NORTH I-25 EIS

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Environmental Impact Statement

CONGESTION MANAGEMENT ALTERNATIVE

A Technical Report
to Accompany Level 2 Screening Analysis

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Final Report

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1. Introduction

The Federal Planning Regulations require that highway projects consider congestion management as part of the NEPA alternatives evaluation within attainment / maintenance areas for air quality. Congestion management can be defined as a series of low cost tools used to reduce travel demand or better accommodate existing traffic volumes without building additional physical capacity into the roadway network. Each application of congestion management concepts can use different tools to achieve the overall goal of reducing congestion. The overall congestion management toolbox consists of various elements such as local transit improvements, carpool and vanpool systems, signal modifications, and intelligent transportation system (ITS) elements. Because the focus of the congestion management report was the North I-25 facility, the analysis focused on reducing congestion on North I-25 only.

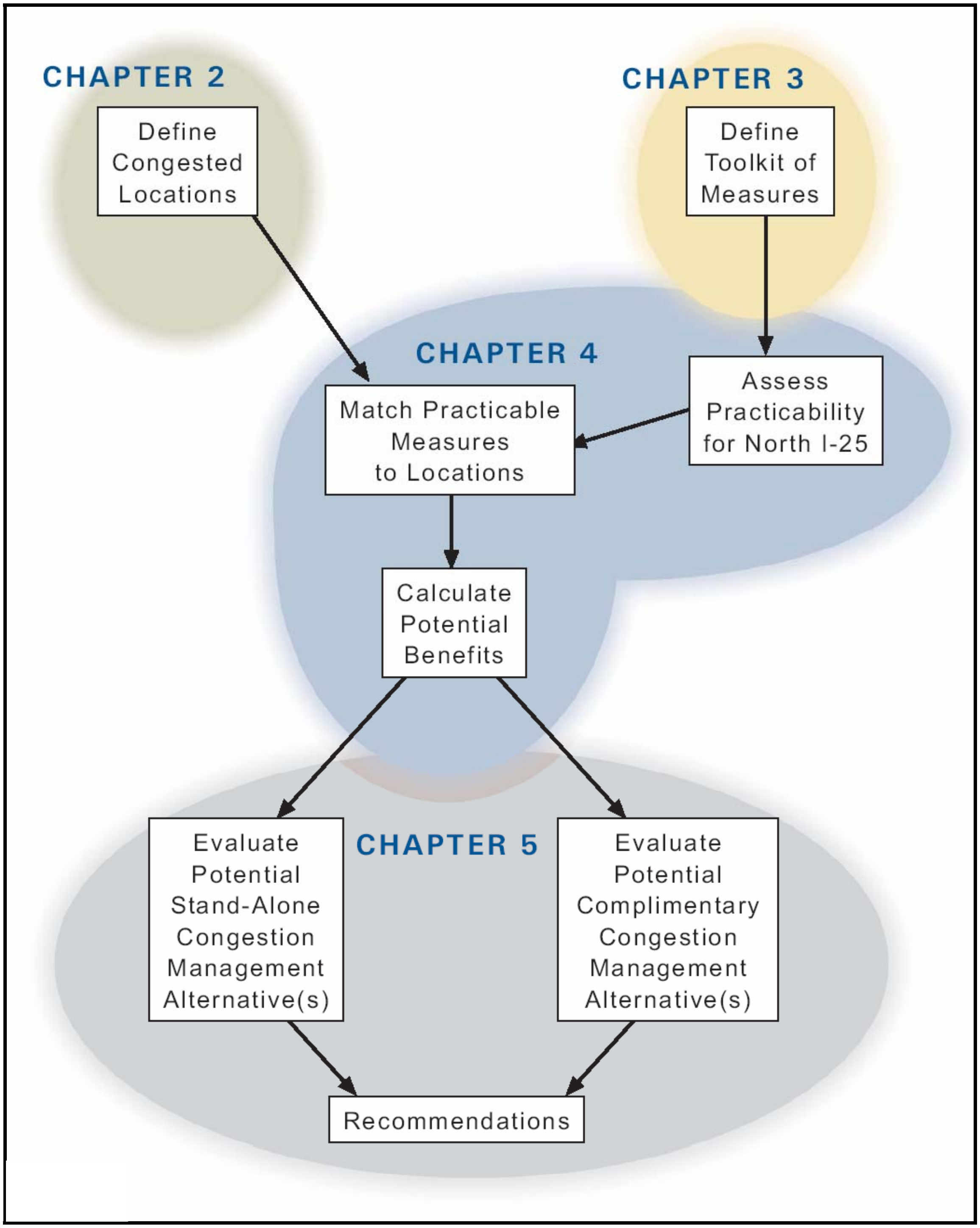
Within the state of Colorado, the Colorado Department of Transportation (CDOT) has developed a *Transportation Demand Management Toolkit*[1] that outlines many of these strategies and how they may apply within the state. Interstate-appropriate congestion management strategies were selected from the CDOT Toolkit, and analyzed as part of Level 2 Screening for the North I-25 EIS.

