

Interstate 70 Central Mountain Transportation Corridor Coalition

Recommendations for the I-70 Mountain Corridor on Travel Demand Management

**Submitted by Rural Resort Region
In Cooperation With
Northwest Colorado Council of Governments**



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Executive Summary

You live in Colorful Colorado. So imagine you want to travel from the Front Range to the mountains, lets say Golden to Vail. You leave on a Wednesday morning about 7:00 a.m. and arrive in Vail about 8:30. During the drive you see majestic vistas, historic towns, big horned sheep and average over 60 miles per hour. If you make the same trip on a Saturday morning you will arrive in Vail about 10:00 a.m. and you will experience bumper to bumper traffic, flashing brake lights and average about 35 miles per hour. You have just experienced peak demand travel along Interstate 70.

The Colorado Department of Transportation is planning new construction to address the congestion along I-70. It is a twenty-year plan and at the end of the construction the best that can be said is travel times in 2025 will be the same as they are today - the same on Wednesday and the same on Saturday. The Interstate 70 Central Mountain Transportation Corridor Coalition's (I-70 Coalition) *Recommendations for the I-70 Mountain Corridor on Travel Demand Management*, is an attempt to describe what might be done, starting today, to make the Saturday drive more like the Wednesday drive.

The purpose of this document is to provide concepts in Travel Demand Management, Travel System Management and Transit promotion that can be initiated immediately to address the congestion along the corridor. These three forms of transportation management can be initiated today at minimal cost; however, they require the cooperation and planning from entities not normally considered to be in the transportation business. The ideas contained in the *Recommendations* are not to be viewed as the specific solutions to be implemented, but rather the beginning of a dialogue to address the problem. It is the goal of the I-70 Coalition to bring together all the players necessary to discuss, refine, and ultimately implement some of the Travel Demand Management ideas that will improve travel in the corridor.

The I-70 Coalition's *Recommendations* focus on the following six strategies:

1. Shift travel demand by time of day and day of week for Summer/Winter Day-trippers
2. Shift travel demand by time of day and day of week for Summer/Winter Overnights
3. Convert Summer/Winter Day-trippers to Overnights
4. Promote high-occupancy travel/public transportation for Summer/Winter Day-trippers
5. Promote high-occupancy travel/public transportation for Summer/Winter Overnights
6. Convert single occupancy vehicle commuters to high occupancy travel and/or public transportation.

The implementation of these strategies requires new and unusual partnerships, changing the way many people think and coordinating how they do business. For example if Colorado businesses and schools embraced lifestyle changes such as compressed and alternate work and school schedules it would greatly reduce peak traffic in the I-70 corridor as well as the Front Range. This effort would require the participation of the State's business community, local and state governments and agencies, school districts, departments of transportation, parks departments, US Forest Service, city and county jurisdictions, metropolitan and transportation planning organizations, tourist agencies, chambers of commerce, summer and winter resorts and the general public.

Coordination of deliveries from the Front Range to the resort communities could take some slow moving vehicles off I-70 during peak demand periods and speed up traffic. This would require the cooperation of the trucking industry, Front Range and resort businesses, local municipalities and even Federal agencies.

Changing Front Range traveler habits away from peak demand periods would require the coordination of ski area marketing, parking management, restaurant and lodging businesses and transit coordination with Front Range businesses.

In conclusion, Transportation Demand Management requires the participation of a vast number of Federal, State, local and private entities. It is the goal of the I-70 Coalition, either as a Coalition or a Transportation Management Organization, to facilitate that participation in order to increase the speed and efficiency of travel along the I-70 corridor. These *Recommendations* are a start but the I-70 Coalition needs your support and participation in order to make a difference.

Preface

The intent of this document is to provide concepts in Travel Demand Management (TDM), Travel System Management (TSM) and Transit promotion for use in the I-70 Mountain Corridor. The coalition recognizes that transportation funding is not immediately available for large scale capacity improvement projects in the I-70 Mountain Corridor and may not be available for some time. We understand that transportation management practices can reduce mountain corridor congestion and improve overall mobility on the existing I-70 facility at a minimal cost compared to large scale construction projects.

The coalition believes that the most effective use of the limited transportation dollars available for the mountain corridor today should be used for the development and implementation of travel demand management strategies. We expect this to be one of our top priorities during the next 5 years as we transition into a Transportation Management Association. The coalition recognizes that transportation management is an important first step to increase the capacity and efficiency of the current I-70 facility and is relatively inexpensive compared to the cost of extensive infrastructure improvements.

The TDM, TSM and Transit concepts discussed in this document are intended to be used as a starting point for further discussion and encourage a working partnership with public and private sector organizations throughout the corridor. It is our hope that through state, regional and local partnerships, we can develop and implement travel demand solutions that will benefit both Front Range and Mountain Corridor stakeholders.

The coalition realizes that there are both formal and informal TDM practices in use in the mountain corridor today. Front Range travel behavior is already spreading beyond the weekend peak hours of travel to Thursdays and Fridays. This document will recognize many of the formal and informal TDM activities and suggest concepts to support, enhance and even expand them through regional coordination.

Introduction

The I-70 mountain corridor is a high volume recreational corridor with high environmental amenity values tied to both the travel route and the trip destination. The recreational travelers that use the mountain corridor value transportation strategies with low environmental impacts.

Development and implementation of transportation management strategies along the I-70 mountain corridor must be tailored to fit the unique recreation based nature of trip-making in the mountain corridor. Although the national base of experience in transportation management is more extensive for urbanized areas and commuter based traffic patterns, recreation-centered corridors can be particularly appropriate for transportation management strategies because they often have highly predictable travel patterns, significantly increased travel demand during specific peak-periods, and relatively concentrated travel destinations.

Well-designed, well-coordinated transportation management strategies can provide win-win solutions to transportation challenges in recreation-centered corridors by improving the overall visitor experience, enhancing economic vitality, extending the useful life of the current transportation facility and reducing (or delaying) the need for major transportation infrastructure investments with potentially high economic and environmental costs.

Mountain corridor travelers often place a higher value on travel “experience.” Other factors such as travel cost and travel time, while still relevant, are often less of a priority than they would be for trips like commute-trips that are undertaken much more frequently. When the travel destination is recreation and enjoyment, transportation to the destination becomes part of the overall experience. As such, there are opportunities for Transportation Management strategies to tailor travel options that stress convenience and enjoyment (even over travel time and travel cost factors).

TDM, TSM and ITS

Transportation management strategies that attempt to reduce the severity and duration of congestion and enhance overall mobility by influencing travel demand and travel behavior generally fall under the category of Transportation Demand Management (TDM). TDM practices aim to reduce the severity and duration of circumstances where travel demand exceeds existing roadway capacity. Modifications to travel demand and travel behavior can include adjustments to travel time (by time-of-day and/or day-of-week), travel route, trip distance (through changes in trip origins and destinations), vehicle occupancy and vehicle mode (including the use of rail, motor coach and other public transportation services).

Transportation management strategies that include operational improvements aimed at improving the capacity of the current I-70 facility generally fall under the category of Transportation System Management (TSM). TSM practices aim to address locations where relatively minor improvements to the roadway network or highway operations will help address temporary or long-term capacity bottlenecks. These measures should improve safety, and reduce the severity and duration of delays relating to weather and traffic incidents.

Transportation management strategies that include the application of advanced vehicle monitoring and communications technologies to optimize the efficiency of the current I-70 facility generally fall under the category of Intelligent Transportation Systems (ITS). ITS can obtain real time corridor transit information through an investment in advanced vehicle locator and other GPS technologies for corridor transit vehicles. In addition, real time traffic conditions can be obtained through radar speed detection, ground loop timers, video monitoring and other GPS, vehicle locator and remote communications technologies. Real time traffic and transit information can be shared between CDOT, Corridor Resorts, Corridor Transit providers and Media outlets in order to provide vital transportation information to the traveling public. Front Range and Corridor radio and television stations, CDOT, Resort and Transit provider web sites, information phone lines and wireless email and text messaging can all be used to disseminate real-time conditions and transit schedules to the traveling public.

The coalition supports the use of TDM, TSM and ITS strategies in the mountain corridor.

Transportation Demand Management Strategies in the I-70 Mountain Corridor

The goal of TDM strategies is to reduce the number of vehicles on I-70 during peak periods by promoting peak spreading, increased vehicle occupancy and rail, motor coach and other public transportation services. TDM strategies should be focused on a positive visitor experience. Incentives should be used over disincentives in the design and promotion of recreation-oriented travel choices for off peak periods.

TDM strategies should promote high-occupancy travel through private carpools/vanpools, private shuttles, and public transportation and should capture trips from Colorado's Front Range and Denver International Airport (DIA) before entering the I-70 corridor.

Target Audience

While there are a tremendous number of trip types using the I-70 mountain corridor, TDM strategies must be designed to address specific transportation problems and target the primary markets contributing to these problems. Travel options will need to be developed to appeal to these target markets including financial incentives, travel time and convenience incentives.

