



**October 19 & 20, 2006
Transit Workshop & Retreat**

Copper Mountain Conference Center

FINAL REPORT

INTRODUCTION

Recognizing the need for informed decision making regarding transit options in the I-70 Corridor and as a follow-up to the work it had done in identifying a Regionally Preferred Alternative for the Mountain Corridor PEIS, the I-70 Coalition organized a two-day meeting held October 19-20, 2006 at the Copper Mountain Resort to address transit issues.

The first day of the meeting was devoted to education. The education segment included several panels, giving experienced transportation and finance professionals an opportunity to share their knowledge regarding: planning and development of new transit systems, organizational structures appropriate to a range of tasks, system finance options, and technology choices. Appendix 1 includes copies of the slides used by panelists in their presentations. The day concluded with a dinner and an exhibition by vendors and others of transportation options and technologies as they relate to the corridor.

While open to anyone interested, the second day was designed to bring coalition members together to elaborate on previously-agreed upon principles regarding transit development, while also identifying areas of disagreement or concern, and to identify next steps for the coalition.

This report seeks to summarize what occurred at the meeting, both as a record for participants, but more importantly to make the dialogue available to others who share an interest in the future of the region.

EDUCATING THE COMMUNITY ON TRANSIT OPTIONS

I-70 Corridor Coalition Accomplishments

Bill Wallace, chair of the Coalition opened the meeting, explaining the work of the coalition and expectations for this meeting. The mission of the Coalition is "*...to enhance public accessibility and mobility in the I-70 Central Mountain Corridor and adjoining dependent counties and municipalities through the implementation of joint public & private transportation management efforts.*" It has pursued the following:

1. Serving as the collective voice for the I-70 Central Mountain Transportation Corridor and adjoining dependent counties and municipalities in addressing transportation issues.
2. Developing a regionally preferred transportation plan with locally accepted solutions.
3. Enhancing employer, business entity, property owner and local government participation and investment in transportation services and programs.
4. Increasing awareness of locally preferred transportation plans among citizens, federal and state legislative bodies, and transportation agencies.
5. Advocating for the application of best practices and technologies to the regionally preferred transportation plan.

Lessons Learned in Planning New Rail-based transit systems

Speakers on this panel summarized lessons learned in birthing rail based transit in Denver, northern New Mexico and Utah's Salt Lake metropolitan area. The Denver and Utah stories as described by RTD's Bill Van Meter and Utah Transit Authority's Steve Meyer had many parallels and similar lessons. In both cases the principal player is a regional transit authority that had a history of operating regional bus-based transit systems, financed through a combination of user fees and regional sales tax. Both are in the process of developing region wide rail based systems using a combination of transit modes. In putting forth the lessons learned, Van Meter and Meyer spoke about the importance of a taking a broad regional perspective, of planning from the bottom-up, and building support among broad constituency groups including business, public officials, and the general public. They emphasized how important it is to:

- Get diverse groups to focus on the future of the region given growth rates, patterns of land use, and associated transportation needs and let them figure out the impacts on the economy and quality of life.
- Emphasize how transit provides a transportation choice and alleviates congestion on the highways.

Both speakers emphasized the value of incremental build-out. Building segments allowed them to establish credibility, demonstrating they could build systems on time and within budget and that they would be embraced by prospective riders.

New Mexico's story, as told by Chris Blewett, was quite different and demonstrated other factors that can lead to successful development of transit. Governor Richardson declared transit as critical to his plans for the development of the state, dedicated state funds for the purpose and demanded rapid implementation of his vision. The state transportation department indicated that its expertise was in road building and invited the Metropolitan Planning Organization to assume responsibility for developing a commuter rail system serving the area around Albuquerque and Santa Fe. The MPO was able to acquire track for the initial segment and right of way for later segments from a private railroad, to acquire rolling stock sufficient for start up all within a three year period. In telling the story, the system's representative emphasized the importance of committed political leadership at the state level, available financing to support capital development and operating, a can-do attitude, extensive communications and creative marketing for successful system development.

Federal funding has played a role in some but not all of the projects. The speakers agreed that seeking federal funding adds many years to project development and that the regulations which must be adhered to, add directly to costs. As a result, there are virtues to constructing systems without seeking funding from the Federal Transit Administration. Utah and Denver, however, opted to seek federal support for their larger system development to make the overall financial package work.

Organizational Structures and Planning Processes

Some type of organization is required for planning, political mobilization, and implementation of transportation solutions, noted panel moderator Stan Zemler. Different organizational structures may be appropriate, however, given local circumstances and what needs to be done. While the I-

70 corridor is unique and may well need a unique organizational solution, its choices can be informed from an examination of organizational structures that have been developed elsewhere.

Zemler related his experience with a Transportation Management Organization, put in place to promote improvements in the U.S. 36 corridor. By bringing together public and private leaders to develop a common vision, the TMO raised the prioritization of the corridor's improvements in the region's transportation plan. The Transit Alliance, (another public private partnership) served an important role in convening diverse interests, providing public education on transportation options. They also helped raise funds needed to gauge public perceptions of needs and option and develop a plan for gaining legislative and ultimately public approval of funding for transit.

Brendon Harrington of Urban Trans described a number of different organizational arrangements that have been developed around the country to advance regional transportation improvement efforts. Metropolitan Planning Organizations play a key role in developing transit development plans and are accorded certain roles and responsibilities by state and federal government. The I-70 corridor does not meet the requirements having to do with population size and density for MPO designation, however, so this form of organization is not an option. Various other forms of organization are possible for advancing transportation interests in the region. These include:

- Transportation Authority: Can levy sales and use tax for transit operations, but can only be set up following a popular vote.
- 63-20 Corporation: Private non-profit corporations formed to finance public improvements, have the ability to issue tax exempt debt. (e.g. Central Platte Valley)
- Transportation Improvement District: Special districts formed to provide transportation enhancements, with access to public funding. No precedents exist in Colorado.
- Transportation Management Organization: Non profit organizations formed by public and private stakeholders to do advocacy, planning and implementation of limited transportation services such as shuttles. (e.g. US36TMO)

Each organizational form has strengths and weaknesses. The key is to focus on program goals, purposes and scope and let those lead to an organizational form. Regardless of the specific organization form, there is a need to involve both the private and public sectors, and within the public sector, to engage a broad range of jurisdictions. To improve mobility, transportation choices are required and multiple strategies will likely need to be implemented.

The discussion moved from organizational structure to processes an organization might go through to develop a transit system. Jim Graebner offered advice on how to approach the task, based in part on lessons learned in developing a commuter rail system for Austin, Texas. He delineated several principles and suggested a process for making a choice of transportation technology. The first step is to carefully define the area's needs, remembering the mission is to improve transportation, and focus on what counts in developing performance criteria.

In developing criteria, communities might consider:

- Overall system speed -- how long it takes to get from point A to point B is related to multiple factors include maximum speeds attainable, acceleration, braking, grade, curvature, and numbers of stops.

- Rider comfort
- Safety standards – for riders, employees, communities along the right of way.
- Expectations of continuity of performance under weather conditions
- Any Physical constraints, for example foot print, power requirement.
- Capacity and frequency of service

Graeber suggested that communities must also determine their tolerance for risk, suggesting it may be better to stick to technologies that have demonstrated themselves to be reliable in real service situations. To the extent possible, it is best to follow the KISS principle – Keep it simple stupid --to maximize operational reliability.

Having developed performance criteria, the next step is to invite multiple proposals. Let vendors explain how well their technologies can meet your performance criteria. Technologies entail several components about which choices will be made: some kind of guide way, a people box, an interface between the guide way and the box, power or method of propulsion, and a system for control/command. Technology choices and systems design should follow rather than precede the selection of performance criteria.

Graeber recommended that communities work in partnership with vendors, carefully listening to what they have to offer and learn about the factors that are likely to enhance or constrain their performance. Based on what is learned in this negotiation process, modifications might be needed in drawing up the final performance specifications.

Finance Options

The discussion of finance opened with a presentation of federal financing options available through the Federal Transit Administration. Charmaine Knighton, Deputy Regional Administrator for FTA Region 8 explained FTA organization and grant opportunities. Of greatest relevance for the I-70 Coalition is FTA's program for New Capitol Construction including programs for small and very small starts. This program supports construction of new fixed guide way systems or expansions to existing systems. A number of criteria are used to evaluate proposals, including one's relating to cost efficiency, mobility improvement offered particularly as they relate to low income populations and commutation to jobs; environmental friendliness, operating efficiency etc. Knighton concluded that the Coalition should explore options with the Federal Rail Administration and the National Research and Technology Program.