The strategies have been analyzed both independently and in a group, referred to as the Congestion Management Alternative. This alternative assumes that applicable strategies are only implemented on the I-25 facility. In later stages of the project analysis, the strategies may also be recommended on other roads within the study corridor. At this point, however, this analysis depicts the Congestion Management Alternative's potential to advance as a stand-alone alternative in the Level 2 Screening of I-25.

Figure 1 outlines the methodology used to develop the congestion management recommendations for the North I-25 EIS. Refer to the appropriate chapters for more information. As shown in the flowchart, the final recommendations are reflected in the last chapter of this technical report.

[1] Transportation Management Demand Toolkit, Colorado Department of Transportation, October 2002.

Figure 1
Methodology Flow Chart



2. Congested Facilities

A key element of congestion management tools is that they address specific congestion issues. In order to apply them to a project, congested locations need to be identified. For the purposes of the North I-25 EIS, the team identified congested locations using the project's 2030 regional travel demand model. The travel demand model is a tool used to forecast future travel within a defined area (including the project's study area), and estimate future volumes on roadways and transit systems. The No-Action transportation network was assumed as the future scenario for the analysis of congested locations.

Congestion was defined as roadway segments that exhibited a volume-to-capacity (V/C) ratio of 0.90 or greater, based on results from the travel demand model. Volume-to-capacity ratio is a traffic engineering measure that relates the amount of traffic on a roadway (the "volume") with the available lanes on the facility (the "capacity"), resulting in a ratio. As the ratio increases, the traffic fills more and more of the roadway, until there is no more room for additional vehicles at a v/c ratio of 1.00. Typical industry-wide practice dictates that v/c ratios below 0.70 are considered acceptable, operations at v/c ratios between 0.70 and 0.90 are beginning to deteriorate, v/c ratios between 0.90 and 1.00 typically indicate congestion, and v/c ratios over 1.00 indicate situations where demand volume exceeds available capacity.

As shown in Table 1 and in Figure 2 and Figure 3, according to the regional travel model, AM and PM peak hour directional volume to capacity ratios on I-25 in 2030 will generally exceed 0.90; the congested segments have been highlighted for further analysis.

Table 1 2030 North I-25 AM And PM Volume/Capacity Ratios				
	2030 Volume-to-Capacity (V/C) Ratios			
LOCATION	AM Peak Hour		PM Peak Hour	
	Northbound	Southbound	Northbound	Southbound
NORTH OF SH 1	0.43	0.32	0.49	0.31
MOUNTAIN VISTA TO SH 1	0.28	0.44	0.38	0.32
SH 14 TO MOUNTAIN VISTA	0.47	0.79	0.66	0.55
SH 14 TO SH 68	0.99	0.89	0.95	0.96
SH 68 TO SH 392	1.36	1.01	1.07	1.19
SH 392 TO SH 34	1.26	1.00	1.06	1.15
SH 34 TO SH 402	1.41	0.76	1.07	1.25
SH 402 TO SH 60	1.22	0.88	1.02	1.14
SH 60 TO SH 60	1.22	0.88	1.02	1.09
SH 60 TO SH 56	1.22	0.97	1.03	1.07
SH 56 TO GREAT WESTERN	0.94	0.98	1.02	1.01
GREAT WESTERN TO SH 66	0.86	1.03	1.02	0.94
SH 66 TO SH 119	0.57	0.71	0.66	0.62
SH 119 TO SH 52	0.69	0.90	0.84	0.80
SH 52 TO UNION PACIFIC	0.79	1.09	1.02	0.93
UNION PACIFIC TO SH 7	0.93	1.22	1.15	1.03
SH 7 TO E-470	1.27	1.19	1.02	1.24
E-470 TO 120TH AVENUE	1.07	1.12	1.05	1.05
120TH AVENUE TO US 36	0.97	1.39	1.28	1.11
US 36 TO I-70	1.03	1.14	1.19	0.97
I-70 TO DENVER UNION STATION	1.01	1.10	1.15	1.03

