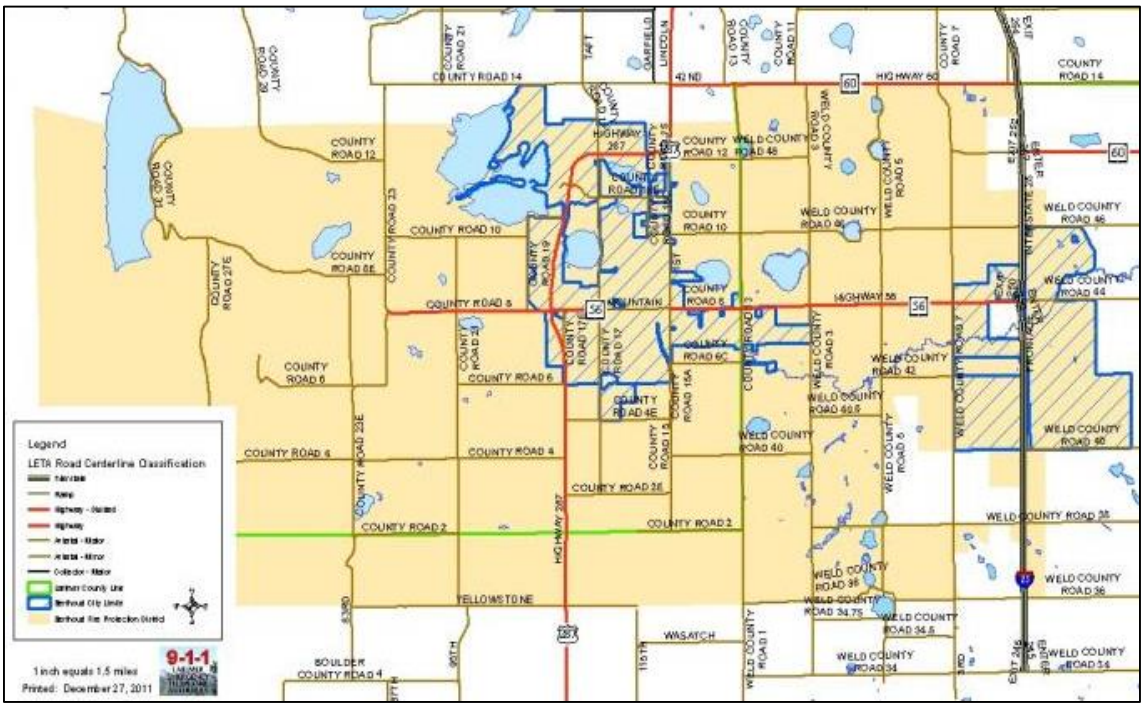
Table 2-32: SAINT Trends, 2007-2012					
Year	Passengers	Service Hours	Miles (Volunteer)	Cost	Donations
2007	20,186	10,093	161,488	$176,750	$23,214
2008	20,165	10,083	161,320	$184,172	$23,190
2009	19,327	9,664	154,616	$179,900	$22,226
2010	19,648	9,824	157,184	$182,900	$22,595
2011	21,079	10,540	168,632	$189,750	$24,241
2012	25,454	12,727	203,632	$202,345	$29,272
Source: *SAINT, 2015*					

RAFT

Rural Alternative for Transportation (RAFT) began in January 2014 due to the reduction in the service area of BATS. RAFT is a non-profit volunteer transportation service which offers door-to-door, on-demand services to eligible seniors (65+) and adults (18+) with disabilities. RAFT operates under the Berthoud Area Community Center/Golden Links, Inc. The service relies on volunteer drivers; however, the service acquired an ADA van with funds from a NFRMPO New Freedom sub-grant. During its first year of service, volunteers drove approximately 22,000 miles over 960 trips for eligible individuals.

To be eligible, individuals must reside within the area served by the Berthoud Fire Protection District (zip code 80513), **Figure 2-24**, in counties surrounding Berthoud, but outside of the area served by BATS. RAFT volunteers take riders to Berthoud, Longmont, Loveland, and adjacent areas. Individuals choosing to use RAFT must pre-register as a rider.

Figure 2-25: RAFT Service Area



Source: *RAFT website, 2015*

Windsor Senior Ride Program

Senior Ride provides transportation assistance to Windsor residents age 55 and older who are unable to drive themselves. The service maintains one 13-passenger Starcraft van that is wheelchair accessible. The van can hold up to two wheelchairs and 11 passengers. The service employs two drivers who split the driving duties. Rides are provided to and from medical appointments, as well as to and from Senior Nutrition Lunches at the Windsor Community Recreation Center on Wednesdays and Fridays. Rides to and from grocery stores in town are available on Thursdays and Fridays, **Table 2-33**.

Table 2-33: Windsor Senior Ride Program Schedule

Day	Appointment Times	Location	Fee
Monday	8:00 a.m. – 3:30 p.m.	Greeley, Fort Collins, Loveland, Windsor	$6.00
Tuesday	8:00 a.m. – 3:30 p.m.	Greeley, Fort Collins, Loveland, Windsor	$6.00
Wednesday	8:00 a.m. – 3:30 p.m.	Windsor	$4.00
Thursday	8:00 a.m. – 3:30 p.m.	Windsor	$4.00
Source: *Town of Windsor—Windsor Senior Ride Program, 2015*			

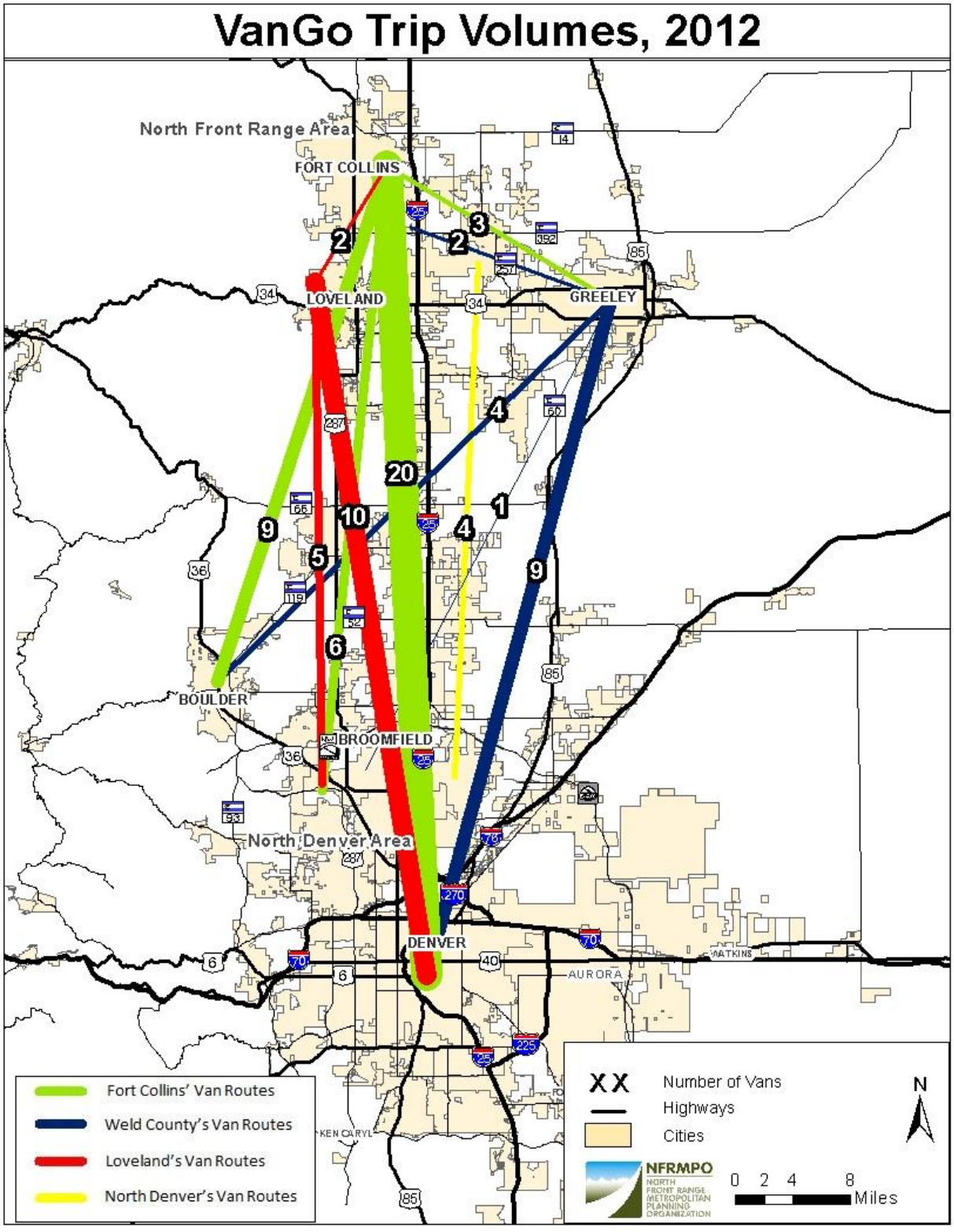
VanGo – Van Pool Program

VanGo Vanpool Services is a provider which links an average of six people with similar daily commutes together to share a van. Vanpool members pay a monthly fee to cover the costs of the administration of the program, fuel, maintenance, and insurance. Driving responsibility is shared among the vanpool members. VanGo reports the vehicle and passenger miles traveled to FTA to fund the vehicles.

The VanGo fares are calculated using a zone system. There are 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. For example, in 2012 a trip from Fort Collins to downtown Denver cost $227 per person, per month. The average price for a gallon of gasoline in 2012 was $3.60, making the VanGo vanpool option a cheaper alternative to driving to Denver alone on a daily basis.

Figure 2-26 illustrates the volume of VanGo trips in 2012 from various locations within the region and the Denver metropolitan area. Services along I-25, US 287, and US 85 are the most popular routes for vanpools. In 2012, there were 75 separate vanpools with 95 percent of the available seats occupied, 428 seats reserved out of 450 available seats.

Figure 2-26: VanGo Volumes, 2012



Source: *VanGo, NFRMPO Staff,* 2014

Chapter 3: Socio-Economic Profile

A. Socio-Economic Data

In 2013, the MPO updated the Land Use Allocation Model for the North Front Range region. This model uses a base year of 2012 to generate socio-economic data forecasts to the horizon year 2040. The resulting forecasts provide input to the NFRMPO Regional Travel Demand Model to project future travel volumes on roadways and potential transit ridership. The household and employment data are estimated for the area within the North Front Range Modeling Boundary, which is larger than the MPO boundary.

Overall Forecast

The NFRMPO contracted with Steven B. Fisher, Ph.D., Phyllis Resnick, Ph.D., and Logan Simpson Design to prepare a demographic forecast for the North Front Range portion of Larimer and Weld counties making up the North Front Range modeling boundary, **Figure 3-1**. The socio-economic forecasts are divided into seven subregions, **Figure 3-2.** The MPO municipalities and counties in each subregion are described in **Table 3-1** and shown in **Figure 3-3**. The team worked closely with the State Demographer's office and a stakeholders' group to develop North Front Range specific information. The report, *2040 Economic and Demographic Forecast*,[1] describes the forecasting process and resulting anticipated growth in population, households, and employment from 2010 to 2040, in five year increments. **Tables 3-2 through 3-4** summarize the results from the report.

Table 3-1: NFRMPO Model Subregions

Subregion	NFRMPO Municipalities and Counties
1 – Surrounding Area	Eaton, Larimer County, LaSalle, Severance, Weld County
2 – Greeley/Evans	Evans, Garden City, Greeley, Milliken, Severance, Weld County, Windsor
3 – Fort Collins	Fort Collins, Larimer County
4 – Loveland/Berthoud	Berthoud, Johnstown, Larimer County, Loveland, Weld County
5 – Extended Larimer County	Larimer County
6 – Extended Weld County	Weld County
7 – Central I-25	Johnstown, Larimer County, Milliken, Timnath, Weld County, Windsor

Source: *NFRMPO 2012-2040 Land Use Allocation Model*

[1] Steve Fisher, Phyllis Resnick. 2040 Economic and Demographic Forecast, North Front Range Metropolitan Planning Organization. 2012-2013.