Funding available through the Colorado Department of Transportation was described by Joyce Bunkers. Funding for the I-70 corridor is programmed through "the 7th Pot." The Transportation Commission has designated \$1.1 billion in 2000 dollars for the corridor, which adjusted for inflation equals approximately \$1.6 billion at present. The state's policy at the present time is to complete all designated 7th pot projects throughout the state before adding any new projects to the list. Given anticipated funding, that could mean that no new projects will be designated prior to 2024. There is also a 7th pot for transit projects. Total funding available 2006 -2010 was only \$65 million. Money is fully programmed through 2010. Should the I-70 Corridor seek outside

funding, for example through a Congressional earmark, the funding received will be counted against the Corridor's 7th pot control total.

Brian Pinkerton of CDOT elaborated, noting that the current concern in CDOT is that there won't be enough money to maintain existing pavement and bridges, no less do any improvement. He chaired the finance committee that estimated the likely level of funding available used in the draft PEIS. Given the dismal forecast at CDOT, they had actually been optimistic in choosing to evaluate options assuming \$4 billion in available funding. When it comes to building anything in the corridor, terrain adds greatly to the cost regardless of mode or technology. Even using optimistic projections of transit's ability to attract a high share of estimated load, ridership is unlikely to be high enough to cover operating costs, and therefore will be unlikely to defray construction costs. At the same time, the likelihood of attracting FTA's support for capital costs is low because in evaluating projects they place a great deal of emphasis on a measure of costs per person mile traveled. With high construction costs and relatively low ridership, the project is unlikely to be evaluated favorably in ordinary review processes. Discussion focused on how narrowly focused the FTA measure is and its inability to assess other gains provided by the project. Participants suggested it made more sense to look more broadly at return on investment.

If federal funding is unlikely, the next alternative is local or private financing. Alan Matlosz of George K. Baum Associates addressed the potential of raising these funds. He assured the group that investors would be willing to loan money for the construction of the project, but only if there were an assured source of funding to pay back the loan. Generally investors do not consider highway tolls or user fees (fare box revenue) to be a reliable source. That led him to explore local tax support for the project, either through a regional transportation authority or metro district. RTA's are authorized (with voter approval) to raise 1% in sales tax, 2% in lodging tax, and \$10 in vehicle registration fees. Metro districts can levy a property tax. Using current estimates of tax base, Matlosz estimated that a regional transportation authority might support annual debt service on an \$800 million bond and a metro district levying a 5 mill property tax could cover debt service on a \$660 million bond. Looking around the nation, most transit projects have been supported with sales taxes. Another alternative might be an increase in the fuel tax (requiring a statewide vote). Each one cent increase would generate about \$25 million annually (supporting about \$385 million in borrowing), but there would be competition from other areas of the state for these funds.

Discussion focused on ways to involve the private sector in making a contribution to a transit system. Speakers responded that most private sector financial contributions have come in the form of transit-oriented developments.

Evaluating Technology Choices

The final panel of the day focused on technology choices. As a segue from the financing panel, Richard Stanger, a transit consultant, urged the group not to be discouraged by the limited financial prospects. Political circumstances change; rising gas prices and oil insecurity are factors that increase interest in transit. He suggested that the Coalition's goal should be to position itself with a project that is ready to go, should money ever become available and politicians' need a quick answer. "Get ready and occurrences happen!"

Stanger then briefly reviewed alternative modes and technologies. He urged the group not to reject any out of hand, since all have new technologies associated with them, allowing attractive and modern transportation. The first fundamental tradeoff is capacity vs. area coverage. The higher the capacity of the system, the fewer the points of access it will offer. Busses offer better area coverage but lesser capacity than rail.

Since the primary attributes needed in the I-70 corridor appear to be speed and capacity, rather than area coverage, Stanger concluded that the two best options for the corridor seem to be bus in HOV lanes or rail. Busses are more economical per unit of operation. But they have much less expansion capability. Since you can add cars to trains, rail can offer substantial cost savings on high capacity days. At this point, exact vehicle type is secondary to getting the track alignment protected and built. Passenger rail and freight can be accommodated on the same right of way, but doing so will add extra considerations regarding vehicle choice and operating conditions.

Jack Tone of Parsons Brinckerhoff extended the discussion of technology choice reviewing various train technologies given characteristics of the I-70 corridor, which include distance, long hauls at high grade, track curvature, an environmentally sensitive route, the need for strong flexibility regarding load, and the need to operate in weather extremes. Some of the attributes to consider in evaluating alternative technologies include: acceleration, adhesion, maximum speed, noise emissions, system cost. First, rail vehicle technologies, including locomotive hauled, self propelled units operating on electricity (EMU including Maglev, linear induction motors (LIM) and conventional EMU) and self propelled units operating on diesel. In their analysis EMU's offer some advantages with respect to acceleration, adhesion, speed and noise. Some comparisons were then offered regarding different technology alternatives include LIM Maglev, LIM steel wheel and conventional traction motor designs. LIM offers advantages in acceleration, adhesion, speed and noise emissions but at higher cost. Other factors to consider include compliance with FRA standards allowing operation on right of ways with freight trains, whether the technology is proprietary, whether it accommodates operating trains that may not run the whole distance (to accommodate differences in demand); and standardization vis-à-vis RTD's choices. These factors militate against maglev and might preclude the consideration of a number of the vehicle types now on the market.

Bob Turman of Sandia Labs reported on a study completed a couple of years ago with the support of the FTA on the potential for Maglev technology in the I-70 corridor. Maglev is a good solution inasmuch as it provides:

- Good traction capability in climbing high grades
- Can ride on an elevated guide way
- Wrap-around guide way designs give high levels of safety
- Using linear synchronous motor propulsion, no exposed power lines are required, further adding to safety.
- The magnetic cushion results in excellent ride quality.
- Technology can handle the turns and grades of the existing right-of way.

The downside of maglev can be summarized as follows:

- The technology and infrastructure are less well developed than other alternatives, with less of a track record in service;
- Present suppliers are off-shore, but U.S based technologies could catch up.
- Cost is relatively high and there are uncertainties regarding cost
- Front-end investment is high since the system can't be built incrementally.

An audience member questioned the electric power requirements of maglev, the potential dangers of electro magnetic fields and the need for back up power to ensure braking. Turman suggested that these are not impediments to the development of maglev.

Further discussion focused on potential public and private roles in the development of transportation. One questioner was interested in the possibility of the public sector constructing a guide way, allowing private sector partners to operate vehicles. He wondered if this model worked better with one technology rather than another. Panelists responded that this model works best when there are higher levels of standardization. Currently, there is greater standardization with respect to standard rail tracks, allowing multiple vehicle types and plausibly different operators. Other guide way systems tend to be coupled with specific vehicle and propulsion systems that involve proprietary systems.

The final point of discussion related to the compliance of various rail vehicles with Federal Rail Administration standards. Many of the vehicles in use in Europe are not FRA compliant and hence are precluded from operating on existing track used for freight or even, in some cases, in the same right of way. In evaluating safety, American regulators put a great deal of emphasis on the design of the physical system. Europeans have tended to place more emphasis on operating control systems and have allowed a wider range of vehicle designs. Some audience members urged a review of FRA standards to determine if they are written in the best way to maximize both mobility and safety needs.

DEVELOPING CONSENSUS ON NEXT STEPS

During the second day of the meeting coalition members engaged in a deliberative process to identify issues, performance criteria, and possible organizational structures for promoting progress on a transit alternative.

Senator Ken Salazar opened the discussion by reporting on a range of concerns at the national level including the war in Iraq, energy independence, health care, and immigration. He also reported on his efforts at the national level to address Colorado's concerns regarding federal payments in lieu of taxes (important to local jurisdictions encompassing federal lands) and bark beetle devastation of forest lands.

Within the state, he suggested that with a new Governor taking office, it is a useful time to initiate several statewide summits to address key issues facing the state including energy, health care, education, open space preservation and most notably from the perspective of the I-70 Corridor Coalition, transportation. The Senator urged further review of alternative transit technologies, assessing feasibility and cost. He promised that he would continue to follow the work of the corridor coalition and assist in developing appropriate collaborations. He

acknowledged that federal involvement in the development of transit systems can add to the complexity of development, but noted the important contribution that the federal government is making to the FasTracks project in the Denver metro area. He also promised to assist the group in assessing federal rail regulations, should it conclude the regulations pose an unnecessary impediment to development of a viable transit system.

Meeting Agenda, Structure and Ground rules

Lisa Carlson, executive director of the Center for Public Private Sector Cooperation at the University of Colorado at Denver, facilitator for the meeting started by introducing the agenda. (See Appendix) She noted that the work would be accomplished through a combination of small and large-group work, to ensure full discussion and to facilitate consensus on issues. In the formation of five small groups, participants were asked to ensure that each group had representation from several different counties, included elected as well as appointed officials and that resource people (e.g. CDOT) were evenly distributed. A participant listing, by small group, is included in Appendix 2. General ground rules for conducting the meeting was discussed. (See Appendix).