The coalition believes that TDM program development should be focused on five segments of the I-70 corridor travelers, due to their larger contribution to the peak congestion problem.

1. Front Range Winter Recreation Day-trippers
2. Front Range Winter Recreation Overnights
3. Front Range Summer Recreation Day-trippers
4. Front Range Summer Recreation Overnights
5. Local Corridor Commuters

Specific strategies focused on incentives need to be developed to meet the following objectives:

1. Shift travel demand by time of day and day of week for Summer/Winter Day-trippers
2. Shift travel demand by time of day and day of week for Summer/Winter Overnights
3. Convert Summer/Winter Day-trippers to Overnights
4. Promote high-occupancy travel/public transportation for Summer/Winter Day-trippers
5. Promote high-occupancy travel/public transportation for Summer/Winter Overnights
6. Convert single occupancy vehicle commuters to high occupancy travel and/or public transportation

Designing an effective Transportation Management program must consider the demand/capacity relationship in other business sectors that influence the demand for travel in the mountain corridor. Examples include Front Range work schedules, ski lift seats, resort/community parking spaces, lodging beds, restaurant seats, campground spaces, etc. A successful Transportation Management program must consider ways to balance the demand and capacity in each of these areas to positively impact transportation demand on I-70. This analysis will form the basis for win-win public-private partnerships where mutually beneficial overlaps in these demand/capacity ratios exist.

Strategies 1 & 2

Shift travel demand by time of day and day of week for Summer/Winter Day-trippers and Summer/Winter Overnights

Peak Spreading Incentives

Peak Spreading is already occurring. Travel patterns along I-70 have already shifted to off-peak hours and off peak days in response to growing traffic congestion during peak periods. While this shift in demand provides a degree of congestion relief, these shifts are occurring in response to a “negative” influence, (peak period congestion). There is reason to believe that some trips are eliminated altogether from the mountain corridor, which has a detrimental impact on economic vitality for both private and public sector interests in the corridor. The coalition believes that there is an opportunity to reinforce the influential factors for peak spreading from the negatives (congestion, delays, difficult driving conditions) to positives (convenient travel options, time and fuel savings, off-peak pricing incentives).

The coalition believes that peak spreading should be a primary objective for TDM strategy in the mountain corridor. The coalition believes that a regional effort that coordinates peak spreading practices between the Front Range and the Mountain Corridor could provide additional peak spreading opportunities that are not in use today. By promoting mid week recreational travel, these efforts could benefit the Front Range commuting corridors as well as the mountain corridor. The coalition can play an important role in facilitating regional cooperation for peak spreading practices by facilitating communication between West Slope and East Slope public and private organizations. A strong relationship between the I-70 Coalition or future TMA, CDOT, Intermountain TPR, DRCOG, Corridor governments and the Resorts could go a long way to promoting peak spreading activities in the Front Range.

Managed Parking Operations and Incentive Plan

Managed parking programs can be implemented through various pricing structures to affect travel behavior in the corridor. Pay for parking programs at existing and future parking facilities at the major I-70 mountain corridor destinations can be used to promote off peak travel, high occupancy vehicle travel and public transportation. Pay for parking allows for a level of parking facility management and travel incentives not available with unmanaged free parking.

1. Managed Parking throughout the Mountain Corridor

Pay for parking could be used as an incentive for recreational off peak travel. Pay for parking could also promote increased vehicle occupancy and rail, motor coach and other public transportation services for both visitors and employees, if most of the mountain corridor destination parking facilities were converted to pay for parking instead of largely unmanaged free parking as it exists today. Peak period travel and single occupancy vehicles could be discouraged based on the cost of parking. If desirable by individual entities, discounted parking programs could be developed for high occupancy vehicles and employees.

2. Priority Parking Access

A coordinated program for ski resort lots, mountain community municipal lots, public recreation area lots, and other managed public and private parking lots along the mountain corridor could provide further incentives for off peak travel, ride sharing, high occupancy travel and rail, motor

coach and other public transportation services. Incentives could be tied to occupancy, time of day and day of week travel.

3. Early Off-Peak Incentives

Early arrival incentives already exist at most corridor resort destinations in terms of availability of close in parking spaces. Resorts, municipalities and the Forest Service could provide more formal priority parking areas reserved for early arrivals (before 7:00 AM) to promote early off peak travel. Parking price points could be provided for early arrivals as an additional incentive.

With the widespread use of high speed lifts, many resort visitors do not recreate for a full day. Parking incentives for early arrival and early departure could allow these visitors to avoid the peak travel periods.

4. Late Off-Peak Incentives

Resorts, municipalities and the Forest Service could provide priority parking areas reserved for late arrivals (after 11:00 AM) to promote late off peak travel. Parking price points could be provided for late arrivals as an additional incentive.

With the widespread use of high speed lifts, many resort visitors do not recreate for a full day. Parking incentives for late arrival and late departure could allow these visitors to avoid the peak travel periods.

5. Seasonal Reserved Parking

Resorts and municipalities could sell reserved parking spaces in a dedicated numbered lot for seasonal visitors to provide a guaranteed parking space throughout the specified season, regardless of time of day or day of week. Seasonal resort visitors could come and go at their leisure and avoid peak travel periods knowing that they have a dedicated and reserved parking space. Availability and sale of seasonal parking spaces could be web based with purchases made on-line for convenience.

6. Advanced Daily Reserved Parking

Resorts and municipalities could sell reserved parking spaces at a premium to daily visitors in a dedicated numbered lot to provide a guaranteed parking space, regardless of their arrival time. Daily visitors could avoid peak travel periods knowing that they have a reserved parking space. Daily reservations could be web based with spaces purchased on-line within a specified advanced purchase period.

7. Long-Term Management of Corridor Parking Capacity

Coordination between resorts, recreation areas, businesses and municipal and county governments throughout the mountain corridor is necessary to manage the long-term growth of parking capacity at recreation destinations. Continued expansion of unmanaged parking facilities (especially free parking) at recreation destinations will continue to facilitate growth in I-70 peak and overall travel demand for individual vehicles, and increase congestion and vehicle travel times.

Reductions in the future growth of unmanaged free parking capacity at recreation destinations, coupled with improvements in transit options throughout the mountain corridor could provide for

significant reductions in the growth of future travel demand for individual vehicles and lessen congestion and vehicle travel times.

Resort Daily Lift Operations

As daylight hours permit, (primarily in February through April due to safety concerns) the operation of lifts could be spread earlier and later in the day to promote peak travel spreading. Today most corridor resort lifts open between 8:00 and 9:00 AM and close between 3:00 and 4:00 PM. This creates the morning and evening peak travel demand on I-70 for the winter months.

When daylight hours permit from February through April, expanding the resort lift opening window to between 7:00 AM and 10:00 AM and the lift closing window to between 3:00 PM and 6:00 PM could spread peak travel demand.

A parking and lift ticket purchase structure could be developed to facilitate two daily periods within the same day, (example, 7:00 AM to 2:00 PM and 11:00 AM to 6:00 PM). Lifts could be operated within these two time periods based on sunlight and exposure to facilitate the pricing structure. It would not be necessary to run all lifts for the complete 7:00 AM to 6:00 PM time period.

A corridor wide resort plan aimed at Front Range motorists could be developed to stagger lift opening and closing times to broaden the morning and evening peak travel hours. This plan would need to consider the location of the resort in the corridor in relation to the Denver Metro area and attempt to adjust the lift operation hours to spread the morning and afternoon/evening rush hours.

Work, School and Lifestyle Incentives

Statewide, Colorado residents value the unique outdoor and recreational lifestyle that we enjoy due to our proximity to the high country. Colorado's scenic beauty and the quality of our recreational and site seeing opportunities are among the world's best. The outdoor lifestyle that we enjoy in Colorado will continue to be a major factor in attracting residents and businesses and retaining the residents and businesses that we already have.

The coalition believes that there is an opportunity to work with the Front Range business community, academic community, local governments and planning organizations to promote lifestyle incentives through work and school scheduling. The coalition recognizes the link between work and school scheduling and supports expanding the scope of active partners in the effort to mitigate roadway congestion in both commuting and recreational travel corridors.

The coalition believes that compressed and alternate work and school schedules should be explored for their benefit to both the I-70 mountain corridor congestion problem and the commuter congestion problem in the Denver Metro area. Compressed work schedules typically allow employees to work 40 hours in a four day period or 80 hours in a nine day period. This allows employees to reduce the number of days they must commute to work and provides them with more opportunities for recreational travel in off peak periods and avoidance of the weekend mountain corridor travel crunch.

1. Year Round School Scheduling and Holiday and Vacation Break Coordination

Year round school scheduling could be a strong component of a Front Range peak spreading effort in order to be in sync with compressed and alternate work schedules on a year round basis. A three or four day school week could be implemented over a full 12 month period with coordinated holiday and vacation breaks to evenly distribute recreation and vacation travel over the course of the year.