Figure 3-1: North Front Range Modeling Boundary

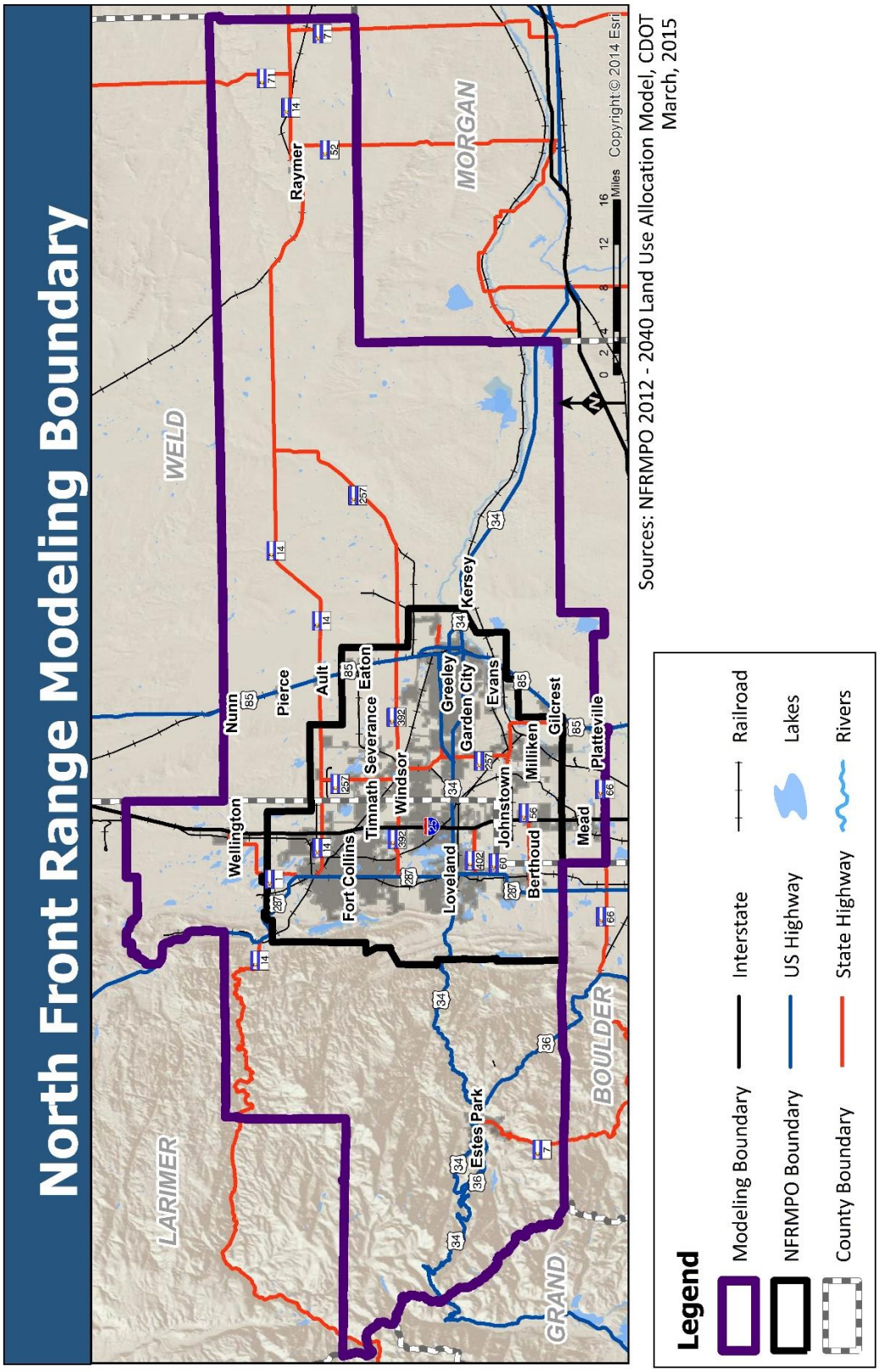


Figure 3-2: North Front Range SubRegions

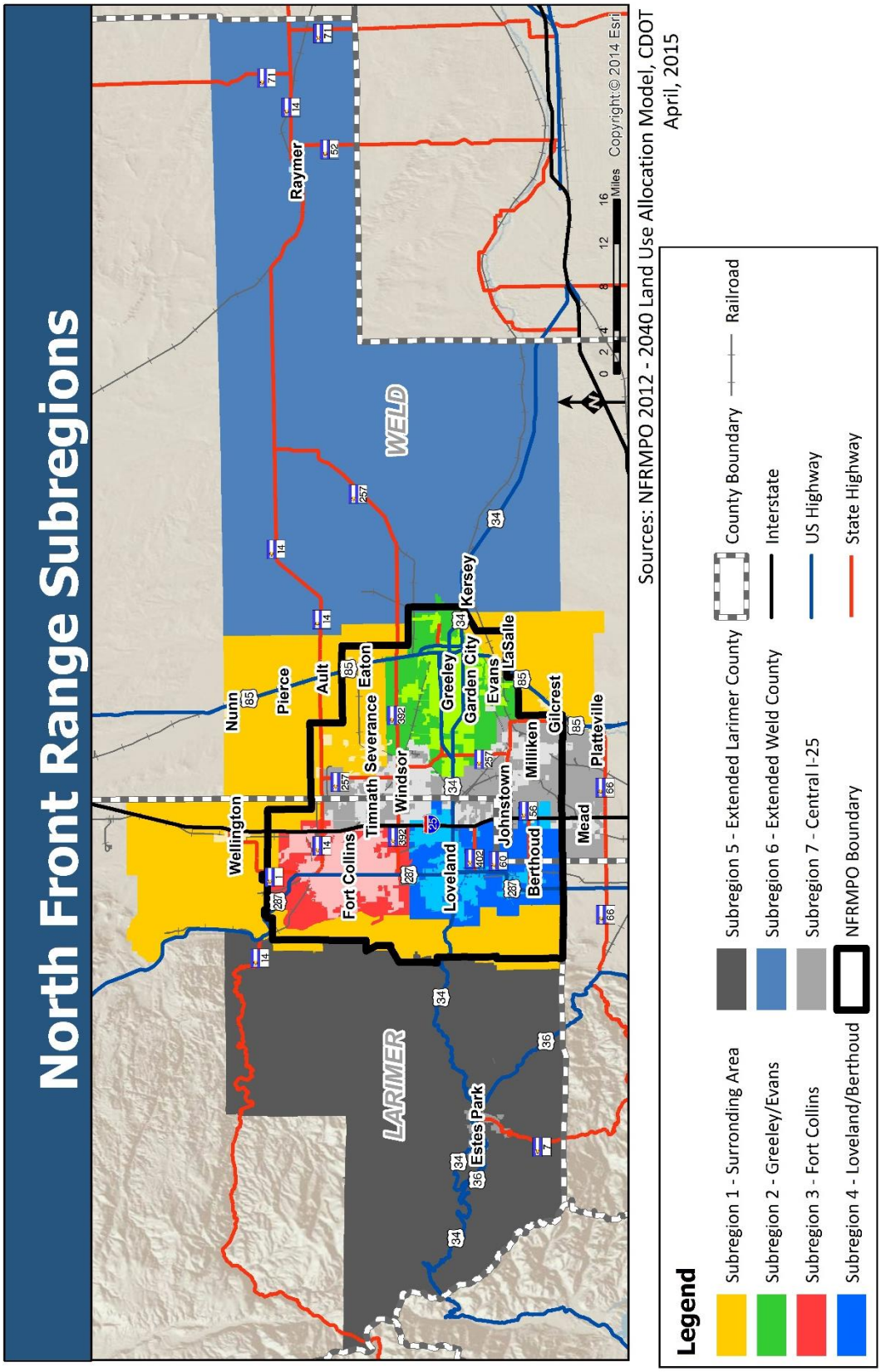
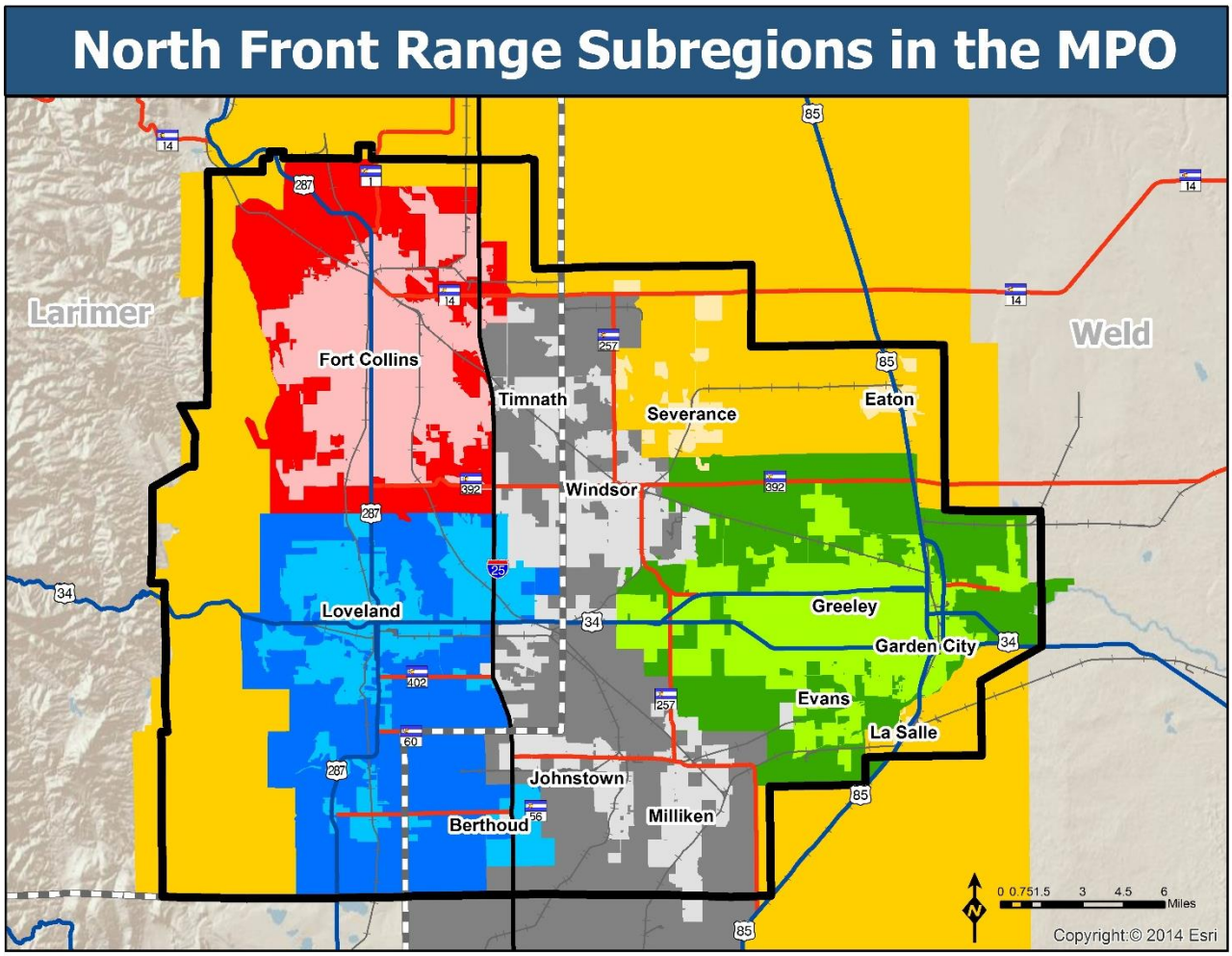


Figure 3-3: North Front Range Subregions in the MPO



Sources: NFRMPO 2012 - 2040 Land Use Allocation Model, CDOT

April, 2015

Legend

- Subregion 1 - Surronding Area
- Subregion 2 - Greeley/Evans
- Subregion 3 - Fort Collins
- Subregion 4 - Loveland/Berthoud
- Subregion 7 - Central I-25
- NFRMPO Boundary
- County Boundary
- Interstate
- US Highway
- State Highway
- Railroad

Table 3-2: Population Projections			
Subregion	2010	2040	Percent Growth (%)
1	50,867	89,651	76.25%
2	115,974	223,091	92.36%
3	171,417	259,078	51.14%
4	78,733	149,932	90.43%
5	21,373	39,863	86.51%
6	7,746	14,532	87.61%
7	42,404	120,043	183.09%
Total	**488,514**	**896,190**	**83.45%**
Source: *2040 Economic and Demographic Forecast*			

Table 3-3: Household Projections			
Subregion	2010	2040	Percent Growth (%)
1	19,900	35,728	79.54%
2	43,633	86,680	98.66%
3	64,526	99,959	54.91%
4	30,563	59,451	94.52%
5	8,218	15,703	91.08%
6	3,033	5,795	91.06%
7	16,585	47,861	188.58%
Total	**186,459**	**351,176**	**88.34%**
Source: *2040 Economic and Demographic Forecast*			

Table 3-4: Employment Projections			
Subregion	2010	2040	Percent Growth (%)
1	11,288	20,007	77.24%
2	58,263	115,059	97.48%
3	101,158	146,456	44.78%
4	40,763	78,267	92.01%
5	5,397	9,572	77.36%
6	2,173	3,860	77.63%
7	18,574	55,374	198.13%
Total	**237,615**	**428,599**	**80.38%**
Source: *2040 Economic and Demographic Forecast*			

2012 Land Use Allocation Model

The 2012 Land Use Allocation Model (LUAM) is a parcel/land use based growth model. The LUAM distributes household and employment projections set in the *2040 Economic and Demographic Forecast* report. The model allocates households and employment based on consolidated future land uses from local jurisdictions in the region, shown in **Figure 3-3**. These projections serve as control totals for the LUAM, meaning the

population totals limit the allocation of households and employment. The North Front Range planning areas consists of seven sub-regions: Fort Collins, Loveland, Greeley, Central I-25, Extended Larimer County, Extended Weld County, and Surrounding Area. The Upper Front Range portion within the ozone nonattainment (see **Figure 4-1** in **Chapter 4**) is included for ozone conformity determinations. **Table 3-2** highlights which municipalities and counties are contained in each subregion. Each sub-region has individual control totals set for 2012, 2015, 2025, 2035, and 2040 for households and employment. **Tables 3-5 and 3-6** summarize the results of the Land Use Allocation by subregion. **Figures 3-4 through 3-7** display the results of the land use allocation model by TAZ.

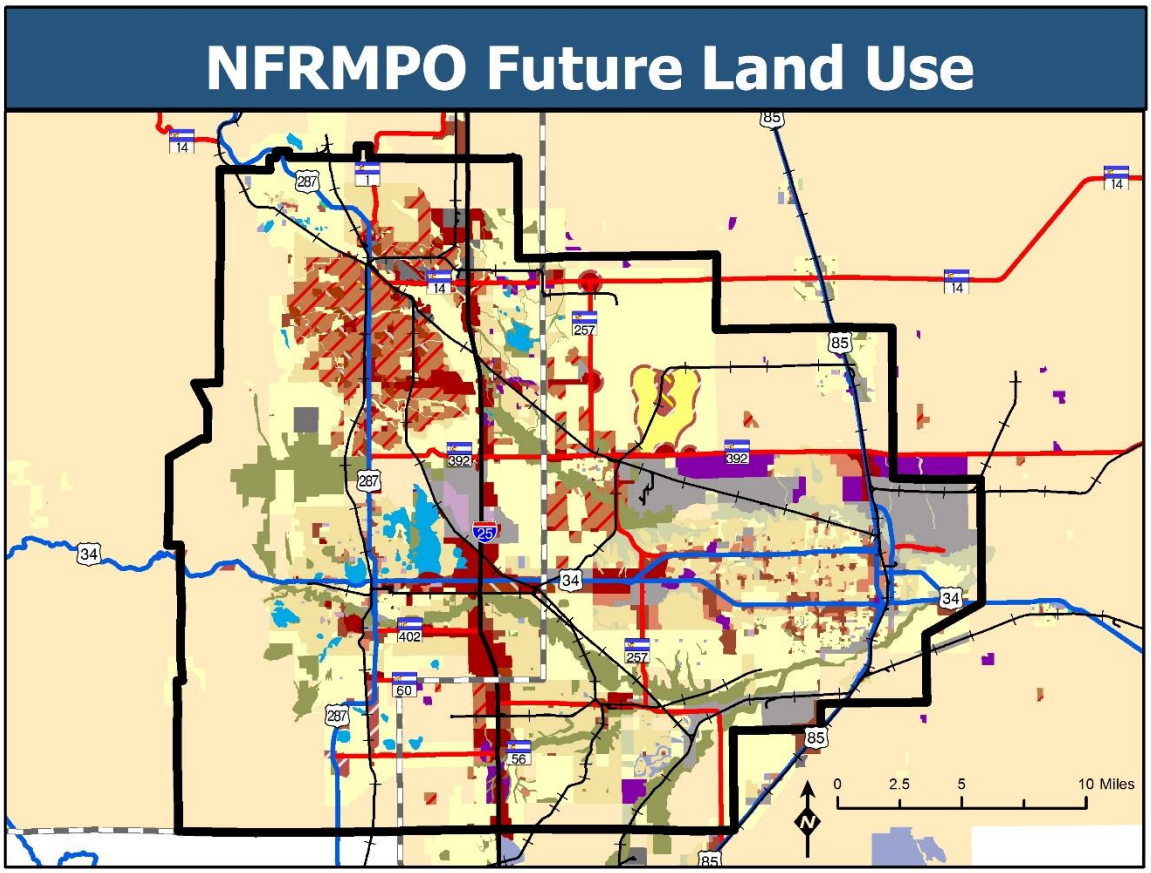
Table 3-5: Adjusted Household Data

Subregion	2012	2040	Percent Growth (%)
1	15,404	35,730	131.95%
2	44,793	86,679	93.51%
3	68,862	99,893	45.06%
4	35,780	59,523	66.36%
5	6,936	15,703	126.40%
6	2,937	5,796	97.34%
7	18,074	47,861	164.81%
Total	**192,786**	**351,185**	**82.16%**
Source: *NFRMPO 2012-2040 Land Use Allocation Model*			

Table 3-6: Adjusted Employment Data

Subregion	2012	2040	Percent Growth (%)
1	9,124	20,008	119.29%
2	71,050	115,064	61.95%
3	101,729	146,460	43.97%
4	51,365	78,276	52.39%
5	5,859	9,573	63.39%
6	2,359	3,856	63.46%
7	24,859	55,374	122.75%
Total	**266,345**	**428,611**	**60.92%**
Source: *NFRMPO 2012-2040 Land Use Allocation Model*			

Figure 3-4: NFRMPO Future Land Use



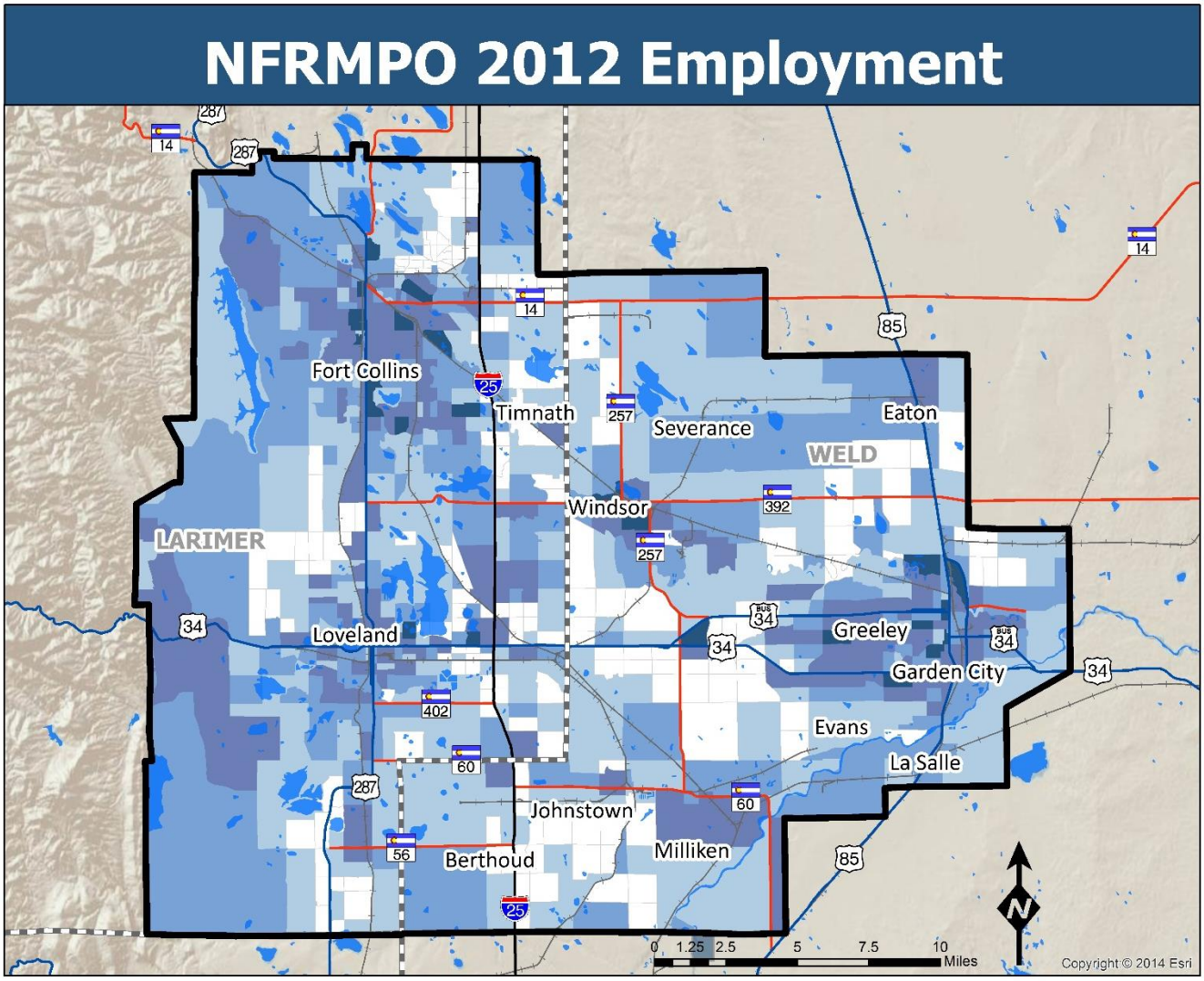
Sources: NFRMPO 2012 - 2040 Land Use Allocation Model, CDOT March, 2015

Legend

Land Use Categories

- Commercial-Retail High (>2 emp/acre)
- Commercial-Retail Low (<2 emp/acre)
- Industrial High (>.2 emp/acre)
- Industrial Low (<.2 emp/acre)
- Office
- Mixed Use Commercial High
- Mixed Use Commercial Low
- Mixed Use Commercial Medium
- Mixed Use PUD Residential/Commercial Retail
- Mixed Use Residential High
- Mixed Use Residential Low
- Mixed Use Residential Medium
- Conservation
- Open Space, Parks
- Water
- Government Employment
- Recreation Sports fields, etc.; Campus K-12
- Multi-Family Residential (12-35 du/acre)
- Single Family Residential-Low (.3 - 2 du/acre)
- Single Family Residential-Medium (2-5 du/acre)
- Single Family Residential-High (5-12 du/acre)
- Single Family Residential-Ultra Low (<.3 du/acre)
- Agriculture / Residential
- NFRMPO Boundary
- Country Boundary
- Interstate
- U.S. Highway
- State Highway
- Railroad