Bill Wallace asked that the groups take the work that was completed last year as a given and to move on from there, adding detail and specificity to the principles already established. The 12 principles underlying the group's regionally preferred alternative, listed below, were reviewed.

1. Transportation in the corridor is a system that must serve off-corridor communities as well as those on I-70. The system must be scenic in and of itself and not simply a way to move people and goods.
2. The system must be multi-modal and include highway, transit, aviation, alternate routes and non-motorized components.
3. The system must increase capacity.
4. Planning must be expanded to at least 50 years. The system cannot become obsolete in 25 to 30 years.
5. Planning for the components must be concurrent.
6. Solutions should be incrementally implemented and address the problem areas first.
7. No alternative should preclude any other component of transportation.
8. Transit must be alluring and at least as fast as the highway component, corridor wide, networked to a system extending beyond the I-70 corridor and provide seamless connections to Denver International Airport (DIA).
9. Building a rapid transit component must be an essential element of a long range, integrated transportation system in the region.

10. Transit must move things in addition to people.
11. Mitigation must be implemented with each solution. Any plan must provide for the immediate mitigation of existing environmental and community impacts.
12. The artificial constraints of “25 years and \$4 billion” do not address the needs of the corridor and should be eliminated as screening criteria.

Hopes and Fears Regarding Transit Development Along the I-70 Corridor

Small groups were asked to brainstorm hopes and fears regarding transit development. In categorizing items, hopes and fears were grouped since typically they reflected similar underlying concerns, differing only if they were stated in the negative or the positive. The table below summarizes what the small groups identified, identifying the total number of listed hopes and fears placed in the category, and the number of different small groups that discussed one or more items placed in the category. A full listing of hopes and fear and the categories into which they were placed is included as Appendix 3.

Categorization of Hopes/Fears	# of mentions	Groups listing hope/fear
Timing/Fear of Delay/Hope for Speedy implementation	18	1,2,3,4,5
General successful implementation	3	1,2,4
Public/private role	2	5
Funding	9	1,2,3,5
Affordability	3	1,2,4
Broadened support/collaboration	6	2,3,4,5
Politics/process	8	1,4,5
Quality of planning	4	2,4,5
Relieve highway congestion	2	1,2
Pursuit of Transit not interfere with highway or short term transit needs	8	1,3,5
I-70 widening/footprint	4	2,5
Reliable	2	1,4
Long term operating/maintenance	5	1,2,3,4
Level of Use/Ridership	6	1,2,4
Speed/time	4	1,2,3,4
Works for commuters	3	1,2,5
Carries goods	3	2,5
Convenience	2	2,5
Context/Sensitive Solution -- environmentally friendly, aesthetically pleasing	12	1,2,3,4,5
Seamless/integrated system	8	1,2,3,4,5
Alignment/ Degree to which different communities are served	6	1,3,4,5
Impact/Tourism and Economy	3	2,5

Impact on Future Land Use/Character of Communities	5	1,2,4,5
Mitigation of construction impacts	3	1,2,5
Other	2	2,5

The most common concern has to do with **timing** of the effort, with 18 mentions occurring in all five small groups. These concerns were generally stated as a fear of being bogged down (and possibly not succeeding) or a hope that transit could be implemented quickly. Also, some additional comments were made regarding a general hope for successful implementation of a model project.

Another common concern has to do with the hope for a **context-sensitive solution**. Generally, participants expressed a hope that the system would be aesthetically pleasing and protect all aspects of the environment. All told there were 12 mentions of items related to CSS and all groups shared these concerns.

A number of participants expressed a concern about **the interrelationship of transit and highway**, with many expressing hope that pursuit of transit would not prevent improvements to the highway or on occasion, pursuit of other low-cost transit options in the short-term. Eight items were grouped in this category and were discussed in three of the five small groups. In addition, two groups noted their hope that development of transit would **relieve highway congestion**. Two groups (4 mentions) also discussed concerns regarding the **footprint of the highway**, with fears regarding widening and hope that transit might minimize that need.

Other categories of concern related to the **availability of funding** (9 mentions, four groups) and **affordability** (3 mentions, three groups).

Many of the groups discussed a variety of hopes or fears regarding the **planning process** (8 mentions, three groups). Some expressed hope for a “model process” but more often fears were expressed regarding a lack of leadership, politicization or parochialism, insufficient public education. An additional six hopes/fears related to the likelihood of achieving **collaboration or broadening of support**. Some hopes/fears related to the substance of the plans developed.

Some concerns were expressed regarding the **alignment**, the extent to which different communities would be served, and the build out of a system so more of the region benefited (6 mentions, 4 groups). A related category includes hopes for a **seamless, integrated system** serving the region and the state (8 mentions, discussed in all groups).

Other concerns related to the long-term operation of the system and its characteristics. Participants worried about **long term operational and maintenance** and about levels of **ridership**. They generally expressed hopes about **reliability, convenience, and speed**. They hoped it would work for commuters and carry goods as well as people.

Both hopes and fears were expressed about **community impacts**. Generally there were hopes regarding its stimulation of tourism and the economy, but concerns that it would stimulate residential growth and change the character of local communities.

Performance Criteria for a New System

To develop performance criteria for the system, a two-step process was followed. First, the small groups identified possible criteria and for each criterion discussed, determined whether they were already in agreement, could likely reach agreement if they had more time, or whether there was serious disagreement.

In a second step, full group consensus was sought on the items put forward by individual groups as desired performance criteria. Using an affinity diagramming process, groups were asked to report on the items on which they agreed. Like items from other groups were put forward and examined for consistency.

- If the items were consistent in content and had been labeled as a consensus item within the each of the small groups, they were adopted by the large group. Sometimes differences were discussed and worked out, yielding agreements in the large group.
- If items were inconsistent in content or had been labeled as non-consensus, they generally were listed as being in need of further discussion.

Appendix 4 lists all of the criteria developed in the small groups, the degree of consensus reached at the small group level, how they were grouped, and whether consensus was achieved in the large group. Here we summarize the issues discussed and level of agreement.

Substantial Agreement was reached with respect to the following:

- **Energy efficient:** Some groups listed the criteria in general terms while others explicitly mandated no impact on global warming and/or minimal use of fossil fuels.
- **Context Sensitive Design:** The technology chosen should be quiet, wildlife friendly, alluring, minimally block sun, and generally have low impacts on the environment.
- **Affordable:** Fares must be affordable to the rider and the system must be cost effective.
- **Comfortable for the Passenger:** Passengers should have access to amenities such as air conditioning, toilets, food and beverage service, and access to the internet.
- **Passenger Focused with an ability to Carry Baggage and Recreational Equipment:** Generally, the primary purpose of the system should be to carry passengers, whether visitors or residents commuting to their jobs. The trains should have the ability, however, to carry the items that they need to enjoy their stay in the mountains including common recreational equipment such as skis and ski boards, kayaks, bicycles etc.
- **Operational Within 10 Years:** Some groups had initially talked about the need for a technology that could move to implementation in three to five years. In large group discussion, it was decided to not to distinguish phases (time to plan vs. construct) but rather to focus on when the system should become operational.

- **Tested and Observable:** The I-70 corridor should not be a guinea pig for an untested system. The technology must have been implemented in some setting, so a delegation can visit and determine its degree of success in operation. While the group agreed on this criterion, it agreed further discussion was required regarding what constitutes technological feasibility. (See below)
- **Reliable:** The transit technology must be reliable in general, and capable of reliable operation under extreme weather conditions.
- **Operate on Grade:** The technology must be able to handle 7% grade, with little diminution of performance.
- **Meet Long Term Needs:** The system design should have the potential to handle the capacity required over a 50 year planning horizon.
- **Expandable:** The system should be able to alter carrying capacity, recognizing differences in demand over time. It should also be expandable to handle off-corridor transportation needs, either through system expansion, recognizing that spurs do not have to use the same system technology but would need to operate seamlessly in an integrated fashion.
- **Express and Local Service:** To balance the need for speed on trips to more popular destinations and service to wider range of destinations, the system should have the capacity to provide both express and local service.
- **Efficient with Respect to Operations and Maintenance:** System should have relatively low annual operations and maintenance costs.
- **Safe:** System must be capable of operating safely in mountainous terrain and in adverse weather conditions. (Adhesion, braking etc.).
- **Vendor Risk Sharing:** The supplier of the system's technology should share the risk associated with the system's development and/or operation.

Further Discussion is needed with respect to:

- **Technological Feasibility:** The group agreed that whatever technology is chosen needs to be sufficiently developed to be implemented in a relatively short time frame, and that it should be observable in operation somewhere. Some of the small groups, however, rejected strongly a requirement that technology be "proven" wanting to remain open to innovative systems. The group agreed to have further discussions of how close they want to be to the "cutting edge."
- **Frequency of Departure:** To attract ridership, there must be relatively frequent service, but further specification is required.

