



# **Regionally Significant Corridors**

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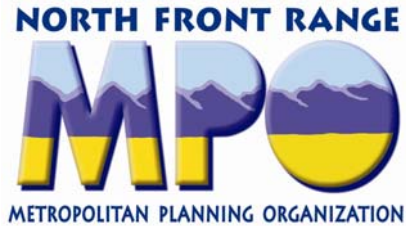
**September, 2006**

**Prepared by**

**North Front Range Transportation  
&  
Air Quality Planning Council**

**and**

**Felsburg, Holt and Ullevig**



**RESOLUTION NO. 2006-XX  
OF THE NORTH FRONT RANGE TRANSPORTATION  
AND AIR QUALITY PLANNING COUNCIL  
ADOPTING THE REGIONALLY SIGNIFICANT CORRIDORS REPORT**

WHEREAS, the North Front Range Transportation & Air Quality Planning Council wants to focus the 2035 Regional Transportation Plan on regionally significant corridors, establishing the highest funding priorities for the region, developing the Congestion Management System, and public involvement; and

WHEREAS, one of the Strategic Action Plan vision statements calls for “a clear understanding of what the regional transportation system consists of”; and

WHEREAS, the two previous Regional Transportation Plans have been more focused on corridors and the Colorado Department of Transportation is encouraging the use of corridors in the planning process; and

WHEREAS, the Technical Advisory Committee with input from the Ad-hoc Advisory committee has prepared a Regionally Significant Corridors report for review by the Planning Council; and

NOW, THEREFORE, BE IT RESOLVED BY THE NORTH FRONT RANGE TRANSPORTATION & AIR QUALITY PLANNING COUNCIL, as follows:

SECTION 1. The North Front Range Transportation & Air Quality Planning Council hereby adopts the Regionally Significant Corridors report for use in the 2035 Regional Transportation Plan update process and for other relevant purposes.

SECTION 2. This Resolution shall become effective immediately upon passage and approval.

Passed and adopted at the regular meeting of the North Front Range Transportation & Air Quality Planning Council held this September 7, 2006.

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Milan Karspeck, Chair

ATTEST:

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Cliff Davidson, Executive Director



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## TABLE OF CONTENTS

	<u>Page</u>
<b>INTRODUCTION</b> -----	<b>1</b>
Background of Regionally Significant Corridors (RSC)-----	1
Process -----	1
Purpose of Report -----	2
<b>IDENTIFICATION OF CORRIDORS</b> -----	<b>3</b>
Definition of Regionally Significant -----	3
Definition Criteria-----	3
Grouped Corridors -----	4
<b>TIERING</b> -----	<b>9</b>
Safety -----	10
Congestion -----	11
Accessibility -----	12
Freight -----	12
Public Opinion -----	14
Tiering Summary -----	15
<b>NEXT STEPS</b> -----	<b>16</b>
<b>APPENDIX</b>	

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## LIST OF FIGURES

	<u>Page</u>
Figure 1. 2035 Regionally Significant Corridors-----	5
Figure 2. Regionally Significant North-South Corridors -----	7
Figure 3. Regionally Significant East-West Corridors-----	8
Figure 4. Classification Count Locations -----	13

## LIST OF TABLES

Table 1. Regionally Significant Corridors -----	6
Table 2. Safety Results -----	10
Table 3. Congestion Results -----	11
Table 4. Accessibility Results -----	12
Table 5. Freight Results -----	13
Table 6. Public Opinion Results -----	14
Table 7. Tiering Summary (Normalized) -----	15
Table 8. RSC Tiers -----	15

## INTRODUCTION

### *Background of Regionally Significant Corridors (RSC)*

The concept of regionally significant corridors was initiated as part of the 2025 Regional Transportation Plan (RTP). The North Front Range Metropolitan Planning Organization (NFRMPO) wanted to focus the limited transportation dollars where the most benefit for the expenditure of those funds would be received.

This strategy was important for project selection as the scoring was weighted for projects that fit the regionally significant focus. A map was developed in conjunction with the 2025 Plan identifying the regionally significant corridors.

The 2030 RTP further refined this process by creating a project eligibility requirement stating that projects must be on or benefit a regionally significant corridor. A subcommittee was formed to look at corridors as they related to the six categories of projects in the RTP: Highway, Rail, Bicycle/Pedestrian, Transportation System Management, Transportation Demand Management, and Transit.

These corridors were then grouped around the predominant state highway and associated parallel facilities. These grouped corridors then went through a corridor visioning process that developed a vision, goals, and strategies for each of the grouped corridors.