Figure 2
AM Peak Volume to Capacity 2030 Ratios

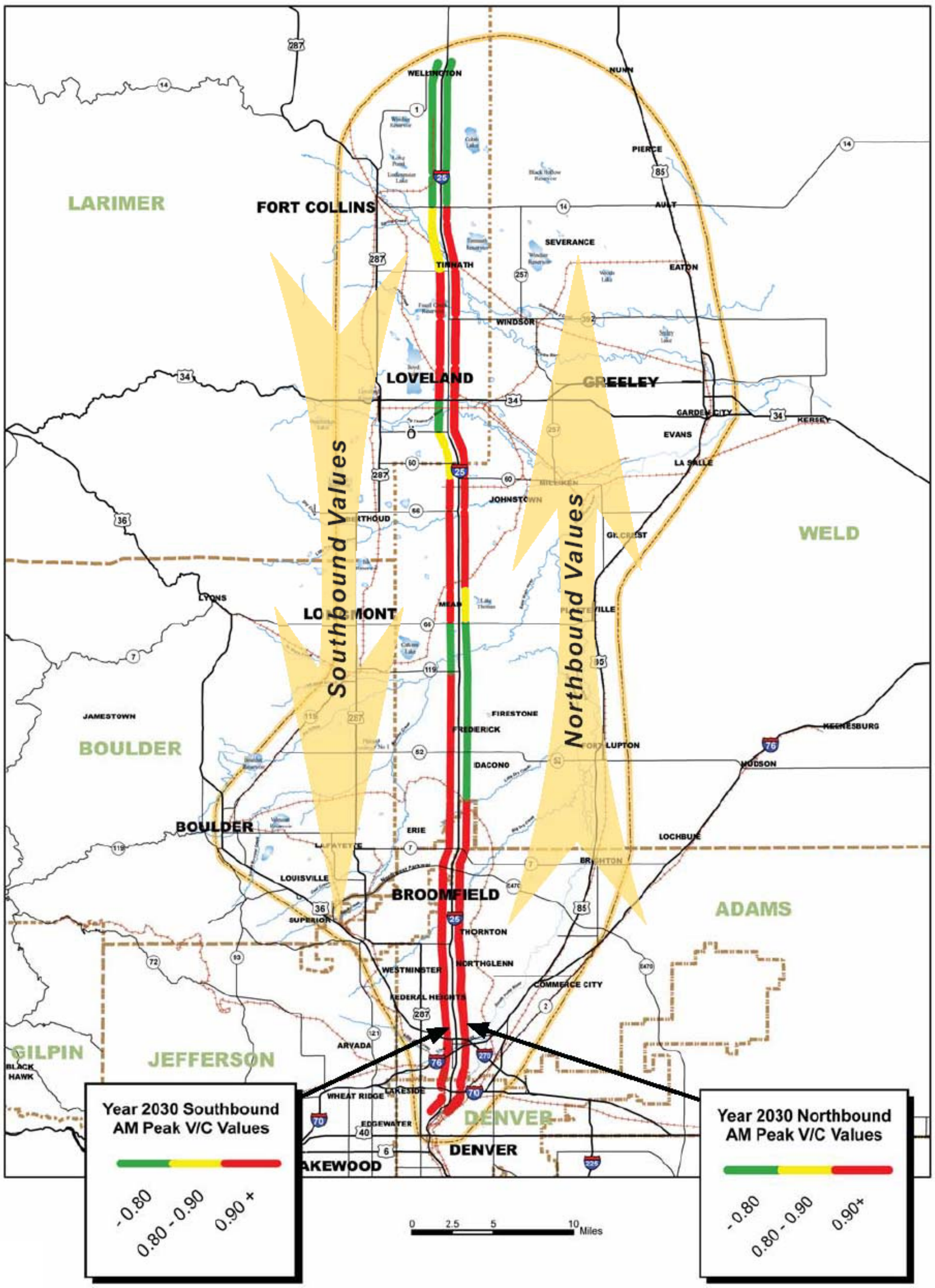
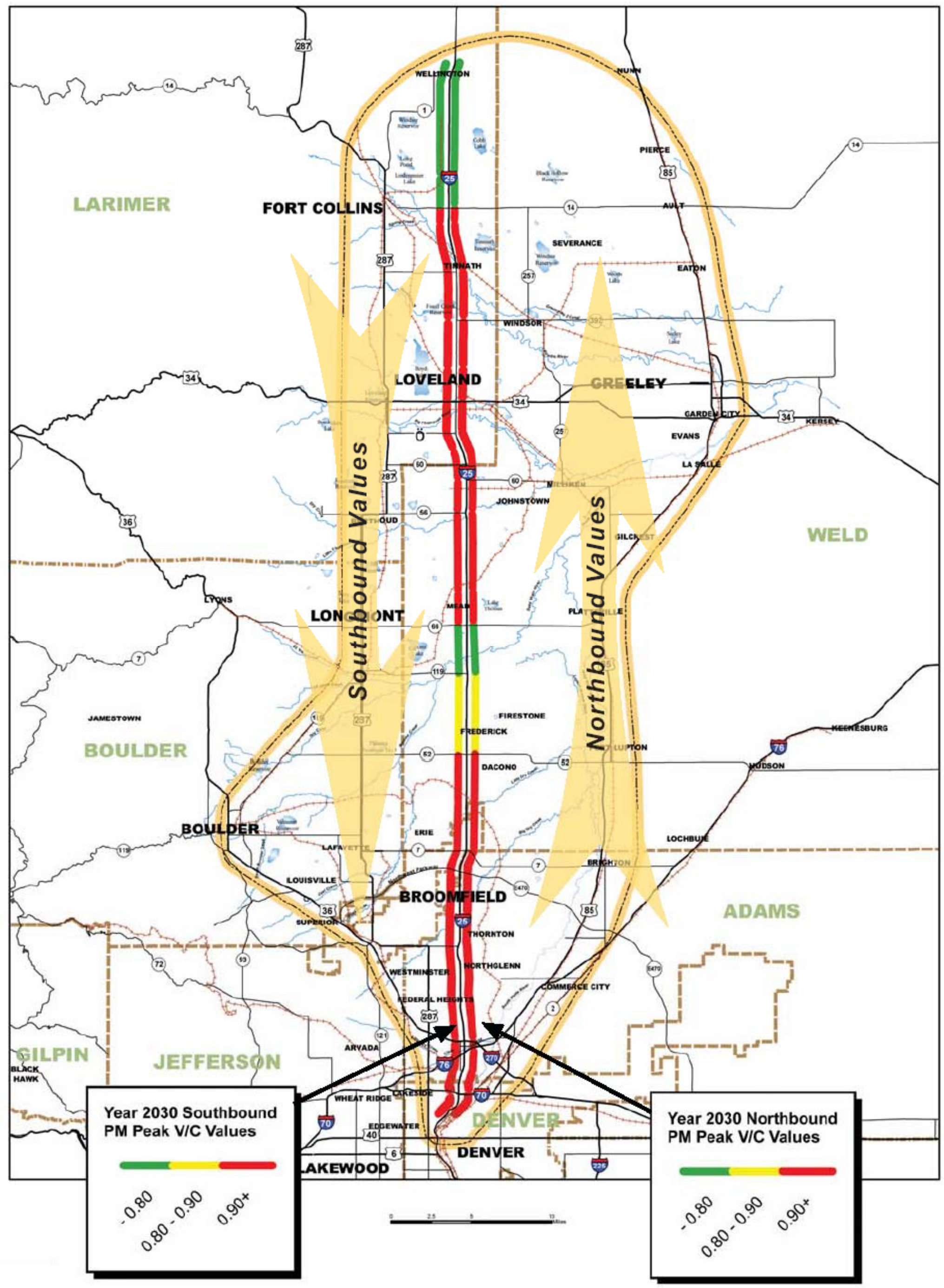