- **Variable Capacity:** Even in the short term, the system should be capable of adjusting to different levels of demand by day of week and time of day. Further discussion is needed as to what constitutes reasonable levels of scalability.
- **Marketing:** The planned system will serve different constituencies. Some consideration should be given to different marketing and fare strategies.
- **Freight:** Passenger transport is clearly the priority, but ability to carry different types of freight may be desirable if it can be done in a way that is compatible with the primary goal. Further discussion is required regarding types of freight and issues of compatibility.
- **Federal Rail Administration Compliant:** This issue is related to the above discussion of freight. In order for passenger vehicles to operate on the same tracks and/or right of way as freight, vehicles must meet certain requirements. While FRA sets these standards to ensure safety, they preclude the use of a number of vehicles that have achieved safe operations abroad. Hence further discussion is required to assess the standards themselves (in terms of their relationship to safety) and of the need for I-70 technology to be FRA compliant.
- **Non-Proprietary System:** Some designs require the use of proprietary technologies and/or single vendors. Further discussion is required to assess the tradeoff between desirable technology attributes and the constraints associated with proprietary systems.
- **Adaptable to different vehicle types:** Further discussion is required whether the group wants to specify a guide way capable of carrying different types of rail vehicles (including the potential for carrying personal vehicles).
- **Usability/Flow and Seamless Transfers:** It may be desirable to specify certain characteristics regarding the ease with which a passenger flows through the system, to minimize time and aggravation. These might relate to shifts in mode, ease of transfer, numbers of transfers required to any given destination, handling of ticketing and baggage (e.g. from DIA to final destination), security procedures etc.
- **Speed/Time:** There was consensus that some time of specification is required regarding the time it would take between specified destinations, but disagreement on the specifics. Everyone accepts the original specification that the system must allow travel times equal to or better than can be achieved with the automobile.
- **Alignment:** Some further specification of alignment is required. Generally the group agrees on minimizing the I-70 footprint and the impacts of any transportation developments on existing communities. There needs to be further discussion of the extent to which alignments might deviate from I-70 and number and location of stations.
- **Capability of Elevation/Tunneling:** There is general agreement on the desirability of grade separation, but further discussion is required on the desirability of taking the

system above or below ground. Decision-making on this is related to desires regarding alignment.

- **Station siting and design:** Until other decisions are made regarding system performance, specifications on station siting and design were viewed as premature.

On all of the above items, the group indicated that some kind of consensus could probably be reached but that at this time they either did not have sufficient information or sufficient time to accomplish the task. Only one idea was rejected – that of having different classes of service that would separate passengers.

Choosing an Organizational Structure

The original agenda called for a visioning process, examining structures and relationships in the long term when a transit system is fully operation, designed to set the stage for an examination of short term organizational needs. Participants asked that the agenda be reversed, to focus first on next steps with a possible deferring of the long term discussion for another time.

Bill Wallace introduced the discussion by noting that the Executive Committee of the Coalition was recommending creation of a non profit organization incorporated under section 501(c) (6) of the Internal Revenue Code. The I-70 coalition has been housed by the Northwest COG and the COG has been the official recipient of any funding that has been received to support the Coalition’s work. As a short-term project, that arrangement worked. But if the coalition is to continue to monitor the PEIS, and to continue work planning and building support for transit development, the Executive Committee believes that it needs an independent organization. It had reviewed the options in the Urban Trans report and identified the 501(c) (6) option as being best in the short run. This structure has several desirable features, including the ability to include both public and private sector members, to receive grants and contracts, and to engage in the type of political activity which may be required to build support for a transit system. Other organizational structures might facilitate additional activities (e.g. raising taxes and building a system), but they are more difficult to set up and may be premature.

Participants asked for further information on the distinctions between different types of non profit organizations. They wanted to be certain that the group could accept gifts, grants and contracts. Some suggested a dual-pronged approach, creating a 501 (c)(3) to support public education, with the capability of receiving gifts that are tax deductible to the donor, to complement the more political work of a 501(c)(6) organization.

Some argued it would be better to start the process of establishing a regional transportation authority, so the region could simply get on with the task of building a system. Others countered this was premature. The coalition had offered a regionally preferred alternative that if adopted could be embraced by CDOT or other statewide organization. Until there is a record of decision, it is difficult to say what type of organization is needed. The best organization in the long-term could take many different forms –RTD could extend into the mountain corridor, there could be a statewide entity, or perhaps a private entity might step forward. It was agreed that more

discussion is required to determine the best long term organizational form, boundaries, inter-relationships with existing local transit operators etc.

The group agreed to continue work on a short term organizational solution. The following work plan was discussed, but the timetable is contingent on the availability of key personnel to complete the tasks.

- Member jurisdictions will report on interest in and concerns regarding a new organization at the November meeting of the coalition.
- A committee will be formed to do additional research on alternative legal forms and what must be completed in what sequence to become legally incorporated, and to develop draft bylaws. (Suggested committee members included: Harry Dale, Tresi Houpt, Bob French, Dorothea Farris, Bill Wallace, Stan Zemler)
- Draft articles of incorporation to be presented to members in December, with the goal of final approval in January.
- Draft bylaws to be presented to members in January, with the goal of a final approval by February.

APPENDIX I – DAY I PRESENTATIONS AND BIOGRAPHIES OF PRESENTERS

All presentations are posted on the web site www.i-70coalition.org.

I-70 COALITION TRANSIT WORKSHOP COPPER MOUNTAIN CONFERENCE CENTER THURSDAY, OCTOBER 19, 2006

PRESENTERS

Chris Blewett

Project Manager, New Mexico Rail Runner Express

Mr. Blewett has served as the Project Manager for the New Mexico Rail Runner Express since August 2003 and as the Director of Transportation and Planning Services for the Middle Rio Grand Council of Governments (MRCOG) since February 2002. He is also an adjunct professor for the University of New Mexico's Community and Regional Planning Department.

Mr. Blewett's previous experience includes Interim Executive Director of MRCOG (2000 – 2001); Transportation Planner/Director of Planning Policy & Development for Bernalillo County (1994 – 2002); Senior Associate with Barton Aschman Transportation Consulting Firm (1993 – 1994); Transportation Planner for MRCOG (1987 – 1993); and Statistical Analyst for the New Mexico State Highway and Transportation Department (1985 – 1987).

Mr. Blewett received his Bachelor's Degree in Government/History from the New Mexico State University and his Master's Degree in Political Science from the University of New Mexico.

Joyce Bunkers

Office of Financial Management & Budget, Colorado Department of Transportation

Ms. Bunkers has worked for the Colorado Department of Transportation for 14 years, the majority of these in a Regional Business Office. She has served as a Regional Business Manager for four years. Ms. Bunkers worked as the CDOT financial person for the T-REX Project.

Harry Dale

Commissioner, Clear Creek County

Commissioner Dale is an Industrial Engineering graduate of the University of Dayton. He has worked as a Technician and Manager in Broadcast Television Operations, and as an Applications, Systems and Project Engineer and Project Manager in Telecommunications since the early 1980's and moved to Colorado from Connecticut in 1997.

Prior to being elected County Commissioner in November 2002, he was a Project Manager for ADC Telecommunications. Although most of his projects centered on the deployment of cable telephony services, his last project was the installation and turn up of a digital video network for Qwest to service the 2002 Winter Olympics in Salt Lake City. This network spanned nearly one

third of the State of Utah and provided audio and video circuits for national and international broadcasters and state and federal government agencies.

Commissioner Dale is finishing his first term as County Commissioner in Clear Creek County. He is serving his second term as the Colorado Counties Mountain District President. He is also the Vice Chair of the Colorado Counties Tourism, Resorts and Economic Development Steering Committee; a member of the Denver Regional Council of Governments Board and Metro Vision Issues Committee; and Vice Chair of the Upper Clear Creek Watershed Association.

James H. Graebner

Founder and President, Lomorado Group

With over 44 years in the industry, Mr. Graebner is an internationally recognized expert in all phases of public transportation with demonstrated ability to work with technical experts, community groups and the political process to implement and operate major transportation systems. He has served as CEO of large public transit agencies and in numerous leadership roles for industry associations. He has in-depth experience with all transit technologies: light rail, bus, trolley bus and streetcar, and has had consistent recognition for innovative thinking and the ability to develop workable solutions to complex problems. This background is enhanced by an encyclopedic knowledge of the history of public transit.

Brendon Harrington

Planning Manager, UrbanTrans

Mr. Harrington is Planning Manager for UrbanTrans, leading the Denver office of the firm. Mr. Harrington has diverse and varied experience in Transportation Planning and Transportation Demand Management (TDM). He also has extensive experience in Transportation Management Association (TMA) administration, including program development, promotion of travel options and expansion of employee commute strategies. Mr. Harrington also has expertise in using TDM for major corridor planning and construction mitigation.