The MPO Council is supportive of continuing the corridor visioning process in the 2035 RTP. The grouped corridor concept has been retained in this round of regionally significant corridors. The 2035 RTP will take the RSC concept one step further; it will be a corridor-based plan rather than a project-based plan.

### *Process*

The NFRMPO Technical Advisory Committee (TAC) is the primary stakeholder group that worked to create this document. The TAC is made up of staff representatives from each of the member governments as well as a Colorado Department of Transportation (CDOT) staff member. This standing committee makes recommendations to the NFR Planning Council, and the NFR Planning Council is responsible for the formal adoption of the RSC document.

The NFRMPO felt it was important to include other stakeholders in the development of the RSC. An ad hoc advisory committee was formed, comprised of economic development representatives, land use planners, environmental agency representatives, and developers from around the region. This advisory committee served to review the proposed regionally significant corridors development process. Recommendations from this committee were forwarded to the TAC for their consideration. This group met in October 2005 to review the process and submit comments for TAC consideration.

A public opinion survey was also administered to understand the public's perception of the regionally significant corridors. The survey results were forwarded to the TAC and the Planning Council for their consideration in the development of the RSC.

The four steps for this RSC process are as follows:

- ▶ Definition of Regionally Significant
- ▶ Definition Criteria
- ▶ Corridor Grouping
- ▶ Tiering

This document will serve as the foundation for future work in the Regional Transportation Plan; a separate approval by the MPO Council will be required for the RTP.

This process of reviewing the regionally significant corridors has been performed in conjunction with the Regional Transportation Plan cycle which is every four years under current legislation.

### *Purpose of Report*

The purpose of this report is to identify regionally significant corridors within the North Front Range, perform a logical grouping of those corridors, and to tier the grouped corridors.

Identification and grouping of the corridors has been done as a part of previous efforts and therefore these elements serve as an update to the prior RSC. The tiering of the grouped corridors is a new component of the RSC process. It serves to identify the top priorities for the region, and to focus the congestion management system and the public involvement on the top tier.

## IDENTIFICATION OF CORRIDORS

### *Definition of Regionally Significant*

A definition of regionally significant corridors sets the groundwork for identifying corridors. The definition encompasses all modes of transportation.

*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.*

### *Definition Criteria*

There are three criteria which have been used to identify regionally significant corridors. They are presented below in rank order.

**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 plans. 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 trips generally are longer with increased likelihood of the roadway connecting 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

Recognizing that the definition criteria above are predominantly geared toward roadways, the railroad and trail corridors were identified using alternative resources.

The basis for developing regional bike/pedestrian corridors was the *Colorado Front Range Trail Corridor Plan*, the development of which included many participants from the North Front Range. These trails were deemed to be regionally significant because of their connections across the region. The trails were further refined by working with the member governments that have river corridors in their municipalities to identify the extent of built versus proposed trails and their alignment.

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The North I-25 Environmental Impact Statement (EIS), in the draft stage, includes an alternative with passenger rail on the existing Burlington Northern Santa Fe (BNSF) line that roughly parallels US 287. The *Eastern Colorado Mobility Study* was used to identify freight routes. The Burlington Northern Santa Fe line that parallels US 287 through Larimer County runs approximately eight trains per day and the Union Pacific line that parallels US 85 in Weld County runs 15 trains per day.

**Figure 1** depicts the 2035 Regionally Significant Corridors which are a result of working with the TAC and applying the definition criteria.