Figure 3
PM Peak Volume to Capacity 2030 Ratios



3. Congestion Management Strategies

Managing congestion can include several approaches: reducing the overall level of trips, implementing signal timing changes and other low cost capital improvements, and reducing the level of delay that results from incidents. This section presents the various congestion management strategies applicable to an interstate facility only; (but there are additional congestion management strategies that could be considered for other signalized facilities.) They have been grouped into three overall categories:

- Transportation Demand Management (TDM)
- Transportation System Management (TSM)
- Intelligent Transportation Systems (ITS)

The following sections provide a description of each kind of congestion management alternative, as well as the applicable methods that can be selected for implementation. For more information, see CDOT's *Transportation Demand Management Toolkit*. Transportation Systems Management, Travel Demand Management and Intelligent Transportation Systems methods are often defined and grouped interchangeably. For this technical report, they have been defined and classified to reflect the purpose and approach specific to this study.

As part of the process of developing specific congestion management strategies, the project team had eight meetings with twelve jurisdictions in the study area. Appendix B documents the input obtained from each of the jurisdictions.

3.1 Transportation Demand Management (TDM)

Definition:

1. "TDM refers to various strategies that change travel behavior (how, when, and where people travel) in order to increase transportation system efficiency and achieve specific objectives, such as reduced traffic congestion, road and parking cost savings, and increased safety."