Spreading state high school and college winter, spring and summer holiday and vacation breaks evenly throughout the year could help reduce the travel crunch for typical holiday weeks and weekends by providing some vacation breaks in currently off peak travel periods. Statewide coordination of school breaks could achieve a schedule where not all schools were in vacation breaks at the same time, which could further reduce peak period travel in the mountain corridor. Quality of life and lifestyle incentives could provide the political motivation and support to achieve the statewide coordination with school districts, state education agencies and private schools that would be necessary for implementation of these scheduling changes.

2. Floating Holidays

We realize the universal acceptance of the Christmas and New Year's Holidays, the Memorial Day Holiday weekend, the Independence Day Holiday, the Labor Day Holiday weekend and the Thanksgiving Holiday weekend. It would be very difficult to shift recreational travel behavior away from these holiday periods.

It might however be a reasonable strategy to pursue floating holidays in the workplace for the remainder of holidays throughout the year such as Columbus Day, Veterans Day, the Martin Luther King Jr. Holiday, President's Day and Washington's Birthday. Allowing employees to work these holidays and take off a floating holiday in their place could potentially shift travel demand away from these holidays.

3. Regional and State Coordination

The coalition realizes that promoting a Front Range scheduling change from the standard Monday through Friday 40 hour week to an alternate or compressed schedule for both businesses and schools will be an enormous undertaking which will require political and financial support on a statewide level. The coalition recognizes the need for a large scale education and outreach program to support this effort and would expect to be an active participant. An outreach program making use of statewide branding and marketing campaigns and direct contact would need to be established to inform business and government leaders of the benefits associated with compressed and alternate work and school schedules and provide them with the resources and knowledge needed to implement and run successful programs.

Partners in the promotion of compressed and alternate work and school scheduling would include local and state governments and agencies, school districts, departments of transportation, parks departments, US Forest Service, city and county jurisdictions, metropolitan and transportation planning organizations, businesses, tourist agencies, chambers of commerce, summer and winter resorts and the general public.

Alternate recreation and resort scheduling would be a strong component of the promotion of compressed and alternate work and school scheduling programs in the Front Range. The US

Forest Service, State Tourism Board, summer and winter resorts including the gaming district casino resorts, recreation areas, lodging groups, restaurant associations and local governments would need to explore alternative hours of eligibility for daily and multi day lift tickets, campground reservations, check-in and check-out times to facilitate off-peak travel patterns. Potential travel packages that combine lodging, restaurants and activities could also be used to bundle and promote off peak travel in the mountain corridor.

4. Front Range Population Growth

The following charts were shown at the September 21, 2005 Front Range Transportation Forum. It shows that by 2030, we expect to see a 61 percent population increase in the Front Range. Front Range population will grow to 5.7 million with a considerable number of these people recreating in the mountain corridor. With limited transportation dollars available, we will need to make our current transportation infrastructure as efficient as possible in order to maintain the outdoor and recreational quality of life that Coloradans enjoy. Compressed and alternate work and school scheduling could play an important role in the mitigation of congestion in both the Denver Metro area and the mountain corridor.

Population Forecast

- **The Front Range is expected to grow to 5.7 million by 2030**
- **This will be 79% of the state's population**
- **Population growth is occurring along major highways and transit corridors**



	1970	2000	2030	Change 1970-2000	% Change 1970-2000	Change 2000-2030	% Change 2000-2030
Front Range Total	1,803,000	3,515,000	5,655,000	1,712,000	95%	2,140,000	61%
<i>Percent of State</i>	82%	81%	79%	~	~	~	~

	2000	2030	Change	% Change
North Front Range Region	437,000	915,000	478,000	109%
Denver Region	2,415,000	3,712,000	1,297,000	54%
Pikes Peak Region	521,000	802,000	281,000	54%
Pueblo Region	142,000	226,000	84,000	59%
Front Range Total	3,515,000	5,655,000	2,140,000	61%
<i>Percent of State</i>	81%	79%	~	~

Strategy 3

Convert Summer/Winter Day-trippers to Overnights

The coalition believes that the corridor resorts and resort businesses already have in place marketing programs and incentives aimed at the Front Range day trip market to promote overnight trips. The coalition supports these programs and incentives and hopes to work with CDOT, corridor resorts and businesses, corridor governments and transit providers to enhance and expand this effort through regional cooperation.

The coalition intends to engage the mountain resorts, governments and business organizations and Front Range governments and business organizations to further incentives for overnight trips that promote off peak travel. A combined marketing effort could be promoted through CDOT, resort and local government web sites, standard and wireless email distribution and text messaging to a large Front Range audience on a weekly, daily and even hourly basis to promote overnight stays.

The coalition supports and would participate in promoting the marketing campaigns and incentives to convert corridor day trips to overnight trips as a tool to eliminate one or more peak period trips and encourage travel in off peak periods. The following are examples of how such incentives could benefit corridor travel.

Conversion of a Front Range Saturday Day Trip to a Saturday Night Stay Over

A Saturday night stay over with dinner and lodging that promotes a relaxed Saturday night in a resort community instead of the evening rush back to Denver and a leisurely off peak return trip on Sunday morning could be very attractive. In this case the Saturday day trip peak period evening return trip will have been exchanged for a non peak period return trip on Sunday morning.

Conversion of a Front Range Saturday Day Trip to a Friday Night Stay Over

A Friday night stay over with dinner and lodging that promotes a Friday afternoon outbound trip and a relaxed Friday night in a resort community could be very attractive. In this case the Saturday day trip peak period morning outbound trip will have been exchanged for a non peak period Friday afternoon outbound trip.

Conversion of a Front Range Sunday Day Trip to a Sunday Night Stay Over

A Sunday night stay over with dinner and lodging that promotes a relaxed Sunday night in a resort community instead of the evening rush back to Denver and an off peak return trip on Monday morning could be attractive for those that can commute to work in the Denver Metro area from a mountain resort location. In this case the Sunday day trip peak period evening return trip will have been exchanged for a non peak period return trip on Monday morning.

Conversion of Front Range Saturday and Sunday Day Trips to a Saturday Night Stay Over

More frequent Front Range outdoor sports enthusiasts sometimes make both a Saturday and Sunday day trip in the same weekend. Increasing congestion and travel times are already creating a huge incentive for a Saturday night stay over for this group. A Saturday night stay over with dinner and lodging that promotes a relaxed Saturday night in a resort community and eliminates the Saturday peak period return trip and the Sunday morning peak period outbound trip could be very attractive.

Packages that combine a Friday night stay over with a Saturday night stay over could also appeal to the Front Range frequent recreational travel group by promoting a relaxed Friday and Saturday night in a resort community and the elimination of a Saturday morning peak period outbound trip, Saturday evening peak period return trip and the Sunday morning peak period outbound trip.

• **Additional Resort Programs**

Additional support programs that address the special needs of Front Range travelers may require further development in resort communities to promote conversion of day trips to overnight stays. These include the following.

Day Care

Day and evening child care programs for young children could provide an incentive for overnight trips for Front Range parents.

Pet Care

Pet care and boarding facilities, (especially for dogs) may provide an incentive for Front Range pet owners to make overnight trips instead of day trips. Promotion of lodging facilities that allow dogs may also provide an incentive for this group.

Seasonal Lodging Rentals

Seasonal housing and/or lodging rental programs similar to those widely used at New York and Vermont Resorts that are aimed at frequent resort visitors could be developed that allow a weekend share and/or an every other weekend share in a condominium, townhouse or home. These programs could provide a Front Range group or family with a seasonal rental without the capital investment necessary for a second home. These programs are often managed by resort real estate brokers and promote off peak travel on Friday afternoons and Monday mornings to avoid the peak travel periods on Saturdays and Sundays.

Group Lodging Outreach Programs for Front Range Groups, Ski Clubs and Employers

Promotional programs aimed at Front Range Ski Clubs, Schools, Church Groups and Employers that combine a bus or van shuttle charter with resort fees, lessons, meals and lodging for a weekend get-away could further promote conversion of day trips to overnight trips in the corridor. Trips could be scheduled from once a year to once a month or even weekly depending on demand. Packages that include resort fees, lessons, meals and lodging could also be promoted. Front Range Employers could look at facilitated recreational trips for their employees as a component of an Employee “Wellness” program which would provide a recreational activity without the stress of driving. The coalition supports and would participate in this outreach effort.

Strategies 4 & 5

Promote High-Occupancy Travel/Public Transportation for Summer/Winter Day-trippers and Summer/Winter Overnighters

The coalition recognizes that vehicle travel in the mountain corridor is already relatively high occupancy with rates that vary between 2.5 to 3.5 per vehicle throughout the year. The coalition believes there is room for improvement by focusing travel management efforts in three areas, Front Range Park-n-Rides, Resort Parking Programs and Corridor Transit promotion.