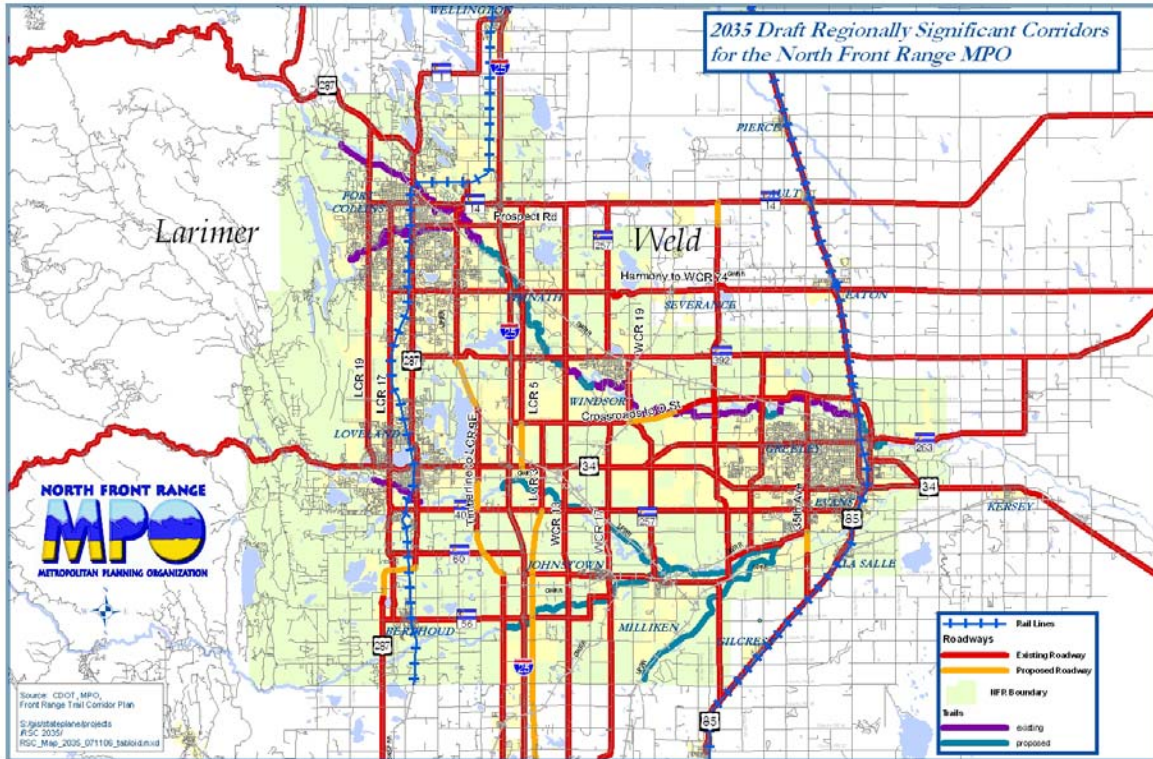
### *Grouped Corridors*

The individual corridors were grouped into logical north/south and east/west groupings. This grouping was performed in the 2030 Regional Transportation Plan and refined in this process. The purpose of the grouping is to recognize that transportation corridors have parallel facilities that both impact and relieve one another and serve a similar travel demand.

The regionally significant corridors have been grouped into 12 corridors. Corridors 1 – 11 include combinations of roadway, railroad, and trail elements. The trail corridors that are within a municipal boundary are included in the respective corridor. The rural portions of the trail corridors are listed separately as rural trails (Corridor 12). The rural trail corridors are not part of the tiering process, but they are included as important connections within the region. The resulting 12 grouped corridors are described in **Table 1** and are depicted on **Figures 2 and 3**.



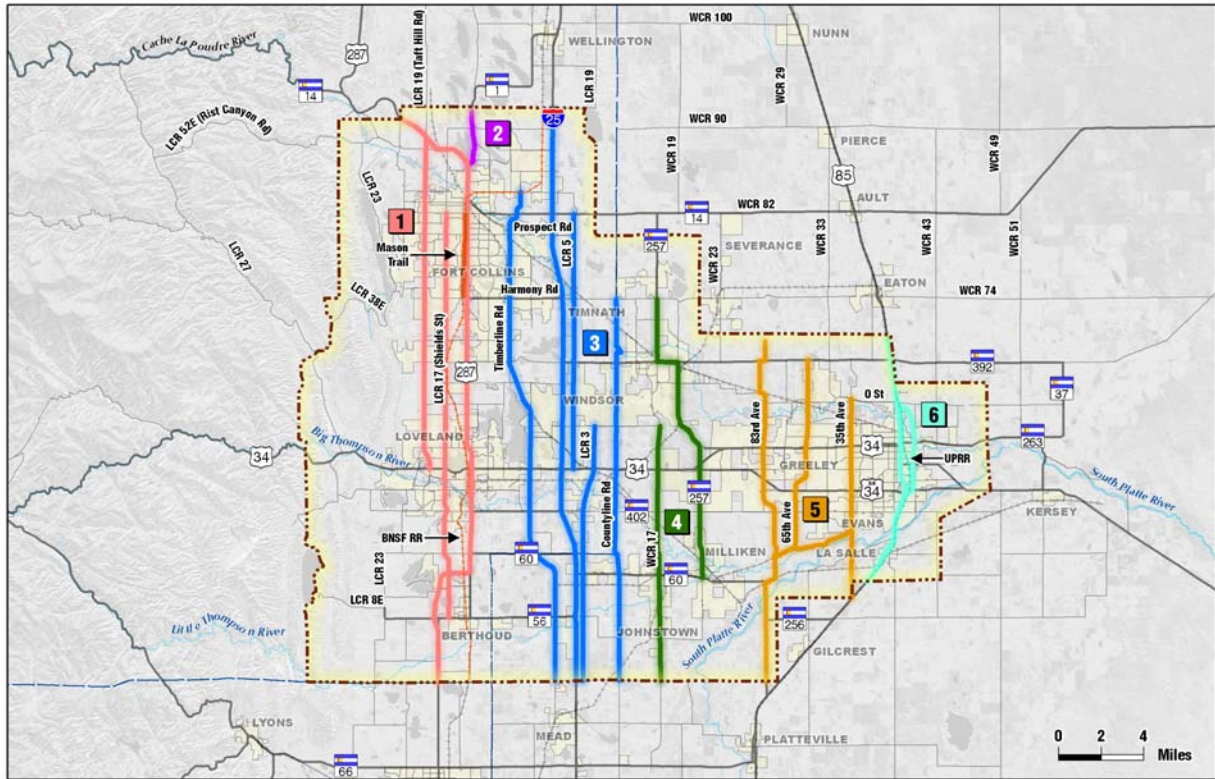
Figure 1. 2035 Regionally Significant Corridors