2. "A wide range of programs and services that provide options to driving alone; improved mobility for non-drivers, energy conservation and pollution emission reductions."

Purpose:

Decrease total trips and/or VMT overall and during the peak periods.

Typical conditions:

- Diminishing level of service (LOS) on local and regional roads and highways;
- Public interest in alternative modes of travel to work or other destinations;
- Business, neighborhood, and employer interest in ease of access;
- Parking shortages;
- Increased complaints about mobility, safety, or driving conditions;
- Need to maximize the effectiveness of a new transportation investment.

Methods:

Public transit: Passenger service using bus or rail vehicles offered to the general public with the following characteristics: predetermined schedules, standard fares and local or regional service. (In this case, bus service would be assumed, as it would not require any physical expansion of existing facilities.)

> <u>Express service:</u> runs in large arterial streets or freeways and stops infrequently, providing a travel time advantage over local bus service. With the addition of park-and-ride facilities, it can expand the capture area of transit service from within a quarter mile up to anywhere within five miles of the service route.

Ridesharing: Formal or informal agreements between neighbors or co-workers to share a vehicle and driving responsibilities from an agreed upon formal or informal park-n-Ride facility to their common destination. Several ridersharing programs are already sponsored by the North Front Range Metropolitan Planning Organization as part of the SMART Trips program, and are described below.

> *Carpools* are agreements between two or more people to ride to their common destination together. Carpools can form and be sustained without formal assistance, or rideshare "matches" can also be made through a ridesharing database of willing participants managed by a regional transportation agency. There are over 1600 participants in the carpool matching database with an average 5% match rate and a VMT savings of almost 600,000.[2]

> *Vanpools* are more formal agreements between groups of 6-15 participants to lease a van from the regional transportation authority, designate a driver, and use the van to reach their common destination. Vans are procured and maintained, and participants can be matched and organized by regional transportation agencies. The VanGO vanpool program, currently runs more than 30 vans and saves more than five million VMT annually.[3]

Telecommuting: Arranging the capability to telecommute, thereby avoiding driving during peak-hour traffic, or perhaps avoiding having to make the trip to work at all.

Land Use Policies: The implementation and enforcement of land use policies intended to encourage/require development to increase mobility for residents and businesses by creating land use-transportation connections (creating a range of housing choices; creating walkable neighborhoods; encouraging community collaboration; fostering distinctive, attractive communities; making development decisions predictable, fair and cost-effective; mixing land uses; preserving open spaces; providing a variety of transportation choices; and strengthening and directing development towards existing communities.) More information about these techniques is included in Appendix A.

[2] North Front Range 2030 Regional Transportation Plan. Congestion Management System: Transportation Demand Management Program." p. 36

[3] Ibid.

3.2 Transportation System Management (TSM)

Definition: Roadway-based solutions that decrease delay during the peak periods. **Purpose:** Reduce delay from high traffic volumes or obstructions within the roadway network.

Typical conditions:

- Increasing trip times
- Increasing complaints about delays
- Increasing accident rate and complaints about safety
- Rapid growth that outpaces transportation facilities expansion and/or improvement

Methods:

Reversible lanes: Conversion of a general purpose lane to a special purpose or restricted access lane based on peak hour traffic flows. The lane may be designated as a High Occupancy Vehicle (HOV) lane, a limited access lane, a High Occupancy Toll (HOT) lane, or some combination of the three. Having been designated, the lane is open to peak hour traffic that meets its usage criteria. The lane is operated in the peak hour direction and reverses each peak period to serve the dominant flow of traffic.

Incident management program: A program developed to reduce delay by removing obstructions caused by incidents (accidents, debris, stalled vehicles, etc.) through the use of a comprehensive incident management service, including towing, alternative route designation, call boxes, traffic control, etc.

Ramp metering: Signals can be placed at freeway ramps to regulate the flow of traffic accessing a highway facility. This reduces delay along the roadway by reducing merging and weaving traffic movements. (HOV, Toll, or HOT bypasses to ramp meters can also be constructed, if warranted and/or applicable to the lane-types on the freeway.)

3.3 Intelligent Transportation Systems (ITS)

Definition:
The use of technology to maximize the efficiency of the existing transportation system.

Purpose:
Reduce delay; improve passenger experience by providing real-time information on vehicle location; and improve service efficiency or roadway throughput by coordinating signal timings.

Typical Conditions:

- Implementation of a fixed guideway or enhanced passenger transit system
- Significant traffic volume differences between peak and non-peak hours
- Designation of a priority thoroughfare for enhanced peak hour/peak direction efficiencies

Methods:

Real Time Transportation Information: Can include static or dynamic information related to traffic condition, real-time transit service or information on trip planning and transportation options accessible to the public through a variety of media including radio, websites, or variable messaging signs. Dynamic information relies on global positioning satellite (GPS) transponders, cameras, and other networking devices to relay information back to the site where travelers can access it.