The coalition believes that a regional effort that promotes ride sharing and rail, motor coach and other public transportation services throughout the Front Range and the Mountain Corridor could provide additional opportunities that are not in use today. The coalition can play an important role in facilitating regional cooperation for high occupancy vehicle and transit promotion by facilitating communication between West Slope and East Slope public and private organizations and agencies. A strong relationship between the I-70 Coalition or future TMA, CDOT, Intermountain TPR, DRCOG, RTD, Summit Stage, Steamboat Springs Transit, ECO Transit, RFTA and passenger rail companies could go a long way to promoting transit in the mountain corridor.

Front Range Park-n-Rides

Convenient and free parking lots on the east end of the corridor, (primarily in Jefferson County at Exits 259, 256 and 248) are well used today and facilitate informal ride sharing and carpooling in the mountain corridor. In addition, private parking lots such as the Walmart parking lot in El Rancho are used on a regular basis for informal ride sharing. Coordination of existing public and private parking lots along with additional capacity and/or new Park-n-Ride lots will increase informal ride sharing and car pooling in the corridor.

1. Front Range Park-n-Ride Joint Development

A partnership between the I-70 coalition, RTD, DRCOG, CDOT, and private businesses such as recreational gear rental companies, ski resorts, gaming resorts, mountain corridor lodging establishments and restaurateurs, and private transportation providers could be productive in developing a number of new Front Range park-n-ride facilities customized for trips bound for the mountain corridor. These intermodal pick up and drop-off locations would provide vehicle parking with access to equipment rentals, lodging shuttles, gaming shuttles, mountain corridor private van and shuttle service, RTD vehicles and other public transportation vehicles. They could also serve as a transfer point between RTD and the other mountain corridor transportation providers.

2. Public and Private Park-n-Ride Partnerships

Many Front Range private parking facilities are used primarily during the work week. A new partnership program could identify, facilitate and promote ride sharing at these locations for weekend travel into the mountain corridor. This program would arrange partnerships with organizations that manage parking facilities along the Front Range to promote “private mini-park-n-rides.” Partnering organizations could include private parking companies, employers, schools and colleges/universities. Free parking could be used as an incentive for ride sharing, high occupancy travel and those leaving at non-peak times. With the exception of the private parking facilities, use of private parking would be targeted to the groups that typically use these spaces (for example, company employees that would use their company’s parking spaces on

weekends). Coordination of such a program could be provided through a partnership between the I-70 coalition, CDOT and DRCOG.

On and Off Corridor Park-n-Rides for Corridor Employees

Additional capacity and/or new Park-n-Ride lots need to be developed on and off corridor to promote ride sharing and transit for resort employees. Employees commuting to resort communities from Garfield, Lake, Park, Grand, Eagle and Summit Counties could take advantage of these new Park-n-Rides. Off corridor Park-n-Ride locations could include SR 9 north and south of the I-70 corridor, SR 91, SR 131, SR 82, SR 13, US 24, US 285 and US 6. Local transit systems such as ECO Transit, RFTA and Summit Stage could include pick up and drop off service at these Park-n-Ride locations. A coordinated effort between the I-70 coalition or future TMA, local governments, CDOT, Intermountain TPR, Summit Stage, ECO Transit and RFTA could facilitate development of these new Park-n-Ride lots.

Managed Parking Operations and Incentive Plan

Pay for parking programs could be developed to manage existing and future parking facilities at major I-70 mountain corridor destinations to promote high occupancy vehicle travel, public transportation and off peak travel. Pay for parking allows for a level of parking facility management and travel incentives not available with unmanaged free parking.

1. Managed Parking throughout the Mountain Corridor

Pay for parking could be used as an incentive to promote increased vehicle occupancy and rail, motor coach and other public transportation services for both visitors and employees, if most of the mountain corridor destination parking facilities were converted to pay for parking instead of largely unmanaged free parking as it exists today. Pay for parking could also be used as an incentive for recreational off peak travel. Peak period travel and single occupancy vehicles could be discouraged based on the cost of parking. If desirable by individual entities, discounted parking programs could be developed for high occupancy vehicles and employees.

2. Priority Parking Access

A coordinated program for ski resort lots, mountain community municipal lots, public recreation area lots, and other managed public and private parking lots along the mountain corridor could provide further incentives for, ride sharing, high occupancy travel, rail, motor coach and other public transportation services and off peak travel. Incentives could be tied to occupancy, time of day and day of week travel.

3. High Occupancy Parking Incentives

Resorts, municipalities and the Forest Service could provide priority parking areas reserved for vehicles with a minimum of four occupants. Parking discounts could also be provided as an incentive for high occupancy vehicles.

4. Long-Term Management of Corridor Parking Capacity

Coordination between resorts, recreation areas, businesses and municipal and county governments throughout the mountain corridor is necessary to manage the long-term growth of parking capacity at recreation destinations. Continued expansion of unmanaged parking facilities (especially free parking) at recreation destinations will continue to facilitate growth in I-70 peak

and overall travel demand for individual vehicles, and increase congestion and vehicle travel times.

Reductions in the future growth of unmanaged free parking capacity at recreation destinations, coupled with improvements in transit options throughout the mountain corridor could provide for significant reductions in the growth of future travel demand for individual vehicles and lessen congestion and vehicle travel times.

Strategy 6

Convert Single Occupancy Vehicle Commuters to High Occupancy Travel and/or Public Transportation

The coalition believes there is room for improvement in the occupancy of vehicles used for commuting within the corridor. Corridor commuters contribute to peak congestion, especially in the west end of the corridor. A regional effort that promotes local employee housing in Resort Communities, ride sharing, rail, motor coach and other public transportation services and alternate routes for employees throughout the mountain corridor, could provide additional reductions in corridor congestion and travel times. The coalition can play an important role in facilitating regional cooperation for high occupancy travel and transit promotion for corridor employees. A strong relationship between the I-70 coalition or future TMA, CDOT, Intermountain TPR, Summit Stage, Steamboat Springs Transit, ECO Transit, RFTA and passenger rail providers could go a long way to promoting transit and ride sharing in the mountain corridor.

1. On and Off Corridor Park-n-Rides for Corridor Employees

Additional capacity and/or new Park-n-Ride lots need to be developed on and off corridor to promote ride sharing and transit for resort employees. Employees commuting to resort communities from Garfield, Lake, Park, Grand, Eagle and Summit Counties could take advantage of these new Park-n-Rides. Off corridor Park-n-Ride locations could include SR 9 north and south of the I-70 corridor, SR 91, SR 131, SR 82, SR 13, US 24, US 285 and US 6. Local transit systems such as ECO Transit, RFTA and Summit Stage could include pick up and drop off service at these Park-n-Ride locations. A coordinated effort between the I-70 coalition or future TMA, local governments, CDOT, Intermountain TPR, Summit Stage, ECO Transit and RFTA could facilitate development of these new Park-n-Ride lots.

2. Managed Parking throughout the Mountain Corridor

Pay for parking could be used as an incentive to promote increased vehicle occupancy and rail, motor coach and other public transportation services for both visitors and employees, if most of the mountain corridor destination parking facilities were converted to pay parking instead of largely unmanaged free parking as it exists today. Peak period travel and single occupancy vehicles could be discouraged based on the cost of parking. If desirable by individual entities, discounted parking programs could be developed for high occupancy employee vehicles.

In order for pay for parking to provide an incentive for mass transit, further transit improvements will be required aimed at affordability and convenience. The coalition will work with CDOT, corridor transit providers and the resorts to facilitate and develop attractive transit options aimed at the day trip, overnight, frequent trip and corridor commuter markets.

3. High Occupancy Parking Incentives

Resorts, municipalities and the Forest Service could provide priority parking areas reserved for vehicles with a minimum of four occupants. Parking discounts could also be provided as an incentive for high occupancy vehicles.

Transit Promotion and Incentives

1. Managed Parking throughout the Mountain Corridor

With the eventual implementation of pay for parking at recreation destinations throughout the mountain corridor, a cost based incentive could be developed for public transit for a percentage of private vehicle travelers. We recognize that more affluent corridor travelers, (especially families) have the means and desire to pay for the ability to travel on their own schedule in their personal vehicles, so the cost of parking would not necessarily be a disincentive for them.

There may however be some cost based incentive for rail, motor coach and other public transportation services in the day trip, overnight trip and frequent trip markets for the cost conscious recreational and work traveler. This would include resort employees, teenagers, young singles and couples, and seniors. In addition, Front Range couples without children or with grown children who make frequent corridor day and overnight trips may be looking for a more cost effective option to driving their personal vehicle.

In order for pay for parking to provide an incentive for mass transit, further transit improvements will be required aimed at affordability and convenience. The coalition will work with CDOT, corridor transit providers and the resorts to facilitate and develop attractive transit options aimed at the day trip, overnight, frequent trip and corridor commuter markets.