**Table 1. Regionally Significant Corridors**

Name	Description
<b>Corridor 1</b>	<b>US 287</b>
Burlington Northern SanteFe (BNSF) and Mason Trail corridor	Approximately parallels US 287 to Vine Dr in Fort Collins, turns E to parallel I-25 (freight & potential passenger rail)
US 287	Edge of MPO boundary on N to edge of MPO boundary on S Includes Berthoud Bypass
LCR 19	US 287 on N to US 34 on S
LCR 17	SH 14 on N to SH 56 on S
<b>Corridor 2</b>	<b>SH 1</b>
SH 1	From Wellington on N to US 287 on S
<b>Corridor 3</b>	<b>I-25</b>
I-25	Edge of MPO boundary on N to edge of MPO boundary on S
Timberline/LCR 9e/WCR 7	Vine Dr on N to edge of MPO boundary on S. Follows Timberline to LCR 9e (road approximate) to WCR 7
LCR 5	SH 14 on N to US 34 on S
LCR 3	Crossroads Blvd on N to edge of MPO boundary on S
WCR 13	SH 14 on N to edge of MPO boundary on S
<b>Corridor 4</b>	<b>SH 257</b>
WCR 17	Crossroads extension on N to edge of MPO boundary on S
SH 257	SH 14 on N to SH 60 on S - includes offset in Windsor
<b>Corridor 5</b>	<b>Two Rivers Parkway</b>
Two River Parkway/83rd Ave	MPO boundary on N to edge to MPO boundary on S - approximately WCR 27
65th Ave (Greeley)	SH 392 on N to 54th St on S
35th Ave (Greeley)	O Street on N to US 85 on S
<b>Corridor 6</b>	<b>US 85</b>
US 85	N of WCR 70 to WCR 48
US 85 Business	US 85 to US 34
Union Pacific Railroad (UPRR)	Approximately parallels US 85 through MPO
<b>Corridor 7</b>	<b>SH 14</b>
Poudre River Trail	NW corner of MPO Boundary to junction with South Platte
SH 14	LCR 19 on W to MPO boundary on the east
<b>Corridor 8</b>	<b>Prospect Rd</b>
Spring Creek Trail	From Horsetooth Reservoir to junction of Poudre River
Prospect Road (Ft Collins)	US287 on W to LCR 5 on E
<b>Corridor 9</b>	<b>SH 392</b>
Harmony Rd/WCR 74 (Ft Collins/Weld Co.)	LCR 17 to WCR 21
SH 392	US 287 on W to US 85 on E
Poudre River Trail	SH 392 on W to SH 257 on E (through Windsor)
<b>Corridor 10</b>	<b>US 34</b>
Big Thompson Trail	US 34 on W to US 287 on E (through Loveland)
Crossroads/O St	I-25 on W to US 85 on E
US 34	W edge of MPO boundary to E edge of MPO boundary
US 34 Business	US 34 to E edge of MPO boundary
SH 402	LCR 17 to US 85
<b>Corridor 11</b>	<b>SH 60/SH 56</b>
SH 60	LCR 17 to Two Rivers Pkwy
SH 56	US 287 to WCR 17
<b>Corridor 12</b>	<b>Rural River Corridors</b>
Rural River Trail Corridors	Various river trail corridors that include Big Thompson, Little Thompson, Cache la Poudre, and South Platte. This corridor is the portions of the river trails, either existing or planned, but are outside of a municipal boundary.