Mr. Harrington is a graduate of Cornell University with a degree in City and Regional Planning. He is a member of the International Downtown Association and the Association for Commuter Transportation (ACT), serving as a board officer for the Rocky Mountain Chapter.

Trési Houpt

Commissioner, Garfield County

Commissioner Houpt is currently serving as a Garfield County Commissioner. Through her nonprofit work prior to being elected and during her tenure as a commissioner, she has been very active in regional partnerships and served as the founding Chairman of the I-70 Mountain Corridor Coalition.

Other professional boards and committees for which she has served include: President for the Colorado Counties Inc (CCI) Western District (2005); Vice Chair of CCI's Land Use and Natural Resources Committee (2004-2006); Chair of the Rural Resort Region (2003-2005);

NACO Environment, Energy and Land Use Committee (2005-2006); Colorado Blue Ribbon Panel on Housing (2005-2006); Advisory Board for Ruedi Water and Power Authority (2003-present); Advisory Board for the State Park System, Strategic Planning Process (2004); Colorado Counties Inc (CCI) RS2477 sub committee (2004-2005); and Advisory Board for Healthy Beginnings (2003-2006).

Previous professional and community service involvement includes: Executive Director of Valley Resource Management, an intergovernmental partnership in the Roaring Fork and Colorado River Valleys; Board of Education Director for the Roaring Fork School District (RFSD); Board of Directors and Executive Committee for the Colorado Association of School Boards (CASB); Board of Directors and Legislative Committee Chair for the Colorado Association for Recycling (CAFR); Advisory Board for Roaring Fork Family Resource Centers; and Advisory Board for the Roaring Fork Health Council.

Charmaine Knighton

Deputy Regional Administrator, Region 8, Federal Transit Administration

Ms. Knighton currently serves as the Federal Transit Administration (FTA) Region 8 Deputy Regional Administrator. In this capacity, she manages the administration of the Federal transit program for the Region 8 states that include Colorado, Utah, Wyoming, North Dakota, South Dakota, and Montana. Overall, Ms. Knighton has worked for the Department of Transportation for 16 years.

Before working for the FTA, Ms. Knighton worked for the Federal Highway Administration (FHWA) for 15-1/2 years. In 2004-2005, she was the Assistant Division Administrator for the FHWA Texas Federal-aid Division Office. In this capacity, she was responsible for managing the Division Office staff in partnership with the Division Administrator. The staff consisted of 54 personnel who administered the federal-aid program with the Texas Department of Transportation. Previous to this position, Ms. Knighton worked in the FHWA Colorado Federal-aid Division Office where she filled the position of Program Delivery Engineer. She was the team leader for seven technical professionals that were responsible for the Federal-aid oversight of various programs. In addition, Ms. Knighton worked for the Central Federal Lands Division Office in Lakewood, Colorado. She served in various capacities that included Program Support Engineer, Total Quality Management Coordinator, Assistant Project Coordinator, and Highway Engineer.

Ms. Knighton graduated from the University of Colorado with a bachelor's degree in Civil Engineering and is a registered Professional Engineer in Colorado. She is an active member of the Women's Transportation Seminar (WTS). Ms. Knighton helped to reinstate the Colorado WTS Chapter, was a member of the WTS National Board, and an active participant in the Heart of Texas WTS Chapter.

Alan Matlosz

Senior Vice President, George K. Baum & Company

Alan Matlosz is Senior Vice President with George K. Baum & Company in Denver, Colorado. Alan provides comprehensive investment banking and financial advisory services to local governments throughout the state. Prior to entering the investment banking business in 1992, Alan had six years of experience in government at the State and local levels. Over his career, he has completed nearly 200 bond issues in Colorado.

Alan has been active in many volunteer activities including the South Metro Denver Chamber of Commerce, the Arapahoe County Colorado Retirement Board, the transition team for the new city of Centennial, Colorado, the Government Finance Officers Association, the American Water Works Association, and the Colorado Storm Soccer Association.

He holds a Bachelors Degree in Economics and Rhetoric from the University of Massachusetts, a Masters Degree in City Planning from Cornell University, and a Masters Degree in Finance from the University of Colorado.

Steve Meyer

Manager of Engineering & Construction, Utah Transit Authority

Mr. Meyer is the Manager of Engineering and Construction for commuter rail projects at the Utah Transit Authority. He has managed the Weber County to Salt Lake City Commuter Rail project from the beginning of the environmental process through to the present time - currently entering the second year of construction.

Mr. Meyer graduated from the University of Idaho with a Bachelor's Degree in Civil Engineering. Prior to his five years with the Utah Transit Authority, he was a transportation consultant for twelve years, spent five years with government agencies and three years in construction.

Richard Stanger

Private Consultant

Mr. Stanger has worked as a transit consultant since 1998. Most recently his work involves analyzing and advising several clients on multi-modal planning of light rail, commuter rail, and freight rail issues. Mr. Stanger has also been involved in operations planning and operating & maintenance cost estimating for various future transit corridors in Los Angeles and Sacramento for light rail, bus, DMU, and rapid bus modes. He prepared an industry-wide synthesis of light rail maintenance practices for the Transportation Research Board. He developed parameters and design guidelines for the proposed BART maintenance yard in San Jose and performed independent evaluation of the readiness of Skytrain's second line to start-up for Vancouver's transit board. Mr. Stanger also wrote the Commuter Rail New Start Handbook, a how-to manual for starting a commuter rail line for the American Public Transportation Association.

Additional professional experience includes: Executive Director of the Southern California Reginal Rail Authority (1991 – 1998); Director of Rail Development for the Los Angeles County

Transportation Authority (1983 – 1991); and Manager of Urban Design for the Metropolitan Atlanta Rapid Transit Authority (1974 – 1982).

Mr. Stanger received his Bachelor's Degree in Civil Engineering from Duke University and his Master's Degrees in Urban (Transportation) Engineering and City Planning from the University of Pennsylvania.

Bob Turman

Deputy Director, Directed Energy Systems, Sandia National Laboratories

Dr. Turman is Deputy Director for Directed Energy Systems, in the Integrated Military Systems Development Center at Sandia National Laboratories. He is responsible for research and technology development over a broad range of applications for military and civilian uses of directed energy. This program area includes high power microwave, lasers, magnetic propulsion, and advanced power systems. An area of interest in magnetic propulsion technologies is systems for ground transportation. He led a research team that evaluated systems performance and options for MagLev transportation for urban transit, sponsored by the US Federal Transit Administration. This study included evaluations of MagLev utility for the Colorado I-70 mountain corridor.

Dr. Turman received his Ph.D. in physics from the University of Texas, Austin, in 1968. He received appointments as a postdoctoral fellow at the University of Oslo, Norway, and the University of Texas. From 1970 to 1980, he served as a research officer in the United States Air Force, developing military technology applications in aerodynamics, rocket propulsion, nuclear test detection, space physics, and satellite operations. He also was a professor at the U.S. Air Force Academy. He came to Sandia National Laboratories in 1980, where he has worked in various applications of pulsed power, magnetic propulsion, and Directed Energy technologies as a technical staff member and department manager.

Bill Van Meter

Senior Manager of Systems Planning, RTD

Mr. Van Meter has over 17 years experience as a transportation planner involved in multi-modal transportation studies and transit planning. As Senior Manager of Systems Planning for RTD, his responsibilities include long-range transit planning functions and corridor studies, ridership forecasting, operations and maintenance cost modeling, local planning coordination, community involvement, National Environmental Policy Act studies, and FTA New Starts coordination. He earned his Bachelor's and Master's degrees in Geography from the University of Illinois at Urbana-Champaign. He then spent 2 years as a Transportation Planner with the Metropolitan Planning Organization in New Haven, Connecticut before moving to RTD in 1991; he has been the Senior Manager of Systems Planning since 2001.

Systems Planning was responsible for development of the planning aspects of RTD's \$4.7 billion FasTracks transit expansion plan, including 119 miles of new rail rapid transit, 57 additional stations with over 21,000 parking spaces, and bus expansion. The FasTracks plan was approved by the voters for funding and implementation in November 2004.

Past projects that Mr. Van Meter has worked on at RTD include: Ridership forecasting and planning for RTD's first light rail line, the Central Corridor (1991-1993); Ridership forecasting and planning for the Southwest Corridor light rail line (1993-1996); Management of the North Metro Transportation Study (Major Investment Study (1998-2001); The Environmental Assessment for the Central Platte Valley light rail extension (1999-2000); and RTD's fare policy assessment study (2000-2002). The Systems Planning Division is currently managing the work on multiple corridor NEPA studies for RTD's corridors that are included in the FasTracks Program.