2. Avoid the Peak Morning Parking Crunch

With most corridor resorts using high speed lifts, many resort visitors do not need to recreate for a full day. The difficulty is that currently resort parking incentives are based on first come - first serve practices, so regardless of the amount of time that a resort day guest will be spending at the resort, they must arrive early to get a reasonable parking space. This promotes peak morning travel and works to expand the peak congestion window earlier and earlier each year. Transit service and resort parking plans could address this problem.

Convenient transit service would allow Front Range day trippers to arrive at off peak times and not worry about finding a parking space or parking miles away from the resort. Frequent visitors could be dropped off at a convenient location, recreate for several hours and then be picked up, making the entire experience efficient in terms of time and hassle free in terms of parking and carrying equipment.

3. Mountain Resort Transit Stops

In order for transit to be a competitive with driving, drop off and pick up points need to offer an incentive over parking lot locations. Drop off points need to provide convenient walking access to the mountain resorts and lifts and not require carrying equipment for long distances or transferring to a local resort shuttle.

4. Multi Trip, Monthly or Seasonal Transit Pricing

For frequent corridor resort visitors, multi trip, monthly or seasonal pricing for transit may be necessary to be competitive with the cost of pay parking. Passes or multi trip tickets could also save time at pick up locations. Packaging multi trip transit with lift tickets or passes, on site equipment storage and even lodging and restaurants could provide an additional incentive for transit use.

5. On Site Equipment Storage to appeal to Resort Loyal Guests

For those resorts that are frequented more by Front Range day travelers than destination travelers, on-mountain equipment storage, (ski/snowboard lockers) could provide an additional incentive for transit ridership. Transit is more appealing and convenient for riders traveling without bulky and heavy equipment. Riders that are loyal to a single resort are more likely to use an on-mountain equipment storage facility and should be targeted for transit ridership. Package programs combining season ski passes, season transit ridership, season on-mountain storage and even season ski/snowboard tuning and waxing should be considered to promote transit ridership.

6. Percent of all Corridor Season Pass Sales to go to Corridor Transit Development

The relatively inexpensive corridor resort season pass programs contribute significantly to the Front Range day trip and overnight traffic in the mountain corridor today. Less than 10 years ago, season pass prices were easily double, if not triple what they are today at the Clear Creek, Grand and Summit County Resorts. A small increase in season pass pricing could be used for transit promotion and development throughout the corridor to mitigate the traffic impacts of very affordable season pass pricing. The I-70 coalition can play a significant role in transit promotion and development in the mountain corridor.

7. Transit Coordination with Front Range Organizations

An outreach effort could be focused on finding appropriate groups for chartered or regular bus or van shuttle service to corridor resorts. Front Range Employers, Youth Groups, Ski Clubs, Church Groups, Recreation Districts and Schools could be contacted to promote chartered or regular bus or van shuttle service to corridor resorts for their employees or members. Employees or group members could use parking at their regular place of business or assembly, school or church and ride a bus or van shuttle to and from their resort destination. Trips could be scheduled from once a year to once a month or even weekly depending on demand. Packages that include resort fees, lessons, meals and lodging could also be promoted. Front Range Employers could look at facilitated recreational trips for their employees as a component of an Employee “Wellness” program which would provide a recreational activity without the stress of driving. The coalition supports and would participate in this outreach effort.

8. Clear Creek County Annexation into RTD

Clear Creek County will pursue annexation into RTD in 2007. If successful, it is anticipated that RTD will provide transit service from their Denver based network to the Loveland Ski area. This will provide a transit option that is not currently available today and should promote transit ridership in the corridor. Local transit connections between Loveland, Arapahoe Basin and Keystone could also be explored.

9. Transit Planning with CDOT

The vision of the Colorado Department of Transportation is to enhance the quality of life and the environment of the citizens of Colorado by creating an integrated transportation system that focuses on moving people and goods by offering convenient linkages among modal choices. The mission of the Colorado Department of Transportation is to provide the best multi modal transportation system for Colorado that most effectively moves people, goods and information. The I-70 coalition will work with CDOT, DRCOG, Intermountain TPR, RTD, Summit Stage, ECO Transit, RFTA, CME, AMTRAK, Winter Park Ski Train and others to promote and develop transit solutions for the mountain corridor.

The Draft PEIS selects the intersection of C-470 and I-70 in Golden as one of the project termini. The RTD FasTracks plan also looks at the Golden area as a point of termini for the West Line and Gold Line. The missing component in this planning effort is coordinated planning for connectivity from the FasTracks network to a future mountain corridor rapid transit system.

CDOT through the I-70 PEIS did not include Denver Union Station and DIA as a point of termini for the study. From page ES-45 of the Draft PEIS, "Although DIA was included in the travel demand model analysis area, transportation planning for the Denver metropolitan area (including DIA) is the responsibility of the Denver Regional Council of Governments (DRCOG). DRCOG plans address rapid transit through the Denver metropolitan area. Various transit systems are included in the DRCOG plan and are assumed for the PEIS."

The I-70 Coalition has indicated that DIA needs to be included in the scope of the PEIS solution as a point of termini. It is not practical or feasible, (based on cost) to propose a mountain corridor rapid transit system in the future that would have to duplicate the FasTracks connection from Golden to DIA. Multi modal transportation planning for the mountain corridor including rapid transit connectivity to RTD's FasTracks network needs to be a Front Range planning objective for CDOT, RTD and DRCOG today. The CDOT ridership survey in 1999 and 2000 indicated that as many as 60 percent of the I-70 motorists in Clear Creek County originate from the DRCOG counties. It is also estimated that 10 to 20 percent of the potential mountain corridor transit riders will originate from DIA. A successful rapid transit effort in the mountain corridor needs to include both the DRCOG area and DIA.

Mountain corridor rapid transit planning today could simply include right of way acquisition as a placeholder between Golden/Arvada and Denver Union Station or between Golden/Arvada and DIA. It could include accommodation for express trains from the airport to DUS and accommodation for express trains between DUS and Golden/Arvada. It might include the ability to switch East Line trains to the Gold Line or West Line without a connection at DUS. The I-70 coalition will participate in RTD's Gold Line EIS scheduled to begin in April 2006 in order to pursue planning for future mountain corridor connectivity to the FasTracks network.

The transport of people and goods from one place to another is integral to our economy and social structure. With limited resources, it is imperative that the federal, state, local and private sector resources be expended effectively and efficiently to maximize the benefits.

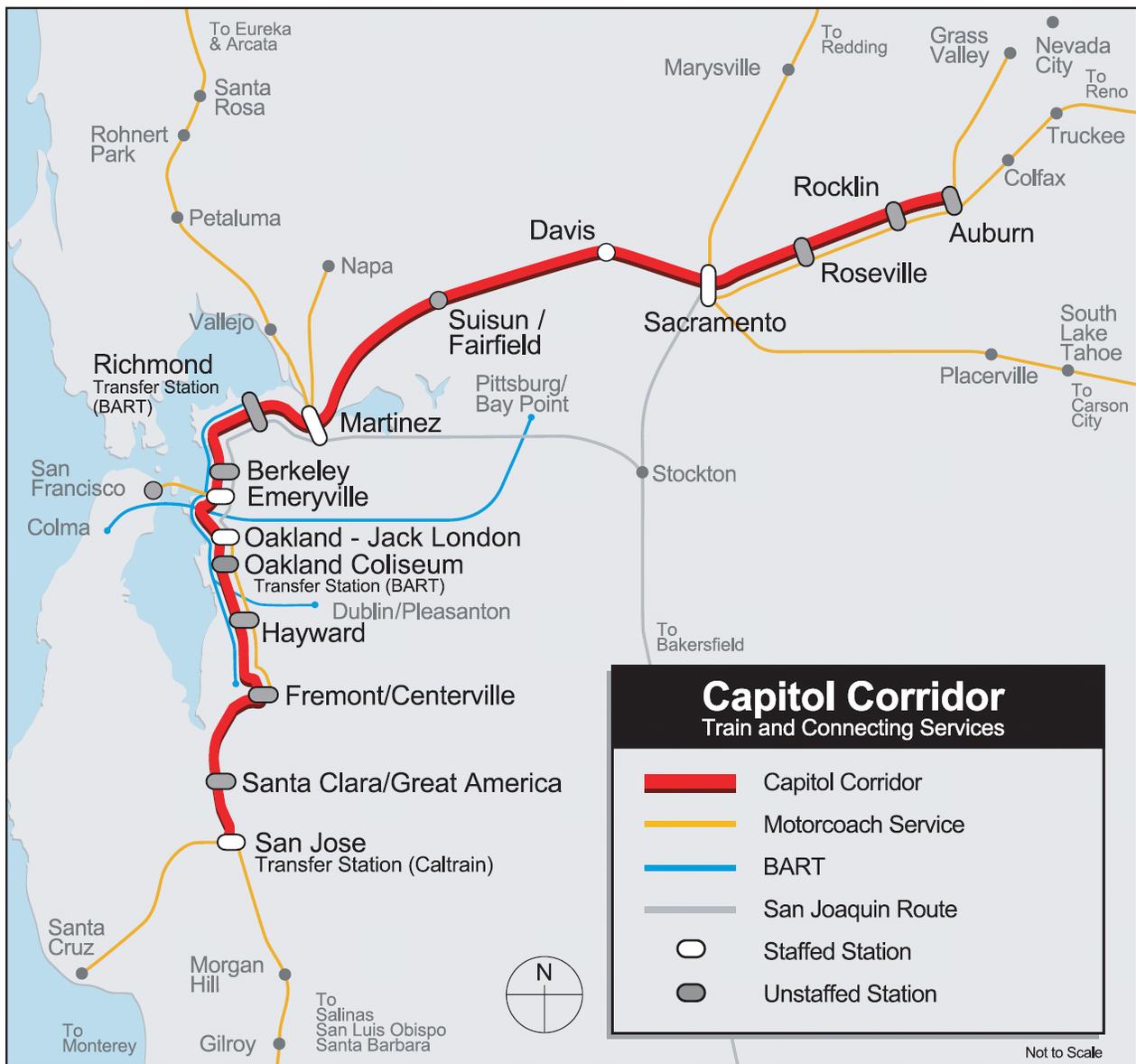
10. The Capitol Corridor Service and Joint Powers Authority Model