Figure 2. Regionally Significant North-South Corridors

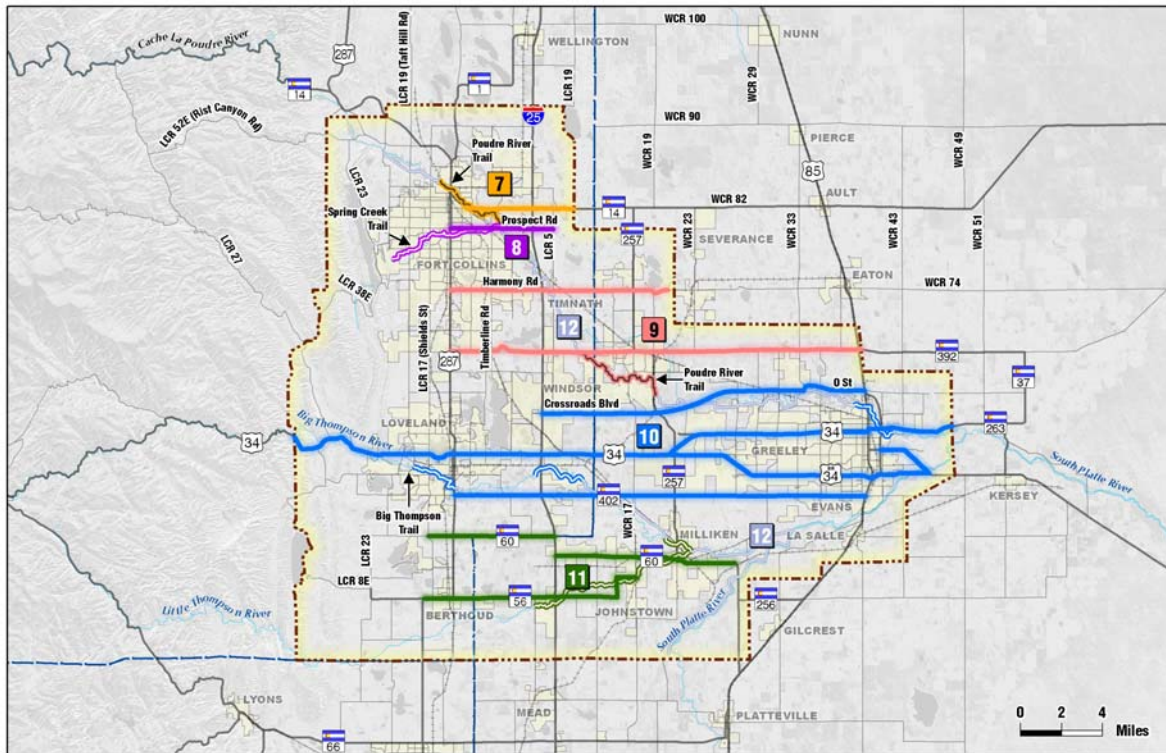


**LEGEND**

- North Front Range Boundary
- Bike / Pedestrian Trails
- Rail Lines

North Front Range 2035 Regional Transportation Plan

**Figure 3. Regionally Significant East-West Corridors**



- LEGEND**
- North Front Range Boundary
  - Bike / Pedestrian Trails
  - Rural Bike / Pedestrian Trails



North Front Range 2035 Regional Transportation Plan



### **TIERING**

The purpose of dividing the Regionally Significant Corridors into tiers is to identify the top priority corridors, and to focus the Congestion Management System (CMS), corridor visions, goals and strategies, and the public involvement effort. The TAC has worked extensively to develop a series of measures upon which to base the corridor tiering. The five tiering measures that have been established include:

- ▶ Safety
- ▶ Congestion
- ▶ Accessibility
- ▶ Freight
- ▶ Public Opinion

Corridor 12, the rural trails corridor, has been excluded from the tiering process because the tiering measures generally are not applicable to bicycle/pedestrian trails. Each of the remaining eleven corridors were evaluated based on the five measures. Where data was available, both existing and future data were incorporated into the calculations. For each measure, the results have been normalized such that the corridor that received the highest score in each category received a normalized score of 1.0. The remaining corridors were normalized based on their score relative to the highest scoring corridor. The following sections document the data sources and the procedure used for each of the five tiering measures.