4. Screening Analysis

This chapter evaluates the congestion management tools defined in Section 3 both qualitatively and quantitatively. First, the congestion management strategies were evaluated using qualitative questions to assess their feasibility. Then, the congestion management tools were matched with congested locations, based on the feasibility results. Finally, a quantitative measure of effectiveness was applied to each congestion management method to try and determine the benefit it could produce if it were implemented.

4.1 Feasibility Screening Analysis

With the exception of carpooling, vanpooling and telecommuting strategies, each of the congestion management methods presented was evaluated according to its feasibility of deriving a benefit compared to the cost involved if the measure were implemented on congested locations of I-25.

Carpooling, vanpooling and telecommuting are not location-specific solutions because communities that encourage ridesharing or telecommuting may not be proximate to the congested location. In addition, because there are already existing ridesharing and telecommuting programs within the North Front Range, sponsored by the NFRMPO, it can be assumed that the programs are feasible.

Evaluating each strategy's feasibility was the first step in determining the most likely congestion management measures for each congested location. The next screening step will determine the potential effectiveness of the congestion management measures. The screening questions are presented below for each potential congestion management method.

Express/Regional Transit Service: Are the congested locations on a roadway that accommodates limited stops and higher travel speeds?

Land Use Policies: Are the congested locations in areas that are planned for new or redevelopment that could incorporate strategic land use and transportation linkage principles?

Reversible Lanes: Does the congested location experience increased traffic volumes, especially during the peak hour in the peak direction?

Incident Management Program: Are the congested locations subject to non-recurring congestion due to incidents at rates higher than normal?

Ramp Metering: Are the congested locations within the vicinity of interchanges?

Real Time Transportation Information: Is there more than one interchange within the congested segment that could provide commuters with access to additional travel routes?

Table 2 summarizes the results of this screening step.

Table 2
Feasibility of Congestion Management Methods by Congested Location

Congestion Management Strategies	SH 14 to SH 68	SH 68 to SH 392	SH 392 to SH 34	SH 34 to SH 402	SH 402 to SH 60	SH 60 to SH 60	SH 60 to SH 56	SH 56 to Great Western
Express Transit Service	Yes	No	Yes	No	Yes	No	No	No
Land Use Policies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Reversible Lanes	No	No	No	No	No	No	No	No
Incident Management Program	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ramp Metering	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Real Time Transportation Information	Yes	No	Yes	No	Yes	No	No	No

Table 2 (cont'd)
Feasibility of Congestion Management Methods by Congested Location

Congestion Management Strategies	Great Western to SH 66	SH 52 to Union Pacific	Union Pacific to SH 7	SH 7 to E-470	E-470 to 120th Avenue	120th Avenue to US 36	US 36 to I-70	I-70 to DUS
Express Transit Service	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Land Use Policies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Reversible Lanes	No	No	No	No	No	No	No	No
Incident Management Program	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ramp Metering	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Real Time Transportation Information	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

As a result of the feasibility screening, reversible lanes were screened out because North I-25 does not exhibit a peak period, peak direction spike in traffic volumes; traffic is almost evenly split in both the north and south directions. Therefore, reversible lanes would not be effective on North I-25.

4.2 Effectiveness Screening Analysis

Table 3 presents the potential level of effectiveness associated with different congestion management methods and alternatives according to regional data, CDOT data and third party research.

Table 3
Congestion Management Strategies Measures of Effectiveness

Strategy	Method	Options	Typical Effectiveness Measure
Transportation Demand Management	Public Transit	Express Service	2 to 3% share of all trips
	Ridesharing	Carpools	11.5% work trips
		Vanpools	5% work trips
	Employer Programs	Telecommuting	4.7% work trips
	Land Use Policies		3% reduction in VMT[4]
Transportation Systems Management	Incident Management Program		5% reduction in delay[5]
Intelligent Transportation Systems	Real Time Transportation Information		22% reduction in VHT[6]

Public transit, ridesharing and telecommuting strategies can consistently reduce single occupant vehicle trips during the peak period, which can directly reduce the volumes associated with congestion.

Potential land use policies, commonly called "Sustainable Growth," can reduce overall Vehicle Miles Traveled (VMT) by co-locating common trip destinations. Appendix A contains more information on Sustainable Growth.