Bill Wallace

Commissioner, Summit County

Chair, I-70 Coalition

Commissioner Wallace was born in California, spending his early years there. He attended junior and senior high school in New Jersey. He came to Colorado in 1965 to attend the University of Colorado, Boulder. After three years in the Army as a paratrooper, he completed his degree in math and education at Denver University. He came to Summit County in 1974 as a math teacher in the high school. In 1996, he was elected as County Commissioner and currently holds that position.

Edward "Ted" Wang

Mayor, Town of Granby

Chair, Rural Resort Region

Mayor Wang (pronounced "Wong") has been Mayor of the Town of Granby for four years. He has been a member of Granby's Planning Commission and Board of Trustees for over 12 years. He serves on numerous boards and committees that focus on intergovernmental relations, regional initiatives, local services, and statewide water issues, including the Executive Boards of the Colorado Municipal League and the NW Colorado Council of Governments. He is currently the Chair of Rural Resort Region, a boundary-less multi-jurisdictional group of over 30 municipalities and counties focused on I-70 transportation issues and forest health.

Prior to relocating to Colorado, Mayor Wang owned businesses in Indiana, including retail gifts stores and a production pottery. He's worked in the tourist industry in Colorado as a professional ski patroller and safety manager, mortgage loan originator, trails project manager, and Amtrak station agent. He has a Bachelor of Fine Arts degree from Indiana University and has lived in Colorado for the last 17 years.

Stan Zemler

Town Manager, Town of Vail

Vice Chair, I-70 Coalition

Mr. Zemler has served as Vail's Town Manager since October 2003 and is best known for his strong leadership skills as a consensus builder. Mr. Zemler brings 20 years of local leadership experience, having served as the President and Chief Executive Officer of the Boulder Chamber

of Commerce prior to arriving in Vail. His current focus is to help guide Vail's expansive re-development, which includes public and private investments of more than \$1 billion over the next four years. He has also been instrumental in organizing a regional transportation coalition to address congestion and other impacts along the I-70 mountain corridor.

Prior to his appointment at the Boulder Chamber in 1997, Mr. Zemler served as Acting City Manager for the City of Boulder during a transition period in which he helped the city council work through a challenging budget period resulting in cuts of \$1.5 million. He also served as Deputy City Manager for Boulder for five years and was the Executive Director of the Boulder Urban Renewal Authority from 1995 – 1997, where he facilitated attempts to re-develop an aging shopping mall and orchestrated development of an urban renewal plan in which Tax Increment Financing (TIF) is being used for a hotel project currently under construction.

Mr. Zemler became Director of the Office of Environmental Affairs for Policy and Program Development for the City of Boulder in 1985. He also was an adjunct professor at the University of Colorado College of Environmental Design from 1984 – 1992. He holds a bachelor's degree in geography from the University of Colorado at Boulder and an associate's degree in environmental studies from the College of Marin in Marin, California.

APPENDIX 2 – DAY 2, AGENDA, GROUND RULES AND LISTING OF PARTICIPANTS

I-70 Central Mountain Corridor Coalition Workshop Copper Mountain Resort October 20, 2006

Desired Outcomes:

- ❖ Inventory hopes and fears for an I-70 Corridor Transit System
- ❖ Identify areas of agreement and disagreement for transit performance criteria
- ❖ Identify areas of agreement and disagreement for management/operating principles
- ❖ Agree on short-term management structure for the Transit System
- ❖ Develop and agree on the next steps

Proposed Agenda

8:00 a.m. Continental breakfast/registration

9:00 a.m. Welcome – Bill Wallace, Chair, I-70 Coalition
-- Senator Ken Salazar

9:30 a.m. Agenda review and ground rules (Lisa Carlson, facilitator)

9:45 a.m. Introductions

By table: write names on flip chart paper, flip chart responses to the following questions:

*What are your greatest hopes for an I-70 Corridor Transit System?
What are your greatest fears?*

10:15 a.m. One person per table report out on results (3 minutes each), clarify

11:00 a.m. Transit Performance Criteria

--Present and clarify agreements to date (Lisa Carlson)
--Small group assignment:

What performance criteria ideally should guide our selection of transit technology? (e.g., speed/time requirements, capacity (of people, "stuff" [skis, etc.], and freight [local, national?], interoperability, etc.)

1. Write each criterion on "post-its" provided (one idea per page)

2. Put one "dot" per page:

Put a "**green dot**" on items where there is general consensus

Put a "**red dot**" on items where there is a fair amount of contention

Put a "**yellow dot**" on items that MAY be able to be worked out but will require a lot of discussion about the details

Noon Break for Lunch

- 12:20 p.m. Report out/Triage Performance Criteria
- 1:30 p.m. Break
- 1:40 p.m. Short-term structure options
 --Present and clarify committee recommendations (Bill Wallace)
 --Identify concerns (if any)
- 2:10 p.m. Operating/Management Principles (small groups)
 --Brainstorm long-term management structure options
- 2:20 p.m. Develop and Agree on the next steps
- 2:35 p.m. Adjourn

Ground rules:

- ❖ One person talk at a time
- ❖ No shaggy dog stories (Be concise and do not dominate)
- ❖ Speak up! Participate!
- ❖ Decision making by consensus (“Everyone understands and can live with the decision”)
- ❖ Misery IS optional (we will make course corrections as necessary)
- ❖ No personal, institutional attacks (hard on the issues, easy on the people)

Listing of Participants by Small Group		
Group	Name	Jurisdiction/Organization
1	C.A. Lane	I-70 Tech Committee, Intrawest – Winter Park Resort
1	Greg Hall	Town of Vail, Public Work Director
1	Harry Dale	Clear Creek County
1	Kathleen Kennedy	Frisco Chamber of Commerce
1	Dan Burroughs	Town of Dillon
1	Bill Linfield	Town of Silverthorne
1	Mick Ireland	Pitkin County/IMTPR Chair
1	John Calhoun	Silver Plume
1	Cynthia Neely	Georgetown
2	Jamie Wilson	Town of Vail
2	Lee Behrens	Georgetown
2	Wendy Koch	Town of Empire
2	Ron Wolfe	Town of Avon
2	Alice Laird	Town of Carbondale, also NCTF
2	Mark Rogers	CDOT
2	Dennis Lunbery	City of Idaho Springs
2	Fred Lyssy	Town of Silver Plume
3	Robert Bowland	Idaho Springs City Council

3	Tresi Houpt	Garfield County
3	Wiley Smith	Town of Minturn
3	Randy Wheelock	Town of Empire
3	Zac Graves	CDOT
3	Bernie Zurbriggen	Town of Frisco
3	Barbara Davis	Dillon
3	Bud Elliott	Leadville
3	John Jones	Summit Stage, Summit County
3	JoAnn Sorensen	Clear Creek County
4	Zieke Zeballers	Jefferson County
4	Peter Runyon	Eagle County
4	Tim Gagen	Breckenridge
4	Jeff Kullman	CDOT
4	Karla Trippe	Silverthorne
4	Bill Wallace	Summit County
4	Larry Brooks	Town of Avon
4	Dorothea Farris	Pitkin County
4	Kevin O'Malley	Clear Creek County
4	Mike Spies	Empire
5	Chuck Sterns	Town of Georgetown
5	Mary Jane Loevlie	City of Idaho Springs
5	Erik Turner	Summit Chamber
5	Stan Zemler	Town of Vail
5	Kristin Kenyon	Roaring Fork Transportation Authority
5	Ed Fink	CDOT
5	Dave Auburn	Jefferson County
5	Kevin Batchelder	Town of Silverthorne
	Participants and Staff	
	Lisa Carlson	University of Colorado at Denver and Health Sciences Center
	Peggy Cuciti	University of Colorado at Denver and Health Sciences Center
	Jo Arney	University of Colorado at Denver and Health Sciences Center
	Liz Mullen	Northwest COG
	Florine Raitano	I-70 Coalition

APPENDIX 3 – HOPES AND FEARS

Group	hope or fear	Statement	Category Assigned
1	f	no transit ridership	Level of Use/Ridership
2	f	not used, doesn't work	Level of Use/Ridership
2	h	they will want to use it really bad since their choices are horrible	Level of Use/Ridership
4	f	no body uses it	Level of Use/Ridership
4	h	high percent of ridership and fair box attracts	Level of Use/Ridership
2	h	well used by everybody universally	Level of Use/Ridership
1	f	unable to find funding	Funding
1	f	bog down by being able to find funding (D)	Funding
1	f	everybody is looking for someone else to pay for it	Funding
2	f	not funded	Funding
3	h	funding	Funding
5	f	money constraints will stop us or lead to less than ideal scenario	Funding
5	h	coalition to stay together long enough to obtain funds (including federal)	Funding
5	h	find a local mechanism to sustain system (sustainable), local funds as well not to depend on federal funds	Funding
5	h	Funding should not be an obstacle. we, as organization find funding for multimodal solution highway and transit, should not hold up other improvements to highway network (D)	Funding
1	f	become bedroom communities of Denver	Impact on Future Land Use/Character of Communities
2	f	more commuting (see also hopes)	Impact on Future Land Use/Character of Communities
2	h	focus concentrate development T.O.D. better than sprawl	Impact on Future Land Use/Character of Communities
4	f	second growth	Impact on Future Land Use/Character of Communities
5	f	improved transit system will induce growth in our pristine areas	Impact on Future Land Use/Character of Communities
1	f	transit will bypass smaller communities	Alignment/ Degree to which diff communities served
3	h	consider using alignment outside of current developed areas	Alignment/ Degree to which diff communities served
3	h	serve multiple communities	Alignment/ Degree to which diff communities served