*Safety*

Accident data for all roadways in the Regionally Significant Corridors (both state highways and non-state highways) were collected from the CDOT. The accident data covered a five year period from 1999 to 2003. The safety measure was based on the accident rates within each corridor, that is, the number of accidents per million vehicle miles of travel (VMT). Since most corridors include several roadways with varying levels of traffic, the accident rates were weighted based on the current traffic volume on each segment of roadway within the corridor. Additionally, the accident rates were weighted based on the severity of the accident, as follows:

- ▶ Property Damage Only (PDO) accidents = 1
- ▶ Injury accidents = 5
- ▶ Fatal accidents = 12

**Table 2** shows the resulting accident rates for each of the eleven corridors along with the normalized score.

**Table 2. Safety Results**

Corridor	Description	Weighted Accident Rate <sup>1</sup>	Normalized Score
1	US 287	6.99	0.82
2	SH 1	5.99	0.70
3	I-25	6.71	0.79
4	SH 257	4.32	0.51
5	Two Rivers Pkwy	7.36	0.86
6	US 85	6.51	0.76
7	SH 14	8.52	1.00
8	Prospect	6.69	0.79
9	SH 392	3.91	0.46
10	US 34	5.21	0.61
11	SH 60/SH 56	4.81	0.56

<sup>1</sup> Accidents per million vehicle miles of travel weighted based on accident severity (PDO = 1, Injury = 8, Fatal = 12)

## Congestion

The congestion evaluation was based on two measures from the NFR travel demand model. The first measure, congested vehicle miles of travel (VMT), was calculated as the VMT along each corridor at level of service (LOS) E or F during the PM peak period. The second measure, travel time delay, was calculated as the total vehicle hours of travel (VHT) less the free-flow VHT during the PM peak period. For both measures, a calculation was made for the base year (using the 2000 travel demand model) and the future (using the 2030 travel demand model). The results are shown in **Table 3**. The normalized score represents an average of the normalized scores for each of the four measures within the congestion evaluation.

**Table 3. Congestion Results**

Corridor	Description	Congested VMT <sup>1</sup>		Travel Time Delay <sup>2</sup>		Normalized Score
		2000	2030	2000	2030	
1	US 287	74,759	232,184	1,466	8,276	0.88
2	SH 1	0	0	2	85	0.00
3	I-25	7,238	448,287	960	6,043	0.62
4	SH 257	0	0	27	986	0.03
5	Two Rivers Pkwy	0	3,218	24	279	0.01
6	US 85	0	117,916	103	1,186	0.12
7	SH 14	0	35,173	269	1,053	0.10
8	Prospect	4,424	30,234	73	338	0.05
9	SH 392	11,049	109,115	266	2,323	0.21
10	US 34	32,185	310,905	633	4,468	0.52
11	SH 60/SH 56	0	32,216	57	911	0.06

<sup>1</sup> Vehicle miles of travel (VMT) at LOS E or F during the PM peak period  
<sup>2</sup> Total vehicle hours of travel (VHT) less free-flow VHT during the PM peak period

Note: Normalized score does not equal 1.0 due to averaging four criteria.

## Accessibility

The accessibility measure represents a surrogate measure for the opportunity for transit and bicycle/pedestrian facilities based on the density within each corridor. The density has been defined as population plus employees per acre within a ¼ mile buffer of each element of the corridor. This measure accounts for all elements of the Regionally Significant Corridors, including roadways, railroads, and bicycle/pedestrian facilities. The 2035 NFR land use model was used to calculate the existing (2005) and future (2035) densities of the corridors. The accessibility results and the normalized scores are shown in **Table 4**. The normalized score is the average of the normalized score for the existing and future density measures.

**Table 4. Accessibility Results**

Corridor	Description	Density (people per acre) <sup>1</sup>		Normalized Score
		2005	2035	
1	US 287	3.07	3.75	0.69
2	SH 1	2.05	2.17	0.43
3	I-25	0.52	1.86	0.24
4	SH 257	0.60	1.12	0.17
5	Two Rivers Pkwy	0.93	1.75	0.27
6	US 85	2.57	2.51	0.52
7	SH 14	2.96	3.17	0.62
8	Prospect	4.83	4.98	1.00
9	SH 392	0.97	1.15	0.22
10	US 34	1.65	2.62	0.43
11	SH 60/SH 56	0.81	1.81	0.27