Due to the location of popular recreational destinations spread throughout the mountain corridor, transportation interactions occur on nearly a state wide level to facilitate recreational, commercial and commuter travel on I-70. As a result it may be necessary to consider a multi jurisdictional transit structure to manage and promote transit usage throughout the corridor and Front Range to reduce the number of motorists on I-70.

For the I-70 Mountain Corridor a Joint Powers Authority model (JPA) or state wide Rural Transportation Authority (RTA) could be used to develop a corridor wide rapid transit service. The JPA or RTA might include the I-70 coalition, CDOT, RTD, DRCOG, Summit Stage, ECO Transit, Avon Transit, RFTA, Steamboat Springs Transit, Union Pacific RR, AMTRAK and

possibly others with RTD providing day-to-day management and support to the JPA or RTA. Transit services would be developed with input from riders, private and public sector stakeholders including corridor business organizations, corridor resorts, corridor local governments, the I-70 coalition, CDOT and DRCOG.

An example of a Joint Powers Authority in action today is the Capitol Corridor in California. The Capitol Corridor is an intercity passenger train system that provides a convenient alternative to traveling along the congested I-80, I-680 and I-880 freeways in California by operating fast, reliable and affordable intercity rail service to 16 stations in 8 Northern California counties, (Placer, Sacramento, Yolo, Solano, Contra Costa, Alameda, San Francisco, and Santa Clara). The Capitol corridor is a 170-mile rail corridor. An extensive, dedicated motor coach network provides bus connections to the corridor and serves the second-largest urban service area in the Western United States.



The Capitol Corridor Joint Powers Authority (CCJPA) is a partnership among the six local transit agencies in the eight county service area which shares the administration and management of the Capitol Corridor. The San Francisco Bay Area Rapid Transit District (BART) provides day-to-day management support to the CCJPA.

Capitol Corridor services are developed with input from riders, private and public sector stakeholders, along with the partners who help deliver the Capitol Corridor service - AMTRAK, the Union Pacific Railroad, Caltrans and the various agencies and communities that make up the Capitol Corridor.

The Capitol Corridor Joint Powers Board consists of two representatives from each of the eight counties in the Capitol Corridor, (Placer, Sacramento, Yolo, Solano, Contra Costa, San Francisco, Alameda and Santa Clara), represented by Placer County Transportation Planning Agency, Sacramento Regional Transit District, San Francisco Bay Area Rapid Transit District, Santa Clara Valley Transportation Authority, Solano Transportation Authority, and the Yolo County Transportation District. The CCJPA is also supported by the two metropolitan planning organizations in The Capitol Corridor - the Metropolitan Transportation Commission and the Sacramento Area Council of Governments.

Development and funding for a JPA or RTA may require a state wide initiative to establish a tax structure to fund the operation of such an entity. State legislative support and possibly a constitutional amendment may be necessary to establish a state wide taxing initiative that could be sales tax, property tax or real estate transfer taxed based. As an example, the State of California Business, Transportation and Housing Agency covers the Capital Corridor's annual operating and marketing expenses. The primary source of funding for the Capital Corridor capital improvements is the State's Transportation Improvement Program.

11. Buses/Shuttles in Mixed Traffic

In order to provide incentives for transit development in the short term, public and private support may be necessary for rolling stock purchases and implementation of minimum revenue guarantees for private transportation companies providing public transportation connections between Denver International Airport, Front Range locations and the I-70 Mountain Corridor.

Partners in the Front Range Park'n Ride Joint Development program including the I-70 coalition, RTD, DRCOG, CDOT, and private businesses such as recreational gear rental companies, ski resorts, gaming resorts, mountain corridor lodging establishments and restaurateurs, and private transportation providers could be included in this effort.

An outreach effort could be focused on finding appropriate groups for chartered or regular bus service to corridor resorts. Front Range Employers, Youth Groups, Ski Clubs, Church Groups, Recreation Districts and Schools could be contacted to promote chartered or regular bus or van shuttle service to corridor resorts for their employees or members. Employees or group members could use parking at their regular place of business or assembly, school or church and ride a bus or van shuttle to and from their resort destination. Trips could be scheduled from once a year to once a month or even weekly depending on demand. Packages that include resort fees, meals and lodging could also be promoted. Front Range Employers could look at facilitated

recreational trips for their employees as a component of an Employee “Wellness” program which would provide a recreational activity without the stress of driving.

Resort coordination with existing motor coach transit providers such as Gray Line and Greyhound could provide more effective and attractive transit service. Departure and arrival times, shift change locations and layovers could be better coordinated with the corridor resorts to improve ridership numbers.

The coalition supports and would participate in an outreach effort to Front Range groups, corridor motor coach transit providers and the resorts to increase ridership.

Detailed Description of Strategies:

Capital Investments and Subsidies for Private Transportation Services.

Explore support for rolling stock purchases and minimum-revenue guarantees for private transportation providers serving long-range trips between DIA, Front Range locations and I-70 Mountain Corridor destinations. Financial support would need to involve a collaboration of state and federal agencies with private interests that would hope to benefit from increased transit ridership in the mountain corridor.

12. Enhancing Existing Rail Service from Denver Union Station to Grand, Summit, Routt, Eagle and Garfield Counties

The coalition believes that there is the potential for increased passenger rail ridership on the Union Pacific RR Moffat Tunnel Line with the completion of RTD’s FasTracks network. RTD’s FasTracks plan will provide connectivity to all the Metro Denver FasTracks corridors via Denver Union Station which could facilitate increased ridership on AMTRAK and the Winter Park Ski Train.

Denver Union Station will connect DIA commuter rail passengers via the East Line to the Winter Park Ski Train and AMTRAK. Winter Park and other Grand, Summit, Eagle, Routt and Garfield County destinations will be accessible by passenger rail from DIA. In addition, the development of a multi-modal transit station and free park-n-ride in the Rocky Flats area near the junction of SR 93 and SR 72 could also increase passenger rail ridership for both AMTRAK and the Winter Park Ski Train.

AMTRAK and the Winter Park Ski Train could be a pleasant way for tourists and destination skiers to get from DIA and Denver to the winter and summer recreational destinations in Grand, Routt, Summit, Eagle and Garfield Counties. The existing AMTRAK passenger train service (once daily each way) and the Winter Park Ski Train run on tracks owned and operated by the Union Pacific Railroad and therefore are subject to UPRR requirements. Currently, one ski train a day goes to Winter Park on Fridays, Saturdays, and Sundays during the summer and winter seasons. Despite its inconvenient departure point, (no free parking in downtown Denver), slow travel, (30 to 60 minutes longer than highway driving) relatively high cost, (around \$50 round trip Coach), and inconvenient schedule, (one round trip daily), the Winter Park Ski Train nearly sells out every weekend and popular holiday weekends need to be booked a year in advance. It should be noted that federal public support for AMTRAK varies considerably from administration to administration and could impact AMTRAK service.

There are existing passenger train stations at Fraser, Granby, Kremmling and Glenwood Springs. At the Kremmling Train Station passengers going to Routt County and Steamboat Springs Ski Area could potentially connect with Steamboat Springs Transit (SST) while passengers going to Summit County and its recreational destinations could connect to Summit Stage transit. Train station development could be explored for Eagle County and Rocky Flats. This could be a viable short *and* long term strategy to decrease vehicle traffic on I-70 by providing rail transit between DIA and the mountain resort destinations.