Figure 3-5: NFRMPO 2012 Employment



Source: NFRMPO 2012 - 2040 Land Use Allocation Model
March, 2015

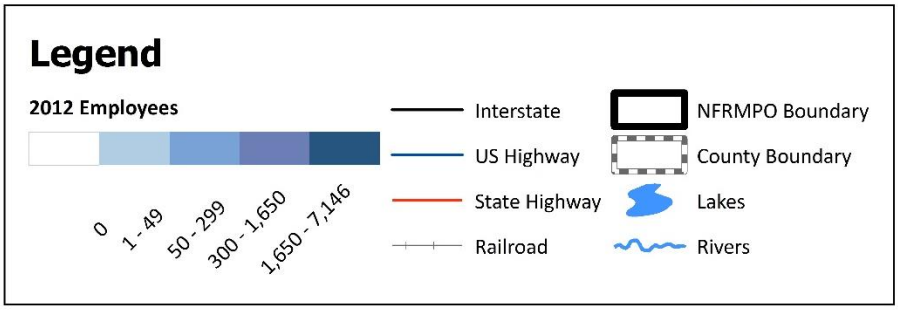
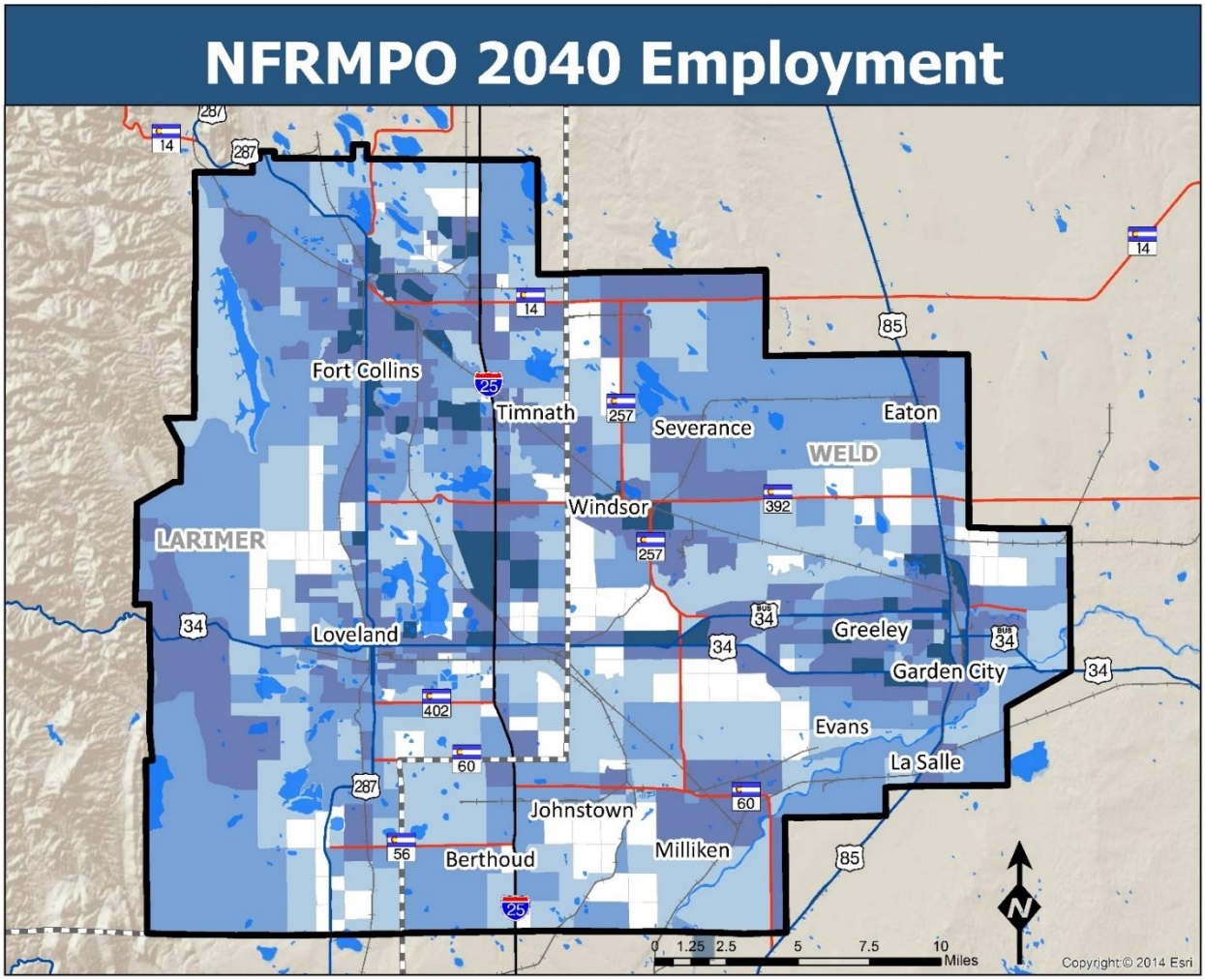


Figure 3-6: NFRMPO 2040 Employment



Source: NFRMPO 2012 - 2040 Land Use Allocation Model
March, 2015

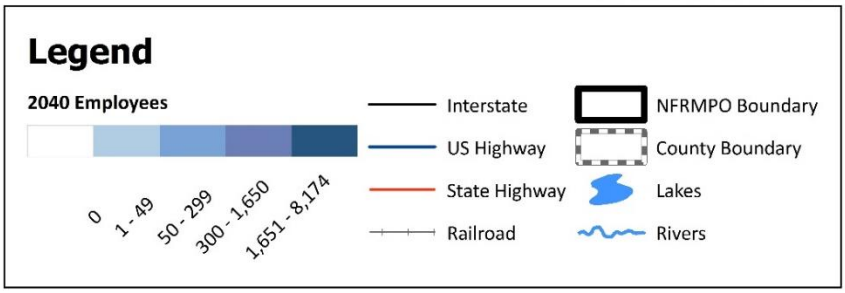
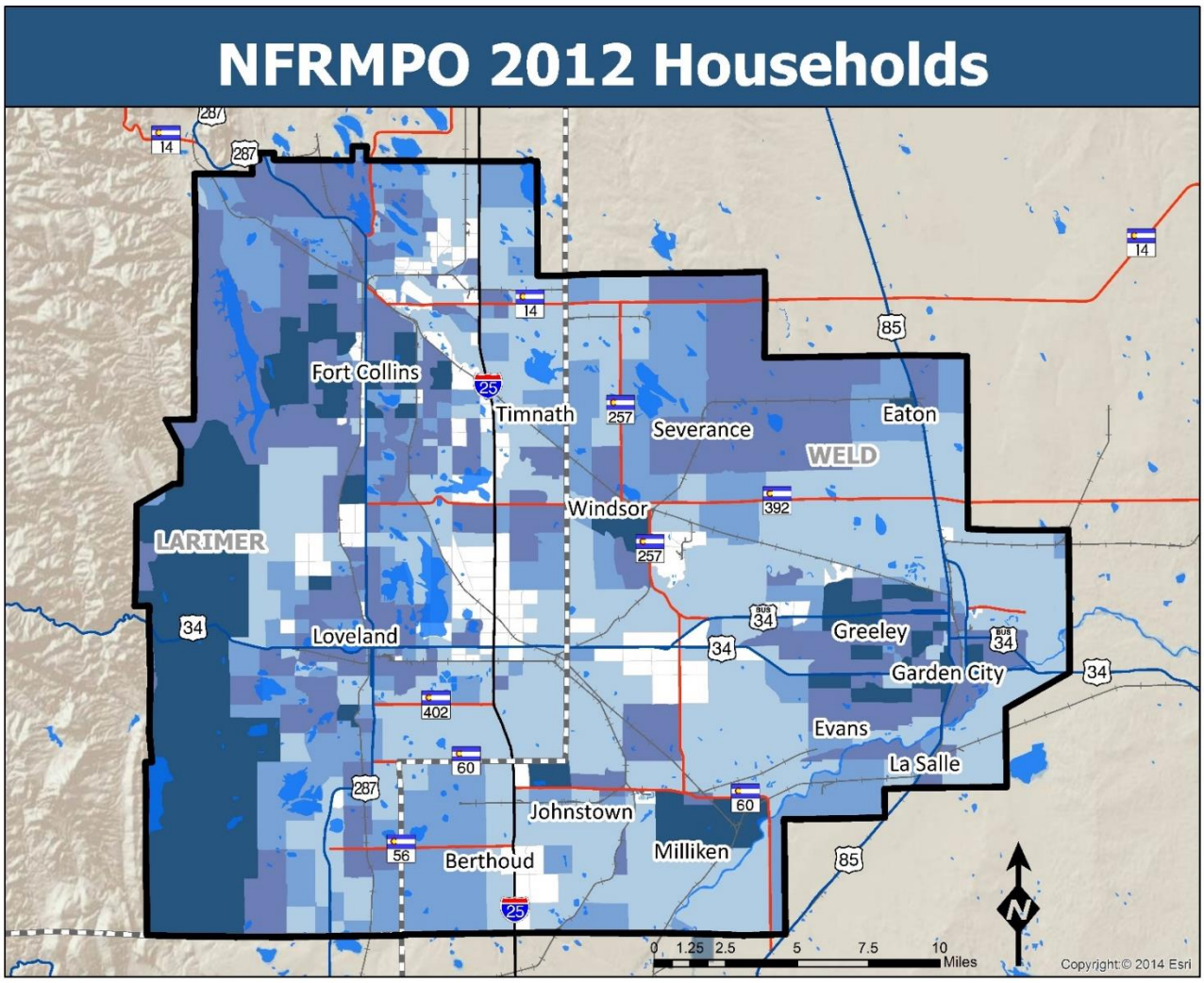
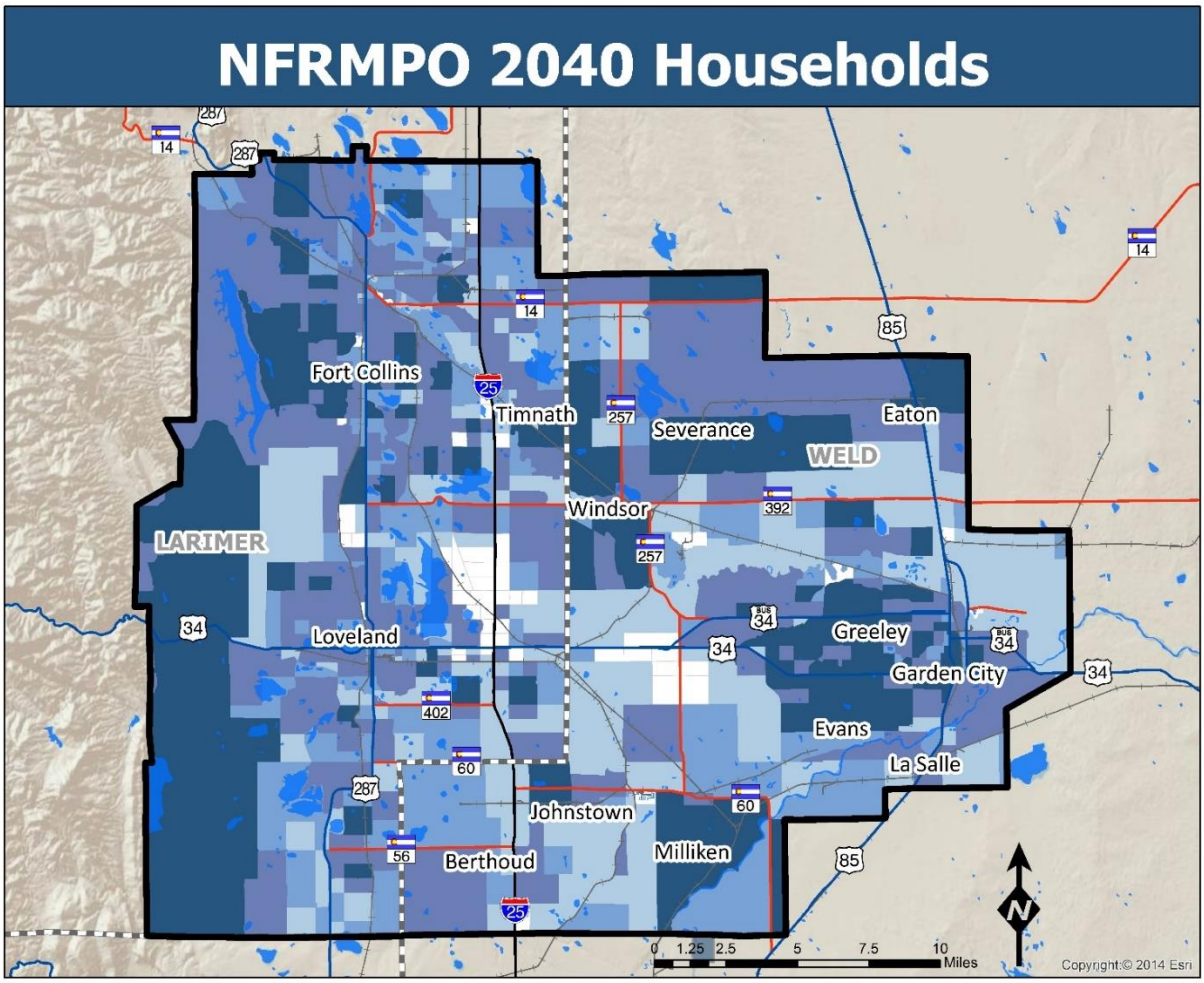


Figure 3-7: NFRMPO 2012 Households



Source: NFRMPO 2012 - 2040 Land Use Allocation Model
March, 2015

Figure 3-8: NFRMPO 2040 Household Forecasts



Source: NFRMPO 2012 - 2040 Land Use Allocation Model
March, 2015

Regional Travel Demand Model

Households

The *2040 Economic and Demographic Forecast*,[2] projects households in the NFR will increase 0.2 percent annually between 2010 and 2040. For input into the travel model, household projections were classified by five household sizes, or number of people occupying the household, and three income levels, illustrated in **Table 3-7** for the 2012 base and **Table 3-8** for the 2040 projections. These classifications increase the sensitivity of the Travel Demand Model in response to household characteristics.

Table 3-7: 2012 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	17,186	1,936	33,401	8,798	11,759	73,080	38%
$20, 000 - $74,999	8,322	1,257	13,403	17,072	11,499	51,553	27%
$75,000 and higher (High	3,333	22,672	9,095	24,864	8,189	68,153	35%
Total	**28,841**	**25,865**	**55,899**	**50,734**	**31,448**	**192,7**	**100%**
Percent	**15%**	**14%**	**29%**	**26%**	**16%**	**100%**	

Source: *NFRMPO 2012-2040 Regional Travel Demand Model*

Table 3-8: 2040 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)	31,306	3,526	60,845	16,027	21,421	133,125	38%
$20, 000 - $74,999 (Medium Income)	15,160	2,290	24,416	31,098	20,947	93,910	27%
$75,000 and higher (High	6,071	41,600	16,567	45,294	14,918	124,150	35%
Total	**52,537**	**47,116**	**101,827**	**92,419**	**57,286**	**351,18**	**100.0%**
Percent	**15%**	**14%**	**29%**	**26%**	**16%**	**100.0%**	

Source: *NFRMPO 2012-2040 Regional Travel Demand Model*

[2] Steve Fisher, Phyllis Resnick. 2040 Economic and Demographic Forecast, North Front Range Metropolitan Planning Organization. 2012-2013.

Employment

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.

The location of employment for 2012 was determined by geocoding Quarterly Census of Employment and Wages (QCEW) data from the Bureau of Labor Statistics to the street centerline map for the NFR. The results show each employer and the number of employees for each mapped location. These results were then aggregated to the TAZ level. **Figure 3-9** shows major employers, those with more than 100 employee, across the NFR region. In 2012, major employees, were predominately within cities, as in previous years. These major employers were viewed as major activity centers due to the sizable contributions to the transportation network use.

For input into the regional travel model, employment was divided into four categories defined by the National Industrial Classification System (NAICS): Basic, Medical, Retail, and Service.

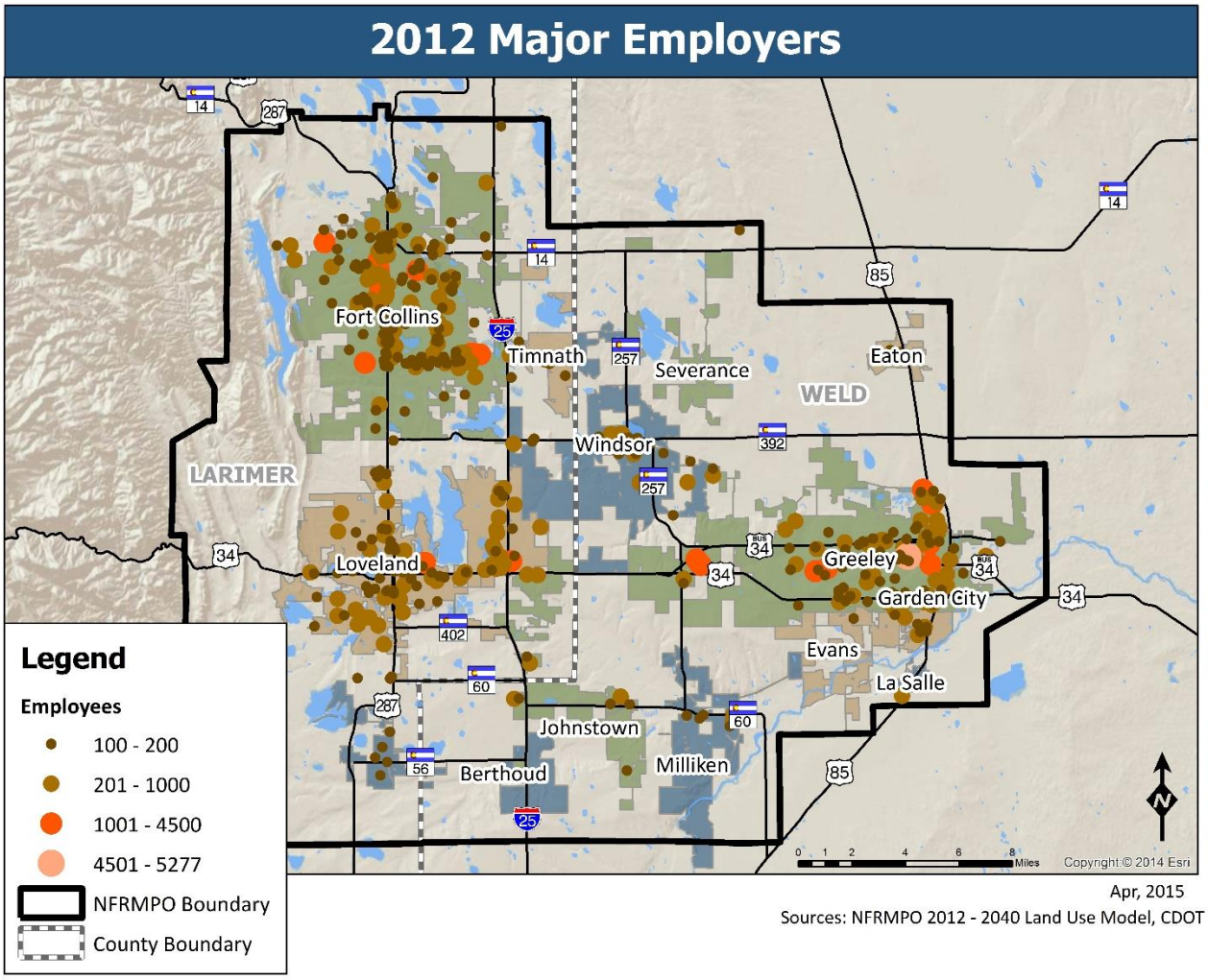
- **Basic jobs**, also known as production-distribution, are those based on outside dollars flowing into the local economy and include industries that manufacture and/or produce goods locally for export outside the region. Basic jobs include manufacturing, mining, utilities, transportation, and warehousing among others.
- **Medical jobs** include health care and social assistance.
- **Retail jobs** include retail trade, post offices, and food service.
- **Service jobs** include finance, insurance, real estate, and public administration.

The Basic, Medical, Retail, and Service employment estimates for 2012 and forecasts for 2040 are shown in **Table 3-9**. The disaggregated total employment in the travel model does not account for people working from home.

Table 3-9: Classification of Employment

Classification	2012		2040		Percent Growth (%)
	Employees	Percentage (%)	Employees	Percentage (%)	
Basic	47,155	17.7%	72,293	16.9%	53.3%
Medical	30,101	11.3%	39,233	9.1%	30.3%
Retail	40,692	15.3%	61,132	14.3%	50.2%
Service	148,397	55.7%	255,953	59.7%	72.5%
Total	**266,345**	**100.0%**	**387,443**	**100.0%**	**45.5%**
Source: *NFRMPO 2012-2040 Regional Travel Demand Model*					

Figure 3-9: 2012 Major Employers



Apr, 2015

Sources: NFRMPO 2012 - 2040 Land Use Model, CDOT

Aging Population

According to the 2010 Census, baby boomers or those born between 1951 and 1970, population grew by more than 30 percent between 2000 and 2010 in Colorado. **Figure 3-10** shows the significant increase in the 65+ population by 2040 compared to the year 2012. The likely impacts of new and pending retirees will impact the regional transportation system through:

- The increased demand for housing units as the in-migration of new workers assume the jobs of the recently retired.
- The location and availability of amenities, health care, and entertainment for senior populations.
- The shift in the type of housing necessary to accommodate the growing senior population.
- The level of service and availability of transit for senior populations.