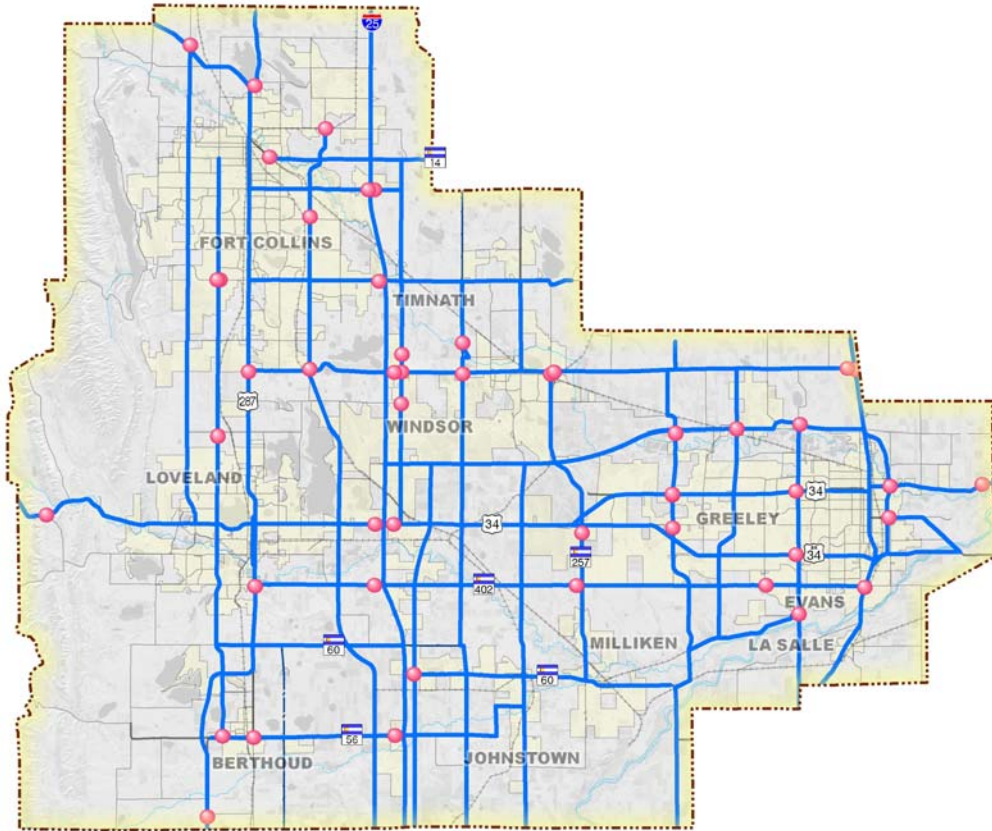
<sup>1</sup> Population + Employees within ¼ mile of corridor

## Freight

Classification counts have been recorded on various segments of the Regionally Significant roadway Corridors by the NFRMPO and by CDOT in 2003-2006. **Figure 4** shows the classification count locations. As shown, counts were recorded on all roadway RSCs with the exception of WCR 17. The count on I-25 was located slightly south of the NFR boundary (south of SH 66) and therefore does not show up on **Figure 4**. The average daily truck volume on each segment of the corridor was weighted by the lane-miles of the individual roads to account for roadways that carry heavy truck volumes over a long distance. The resulting average daily truck volumes and the normalized scores are shown in **Table 5**.



**Figure 4. Classification Count Locations**



**Table 5. Freight Results**

Corridor	Description	Existing Average Daily Truck Volume	Normalized Score
1	US 287	908	0.21
2	SH 1	218	0.05
3	I-25	4,321	1.00
4	SH 257	596	0.14
5	Two Rivers Pkwy	129	0.03
6	US 85	3,095	0.72
7	SH 14	1,686	0.39
8	Prospect	292	0.07
9	SH 392	1,120	0.26
10	US 34	1,590	0.37
11	SH 60/SH 56	357	0.08

*Public Opinion*

Data from the 2005 NFR Regional Corridor Public Opinion Survey was used as the final measure in tiering the corridors. Participants were asked which corridor they thought should receive the highest overall priority for improvements. The percent of respondents who selected a corridor as one of their top three choices is shown in **Table 6**, along with the normalized public opinion score.