The Moffat Tunnel is a significant bottleneck in this rail transit discussion. Moffat Tunnel use is currently restricted due to air quality conditions since the tunnel was engineered in the early 1900's and ventilation is very limited. Diesel powered trains are limited to one train every 45 minutes to allow the tunnel to vent the diesel fumes. Currently 22 trains per day pass through the tunnel, consuming 20 hours. The remaining 4 hours per day are reserved for maintenance. It is estimated that improving the ventilation in the tunnel to allow more frequent train trips would cost several hundred million dollars. The cost of a new Moffat Tunnel rail bore that would provide either a double track alignment or a single track alignment with double-decker rail car capability is estimated to be between \$600 million and \$1 billion.

Given the current requirements of Union Pacific Railroad, at most one more Ski or AMTRAK Train round trip could be added to the schedule without making significant ventilation improvements to the tunnel, but may still be pre-empted by U.P. freight traffic. Another option would be for Union Pacific to reopen the Tennessee Pass freight route from Pueblo to Dotsero and divert the lighter, empty portion of their Moffat Tunnel freight traffic to the Tennessee Pass Line in order to accommodate additional passenger trains on the Moffat Tunnel Line. This could be a long term strategy to increase passenger rail ridership from the Denver Metro area through Grand County, however funding sources would need to be identified for the Tennessee Pass Line improvements.

The cost to upgrade the Tennessee Pass Line would also be in the several hundred million dollar range. The costs and benefits of a new Moffat Tunnel bore, improving ventilation in the current Moffat Tunnel bore and improvements to the Tennessee Pass Line could be considered by the Mountain Corridor JPA or RTA as described on page 19.

Detailed Description of Strategies:

Long term enhancement of the UPRR Denver/Moffat Tunnel/ Glenwood Springs rail line, perhaps with a second bore adjacent to the existing Moffat Tunnel could divert a significant amount of vehicular traffic from I-70 if reliable, predictable and affordable passenger rail service could developed in the Moffat Tunnel UPRR corridor. Establishing this service would take a considerable capital investment as well as an operating subsidy. The capital investment could easily exceed \$2 billion and would likely require a state wide taxing initiative as described previously in the JPA and RTA discussion. Increasing the carrying capacity of the UPRR Denver/Moffat Tunnel/ Glenwood Springs rail line, however would provide significant benefit to both freight carriers and regional passenger carriers and reduce vehicular traffic in the I-70 corridor.

The capital investment to provide the engineering and construction that would be required to provide reliable, predictable and affordable passenger rail service on the Denver/Moffat Tunnel/ Glenwood Springs rail line would include the following:

1. Improvement of the grade, curves and tunnels from Rocky Flats to the Moffat Tunnel.
2. The construction of a parallel Moffat Tunnel bore. A sub surface stability analysis would need to be performed to get a better understand of the competency of the underlying rock for this new tunnel alignment and to confirm the actual location and feasibility of a new tunnel. It is also possible that a new tunnel bore could provide a new source of water.
3. Establish the location and construct additional passing sidings throughout the length of the UP rail corridor from Denver to Glenwood Springs.
4. Purchase additional passenger rail rolling stock.
5. Engineer and construct passenger rail station improvements throughout the Denver/Moffat Tunnel/ Glenwood Springs rail line including new stations in Eagle County and in Rocky Flats.
6. Engineer and construct improvements to the UPRR Tennessee Pass Line to provide additional freight carrying capacity.

Transportation System Management Strategies in the I-70 Mountain Corridor, (in order of Priority)

1. Provide Integrated Traveler Information Before the Trip Begins

Too often, advanced traveler information programs focus on providing travel information regarding alternative modes, off-peak travel opportunities, weather/incident delays, etc. to travelers during their trip. However, unless relevant information is received before departure, opportunities for modifications in travel behavior are more limited (particularly due to the limited nature of alternative routes along I-70). Additionally, traveler information and resort marketing programs should be integrated to maximize opportunities for comprehensive travel planning (integrating choices regarding travel dates, destinations, and duration with choices regarding travel mode and departure time). The “messaging” of resort marketing and travel information should be coordinated and unified. The I-70 coalition would be willing to work with CDOT, corridor resorts and corridor transit providers to improve travel messaging throughout the Front Range and mountain corridor.

a. Enhanced Traveler Information

The I-70 travel information program throughout the mountain corridor and Front Range needs to be improved, expanded and promoted to reach more corridor travelers and provide them with the information necessary to make “smart” travel mode and travel time decisions **before** departing. This program needs to include real time notification of incident and weather related delays that corridor motorists should expect during their travels and provide advanced public transportation schedule and routing information as an alternative to driving.

Front Range and Resort Print media, Front Range and Resort Radio and Television stations, Front Range and Resort Bulletin Boards, email and wireless text messaging in addition to Resort, CDOT and Corridor Transit provider web sites and information phone numbers, Airport information locations and Highway Visitor Center information, all need to be coordinated in the dissemination of I-70 mountain corridor conditions and public transportation schedules to the general public. The reporting of I-70 conditions needs to be much more specific than “expect delays” or “icy in areas”. Estimated driving times including specific durations and the location of incident and weather related delays need to be communicated to potential corridor travelers prior to their trip. Motorists should be advised that they need snow tires or chains when winter driving conditions are expected.

Large overhead vehicle message signs should not contain detailed information because it is time consuming to read. The westbound vehicle message sign at mp 232 just before Empire Junction actually causes back ups in the Dumont and Downieville area during peak westbound periods as motorists slow down to read the sign. Radio broadcasts, email and wireless text messaging to hand held PC/Cell Phones, (Blackberry’s) should be used for detailed information as well as Visitor Center information screens, Resort, CDOT and Transit provider web sites.

b. Intelligent Transportation Systems

Providing more specific real time I-70 conditions and corridor transit information to the traveling public is an important aspect of promoting “smart” travel choices. ITS can obtain real time corridor transit information through an investment in advanced vehicle locator and other GPS technologies for corridor transit vehicles. In addition, real time traffic conditions can be obtained

through radar speed detection, ground loop timers, video monitoring and other GPS, vehicle locator and remote communications technologies.

Real time traffic and transit information can be shared between CDOT, Corridor Resorts, Corridor Transit providers and Media outlets in order to provide vital transportation information to the traveling public. Front Range and Corridor Radio and Television stations, CDOT, Resort and Transit provider web sites, information phone lines and email and wireless text messaging can all be used to disseminate real-time conditions and transit schedules to the traveling public.

2. Steep and Sharp Curve Slow-Moving Vehicle Plan

Implementation of a Slow-Moving Vehicle Plan could increase capacity for peak period travel by limiting the left lane to those vehicles that could maintain a specified minimum speed throughout the steep and sharp curve sections of I-70 in the mountain corridor. The slower traffic would be restricted to the right lane to achieve higher capacity in the left lane in the four lane steep and sharp curve sections of the corridor. In the six lane steep sections of the corridor, slower traffic would be restricted from use of the left lane.

Additional facilities that would help improve slow-moving vehicle travel at all times, such as chain-up areas, rest areas, Weigh In Motion and Automated Vehicle Identification facilities, need to be included in this plan.

Detailed Description of Strategies:

Steep and Sharp Curve Sections

Peak period lane restrictions (slower vehicles in the right lane only) could improve the traffic conditions on I-70 in the four lane difficult sections. Peak period lane restrictions (slower vehicles in the right and center lanes only) could improve the traffic conditions on I-70 in the six lane difficult sections. Left lane restrictions at the following locations during summer and winter holiday periods and weekends should be considered:

- Dowd Canyon through West Vail, mp 169 to 173, (eastbound and westbound)
- Vail East Entrance to Copper Mountain, mp 180 to 195, (eastbound and westbound)
- Silverthorne to EJMT West Portal, mp 205 to 213, (eastbound and westbound)
- Bakerville Interchange to EJMT East Portal, mp 221 to 215, (westbound)
- EJMT East Portal to Herman Gulch, mp 215 to 218, (eastbound)
- Silver Plume to Georgetown, mp 226 to 228, (eastbound and westbound)
- Empire Junction to Downieville, mp 232 to 234, (eastbound and westbound)
- Twin Tunnels to Morrison Interchange, mp 242 to 259, (eastbound and westbound)

In addition, increasing the availability of chain up, chain down and parking/rest areas for trucks will help in improving operations of these heavy vehicles in the mountain corridor.

Greater capacity is needed for chain-up areas especially east and west of Vail Pass, east of Silverthorne and in Georgetown to allow trucks to chain-up in areas significantly out of the general travel lanes. Today during bad weather, chain-up areas fill up with heavy truck traffic and trucks are often forced to chain-up in areas that are actually encroaching the general travel lanes, which creates a safety problem.

3. Truck Management Plan

State chain up regulations need to be strictly enforced. Winter truck accidents cause extensive delays and are often avoidable if the truck driver chained up his or her vehicle. Fines need to be increased and enforced to a level of significant deterrence.

A weekend food delivery program for the Resort Community Restaurants and Grocery stores that avoids peak travel periods needs to be developed. This could include increased food storage facilities in the Resort Communities or allowances for mid night and very early morning deliveries.