4	f	will not be a full system	Alignment/ Degree to which diff communities served
4	h	system integrates last mile	Alignment/ Degree to which diff communities served
5	h	linkages to outlying areas should be seamless if possible	Alignment/ Degree to which diff communities served
1	f	transit goal will ignore highway needs	Pursuit of Transit not interfere with highway, short term transit needs
1	f	must not forget our concerns for the highway	Pursuit of Transit not interfere with highway, short term transit needs
5	f	mandate for improvement but at expense of maintaining rest of system (transportation)	Pursuit of Transit not interfere with highway, short term transit needs
5	f	how do we maintain rest of system and new I-70 transit system	Pursuit of Transit not interfere with highway, short term transit needs
5	f	focus on train will delay short term transit improvements and highway	Pursuit of Transit not interfere with highway, short term transit needs
5	h	Funding should not be an obstacle. we, as organization find funding for multimodal solution highway and transit, should not hold up other improvements to highway network (D)	Pursuit of Transit not interfere with highway, short term transit needs
3	h	pinch point/safety improvements concurrent with transit improvements (5 years for construction start) (D)	Pursuit of Transit not interfere with highway, short term transit needs
5	h	implement lower cost transit solutions in short term	Pursuit of Transit not interfere with highway, short term transit needs
1	h	reliable all weather solution	Reliable
4	h	reliable	Reliable
1	f	bog down by being able to find funding (D)	Timing/Fear of Delay/Hope for Speedy
1	h	5-10 years construction	Timing/Fear of Delay/Hope for Speedy
3	f	CDOT, state governments won't move forward	Timing/Fear of Delay/Hope for Speedy
3	h	done in a timely manner - 1-5 years	Timing/Fear of Delay/Hope for Speedy
3	h	move forward quickly	Timing/Fear of Delay/Hope for Speedy
3	h	pinch point/safety improvements concurrent with transit improvements (5 years for construction start) (D)	Timing/Fear of Delay/Hope for Speedy
4	f	plan for ever	Timing/Fear of Delay/Hope for Speedy
4	h	10 years in place	Timing/Fear of Delay/Hope for Speedy

5	f	nothing will come out of this process, work can be held up or thrown out by new administration	Timing/Fear of Delay/Hope for Speedy
5	h	I-70 problem is resolved in a timely basis	Timing/Fear of Delay/Hope for Speedy
5	h	solution (hwy and transit) is most context-sensitive and progressive (alluring) starting in 5 years (construction)	Timing/Fear of Delay/Hope for Speedy
1	h	i-70 transit system within bill's lifetime	Timing/Fear of Delay/Hope for Speedy
2	f	not implemented	Timing/Fear of Delay/Hope for Speedy
2	h	implemented soon (while we are alive)	Timing/Fear of Delay/Hope for Speedy
3	f	more studies, no action	Timing/Fear of Delay/Hope for Speedy
3	h	political climate positive toward moving forward	Timing/Fear of Delay/Hope for Speedy
4	f	lack of decision making	Timing/Fear of Delay/Hope for Speedy
4	f	won't happen	Timing/Fear of Delay/Hope for Speedy
1	f	lack of long term maintenance	Long term operating/maintenance
2	f	non-sustainable	Long term operating/maintenance
4	f	operational costs burdensome	Long term operating/maintenance
3	h	self sustaining - no subsidy or reasonable subsidy	Long term operating/maintenance
4	h	practical	
1	h	statewide seamless transit system	Seamless/integrated system
2	h	continuous trip from DIA to final destination	Seamless/integrated system
4	h	integrated system	Seamless/integrated system
5	h	transits system to connect DIA to Vail/Eagle airport	Seamless/integrated system
5	h	cohesive statewide transit plan	Seamless/integrated system
3	h	modes of transit are complementary	Seamless/integrated system
2	h	becomes part of thriving statewide system	
2	h	become part of NHS transit system and fundamentally changes how the us does transportation for the better of our children , all benefit and live happily ever after	
1	f	too expensive to ride	Affordability
2	h	reasonable price for ticket (for system too)	Affordability
4	f	costs too much	Affordability
1	h	DIA to Empire in half the time	Speed/time
2	h	quick or quicker than car	Speed/time
3	h	will be faster/more reliable than road traffic	Speed/time
4	h	faster than auto	Speed/time

1	h	congestion relief on i-70	Relieve highway congestion
2	h	safety and congestion relief	Relieve highway congestion
1	h	successful solution that can be replicated elsewhere	general successful implementation
2	h	implemented	general successful implementation
4	h	national model	general successful implementation
1	h	minimally intrusive design that protects and enhances the environment and quality of life	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
1	h	CSS - recognized excellence	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
2	f	obtrusive, ugly, bad stuff happens	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
2	f	aesthetic disaster	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
2	h	preserves history, environment and quality of life	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
2	h	context sensitive design	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
2	h	can see the scenery	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
3	h	alluring	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
5	h	solution (hwy and transit) is most context-sensitive and progressive (alluring) starting in 5 years (construction) (D)	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
4	h	system protects adjacent communities	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
5	f	negative impacts to environment	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
4	h	protect environment and conserves energy	Context/Sensitive Solution -- envir friendly, aesthetically pleasing
1	h	facilitate affordable commute to provide qualified work force from front range and western slope	Works for commuters
2	h	more commuting	Works for commuters
5	h	improved system will increase access for employees to jobs	Works for commuters

2	h	carries stuff as well as people (sporting stuff, ups delivery)	Carries goods
2	h	revenues from freight	Carries goods
5	h	move goods on transit system	Carries goods
2	h	promote tourism	Impact/Tourism and Economy
2	h	enhance tourist experience (with no white knuckles)	Impact/Tourism and Economy
5	h	improvements will serve as economic stimulator	Impact/Tourism and Economy
3	h	TPR(s) and MPO(s) need get on board and recognize the importance of this issue immediately and coordinate planning and priorities	Broadened support/collaboration
4	f	no statewide support	Broadened support/collaboration
5	h	collaboration with front range	Broadened support/collaboration
5	h	collaborate with CDOT	Broadened support/collaboration
2	f	not supported	Broadened support/collaboration
3	h	support for local transit systems	Broadened support/collaboration
2	h	make i-70 widening unnecessary	I-70 widening/footprint
2	h	keep a narrow i-70 foot print	I-70 widening/footprint
2	f	encourages even more I-70 widening	I-70 widening/footprint
5	f	Idaho springs will be paved over	
1	f	demagoguery will supplant rational thinking at political level	politics/process
1	f	lack of political champion	politics/process
4	f	parochialism will prevent consensus	politics/process
5	f	fear of small groups, like front range community party, activities that don't speak for all of us	politics/process
1	h	model process	politics/process
4	f	do not educate public properly	politics/process
5	h	build on past efforts	politics/process
1	h	provide a means of highway construction mitigation to maintain mobility	mitigation of construction impacts
2	h	relief during construction/reconstruction maintenance of i-70	mitigation of construction impacts
5	f	negative impact due to construction	mitigation of construction impacts
5	f	rely on public sector	public/private role
5	h	would like to see private sector take a more active role	public/private role
2	h	convenient	convenience
4	h	convenient and safe	convenience
2	h	visionary and takes advantage of projected economic growth	quality of planning

4	f	won't plan correctly	quality of planning
4	h	well planned and addresses needs of corridor	quality of planning
5	f	"solution" implemented does not solve problem in 20 years	quality of planning
5	h	find acceptable solution to transportation corridor thru clear creek	
2	h	Bah Cah	