American Community Survey (ACS) data (2009 - 2013) was used to identify the percentage of those aged 65 years and older by city in the NFRMPO region, **Figure 3-11**. The cities range from six percent (Timnath) to 16 percent (Garden City).

Figure 3-10: Colorado Population by Age in 2012 and 2040

Source: *Colorado Department of Local Affairs*

Larimer County is expected to have a larger percentage of its population over the age of 65, while the larger portion of Weld County population growth is expected to be in the younger age brackets. The difference in general terms would be an increase in the percentage of retirees in Larimer County and an increase in the percentage of younger families with children in Weld County. **Figures 3-12 and 3-13**, depict this trend.

Figure 3-31: Percentage of Population 65 Years and Older by City

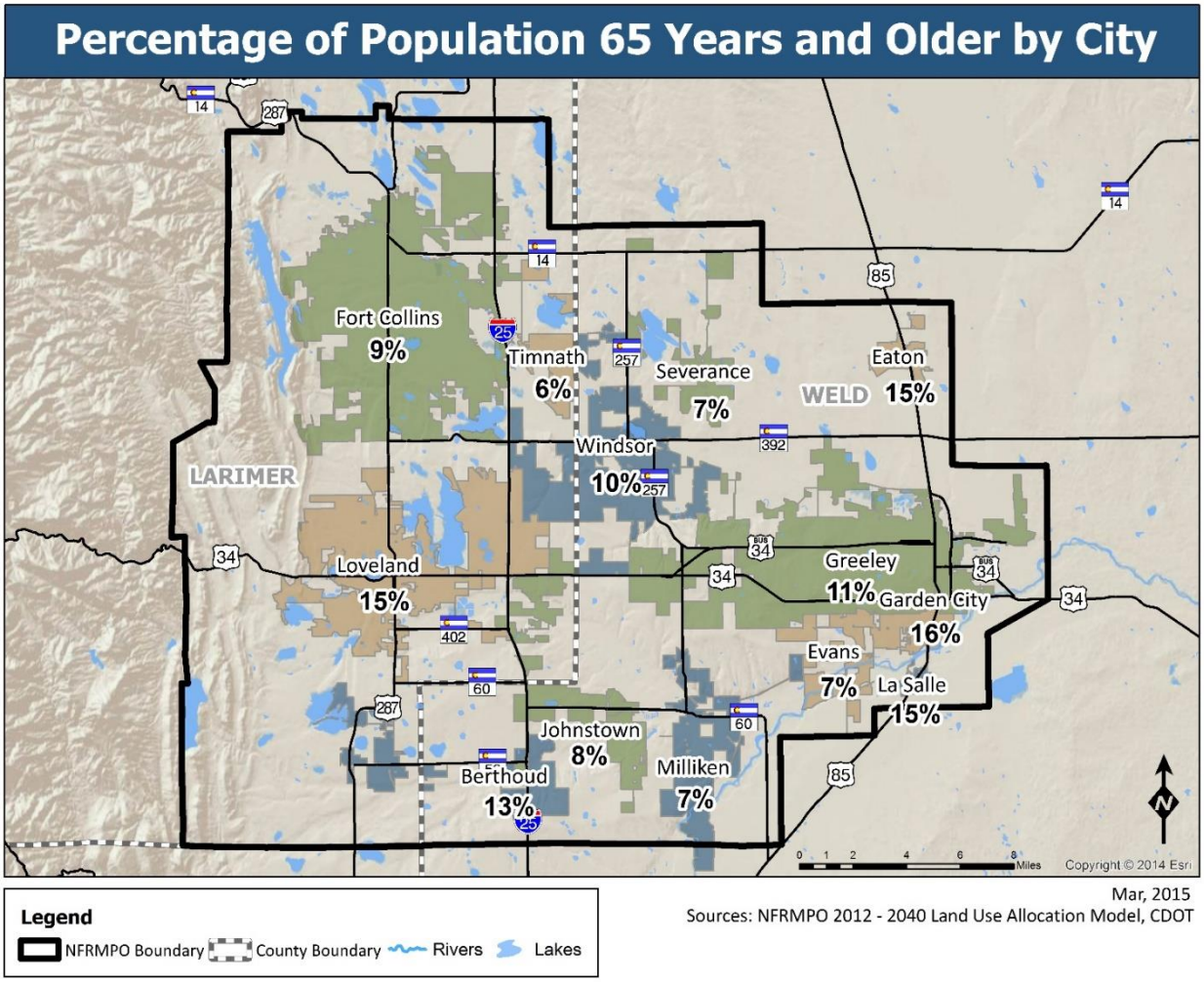
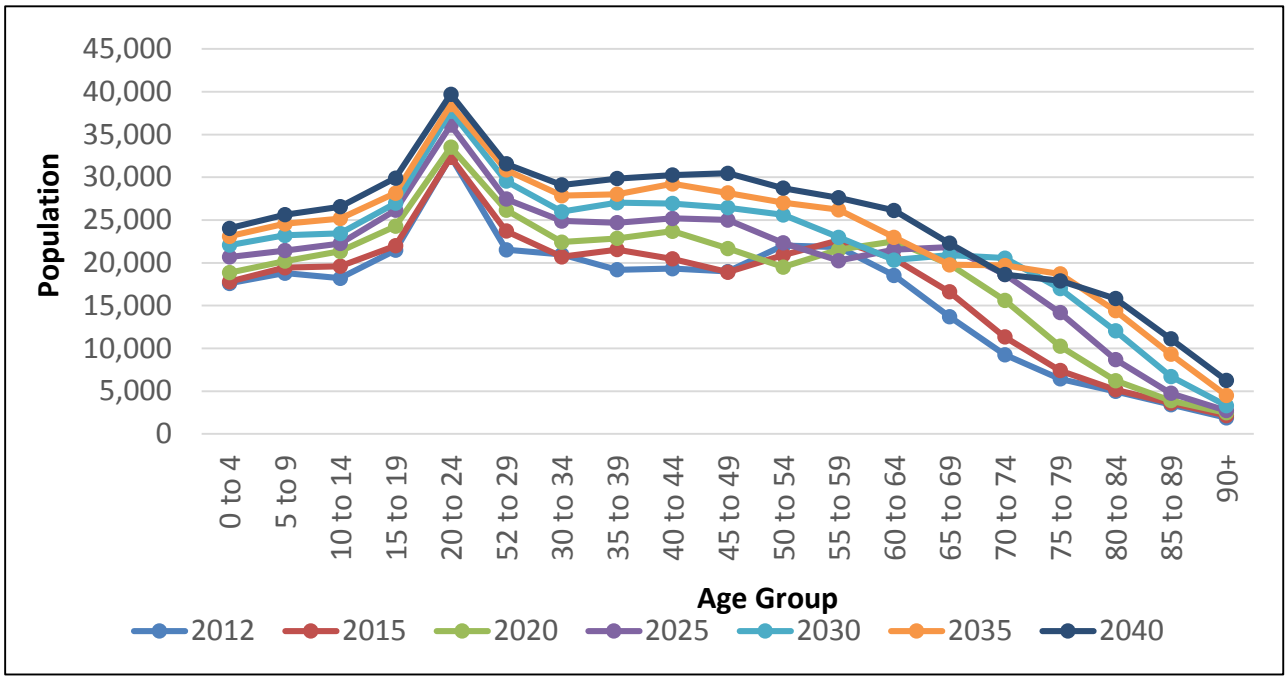
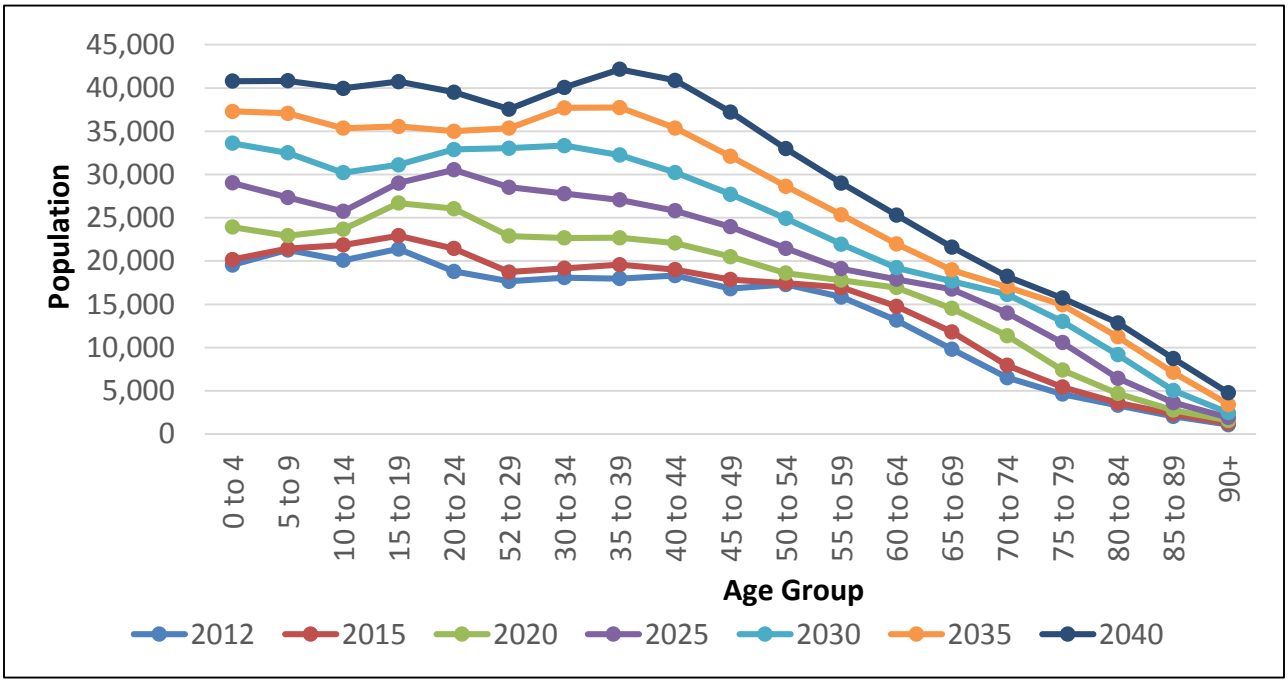


Figure 3-12: Larimer County Age Distribution



Source: *State Department of Local Affairs, Demography Division, 2014*

Figure 3-13: Weld County Age Distribution



Source: *State Department of Local Affairs, Demography Division, 2014*

Vehicles by Household

The number of vehicles available in households is slightly different between Larimer and Weld counties, with the overwhelming majority of households having two or more vehicles available, shown in **Table 3-10**.

Table 3-10: Number of Vehicles Available in Households by County		
Number of Vehicles	**Larimer County**	**Weld County**
None	4.2%	4.3%
1	28.0%	25.3%
2	43.1%	42.0%
3 or more	24.7%	28.3%
Source: *US Census Bureau, Decennial Census, 2010*		

The vehicle availability per household is in line with commute patterns across the region. 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, reflected in **Table 3-11**. Most commuters who use bicycles or walk to work live in Fort Collins or Greeley/Evans.

Table 3-11: Commute to Work by Mode	
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*	

B. Environmental Justice

Background

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 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, the US DOT issued an update to Order 5610.2(a), *Actions to Address Environmental Justice in Minority and Low-Income Populations*. The DOT order updates the original EJ order, which was published on April 15, 1997. The DOT order continues to be a key component of their strategy to promote the principles of EJ in all DOT programs, policies, and activities. The NFRMPO's EJ process follows three guiding principles outlined in the DOT order:

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 US DOT Order 5610.2(a),[3] an adverse effect is defined as:

- 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 disruption 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;
- Displacement of persons, businesses, farms, or non-profit organizations;
- Increased traffic congestion, isolation, exclusion, or separation of individuals within a given community or from a broader community;
- Denial of, reduction in, or significant delay in the receipt of benefits of DOT programs, policies, or activities.

The NFRMPO EJ process also includes a determination of whether a construction related activity on the existing transportation system will result in a "disproportionately high and adverse effect on human health or the environment, which is defined by US DOT order 5610.2(a) as:

- Being predominantly borne by a minority and/or low-income population or
- Suffered by the minority 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 and/or non-low-income populations.

It is important to identify where significant numbers of minority and low-income households are located within the region to comply with the requirements of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, and US DOT order 5610.2(a). These orders

[3] http://www.fhwa.dot.gov/environment/environmental_justice/ej_at_dot/orders/order_56102a/

were enacted to ensure the full and fair participation of potentially affected communities in transportation decisions. The intent of EJ is to avoid, minimize, or mitigate disproportionately high and adverse impacts on minority populations and low-income populations.

The NFRMPO uses CDOT's Environmental Justice in Colorado's Statewide and Regional Planning Process Guidebook, as the framework for addressing EJ in the North Front Range region. This section discusses minority and low-income populations and the specific efforts in public involvement, mapping, and measuring the benefits and burdens.

Low Income Populations

Low-income thresholds are determined by Housing and Urban Development (HUD) for the counties in Colorado for use by the DOLA which allocates Community Development Block Grants (CDBG). The methodology for determining low income follows the CDOT Environmental Justice Guidebook. **Tables 3-12 and 3-13** show low income thresholds for Larimer and Weld counties as determined by HUD for FY 2012.

Table 3-12: Larimer County HUD FY 2012 Low Income Limits

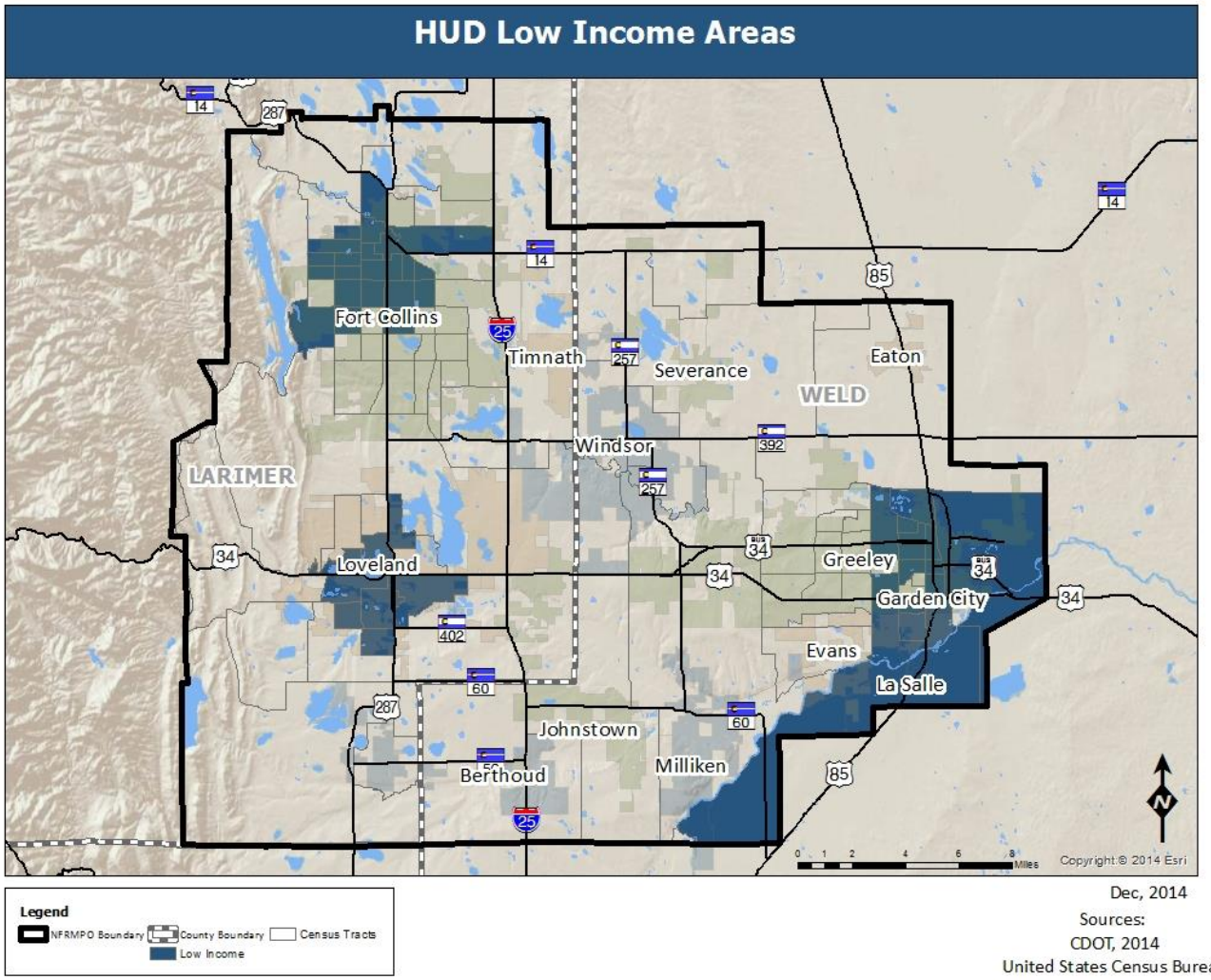
Income Limit	Persons per Household							
	1	2	3	4	5	6	7	8
Low Income Limit	$43,550	$49,750	$55,950	$62,150	$67,150	$72,100	$77,100	$82,050
Very Low Income Limit	$27,200	$31,300	$35,000	$38,850	$42,000	$45,100	$48,200	$51,300
Extremely Low Income Limit	$16,350	$18,650	$21,000	$23,300	$25,200	$27,050	$28,900	$30,800

Table 3-13: Weld County HUD FY 2012 Low Income Limits

Income Limit	Persons per Household							
	1	2	3	4	5	6	7	8
Low Income Limit	$38,300	$43,800	$49,250	$54,700	$59,100	$63,500	$67,850	$72,050
Very Low Income Limits	$23,950	$27,400	$30,800	$34,200	$36,950	$39,700	$42,450	$45,150
Extremely Low Income Limits	$14,350	$16,400	$18,450	$20,500	$22,150	$23,800	$25,450	$27,100

Households have been mapped using Census Tracts with American Community Survey (ACS) estimates from 2008-2012. The dark blue areas in **Figure 3-14** show Census tracts considered low income based on Median Household Income and Average Household Size.

Figure 3-14: HUD Low Income Areas



Minority Populations

Executive Order 12898 defines the term minority as anyone who is:

- **American Indian and Alaskan Native** – a person having origins in any of the original people of North America and who maintains cultural identifications through tribal affiliation or community recognition.
- **Asian or Pacific Islander (including Native Hawaiian)** – a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.
- **Black/African American** – a person having origins in any of the black racial groups of Africa.
- **Hispanic/Latino** – a person who is Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

ACS estimates from 2008-2012 show the largest minority population in the North Front Range region is the Hispanic/Latino segment. The highest concentration, by percentage, of Hispanic/Latino residents is in Garden

City at 66 percent, Evans at 47 percent, La Salle at 37 percent, and Greeley at 36 percent. By comparison, Fort Collins and Loveland have 10 percent and 12 percent, respectively.