An incident management program can decrease freeway delay by 5 percent. Because travel speeds are related to volume to capacity (V/C) ratios, this has the same effect as if volumes were reduced by 5 percent. However, by definition, incidents are haphazard, and the time savings will

[4] See Appendix 1 for more information.
[5] Time savings are only realized if there has been an incident; this is not a consistent time-saving strategy due to the haphazard nature of incidents. Traffic Congestion and Reliability: Linking Solutions to Problems, Final Report. Cambridge Systematics for FHWA, July 19, 2004.
[6] Time savings are realized only when there is delay; this is not a consistent time-saving strategy due to the changing nature of freeway conditions. Litman, Todd. Guide to Calculating Transportation Demand Management Benefits. Victoria Transport Policy Institute, 1999.

occur only on a case by case basis. Similarly, Real Time Transportation Information decreases VHT, which has the same effect as if volumes were decreased. However, it is better applied to the facility as a whole rather than to individual segments, and is also only effective when incidents occur that cause a need for information on alternative routes. Therefore, because Incident Management and Real Time Transportation Information do not reduce trips overall, but either move them out of the peak, or decrease the delay associated with them, their potential effectiveness was not calculated. *Because they both represent benefits to commuters, they were retained as recommended measures in cooperation with other Congestion Management or Build Alternatives*.

The potential benefit of congestion management measures is calculated by applying the measure of effectiveness to the total number of trips passing through the congested locations. This represents the maximum savings the congestion management strategy could have. Then, after each strategy has been evaluated individually, they are combined to estimate the effectiveness of a comprehensive Congestion Management Alternative: the combined trips reduced from transit, ride-sharing, and telecommuting. The potential benefits, and associated change to volume to capacity ratios, are shown in Table 4 through Table 7.

Table 4
Trip Reduction Due to Express Transit Service

Location	Total Average AM Peak Hour Trips (North and South)	Existing Average V/C (North and South)	Average Peak Hour Benefit (North and South Trips Reduced)	New V/C*	Still congested?
SH 14 to SH 68	7,600	0.95	227	0.92	Yes
SH 392 to SH 34	8,800	1.12	264	1.09	Yes
SH 402 to SH 60	8,400	1.07	252	1.04	Yes
Union Pacific to SH 7	12,100	1.08	363	1.05	Yes
SH 7 to E-470	13,000	1.18	390	1.15	Yes
E-470 to 120th Ave.	11,700	1.07	351	1.04	Yes
120th Ave. to US 36	12,900	1.19	386	1.16	Yes
US 36 to I-70	18,700	1.08	561	1.05	Yes
I-70 to DUS	15,900	1.07	477	1.04	Yes

* Result of calculating the incremental benefit as a percentage of peak hour trips and subtracting that value from the numerator of the V/C ratio.

Table 5 Trip Reduction Due to Carpooling						
Location	**Total Average Peak Hour Trips (North and South)**	**Average Existing V/C (North and South)**	**Total Work Trips (North and South)**	**Average Peak Hour Benefit (North and South Work Trips Reduced)**	**New V/C***	**Still congested?**
SH 392 to SH 34	8,800	1.12	2,640	304	1.08	Yes
Union Pacific to SH 7	12,100	1.08	3,630	417	1.05	Yes
SH 7 to E-470	13,000	1.18	3,900	449	1.15	Yes
E-470 TO 120th Avenue	11,700	1.07	3,510	404	1.04	Yes
120th Avenue to US 36	12,850	1.19	3,855	443	1.15	Yes
US 36 to I-70	18,700	1.08	5,610	645	1.05	Yes
I-70 to Denver Union Station	15,900	1.07	4,770	549	1.04	Yes

*Result of calculating the incremental benefit of work trips as a percentage of work trips, and then calculating that percentage benefit as a percentage of total trips. The final percentage was subtracted from the existing v/c ratio.

Table 6
Trip Reduction Due To Vanpooling

Location	Total Average Peak Hour Trips (North and South)	Average Existing V/C (North and South)	Total Work Trips (North and South)	Average Peak Hour Benefit* (North and South Work Trips Reduced)	New V/C*	Still congested?
SH 392 to SH 34	8,800	1.12	2,640	132	1.10	Yes
SH 52 to Union Pacific	10,750	0.96	3,225	161	0.94	Yes
Union Pacific to SH 7	12,100	1.08	3,630	182	1.07	Yes
SH 7 to E-470	13,000	1.18	3,900	195	1.17	Yes
E-470 to 120th Avenue	11,700	1.07	3,510	176	1.06	Yes
120th Avenue to US 36	12,850	1.19	3,855	193	1.17	Yes
US 36 TO I-70	18,700	1.08	5,610	281	1.07	Yes
I-70 TO Denver Union Station	15,900	1.07	4,770	239	1.06	Yes

*Result of calculating the incremental benefit of work trips as a percentage of work trips, and then calculating that percentage benefit as a percentage of total trips. The final percentage was subtracted from the existing V/C ratio.