APPENDIX 4 – DETAIL OF PERFORMANCE CRITERIA

Status	Theme	Dot	Small Group	Comment
Green	7% grade, able to climb at speed	G	3	Grade ability: 7% + sustain MPH
Green	7% grade, able to climb at speed	G	4	Manage at least 7% grade
Green	7% grade, able to climb at speed	G	5	operate on grades
Green	Easy/Efficient Maintenance	G	4	Easy Efficient/Cost Effective Maintenance
Green	Easy/Efficient Maintenance	G	5	Minimize Future Maintenance
Green	Easy/Efficient Maintenance	G	2	Low Labor Requirements
Green	Reliable	G	4	Real time for customers
Green	Reliable	G	5	Reliable Travel Times
Green	Reliable	G	5	Operable through Inclement Weather
Green	Reliable	G	2	All Weather
Green	Reliable	G	5	Reliable Operation
Green	Reliable	G	3	All Climate Operation
Green	Reliable	G	4	Operable in all weather extremes
Green	Reliable	G	1	99% reliable in all weather
Green	Reliable	G	5	Reliable Technology
Green	Safe	G	4	Safety #1
Green	Safe	G	3	Safe
Green	50 Year Capacity	G	5	Min. 50 yr Life Span
Green	50 Year Capacity	G	1	Capacity - long-range 50 year capacity expandable - meets demand impact, no expansion that violates over criterion
Green	Expandable	G	5	Expandable (# of capacity)
Green	Expandable	G	5	Integrates with other modes
Green	Expandable	G	5	Serves as many communities as practical (given speed constraints)
Green	Expandable	G	5	Spurs don't have to use same system technology
Green	Expandable	G	4	Expandable to off corridor
Green	Contest (SS) Sensitive Design/Solutions	G	5	Contest Sensitive Design
Green	Contest (SS) Sensitive Design/Solutions	G	4	Quieter than current highway LEL 67 House
Green	Contest (SS) Sensitive Design/Solutions	G	4	Wildlife friendly
Green	Contest (SS) Sensitive Design/Solutions	G	1	CSS Scenic of itself, alluring-overall-size-visual impact, noise, beware of shadowing, blocking of sunshine

Green	Contest (SS) Sensitive Design/Solutions	G	2	Very Quiet [silent!] -Noise -Wildlife, MINIMAL ENVIRONMENTAL IMPACT, Including but not limited to.
Green	Contest (SS) Sensitive Design/Solutions	G	2	Doesn't kill wildlife. Is sensitive to wildlife.
Green	Contest (SS) Sensitive Design/Solutions	G	3	Low Impact on the Environment total project.
Green	Contest (SS) Sensitive Design/Solutions	G	3	LOW NOISE preferred
Green	Contest (SS) Sensitive Design/Solutions	G	5	Alluring
Green	Contest (SS) Sensitive Design/Solutions	G	5	Must accommodate wildlife corridors
Green	Contest (SS) Sensitive Design/Solutions	G	5	QUIET
Green	VRSE	G	3	Vendor risk sharing encouraged
Green	Express and Local	G	2	Local and Express Capability
Green	Express and Local	G	3	Express and Local Service
Green	Express and Local	G	4	Express & Local Service Routes
Green	Energy Efficient	G	4	Environmentally efficient
Green	Energy Efficient	G	3	Minimal/or no use of fossil fuels Hydrogen fuel cells, etc
Green	Energy Efficient	G	5	Doesn't negatively impact Global Warming
Green	Energy Efficient	G	5	Energy efficient
Green	Energy Efficient	G	2	Energy efficient & non-polluting
Green	Energy Efficient	G	4	Design to augment - not replace highway
Green	Affordable	G	3	Good Financial Plan - so fares are affordable
Green	Affordable	G	5	Cost effective "bang for the Buck"
Green	Affordable	Y	1	Affordable fares Comprehensive with transportation alternatives
Green	Passenger Comfort	G	2	AC & hotel systems (John in the back cab)
Green	Passenger Comfort	G	2	Bar Car
Green	Passenger Comfort	Y	2	WIFI
Green	Passenger Comfort	G	3	Passenger Comfort
Green	Passenger Comfort	G	5	Comfortable
Green	Passenger Comfort	G	4	Train must have restrooms & Food/Beverage service
Green	Passenger Comfort	G	4	Technology in train (Internet)
Green	Carry Toys (no dead elk)	G	2	Scalable in amount of goods & services carried
Green	Carry Toys (no dead elk)	G	5	Must carry stuff (toys, recreational items)
Green	Carry Toys (no dead elk)	G	2	Sports/Recreation visitor & All Luggage booked through to destination
Green	Carry Toys (no dead elk)	G	4	Ability to support "They who die with most toys wins"
Green	Carry Toys (no dead elk)	G	5	No Dead Elk

				General Utility -> Passenger is primary - Moving passenger equipment is primary (containers) - freight to extend if does compromise primary purpose or performance specs
Green	Passenger Focus	G	1	
Green	Operational by 2016	G		
Green	Deployable in 5 yrs/3-5 yrs, Technology in 3-5 yrs.	G	5	Technology must be implementable w/in three-5 years of funding
Green	Deployable in 5 yrs/3-5 yrs, Technology in 3-5 yrs.	G	1	Time Frame Technology can be dependable within the 10 year time frame
Green	Visit Real Projects	G	3	Coalition delegation to visit successful projects in the other areas of the world.
Green	Not be a guinea pig	G	4	Not be a guinea pig (DIA baggage)
Green	Not be a guinea pig	G	3	Adopt successful foreign models & process of operations
Yellow	People per day	Y	4	Scalable capacity 10 rides-> unlimited
Yellow	People per day	Y	2	P.P.D. people per day? 10 to 3000, 20 to 6000
Yellow	High Frequency of Departure	G	2	High frequency departures
Yellow	Marketing	Y	1	Marketing - fare strategies - tourist friendly - destination folks - commuting/work - front range recreation - see the scenery
Yellow	Freight	Y	4	Freight
Yellow	Freight	N/A	1	Discuss freight
Yellow	Freight	G	2	Carries light freight for shippers Fees/Income
Yellow	Freight	G	2	Containerized (luggage & stuff by take-off destination)
Yellow	Freight	Y	5	Ability to carry goods and people
Yellow	Alignment to I-70	G	2	Same Row Footprint Minimal foot print)
Yellow	Alignment to I-70	G	4	Minimal Condemnation
Yellow	Alignment to I-70	G	4	Grade separation from road & highways
Yellow	Alignment to I-70	G	4	Ability to deviate from I-70 alignment
Yellow	Alignment to I-70	G	2	Flexible alignment not necessarily I-70
Yellow	Alignment to I-70	G	1	Alignment users optimal alignment for performance w/o violate other criteria - not governed by highway
Yellow	Alignment to I-70	G	5	Able to deviate from alignment I-70
Yellow	Alignment to I-70	G		Alignment & Station location part of RFP process
Yellow	Technology Feasibility	Y/R	5	Proven Tech
Yellow	Technology Feasibility	Y	2	Technological Feasibility is working somewhere already. We're not on the "Bleeding edge" How cutting edge can it be & still be fundable politically feasible
Yellow	Non- FRA	Y	3	Non FRA compliant O.K. w/out compromise of safety
Yellow	Non-Proprietary system	Y	4	Non-Proprietary system

Yellow	Use ability/flow	Y	4	Max to min from arrival @ station to have access to system
Yellow	Use ability/flow	R	2	Requires security screen
Yellow	Capable of being elevated/tunneled	Y	4	Ability to be elevated/Tunnel
Yellow	Capable of being elevated/tunneled	G	3	Capable of being elevated
Yellow	Capable of being elevated/tunneled	Y	1	Elevated - Substantial distances as necessary
Yellow	Capable of being elevated/tunneled	R	5	Elevated - Substantial distances as necessary
Yellow	Adaptable vehicle types	Y	4	Carry personal vehicles
Yellow	Adaptable vehicle types	G	5	Adaptable to different vehicle types
Yellow	Time Travel	G	4	Less than 90 Min C-470 to Vail
Yellow	Time Travel	Y/B	5	Faster than cars
Yellow	Time Travel	G	2	DIA to Eagle in 60 min (Express run) [also have slower multi-stop runs]
				Travel time to destination at least as far as car in uncongested traffic minimum 60mph not more time than one mile a minute within system -Examples: 55 min Golden & Silverthorne- Golden & Highway 48 28min- 65 min Golden/Copper- 116 min golden/Vail- 120 (2hr) Golden/Eagle County
Yellow	Time Travel	N/A	1	
Green	Time Travel	G	5	Competitive travel times w/existing modes
				No more than 3 transfers to final destination
Green	Seamless/Transfers	G	4	from home or DIA
Green	Seamless/Transfers	R	5	Seamless to DIA
				Seamless connection 1-maximum of mode transfer b/t major destination must connect with Front Range Coordinate w/FasTracks , other transit.
Green	Stations Design/Location also Hwy Infrastructure	Y	1	
Green	Stations Design/Location also Hwy Infrastructure	G	4	Design Stations to accommodate cars, pedestrians, bikes, etc (TOD)
Green	Stations Design/Location also Hwy Infrastructure	G	5	Integrates with Infrastructure (Hwy) improvements
Green	Stations Design/Location also Hwy Infrastructure	Y	1	Station Locations
Red	Different classes of service	Y	2	Don't have to ride w. riff raff
				Provide different seating options, price ranges maybe, i.e. family, college kids, destination travelers.
Red	Different classes of service	Y	2	