Census tracts show the largest concentrations of Hispanic/Latino residents in **Figure 3-15** reside along the US 85 Corridor in Weld County and smaller pockets in northeast Fort Collins and southeast Loveland.

Figure 3-15: Hispanic/Latino Minority Populations

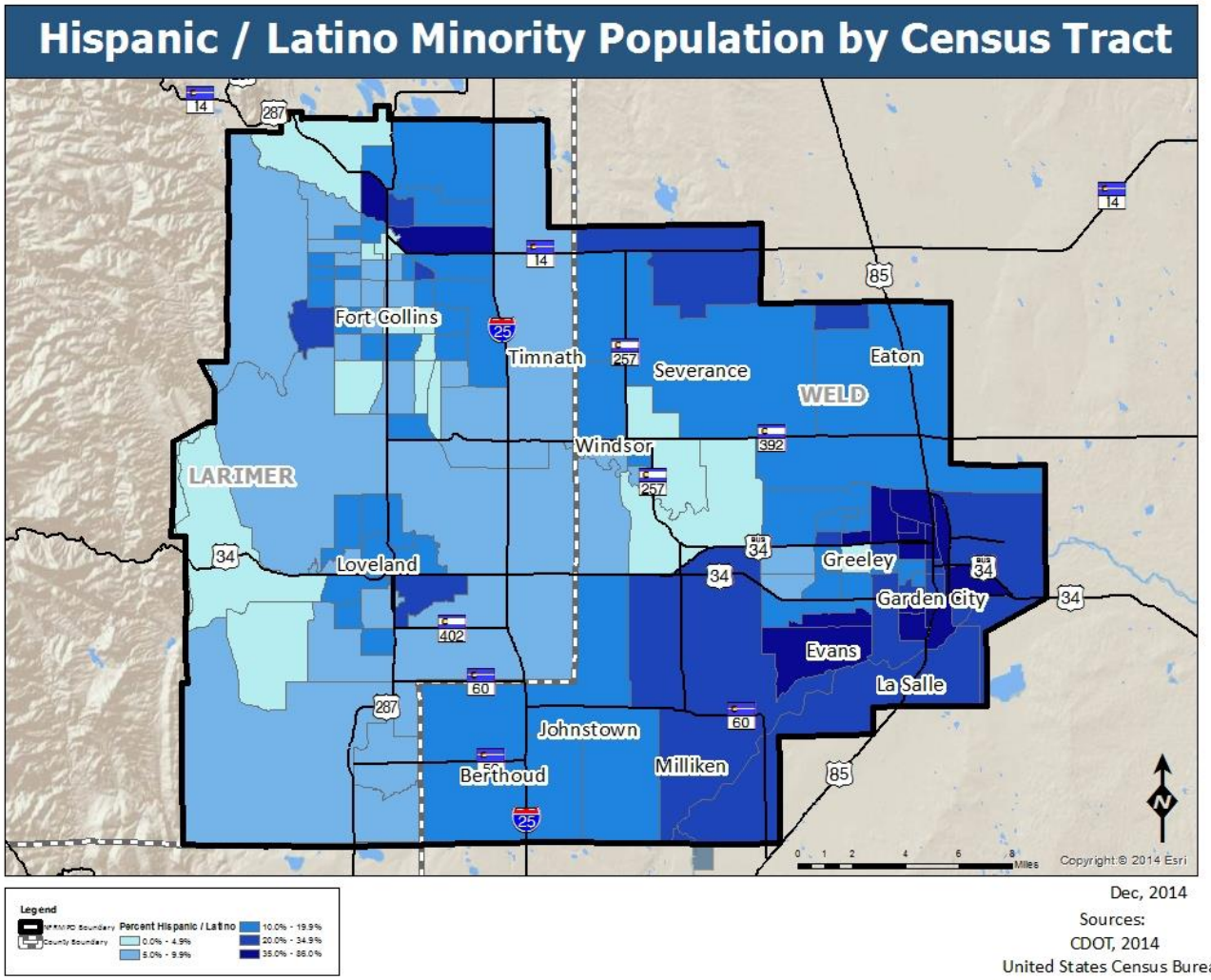
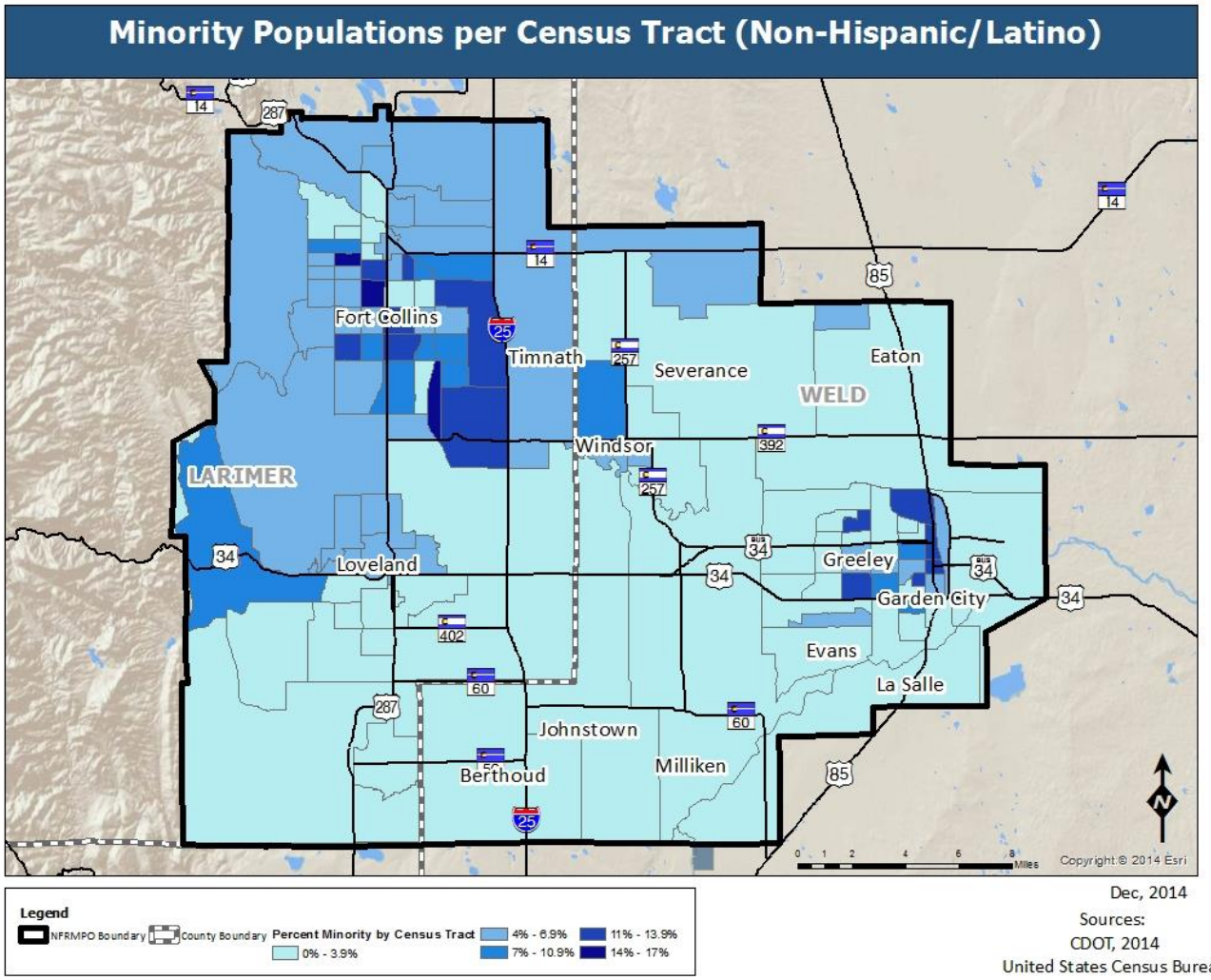


Figure 3-16 combines all remaining minority populations from 2008-2012 ACS estimates. This analysis shows the predominance of the Hispanic/Latino minority and lack of diversity outside of Fort Collins and Greeley. The block groups in Fort Collins and Greeley are likely due to the presence of major universities and the influx of refugee populations over the past decade

Figure 3-16: Minority Populations



Other Environmental Justice Populations

Limited English Proficiency

Executive Order 13166, *Improving Access to Services for Persons with Limited English Proficiency (LEP) (2000),* requires recipients of federal funds to examine the services they provide and identify any need for services to LEP populations. Census tracts with a moderate to high percentage of residents who are proficient in another language, but speak English "less than very well," are considered to be EJ populations. These languages include Spanish, Asian Languages, African Languages, Arabic, and other languages. **Table 3-14** shows the top five LEP populations in the NFRMPO. NFRMPO is required to undertake special outreach for LEP populations. The MPO maintains relationships with local translators who are available for public meetings and document translation for the region's LEP population and can be requested as needed.

Table 3-14: Other LEP Populations		
Language	Total	Percent of Population
Spanish	16,960	3.57%
Asian Languages *	1,393	0.29%
Other Indo-European Languages **	624	0.13%
African Languages ***	253	0.05%
Arabic	180	0.03%

*Asian Languages include, but are not limited to Chinese, Japanese, Korean, Thai, and Vietnamese.

**Other Indo-European Languages include, but are not limited to German, Greek, and Russian.

***African Languages include, but are not limited to Afro-asiatic, Nilo-Saharan, and Niger-Congo.

65 Years of Age and Older

The NFRMPO also considers the Senior Population (age 65 and older) in the EJ process. Census tracts with a moderate to high percentage of senior residents are considered to be EJ. Seniors face different transportation and mobility challenges which may increase the need for safety improvements in the roadway and pedestrian system, and increased transit, para-transit, demand-response transportation systems, and increased transportation and transit connections throughout the region. Mapping the senior population in the North Front Range Region helps to show where to focus on those needs. **Figure 3-11** in the *Socio-Economic Data Section* shows the highest concentrations of residents age 65 and older by municipality.

Disabled Populations

Census tracts with a moderate to high percentage of residents who are disabled are considered to be EJ populations within the North Front Range Region. ACS designated disabilities include:

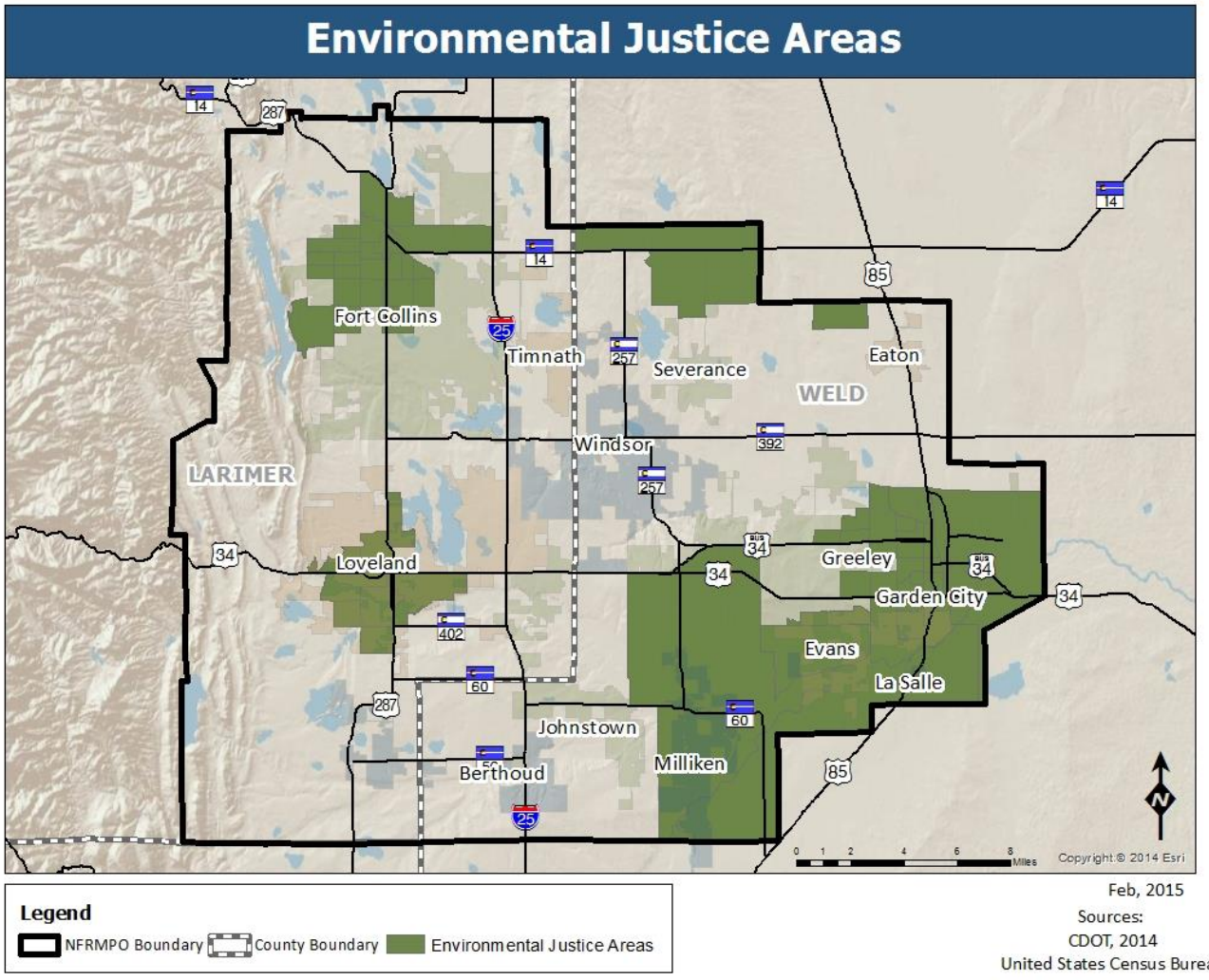
- **Sensory Disabilities** – conditions including blindness, deafness, or a severe vision or hearing impairment
- **Physical Disabilities** – conditions that substantially limit one or more basic physical activity.
- **Mental Disabilities** – physical, mental, or emotional condition lasting more than six months that impairs a person's ability to learn, remember, or concentrate.
- **Self-Care Disabilities** – physical, mental, or emotional condition lasting more than six months that impairs a person's ability to dress, bathe, or get around inside the home.
- **Go-outside-home Disabilities** – physical, mental, or emotional condition lasting more than six months that impairs a person's ability to go outside of the home to shop or visit a doctor's office
- **Employment Disabilities** – physical, mental, or emotional condition lasting more than six months that impairs a person's ability to work at a job or business

Disabled populations face different transportation and mobility challenges which may increase the need for safety improvements in the roadway and pedestrian system, increased transit, para-transit, and demand-response transportation systems, and a higher need for mobility coordination efforts throughout the region.

NFRMPO Environmental Justice Analysis Areas

Figure 3-17 shows Census tracts with minority populations greater than the regional average of 21.82 percent and tracts considered low income based on Median Household Income and Average Household Size. Census designated minority populations include Hispanic/Latino, Black (Non-Hispanic), Native American (Non-Hispanic), Asian (Non-Hispanic), Hawaiian Pacific Islander (Non-Hispanic), and Other (Non-Hispanic). When implementing transportation projects within the North Front Range region, an EJ Analysis must be performed on projects that fall within these areas.

Figure 3-17: Environmental Justice Areas



Chapter 5: Environmental Profile

A variety of environmental considerations impact transportation planning and projects in the North Front Range region. These include air quality, historic and archaeological sites, agriculture, habitat and species, water and wetlands, and conservation areas, both current and potential. Of these, the NFRMPO has specifically designated responsibilities regarding air quality.

A. Air Quality

North Front Range air quality is regulated by stringent State and federal laws. The North Front Range Transportation and Air Quality Planning Council (NFRT&AQPC) is the designated lead air quality planning organization for Carbon Monoxide (CO), while the Regional Air Quality Council (RAQC) is the designated lead air quality planning organization for ozone. Air quality planning and conformity with the State Implementation Plan (SIP) is a federally and State-sanctioned function of the MPO. The NFRMPO must address motor vehicle emissions which constitute a major source of CO and ozone pollutants. The region has been in violation of the National Ambient Air Quality Standards (NAAQS) for CO since the 1990's and ozone since early 2000's. The North Front Range area is currently designated as an attainment maintenance area for CO and a marginal nonattainment area for ozone.

In 1993, the Governor of Colorado designated the NFRT&AQPC as the lead air quality planning organization for the Greeley and Fort Collins CO maintenance areas. In July 2013, the EPA designated the RAQC as the lead air quality planning agency for the entire Denver/North Front Range Ozone nonattainment area. The Council and RAQC, in cooperation with the Colorado Air Pollution Control Division (APCD), CDOT, and local governments are responsible for development and implementation of transportation-related air quality planning projects within the NFRMPO Modeling boundary, **Figure 5-1**.

A number of regional strategies are being implemented to offset the increase in emissions which accompanies high population growth rates. Strategies include a regional Transportation Demand Management (TDM) program with carpool and vanpool programs, regional transit planning, coordination with the Denver Regional Transportation District (RTD) on inter-regional transit services and planning for inter-regional bus service along the I-25 Corridor between Fort Collins and Denver funded by CDOT.