Table 7 Trip Reduction Due to Telecommuting						
Location	**Average Total Trips (North and South)**	**Average Existing V/C (North and South)**	**Average Total Work Trips (North and South)**	**Average Peak Hour Benefit (North and South Work Trips Reduced)**	New V/C*	**Still Congested?**
SH 392 to SH 34	8,800	1.12	2,640	124	1.10	Yes
SH 34 to 402	8,900	1.12	2,670	125	1.11	Yes
SH 7 to E-470	13,000	1.18	3,900	183	1.17	Yes
E-470 to 120th Avenue	11,700	1.07	3,510	165	1.06	Yes
120th Avenue to US 36	12,850	1.19	3,855	181	1.17	Yes
US 36 to I-70	18,700	1.08	5,610	264	1.07	Yes
I-70 to Denver Union Station	15,900	1.07	4,770	224	1.06	Yes

*Result of calculating the incremental benefit of work trips as a percentage of work trips, and then calculating that percentage benefit as a percentage of total trips. The final percentage was subtracted from the existing V/C ratio.

According to the data presented in Table 4 through Table 7, none of the individual congestion management strategies, even at their maximum effectiveness, can reduce the volume to capacity ratio to the point of alleviating the congestion.

Table 8 presents the combined effect of the congestion management strategies on the congested locations.

Table 8
Trip Reduction Due to Combined Congestion Management Methods

Location	Estimated Peak Hour Incremental Benefit	New V/C	Still congested?
SH 14 to SH 68	227 Trips	0.92	Yes
SH 392 to SH 34	824 Trips	1.03	Yes
SH 34 to SH 402	125 Trips	1.11	Yes
SH 402 to SH 60	252 trips	1.04	Yes
SH 52 to Union Pacific	161 Trips	0.94	Yes
Union Pacific to SH 7	962 Trips	1.00	Yes
SH 7 to E-470	1,217 Trips	1.09	Yes
E-470 to 120th Avenue	1,096 Trips	0.98	Yes
120th Avenue to US 36	1,203 Trips	1.10	Yes
US 36 to I-70	1,751 Trips	0.99	Yes
I-70 to Denver Union Station	1,489 Trips	0.98	Yes

5. Findings

Although the congestion management strategies, both individually and grouped together, can help address congestion, they will not address the 2030 travel demand on I-25, and additional capacity is warranted.

Congestion management strategies have a limited range of influence in addressing congestion on a regional facility like North I-25. Although some methods can provide additional capacity to roadways by decreasing trips or hours of delay, congestion management methods are targeted to work within only the existing transportation network and cannot improve the physical system or substantially add to its capacity to meet future traffic demands. Congestion management methods cannot completely optimize travel conditions given the constraints built in to the existing system and would not meet purpose and need as a stand-alone alternative

Based on the analysis presented, it is not recommended that the congestion management methods be advanced as a stand-alone alternative. The potential benefits cannot meet the future traffic demand, and will not substantially enhance connectivity or direct travel within the corridor. However, the congestion management methods described can reduce trips, VMT, and VHT. As a result, they are recommended as complementary solutions to be implemented alongside any Build alternative that is selected. In addition, because of its applicability to the growing areas that will help contribute the traffic volumes on I-25, Sustainable Growth measures should continue to be encouraged and coordinated among each of the communities. These measures are documented more thoroughly in Appendix A. Other community-supported strategies are documented in Appendix B.

Table 9 summarizes the congestion management strategies that should be considered to enhance the selected stand-alone alternative.

Table 9
Recommended Congestion Management Strategies as Complementary Improvements

CONGESTION MANAGEMENT STRATEGIES	Along I-25	In Local Communities (Enhancing Access to I-25)	Local Interest*
Express Transit Service	NO	YES	NFRMPO, Longmont, Fort Collins, Loveland, Greeley
Carpool	YES	YES	NFRMPO
Vanpool	YES	YES	NFRMPO
Telecommuting	YES	YES	City/County of Denver
Land Use Policies	YES	YES	City/County of Denver, NFRMPO
Incident Management Program	YES	YES	Thornton, Northglenn, Adams County
Ramp Metering	YES	NO	
Real Time transportation Information	YES	YES	City/County of Denver Broomfield Thornton, Northglenn, Adams County

*Source: Appendix B: Summary of Stakeholder Interviews

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