**Table 6. Public Opinion Results**

Corridor	Description	Percent <sup>1</sup>	Normalized Score
1	US 287	29%	0.37
2	SH 1	5%	0.06
3	I-25	78%	1.00
4	SH 257	3%	0.04
5	Two Rivers Pkwy	6%	0.08
6	US 85	17%	0.22
7	SH 14	21%	0.27
8	Prospect	22%	0.28
9	SH 392	14%	0.18
10	US 34	70%	0.90
11	SH 60/SH 56	3%	0.04

<sup>1</sup> Percent of respondents who selected the corridor as one of their top three choices for highest overall priority for improvements.

### *Tiering Summary*

Each of the five measures was given equal weight. The final score for each corridor is the average of the normalized scores in each of the five measures. **Table 7** provides a summary of the tiering results.

**Table 7. Tiering Summary (Normalized)**

Corridor	Description	Safety	Congestion	Accessibility	Freight	Public Opinion	Average
1	US 287	0.82	0.88	0.69	0.21	0.37	<b>0.59</b>
2	SH 1	0.70	0.00	0.43	0.05	0.06	<b>0.25</b>
3	I-25	0.79	0.62	0.24	1.00	1.00	<b>0.73</b>
4	SH 257	0.51	0.03	0.17	0.14	0.04	<b>0.18</b>
5	Two Rivers Pkwy	0.86	0.01	0.27	0.03	0.08	<b>0.25</b>
6	US 85	0.76	0.12	0.52	0.72	0.22	<b>0.47</b>
7	SH 14	1.00	0.10	0.62	0.39	0.27	<b>0.48</b>
8	Prospect	0.79	0.05	1.00	0.07	0.28	<b>0.44</b>
9	SH 392	0.46	0.21	0.22	0.26	0.18	<b>0.27</b>
10	US 34	0.61	0.52	0.43	0.37	0.90	<b>0.57</b>
11	SH 60/SH 56	0.56	0.06	0.27	0.08	0.04	<b>0.20</b>

The average score shown on the right hand column of Table 7 was used to develop the three Regionally Significant Corridor tiers. The division of corridors between the three tiers was based on the logical breakpoints in the data. The three tiers are shown in **Table 8**.

**Table 8. RSC Tiers**

Tier 1	Tier 2	Tier 3
I-25 (0.73) US 287 (0.59) US 34 (0.57)	SH 14 (0.48) US 85 (0.47) Prospect (0.44)	SH 392 (0.27) SH 1 (0.25) Two Rivers Pkwy (0.25) SH 60/SH 56 (0.20) SH 257 (0.18)

### **NEXT STEPS**

The purpose of this report is to document the identification, grouping, and tiering of the Regionally Significant Corridors. With the tiers of RSCs in place, the NFRMPO can move forward in the 2035 regional transportation planning process, using the RSC tiers as a basis. The Congestion Management System will be focused on identifying solutions for the congested sections of the Tier 1 corridors. While corridor visions, goals, and strategies will be included for RSCs, the Tier 1 corridors will include more detailed visions. The public involvement will focus on the Tier 1 corridors, although input related to Tiers 2 and 3 will also be encouraged.

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### APPENDIX

#### Colorado Department of Transportation Corridor Visioning

The Colorado Department of Transportation (CDOT) has included in the revised Regional Transportation Planning Guidebook, a new component called Corridor Visioning. The Regionally Significant Corridors (RSC) report was designed to define what an RSC is and the criteria for making that determination. Once the corridors are identified, they will be further examined in the 2030 Plan process through the following steps:

**Corridor:** A Transportation System that includes all modes and facilities within a described geographic area, having length and width.

**Vision:** Desired future of transportation within a corridor.

**Performance Objective:** A measurable condition which when achieved indicates progress toward the vision.

**Strategy:** A program or other action that can be taken to assist in meeting corridor objectives.

**Project:** A specific program or action for a specific location.

CDOT training overview of Corridor Visioning:

#### **What is the Concept?**

- Presents Long-range Transportation “Vision” for Statewide Corridors
- Integration of Corridors Will Create a System Vision
- Provides a Linkage Between the Vision, Goals and Strategies

#### **How Will Corridor Visions Be Developed?**

- **Collaboration** = MPO/CDOT Jointly Develop Multi-modal Corridor Visions
- **Vision** = Community Values + Local, Regional and Statewide Transportation Needs

#### **How Regional Plan Projects Link to Corridor Visions**

- Proposed Projects in a Corridor Should Support and Advance the Corridor Strategies, Goals and Visions.
- If the Project, Strategies, Goals and Vision Are Not Consistent, the Vision Structure or the Project Needs to be Revisited.

Identified regionally significant corridors may split into segments.