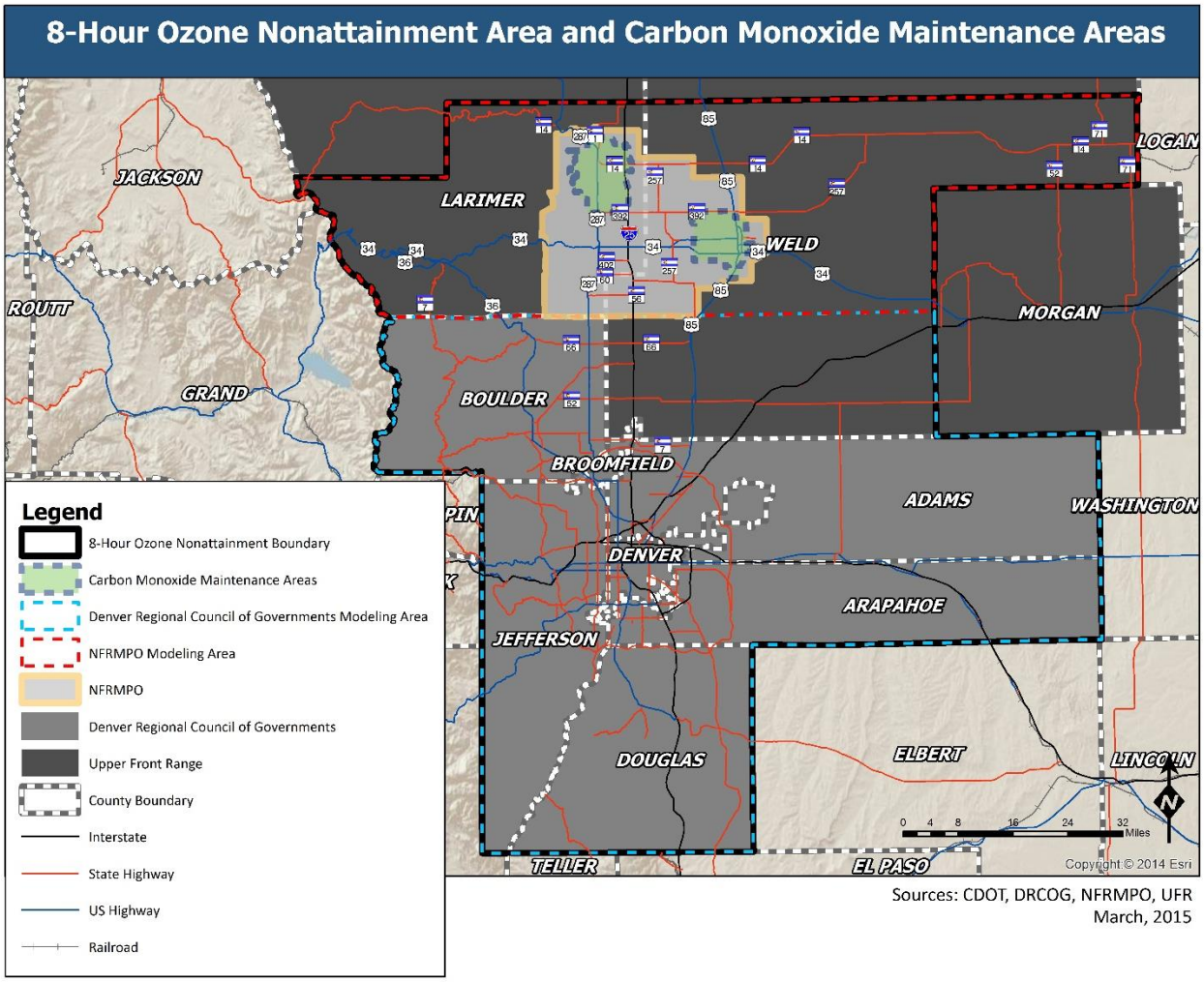
Carbon Monoxide Maintenance Areas—Fort Collins and Greeley

In the late 1980s, portions of Fort Collins and Greeley had violations of the NAAQS for CO. As a result, the previous nonattainment status continued with the Clean Air Act Amendments of 1991.

Fort Collins was re-designated to maintenance status on July 22, 2003 (68 FR 43316). A revision to the SIP on July 22, 2003 (68 FR 43316) removed the Inspection and Maintenance (I/M) program and the oxygenated fuels program as a federal requirement, effective January 1, 2004. Eight years after an area is re-designated to attainment, the Clean Air Act Section 175(B) requires a subsequent maintenance plan covering a second 10-year term, which was approved on August 12, 2013 (78 FR 56164).

In the mid-1990s, CO levels improved substantially and Greeley was re-designated to maintenance status on March 10, 1999 (64 FR 11775), with a revision to the SIP on August 19, 2005 (70 FR 48650) which removed the I/M program and the oxygenated fuels program as a federal requirement. A subsequent maintenance plan covering a second 10 year term was approved on August 2, 2013 extending the maintenance period to 2019 (78 FR 46816). The two CO maintenance areas are shown in **Figure 5-1**. A summary of the conformity documentation for the Greeley and Fort Collins CO Maintenance Plans is provided in **Appendix C.**

Figure 5-1: Carbon Monoxide Maintenance Areas and 8-Hour Ozone Nonattainment Area



Denver-North Front Range 8-Hour Ozone Nonattainment Area

In November 2007, the United States Environmental Protection Agency (EPA) designated the Denver/North Front Range region as a nonattainment area for the 8-hour ozone standard of 80 parts per billion (ppb), adopted in 1997, when a deferral expired. This was due to violations of the 8-hour ozone standard which occurred in the summer of 2007. The official nonattainment designation effectively terminated the Early Action Compact (EAC) of earlier years, and necessitated adopting a SIP for ozone within one year, per EPA requirements. In addition, nonattainment status meant businesses requiring air quality permits would have more stringent requirements. Ozone conformity determinations are now required for all Transportation

Improvement Programs (TIP) and Regional Transportation Plans (RTP). The designated ozone nonattainment area is shown in **Figure 5-1**. A summary of the conformity documentation for the Denver-North Front Range Ozone SIP is provided in **Appendix C.**

In March 2008, EPA established a more stringent 8-hour standard for ozone, based on a review of the most recent health effects information. The standard is currently set at a level of 75 ppb averaged over an 8-hour period. A revised SIP for the new ozone standard was submitted by the governor to the EPA on June 18, 2009. However, according to the *2008 Ozone Action Plan*, it contains provisions intended to begin moving the region to compliance with the 2008 standard. During this time, EPA implemented a five-year NAAQS review process of the 2008 standard to have a newly-revised standard by 2014.

In 2010, the motor vehicle I/M program expanded from the Denver Metro area into parts of Larimer and Weld counties to include Fort Collins, Greeley, and nearby areas within the nonattainment area. The expansion was implemented in November 2010, and was required by the 2008 Ozone Action Plan.

In 2012, the Denver Metro and North Front Range were classified as a marginal nonattainment area under the 2008 Ozone NAQQS by EPA (77 FR 30098). This designation required areas to meet the standard by December 31, 2015. On December 17, 2014, EPA proposed a new NAAQS for ozone. This would change the primary and secondary standard to a level between 65 and 70 ppb. EPA is required to make its final ruling by October 2015. On December 23, 2014, the D.C. Circuit Court rejected the EPA 2008 Ozone Air Quality Standard. This changed the attainment deadline to July 31, 2015 and revoked the 1997 NAQQS. On March 6, 2015, EPA issued a final rule (80 FR 12264) implementing the 2008 NAAQS for Ozone and SIP requirements.

Background - Early Action Compact for Ozone

Prior to 2007, the NFRMPO was included in the nonattainment area by EPA because of identified ozone precursor contributions from the region and air quality monitors exceeding the 1997 8-hour ozone NAAQS. In 2004, EPA included all of the NFRMPO area and additional portions of Larimer and Weld counties with the highest concentration of emissions inside the nonattainment boundary.

Larimer and Weld counties joined with the Denver Metro region in an EAC with EPA to defer nonattainment status. The EAC outlined control measures in place by the end of 2005 and required ozone readings to be back in compliance by the end of 2007. Control measures affecting the NFRMPO were emissions controls on stationary sources at oil and gas wells. In addition, EPA required the Reid Vapor Pressure (RVP), or evaporation rate, of gasoline be reduced to 7.8 pounds per square inch (psi) from the previous 9.0 psi RVP gasoline in the Denver area.

The EAC did not require any controls on mobile sources in the North Front Range region. At the time, the Denver Metro area was subject to an automotive inspection and maintenance program, but the EAC did not require it for the NFRMPO area.

Ozone Action Plan (2008)

In 2008, after several months of analysis, evaluation, and public input the RAQC and NFRMPO proposed an Ozone Action Plan to the state. AQCC approved the plan in December 2008. The Ozone Action Plan includes a

range of control measures to be included in the SIP, including federally-enforceable measures, state-only enforceable measures, and measures for further evaluation.

Federally-Enforceable measures:

1. Increase the system-wide control requirements for all condensate tanks.
2. Remove exemptions for selected small sources required to file air pollution emission notices and obtain permits.
3. Require general application of permit requirements and reasonably available control technology (RACT) for all Volatile Organic Compound (VOC) stationary sources greater than two tons per year and Nitrogen Oxide (NOx) stationary sources greater than five tons per year in the whole nonattainment area.

State-Only Enforceable measures:

1. Implement an I/M program in the North Front Range (portions of Larimer and Weld counties).
2. Implement more stringent cut-points for the Denver metro area I/M program.
3. Continue implementing the high-emitter pilot program in the Denver metro area.
4. Tighten State collector plate requirements.
5. Implement Statewide control requirements for reciprocating internal combustion engines (RICE).
6. By 2009, require low-bleed control devices on all new and existing pneumatic valves in oil and gas operations.
7. Expand current requirements for VOC controls in the entire nonattainment area.

In response to AQCC's October 2012 directive to consider full adoption of EPA's *Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution* in 40 CFR Part 60, Subpart OOOO (NSPS OOOO), on February 23, 2014, AQCC fully adopted:

- EPA's NSPS OOOO into Regulation Number 6: *Standards of Performance for New Stationary Sources*, Part A;
- Corresponding revisions to the emissions reporting and permitting framework in Regulation Number 3: *Stationary Source Permitting and Air Pollutant Emission Notice Requirements*, Parts A, B, and C; and
- Adopted complementary oil and gas control measures in Regulation Number 7: *Control of Ozone via Ozone Precursors and Control of Hydrocarbons via Oil and Gas Emissions (Emissions of Volatile Organic Compounds and Nitrogen Oxides)* to regulate methane emissions and reduce VOCs.[1]

These oil and gas control measures revisions concentrate on identifying and repairing leaks in the oil and gas sector, as well as additional recordkeeping and reporting requirements. These oil and gas control measures are estimated to reduce VOC emissions by approximately 93,500 tons per year and methane/ethane emissions by approximately 65,000 tons per year, at a cost of approximately $42.5 million per year.[2]

B. Historic and Archeological Sites

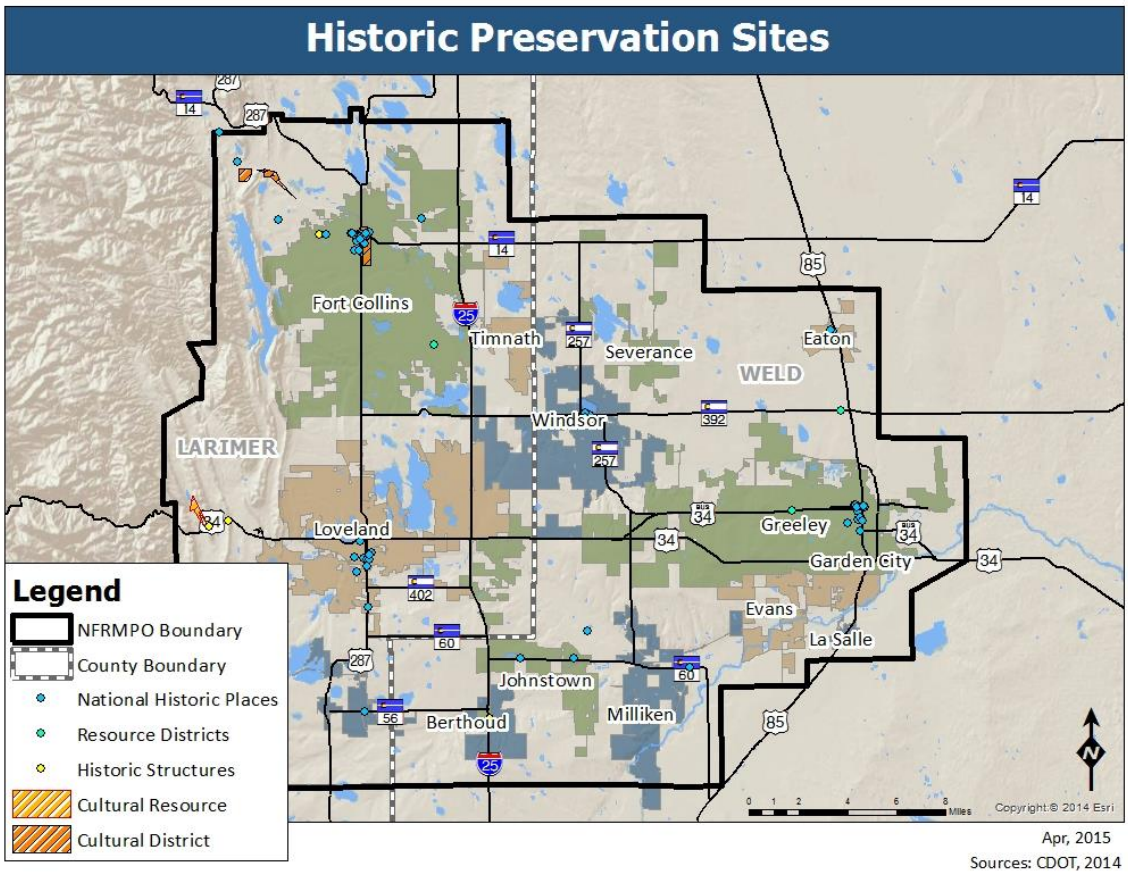
Section 106 of the National Historic Preservation Act (NHPA) outlines the process federal agencies and their designated representatives must follow when planning projects with the potential to affect significant historic

[1] https://www.colorado.gov/pacific/sites/default/files/003_030614-729AM-R3-6-7-fact-sheet-003_1.pdf
[2] https://www.colorado.gov/pacific/sites/default/files/003_030614-729AM-R3-6-7-fact-sheet-003_1.pdf

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.

The North Front Range contains a wide variety of historical and archaeological sites. The National Register of Historic Places and the Colorado State Register of Historic Places organize historic sites into districts, resources, and structures. **Figure 5-2** displays the different sites located within the North Front Range. While most of the sites are located within Fort Collins, Greeley and Loveland, there are sites located throughout the region. As of 2014, the North Front Range had a total of 55 historic places, three resource districts, four historic structures, one cultural resource, and seven cultural districts. The most up-to-date information can be found on the Office of Archaeology and Historic Preservation's website.[3]

Figure 5-2: Historic Preservation Sites



[3] http://www.historycolorado.org, 2014

As each community grows, they should evaluate the potential impacts of transportation improvements relative to the sites in **Figure 5-2**. Additional sites may be added as deemed necessary with the help of historians or archaeologists.

Mitigation

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.[4] 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).

The potential impact of implementing a transportation improvement project relative to identified historic sites, as well as other sites considered for inclusion in the historic registers, must be evaluated prior to project initiation.

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.

Fort Collins, Greeley, and Loveland maintain Historic Preservation Commissions, tasked with reviewing the impacts of development projects on historic sites and places. In 2011, Fort Collins undertook the Historic Preservation Process Improvements Study. Through a mix of public involvement and studying other communities' best practices, Fort Collins has implemented revisions in its code, increased public notice, and improved the appeals process.

C. Agricultural Land

Agriculture in the North Front Range is a major contributor to the economic vitality of the region. With over 2.5 Million acres of agricultural land, Weld County is one of the largest agricultural centers in Colorado. Weld County is one of the largest producers of livestock in the country, including two of the largest cattle feeding

[4] http://www.historycolorado.org/sites/default/files/files/OAHP/Programs/StatePlan.pdf, 2014

operations in the State.[5] Due to the fertile and well-irrigated land, Weld County is a large producer of hay, wheat, corn, sugar beets, barley, dry beans, onions, and carrots.[6] Larimer County also maintains an active agricultural sector, producing corn for grains, wheat, and vegetables.[7]

A large percentage of the rural land under cultivation within the North Front Range region is irrigated by an intricate network of canals, making it highly productive. 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 the Natural Hazards section of this chapter.

In addition, the conversion of agricultural land to urban and transportation uses is a regional and community issue. Conversions for transportation uses are typically addressed at the project level through actions to avoid or minimize such impacts. (See the Farmland Protection Policy Act [PL 97-98; 7 U.S.C. 4201 et seq.]) The potential conversions are coordinated with federal agencies, particularly with regard to National Environmental Policy Act (NEPA) processes. Reporting of these kinds of conversions to the Natural Resources Conservation Service of the U.S. Department of Agriculture (USDA) is coordinated through CDOT.

The loss of farmland is an issue in both Weld and Larimer counties. Between 2007 and 2012, the number of farms in Larimer County decreased from 1,757 to 1,625, with a drop in acreage from 489,819 to 450,389. The average size of the farms in Larimer County decreased slightly. Meanwhile, Weld County decreased its number of farms from nearly 4,000 to approximately 3,500, with a decrease in farmland acreage from 2.08 Million to 1.96 Million. However, Weld County increased the average size of farms by more than 20 acres.

The USDA conducts an agricultural census every five years and provides county profiles with the results. The results for the 2012 Census compared to the 2007 Census are shown in **Table 5-1**. Compared to the 2007 Agricultural Census, pastureland in both Larimer and Weld counties increased its percentage of the total, while all other categories decreased.

[5] http://www.co.weld.co.us/assets/c88682A241c8B23c0837.pdf
[6] Weld County 2012 Agricultural Census (http://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/Colorado/cp08123.pdf)
[7] Larimer County 2012 Agricultural Census (http://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/Colorado/cp08069.pdf)

Table 5-1: Agricultural Production Statistics (2007 and 2012 Inventory)				
Type of Land	Larimer (%)		Weld (%)	
	2007	2012	2007	2012
Woodland	6.4%	5.2%	--	--
Cropland	24.5%	23.6%	47.3%	43.5%
Pasture	64.0%	67.8%	48.8%	53.2%
Other uses	5.2%	3.3%	4.0%	3.4%
Source: *Colorado Agricultural Statistics, USDA, Census for Agriculture, County Profiles, 2007 & 2012*				

D. Threatened and Endangered Species

Wildlife habitat and its ability to support diverse species is important in the North Front Range region. Numerous laws and regulations protect wildlife species and their habitats. **Figure 5-3** illustrates some of the region's bird and mammal species which are either threatened or important to this area. Short-grass prairie is the major habitat which supports a variety of species. Threatened and important species ensure a diverse, healthy environment, and are determined on a state and federal level. The Endangered Species Act of 1973 grants the US Fish and Wildlife Service (USFWS) the power to oversee listing and protection of terrestrial animals, plants, and freshwater fish. Colorado Parks and Wildlife provides assistance at the State level. Riparian areas along major waterways are important as well, including the Cache la Poudre, Big Thompson, Little Thompson, and South Platte Rivers.

Along with individual pockets of habitat, some larger habitat areas cover the entire region. These include the Preble's Meadow Jumping Mouse and Mule Deer ranges.