Very limited time base restrictions including complete truck bans in the mountain corridor should be considered for winter Saturday mornings westbound and summer Sunday afternoons eastbound from Floyd Hill through Vail. The operation of the Port of Entry in Downieville would also be tied to these limited time base restrictions, so that the ports would not operate during these peak periods in the specified direction.

Once these restrictions are in place, the impact to traffic congestion, West Slope, Resort and other corridor businesses, (especially food and restaurant businesses) and the trucking industry will need to be evaluated before further time based restrictions are considered. Ultimately, it may be desirable to impose time based restrictions westbound on Saturday and Sunday mornings and eastbound on Saturday and Sunday afternoons during the peak winter and summer travel months, but input from the affected parties will need to be considered before expanding time based restrictions.

4. Enhanced Incident Management

The objective of enhanced incident management is to mitigate the adverse impact on traffic due to vehicle incidents on I-70 through communication of real time congestion, incident and weather information to emergency responders in order to facilitate a quicker response. Through coordination with CDOT and local emergency response agencies and dispatch centers, real time traffic, weather and incident information would be conveyed to dispatchers and relayed to incident response vehicles. This would encourage dynamic routing of emergency vehicles based on traffic and weather conditions.

Enhanced Incident Management would make use of Computer Aided Dispatch systems, wireless communications equipment and automated incident detection. The severity of the incident and impact to the roadway may require the establishment of a Command Center and activation of a Regional Multi Agency Coordinating System.

5. Improved Entrance and Lighting at the Twin Tunnels to avoid “Tunnel Trauma”

Drivers tend to slow down as they approach the Twin Tunnels during high volume periods, due to the sense that the tunnels are much more constrained than the approaching roadway. The claustrophobic driving sensation of being confined in a tunnel is the definition of “Tunnel Trauma”. Expanding the entrance and improving the lighting to make the Twin Tunnels more inviting could help increase driver speeds through the tunnels during high volume periods. The Twin Tunnels along with merging traffic from the East Idaho Springs interchange create a substantial bottleneck during eastbound peak periods. Improved entrance and more attractive lighting may allow traffic to flow better through the tunnels during these peak periods.

6. Ramp Metering

The control of vehicles entering I-70 by the use of traffic lights at on-ramps may be desirable at certain pinch point locations throughout the mountain corridor. The objective is to achieve maximum main line flow and prevent or delay the onset of congestion throughout the corridor. This strategy has to be interactive with the changing travel patterns throughout the day and week. In addition, it has to react to incidents or lane closures in the corridor. There could also be an impact to travel patterns created by implementation of ramp metering at specific locations. The ramp metering program would need to track these travel demand changes and respond accordingly. Timely monitoring of travel patterns and remote control of ramp metering facilities to adjust to changing conditions would be critical to the success of any ramp metering implementation.

Ramp Meter Implementation

Ramp meter implementation should be coordinated with local jurisdictions and be implemented in phases relating to a specific problem area of the corridor. Installation and operation of ramp meters should be coordinated in a single travel direction to address a specific merging problem. Implementation should be continuous throughout the problem area and avoid gaps in on-ramp coverage that would allow motorists to use frontage roads to seek out an unmetered on-ramp.

Ramp meter implementation should not encourage frontage road travel. The frontage roads in Clear Creek County are already heavily traveled during peak hours and pass through heavily populated areas. Ramp meter implementation should respect community values and avoid impacts to local communities.

Estimated Effectiveness Range (reduction in peak-period travel demand):
Studies in the nation suggest an improvement in travel time of up to **7%**.

Potential Ramp Meter Locations – Eastbound

1. Eastbound-on at Loveland Pass, mp 216
2. Eastbound-on at Empire Junction, mp 232
3. Eastbound-on at Downieville, mp 234
4. Eastbound-on at Dumont, mp 235
5. Eastbound-on at SH 103/Mt. Evans, mp 240
6. Eastbound-on at East Idaho Springs, mp 241

Potential Ramp Meter Locations – Westbound

1. Westbound-on at East Idaho Springs, mp 241
2. Westbound-on at SH 103/Mt. Evans, mp 240
3. Westbound-on at West Idaho Springs, mp 239
4. Westbound-on at Downieville, mp 234

Detailed Description of Strategies:

1. Ramp metering at all locations could help mitigate the main line congestion caused by the merging traffic, however local impacts could be a potential problem due to the increased delay at on-ramps and the potential for increased frontage road traffic.

2. Interchange and Frontage road development and improvements could make the ramp metering program more acceptable on a local level.

7. Limited-Access Frontage Road

Limit travel on the frontage roads between Hidden Valley and Bakerville to usage by transit vehicles and Clear Creek County residents during peak travel hours. Electronic card-controlled access gates would control access. This would be an effort to increase transit usage in the Corridor by decreasing transit vehicle travel times.

Detailed Description of Strategies:

The limited access to the frontage road between Hidden Valley and Bakerville, it is hoped, would encourage the use of transit vehicles and thereby reduce traffic on I-70. This alternative would provide some encouragement to corridor travelers to take transit, if the travel times on the frontage road transit vehicles provided any advantage over congested highway travel times. If travel times would be nearly the same, then this would not be a viable alternative. It is unclear if this strategy would provide any net benefit.

Lack of a coordinating organization for I-70 “functional area”

The I-70 Mountain Corridor represents a single functional area. Defined by common geographic characteristics and tourism-related economic generators and united by I-70 as a major transportation connector, residents and visitors live, work, and play throughout the entire I-70 Mountain Corridor, from west Denver to Glenwood Springs. This common “functional area” includes eight counties, more than twenty-five municipalities, multiple public and private transit operators, one regional airport and multiple general aviation airports. However, there is no existing organization to coordinate activities that impact transportation across jurisdictions. This is a challenge because the development and implementation of many Transportation Management strategies rely on enhanced coordination between transportation providers and between the public- and private-sector organizations. In many corridors around the country, Transportation Management Associations (TMA) have been created. These associations bring the diverse interests along the corridor together to help implement Transportation Management strategies.

The I-70 coalition could be the organization to coordinate activities that impact transportation across the corridor jurisdictions.

Colorado Mountain Corridor Transportation Management Association

A TMA serving the I-70 Mountain Corridor could cover the I-70 Corridor between west Denver and Vail/Glenwood Springs, along with several of the communities with close ties to I-70 from an access perspective (for example, Breckenridge, Winter Park and Grand County, etc.). TMA members would likely include all major public and private stakeholder organizations that affect, and are affected by, transportation dynamics on I-70. For example, participants could include:

- Regional MPO’s such as the Denver Council of Governments
- Chambers of Commerce and Resort Associations
- Ski Resorts
- Phelps-Dodge Henderson Mine and Mill
- Lodging companies and associations
- Towns, Cities and Counties
- Colorado Department of Transportation (CDOT)
- Public transportation providers (for example, Summit Stage, Eagle Transit, RTD, RFTA, Steamboat Springs Transit - SST)
- Private transportation providers, (CME, Golden West Commuter, Home James, etc.)
- National Forest and State Park representatives
- Travel agency/travel planning representatives
- Airline and car rental representatives
- Gaming representatives
- Others

Potential Roles for a TMA

The following items represent potential roles and responsibilities for a Colorado Mountain Corridor TMA:

1. Transportation Service Coordination

The TMA could provide a forum for coordination and collaboration among key transportation providers in the corridor (for example, CDOT, Summit Stage, Eagle County Transit, RTD, SST, ski resort transit systems, lodging shuttles, private transportation providers, etc.). Coordination would focus on achieving economies of scale and simplifying travel choices for visitors.

2. Coordinated Marketing and Education

The TMA could facilitate integration of marketing for I-70 destinations with marketing of travel choices to and within the corridor. Development of coordinated schedule/route maps that incorporate multiple transit providers throughout the corridor could be a component of marketing integration. Development of advanced traveler information systems and integration of these systems with visitor information outlets throughout the corridor could promote “smart” travel decisions.

3. Advocacy

The TMA could facilitate a collective advocacy for continued transportation and economic development investments throughout the Corridor, including advocacy at the national level for federal and foundation funding. Public-private partnerships with diverse stakeholder representation can be very effective in this regard.

4. Employee Mobility Programs

The TMA should work closely with major employers in the corridor to develop employee mobility programs to improve access to labor markets in response to the jobs-housing imbalance issues facing many resort communities along I-70. Programs could include employee shuttles, vanpools, and carpools coordinated among multiple employers in an area, and the development of enhanced transportation information for employees (including multi-lingual transit maps/schedules that cover all transit providers in an area).

TMA Development – Next Steps

Forming a TMA is similar to starting a new business. Before getting off the ground, extensive research should confirm the viability of the business concept. A TMA Feasibility/Formation Study (often sponsored by public-sector seed funding) typically includes evaluation of:

- the overall level of need, and logical boundaries, for a TMA,
- the types of services a TMA could provide,
- the level of support for a TMA from key stakeholder groups, and
- the availability of adequate financial commitments to support a TMA (both initially and over time).