Preble's Jumping Mouse. Source: USFWS

Mule Deer. Source: USFWS

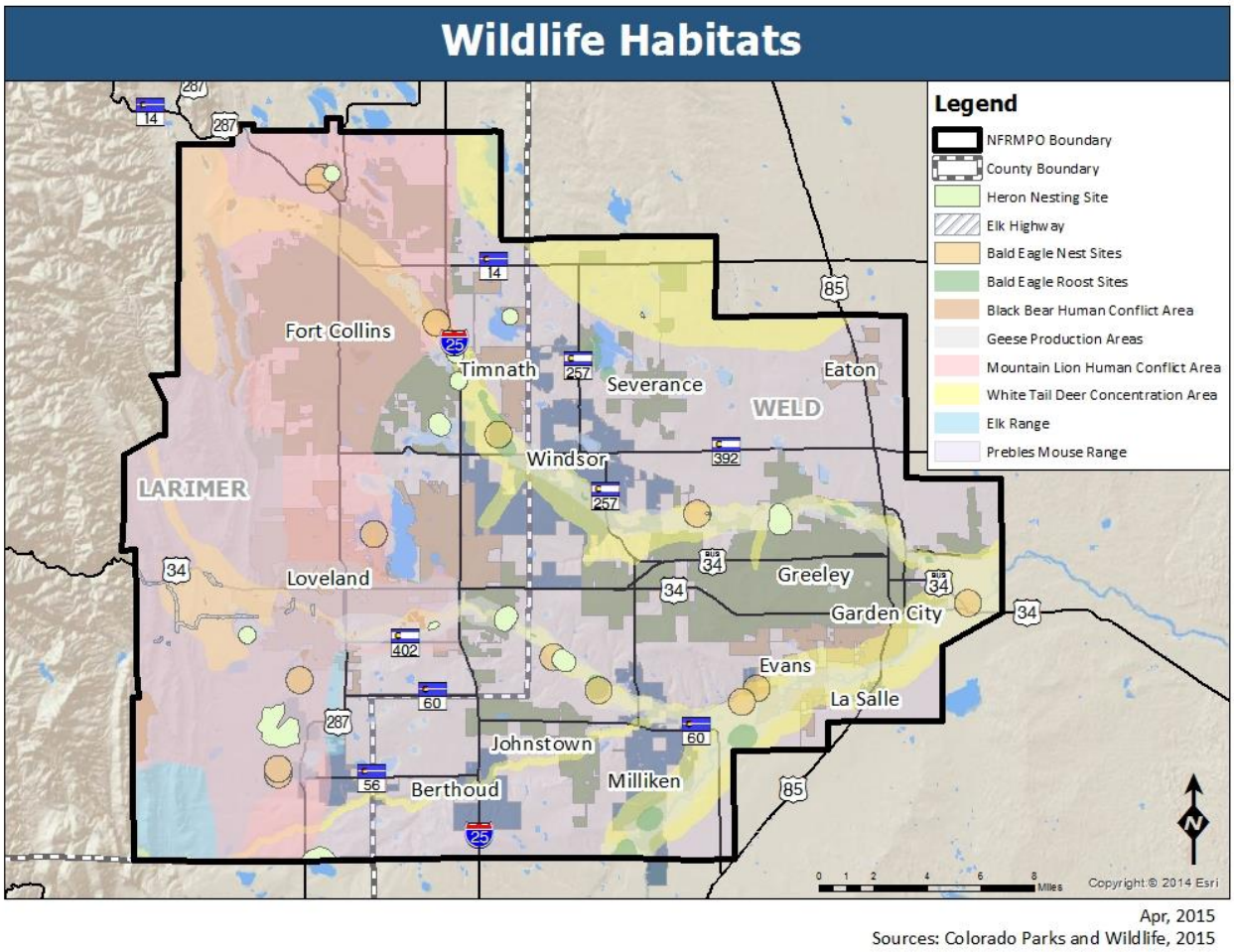
Many agencies assist in the compilation of important habitat and designated wildlife areas including: USFWS, Colorado Division of Wildlife (CDOW), and the Colorado Natural Heritage Program (CNHP).

The NFRMPO recognizes threatened and endangered bird, mammal, plant, and fish species inhabit Larimer and Weld counties. Further research must be conducted before a transportation project begins to determine if threatened and endangered species are an issue within the given project's area.

Wildlife Habitat Mitigation

Owing to the diverse environment found in the North Front Range, the region has a variety of plant and animal species. Wildlife species and their habitats are protected by numerous laws and regulations. Habitats for regionally significant or endangered animals are shown in **Figure 5-3**.

Figure 5-3: Wildlife Habitats



CDOT has recognized the importance of the short-grass prairie habitat and created a proactive mitigation strategy by participating in the Short-Grass Prairie Initiative (SGPI). This initiative started in 2001 and covers over a third of the State, extending out to the eastern border with Kansas and Nebraska and from the northern border with Wyoming to the southern border with New Mexico. The SGPI includes the Nature Conservancy, USFWS, and other federal agencies and will protect up to 50,000 acres of the short-grass prairie in eastern Colorado over the next 20 years. This allows for CDOT projects which impact short-grass prairie to offset a project's impacts against the areas that have been created through the SGPI.

Colorado Senate Bill 40 requires any agency of the State to obtain wildlife certification from CDOW when the agency plans construction in any stream or its bank or tributaries. CDOW, a division of the Colorado Department of Natural Resources (DNR), is responsible for protecting and preserving the State's fish and wildlife resources through conservation, recreation, and wildlife management activities.[8] Certification from CDOW must be obtained for actions with adverse impacts to streams or its bank or tributaries. Certification is

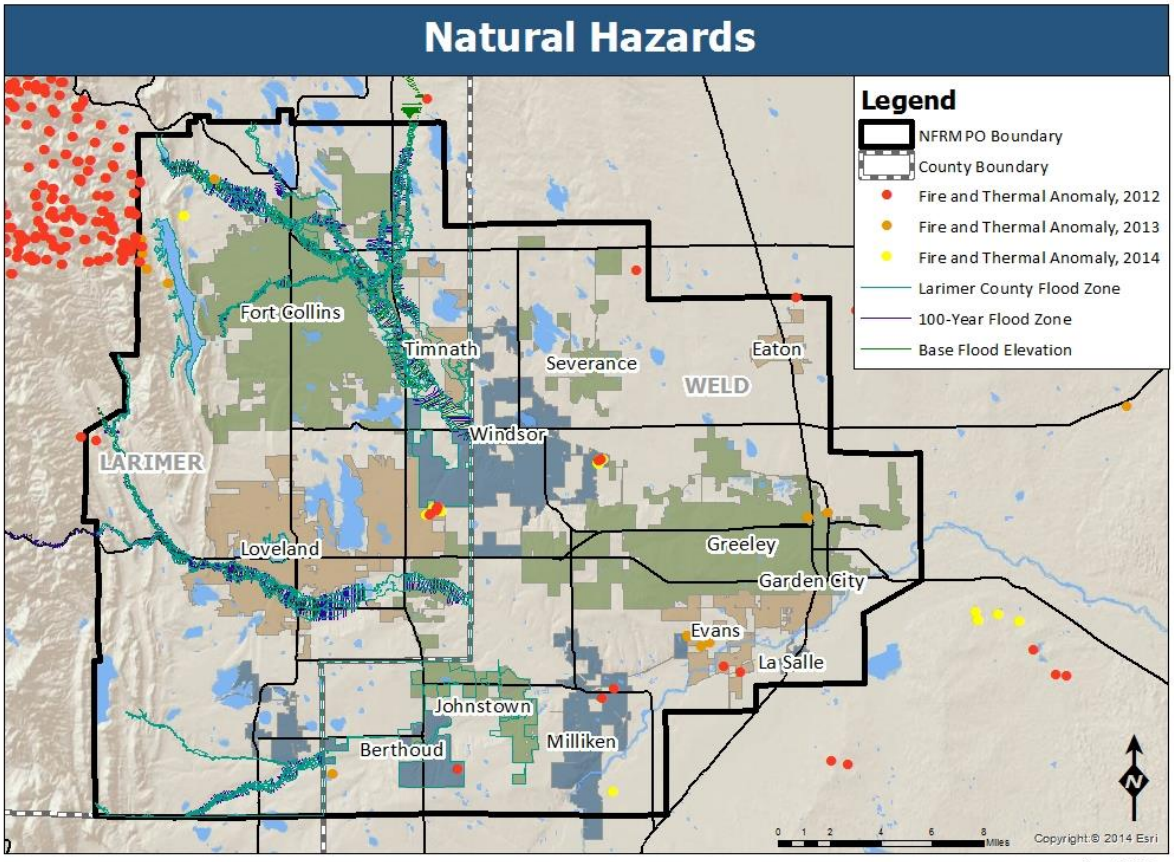
[8] CDOW, 2015 (http://cpw.state.co.us/aboutus/)

provided by CDOW which includes appropriate mitigation measures to eliminate or diminish adverse effects to such streams or their banks or tributaries. The Migratory Bird Treaty Act (MBTA) is a federal law that protects migratory birds, their nests, and eggs. This protection is extended to all birds in the region, with the exception of the rock dove (pigeon), English sparrow, and European starling.

E. Natural Hazards

Owing to its location in the foothills of the Rocky Mountains, the North Front Range region experiences the risk for natural hazards. In recent years, wildfires and flooding have become an increasingly important issue. Each year the region faces multiple instances of snow, which can stick to roads and create dangerous conditions. Heavy flooding in 2013 left roads and bridges in a state of disrepair and have taken time to repair. In 2012, wildfires damaged property on the outskirts of the MPO's borders. **Figure 5-4** shows the location of wildfires between 2012 and 2014 in addition to the 100- and 500-year flood plains within Larimer County. Weld County data has not been digitized, but has been approximated based on historic data.

Figure 5-4: Natural Hazards



As shown in **Figure 5-4**, northeastern Fort Collins, southern Loveland, and Timnath are located close to flood plains. These areas received heavy flooding during the 2013 floods. Additionally, the Horsetooth Reservoir separated much of Fort Collins from the severe 2012 wildfire season.

As transportation projects are programmed, the risks of developing in or near a flood plain or close to wildfire-prone areas should be acknowledged. Recovery can be expensive, but being prepared and aware can help to mitigate future issues.

To deal with snow, local municipalities have prioritized the street networks within their jurisdictions. Seven communities offer some sort of snow removal process. Highest priorities include emergency routes, namely the routes that connect 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 usually not plowed, but intersections may be sanded. In every local jurisdiction, the highest priority takes precedence over the lower priorities; this means some lower priority streets may not be plowed to ensure resources are used on the highest priority streets.

F. Water Features and Water Quality

Numerous water bodies lie within and run through the North Front Range region. These include major rivers such as the Cache la Poudre, Big and Little Thompson, and South Platte Rivers, along with their minor tributary creeks and streams. The region also contains many lakes and reservoirs such as the Horsetooth and Windsor reservoirs, and Loveland, Carter, and Boyd Lakes. Two aquifers, Laramie and Laramie-Fox Hills, flow under the southeastern portion of the MPO region. The water features and aquifers are illustrated in **Figure 5-5**.

The Federal Clean Water Act (CWA) protects the waters throughout the US. From 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.

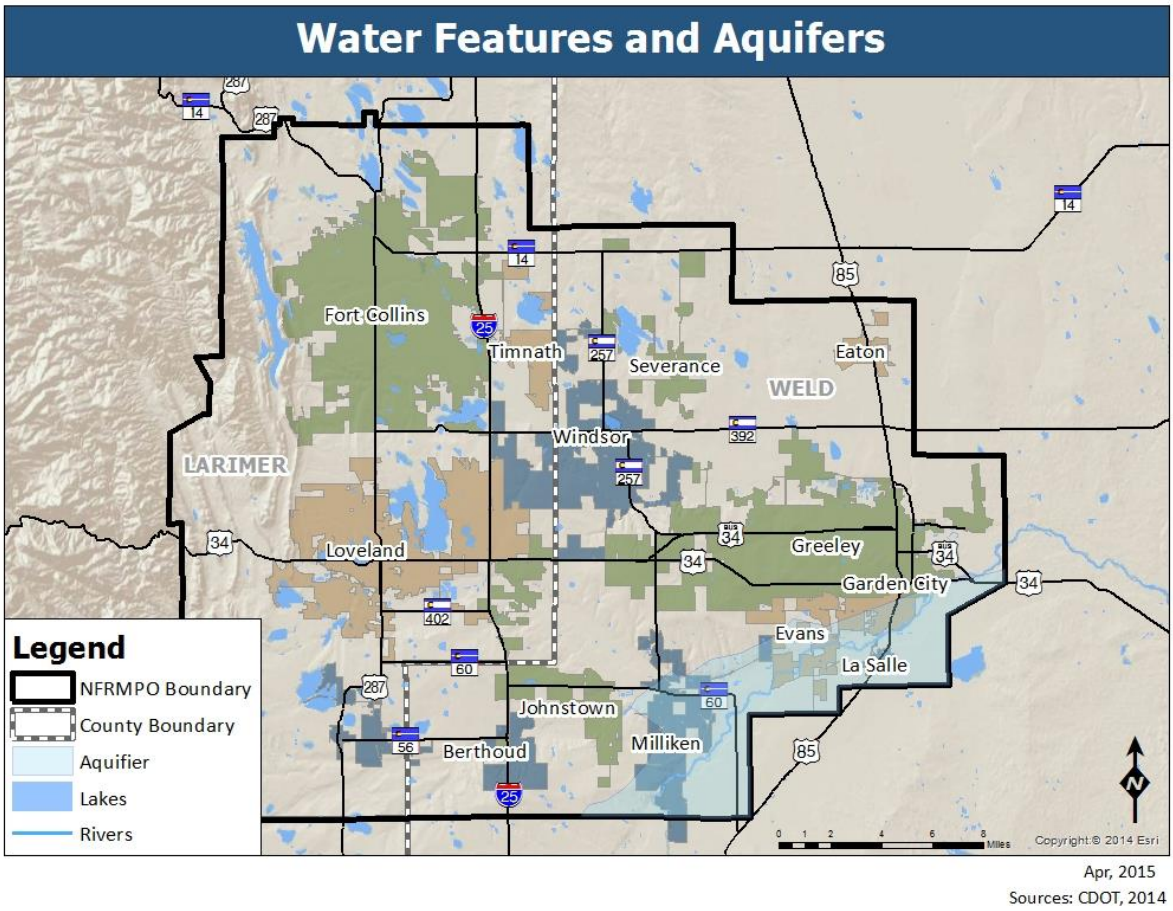
The CWA is administered by CDPHE. The EPA oversees the CWA throughout the nation, but has granted CDPHE this duty in Colorado.

Water Quality Mitigation

In accordance with CDOT's Statewide Transportation Plan, mitigation strategies are used for water quality. The primary method is to control storm water discharges through best management practices which avoid or control runoff. CDOT is working 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 (PWQ), CDOT will design and construct on-site PWQ control measures within CDOT's MS4 area. The first call for projects was held in spring 2015.

The North Front Range region works to maintain clean water through an efficient system of reservoirs and water treatment facilities. The City of Fort Collins operates two Water Reclamation Facilities within the Lower Cache la Poudre River watershed and a single Water Treatment Facility. These facilities filter wastewater to meet or exceed all State and federal pollution control standards and to protect the Cache la Poudre downstream. Additionally, the City of Loveland is in the process of expanding its Water Treatment Plant in a $20.5M project with expected completion in March 2016. Greeley operates two Water Treatment Plants and a Wastewater Reclamation Plant.

Figure 5-5: Water Features and Aquifers

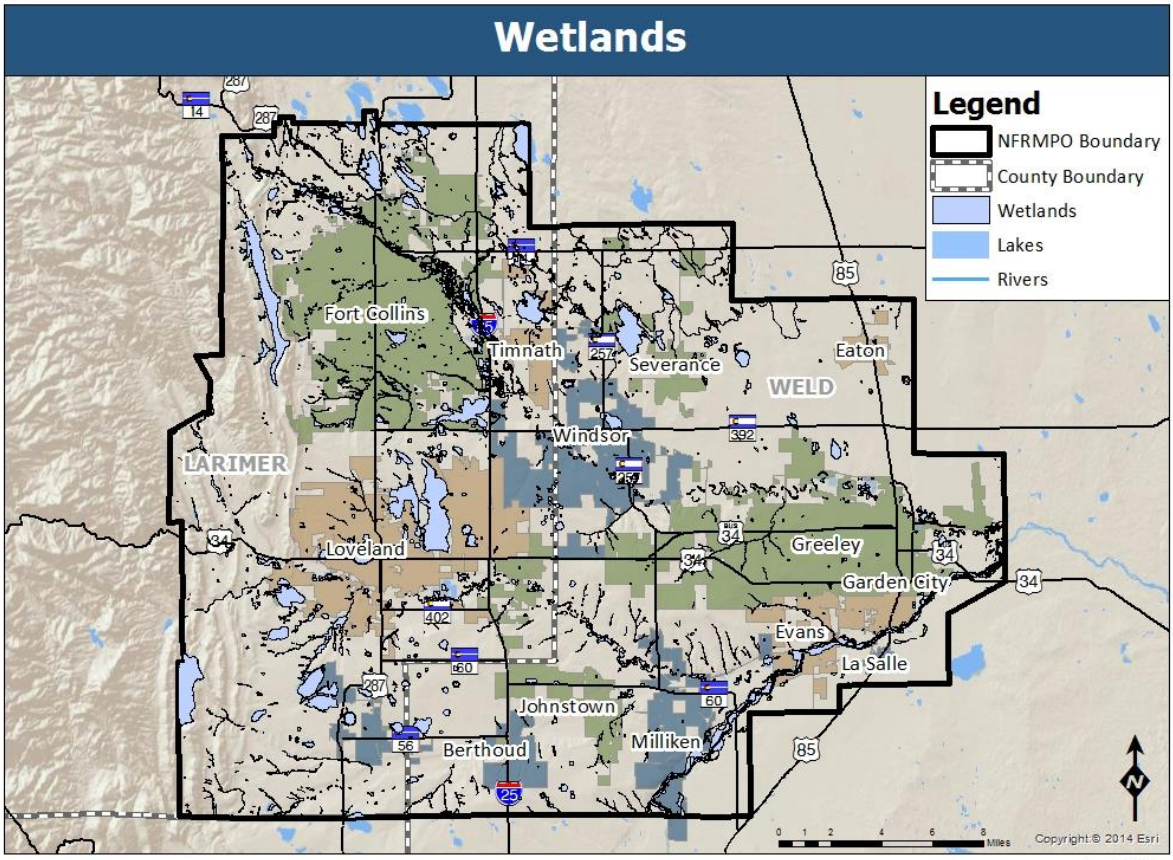


G. Wetlands

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.[9] In the North Front Range region, wetlands are primarily found adjacent to streams or rivers where the ground stays saturated. Wetlands are regulated by standards set by Section 404 of the CWA. **Figure 5-6** shows the wetlands within the region.

Figure 5-6: Wetland Areas

[9] EPA, 2015 (http://water.epa.gov/lawsregs/guidance/wetlands/definitions.cfm)



Apr, 2015
Sources: US Fish and Wildlife Service, 2015

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 for 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.

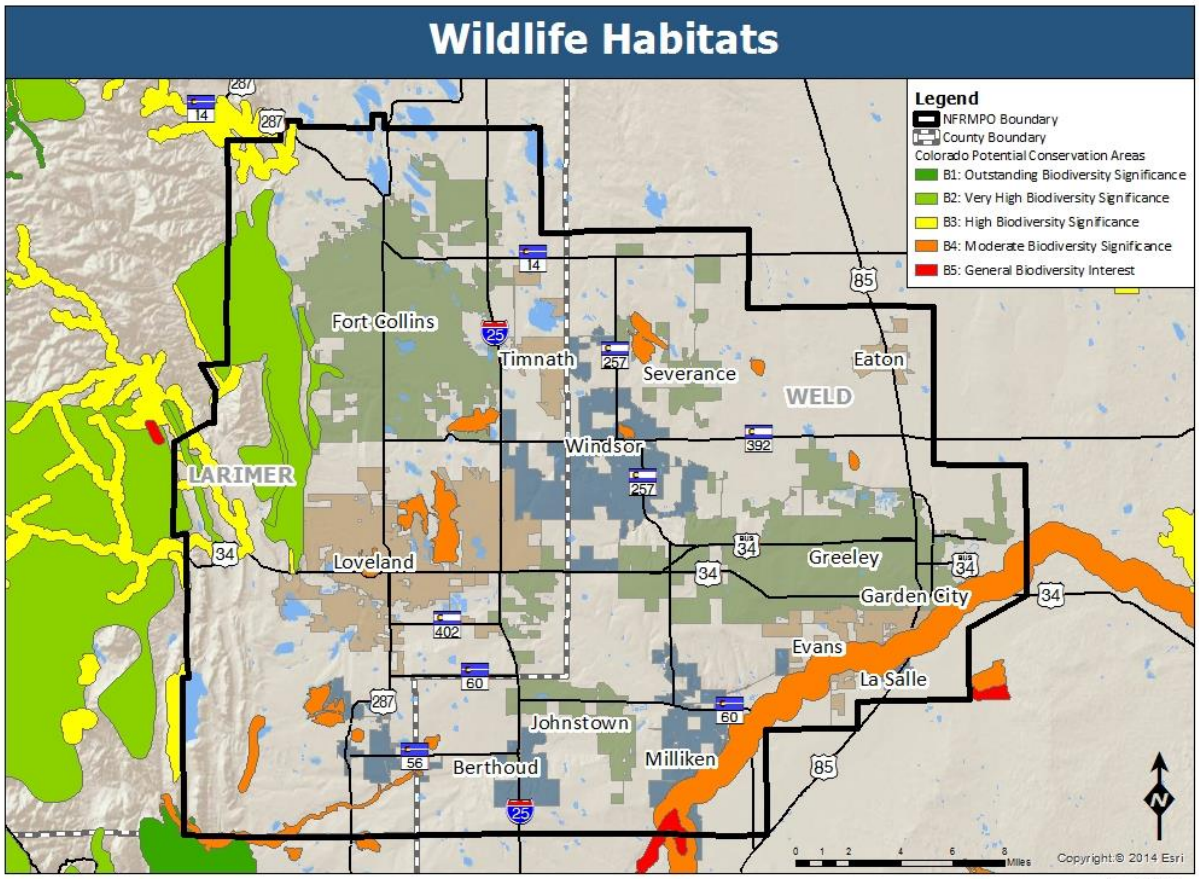
H. Conservation Areas

The CNHP identified Potential Conservation Areas (PCA) on a Statewide basis. A PCA is an ecologically sensitive area that provides species, suites of species, or a natural community upon which they depend, for its continued existence.[10] **Figure 5-7** 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's 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 Backbone, hogbacks, and along waterways in the foothills on the western edge of the North Front Range region. The area along the South Platte River also has general biodiversity interest.

The Regionally Significant Corridors identified in this plan 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 Regionally Significant Corridors, especially along the South Platte River because of its biodiversity interest.

[10] http://www.landscope.org/colorado/priorities/cnhp_pca/

Figure 5-7: Potential Conservation Areas



Apr, 2015
Sources: Colorado Parks and Wildlife, 2015

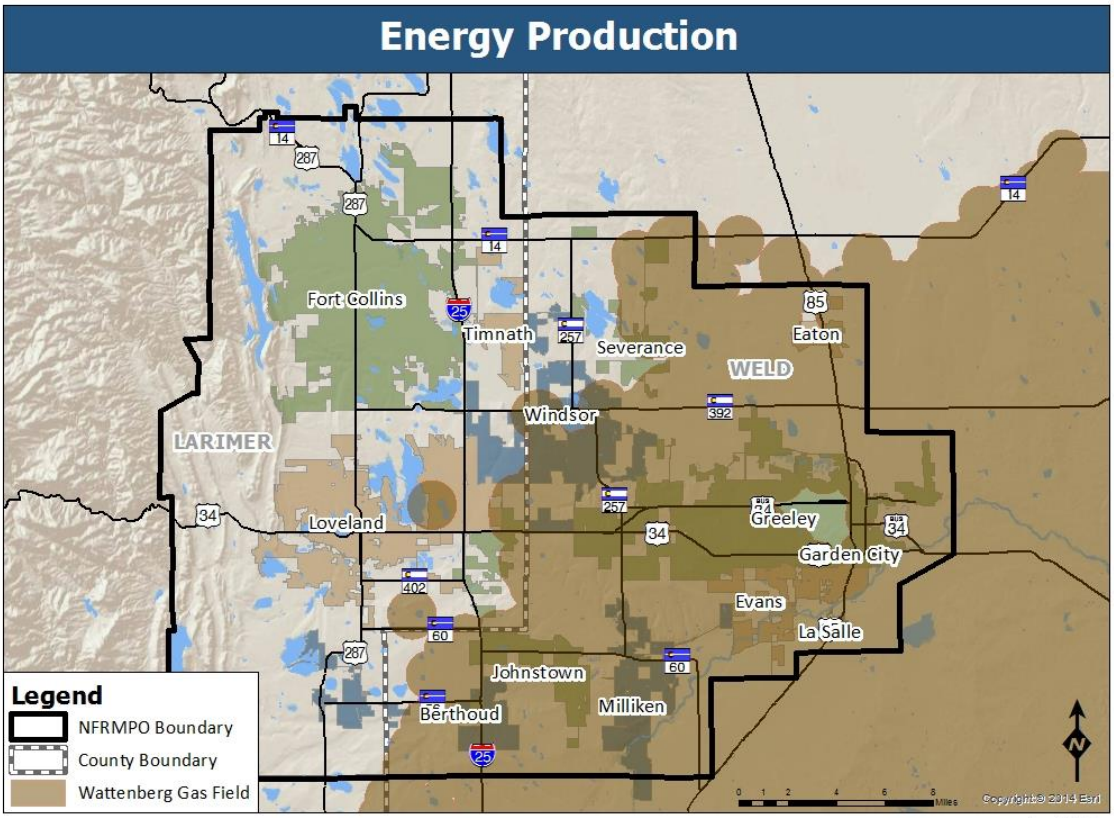
I. Energy

Significant oil and gas production has been underway within the North Front Range region for most of the past century. Consequently, it is not unusual to see drilling rigs and operations equipment being transported from one place to another. Much of the petroleum is transported away from wellheads by tanker trucks rather than through pipelines.

As shown in **Figure 5-8**, a large portion of Weld County and a small portion of Larimer County sit within the Wattenberg Gas Field. The Wattenberg Gas Field extends throughout Weld County south to Denver. Much of the economic growth in Weld County has been a result of the oil and gas industry. Weld County had more than 2,300 existing permits and 400 pending permits in 2014, while Larimer County had four permits and 15 pending in 2014. In 2012, Weld County produced 36,648,474 barrels of oil out of 49,384,913 barrels produced Statewide.[11] By comparison, Larimer County produced 171,772 barrels in 2012.

[11] COGCC Reports: http://cogcc.state.co.us/COGCCReports/

Figure 5-8: Energy Production



Apr, 2015
Sources: Colorado Oil and Gas Conservation Commission, 2015

The presence of a thriving oil and gas production industry has had air quality consequences due to the emissions of gaseous pollutants from wellheads. Modeling of air quality for transportation conformity analyses is required to take these emissions into consideration (see the **Air Quality** section of this chapter). Consequently, some unique dependencies exist in the North Front Range region between the oil and gas industry and the expansion and maintenance of the transportation system.

The Niobrara Shale is a shale rock formation covering Northeastern Colorado, Southeast Wyoming, Southwest Nebraska, and Northwest Kansas. Oil and natural gas can be found within these rock formations beneath the ground surface at depths of approximately 7,000 feet or greater. Companies drill wells vertically and horizontally to access the oil and gas. They use a complex fracturing system to extract the resource. Companies are still in the early stages of exploration of the Niobrara play; however, results appear to be promising and an assessment of long-term production is underway. In 2013 and 2014, oil and gas companies were actively expanding their mineral interests and leases in Weld County.

J. Planning and Environmental Linkages

Process and Guidance

The 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 uses information, analysis, and products developed during the planning stages to inform the environmental review, or National Environmental Policy Act (NEPA), process. MAP-21 acknowledges the FHWA PEL process and states a PEL study is beneficial to the planning process by incorporating environmental and community values into transportation decision making at the beginning stages of project planning and development. Additionally, PEL processes 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 2035 RTP Update in 2011 referenced an environmental streamlining project (Strategic Transportation and Environmental Planning Process for Urbanizing Places (STEP UP)) for Colorado to develop an improved process for addressing environmental impacts of transportation projects at early stages of planning. The project was initially a partnership between the NFRMPO, CDOT, EPA, FHWA, US Fish and Wildlife Service (USFWS), US Army Corps of Engineers (USACE), US DOT, Colorado State Historic Preservation Office, and the Colorado Division of Wildlife to develop tools to assist with more comprehensive and effective transportation, land use, and environmental planning. The target for STEP UP was to provide high quality data, limit environmental impacts, and have coordination early on with Resource Agencies and other public officials with environmental responsibilities.

CDOT has not implemented STEP UP as originally intended due to the challenges of organizing data being greater than anticipated. CDOT continues to pursue PEL studies in an effort to improve efficiency, reduce environmental impacts, and lower the costs of implementing transportation projects through the environmental review stages. The PEL process also helps to streamline projects and shorten decision-making by identifying planning studies before a full NEPA process, which requires evaluation of relevant environmental effects of a federal project or action, including developing alternatives, occurs.

In December 2012, CDOT, in coordination with the FHWA, released a PEL Handbook to provide guidance on integrating transportation planning efforts with the NEPA process. CDOT's PEL process demonstrates the need to streamline decision-making and project implementation while focusing on environmental considerations to coordinate with the 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. Additional information on CDOT PEL guidance can be found on the CDOT website at www.codot.gov/programs/environmental/planning-env-link-program.

Examples of PEL Studies in the North Front Range Region

US 34 Optimization Plan

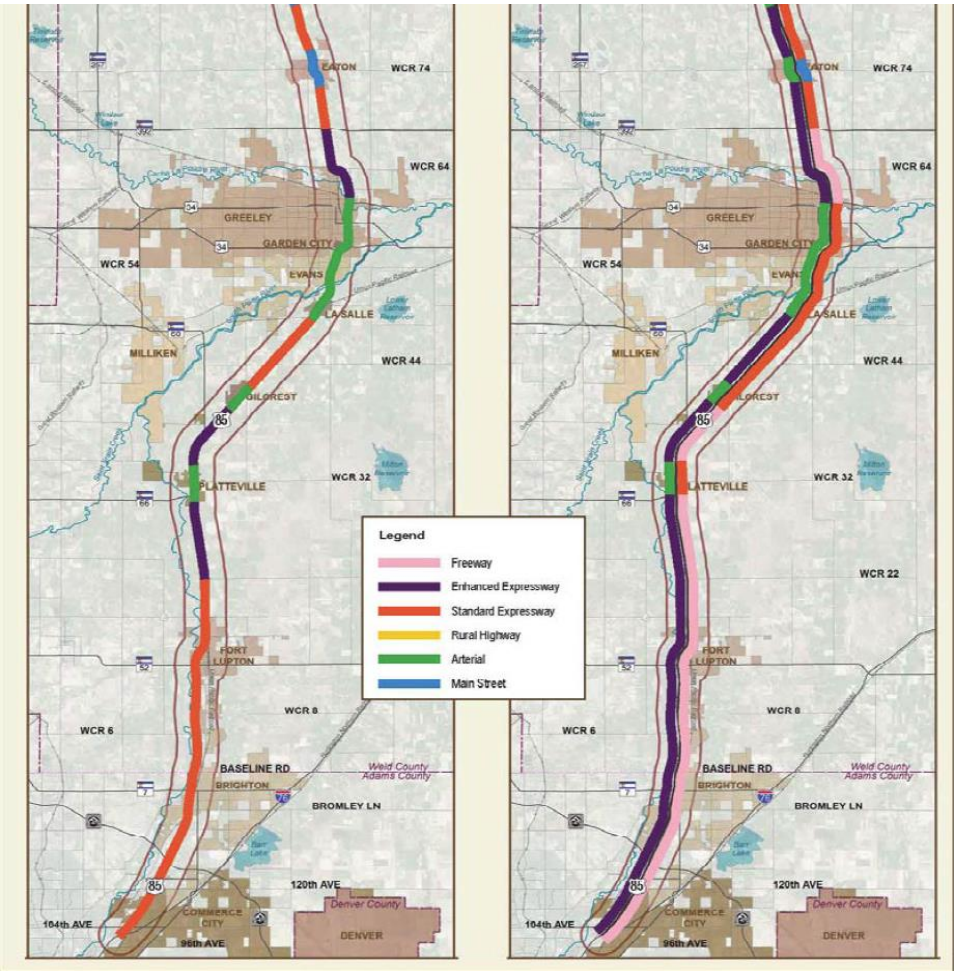
The intent of the US 34 Optimization Plan was to identify basic needs for a 25-mile segment of US Highway 34 from I-25 east to Kersey. The study intended to identify specific needs of the corridor to determine services provided to meet future travel needs. The plan was a collaborative effort between Evans, Greeley, Johnstown,

Kersey, Loveland, Milliken, Windsor, and Larimer and Weld Counties. The plan also identified environmental constraints along the corridor, which will be used in any future NEPA processes.

Figure 5-9: US Highway 85 Classification Diagram

US 85 PEL

The US 85 PEL Study, currently underway, aims to develop a vision for the US Highway 85 Corridor between I-76 and the Town of Nunn. The study uses considerations from the US 85 Access Control Plan and incorporates prioritization and implementations strategies for the different sections of the corridor. The US 85 PEL process is a collaborative approach between CDOT, local community representatives, MPOs, and the public. The PEL Study also aims to review the environmental, economic, and developmental impacts of individual communities along the corridor to develop alternatives to address needs, funding, and project prioritization. The PEL is scheduled to be completed in Fall 2015.



Source: *Felsburg, Holt, & Ullevig, 2015*

The NFRMPO participates in the US 85 PEL study as a member of the Technical Advisory Committee (TAC) and the Executive Committee. The TAC is 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 MPO will be used as a source of information and funding in future call for project cycles as priorities along the corridor arise in member communities. Outputs from the NFRMPO travel demand and land use allocation models could also be utilized when studying future travel demand and community population and job growth predictions along the corridor.

Figure 5-9 shows the US Highway 85 Corridor Sections as defined in the US 85 PEL.

K. Environmental Mitigation

Much progress has been made in mitigating transportation's effects on the environment. According to 23 CFR §450.104, environmental mitigation activities are "*policies, programs, actions, and activities that, over time, will serve to avoid, minimize, or compensate for (by replacing or providing substitute resources) the impacts to or disruption of elements of the human and natural environment associated with the implementation of a long-range statewide transportation plan or metropolitan transportation plan*." Mitigation efforts should benefit neighborhoods and communities, cultural resources, parks and recreation areas, wetlands, water sources, natural areas, endangered and threatened species, and the ambient air. Project impacts are considered in the planning phase rather than after the project finishes.

Regional and statewide mitigation efforts have been discussed throughout this chapter. CDOT programs are aimed at improving air and water quality, preserving the delicate ecosystem of Eastern Colorado via the SGPI, and moving toward sustainable and cleaner energy production. All of these mitigation efforts are in line with CDOT's Statewide Transportation Plan and policies set and enforced by CDPHE.

Mitigation for disruption to the human environment is addressed in the **Environmental Justice** section of **Chapter 3**.

National Environmental Policy Act (NEPA)

Signed in 1970, NEPA is the federal environmental policy, which aims to incorporate the environment into the decision-making process. The three step NEPA process is important to transportation planning across the country, and includes:

- **Categorical Exclusion**
  Projects that meet federal agency's criteria for no significant environmental impact may be excluded from further NEPA examination.
- **Environmental Assessment (EA) / Finding of No Significant Impact (FONSI)**
  The EA is a report which determines whether a project significantly impact the environment. If the project will not significantly affect the environment, then the agency issues a finding of no significant impact or FONSI.
- **Environmental Impact Statement (EIS)**
  An EIS is prepared when a noteworthy impact is expected to significantly impact the environment. The EIS considers alternatives and proposed actions. Outreach should be provided.

State Level Requirements

Colorado enforces federal requirements for environmental mitigation, specifically for air quality and the environment. CDPHE works alongside the EPA to enforce the federal EAs and EISs. CDPHE is also in charge of air quality regulations for the State and local agencies in Colorado, including the NFRMPO.

Staff Handout: TIP Administrative Modification Updates

State FY 2012 thru FY 2017

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

North Front Range Transportation & Air Quality Planning Council

Administrative Modification Request #M 4-2015

Submitted to: CDOT **Prepared by:** Josh Johnson **DATE:** 4/6/2015

STIP Number	NFR TIP Number	Project Description/Location	Project Sponsor	Improvement Type	Source of Funds	Funding Type/ Program	FY 12	FY 13	FY 14	FY 15	TOTAL FY 12-15	FY 16	FY 17	FY 16-17
Transit 5307: Urbanized Area Formula Program														
New Entry	NF1105	**GET 2015 ADA 80/20**	**GET**	**Operations**	Federal	FTA5307	-	-	-	164	**164**	-	-	-
					Local		-	-	-	41	**41**	-	-	-
					Total		-	-	-	205	**205**	-	-	-
REASON:	***GET requests addidtion of FTA5307 budget into the TIP for budgeting purposes.***													
New Entry	NF1106	**GET 2015 ADA 50/50**	**GET**	**Operations**	Federal	FTA5307	-	-	-	172	**172**	-	-	-
					Local		-	-	-	172	**172**	-	-	-
					Total		-	-	-	344	**344**	-	-	-
REASON:	***GET requests addidtion of FTA5307 budget into the TIP for budgeting purposes.***													
New Entry	NF1107	**GET 2015 Operations**	**GET**	**Operations**	Federal	FTA5307	-	-	-	1,601	**1,601**	-	-	-
					Local		-	-	-	1,512	**1,512**	-	-	-
					Total		-	-	-	3,113	**3,113**	-	-	-
REASON:	***GET requests addidtion of FTA5307 budget into the TIP for budgeting purposes.***													
New Entry	NF1108	**GET 2015 Preventative Maintenance**	**GET**	**Operations**	Federal	FTA5307	-	-	-	543	**543**	-	-	-
					Local		-	-	-	136	**136**	-	-	-
					Total		-	-	-	679	**679**	-	-	-
REASON:	***GET requests addidtion of FTA5307 budget into the TIP for budgeting purposes.***													