



# Transportation Department

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**BOULDER COUNTY PLANNING COMMISSION  
AGENDA ITEM #5  
SEPTEMBER 21, 2011**

Commissioners Hearing Room, Third Floor  
Boulder County Courthouse

## **BOULDER COUNTY TRANSPORTATION MASTER PLAN**

*Informational Item – No Action Requested*

Public Testimony will be taken.

Transportation Staff: Julie McKay, Transportation Planning Manager

<http://www.bouldercounty.org/sustain/trans/pages/tmppe.aspx>

## **SUMMARY**

In April 2011, the Boulder County Transportation Department Planning Team (Planning Team) completed the first phase of the master planning effort for the Boulder County Transportation Master Plan (TMP). The Planning Team has now completed the second phase of planning, which consisted of convening working groups to examine key issues for Boulder County's transportation system. At the Planning Commission's September session, the Planning Team will summarize the working groups' deliberations. After the staff presentation, the Planning Team would like the Planning Commission's feedback on the working groups' recommendations, which will be included in the draft TMP for public review.

## **BACKGROUND**

In fall 2010, the Transportation Department began developing the Boulder County Transportation Master Plan (TMP). Its purpose is to describe the County's planned multimodal transportation system and examine how it can best meet future travel needs through demand management and the development, operations, and maintenance of its multimodal facilities and services. In April 2011, the Boulder County Transportation Department Planning Team (Planning Team) completed the first phase of the planning effort, which focused on collecting information from different sources to shape the contents and structure of the TMP.

The Planning Team used the information gathered in Phase 1 to identify issues that the TMP should address so that Boulder County's transportation system can appropriately meet travel needs that exist in the year 2035. The Planning Team then established five working groups to examine these issues in Phase 2 of the planning process. The working groups consisted of members of the Sustainable Transportation Task Force and focused on: 1) Accessibility; 2) Travel Demand Management; 3) SH 119 Diagonal; 4) East-West Mobility; and 5) Southeast Area. The first two of these groups explored potential programs that Boulder County could

provide. The last three of these groups focused on travel demand and potential transportation improvements in specific geographic areas. Each working group developed its own approach and the recommendations that resulted were supported by all members of each group.

The two handouts that accompany this memorandum (Staff presentation for September 21, 2011, Planning Commission session; Working Group summaries) further describe the purpose and scope of each working group. They also summarize the deliberations of each group, including their recommendations. The staff presentation handout also includes the 2035 DRCOG regional travel demand forecasting data and identifies modeling assumptions.

At the Planning Commission's September session, the Planning Team will summarize the working groups' deliberations, which concluded at the end of July 2011. After the staff presentation and public comment, the Planning Team would like the Planning Commission's feedback on the working groups' recommendations, which will be included in the draft plan.

### **NEXT STEPS**

The planning process is now moving into its third phase which will consist of developing a draft master plan. The Planning Team will next update the Planning Commission when it has draft recommendations for other parts of the plan, including its modal elements (roadway, bicycle, pedestrian, and transit networks), travel demand management chapter, and sustainability topics.



## **Summary**

### ✦ **Participants**

- Scott McCarey, Cindy Pieropan, George Gerstle (Boulder County Transportation)
- Rachel Arndt (Boulder County Public Health)
- Phil Greenwald (City of Longmont)
- Landon Hilliard (Boulder Valley School District)
- Lenna Kottke (Special Transit)
- Chris Quinn (RTD)
- Randall Rutsch (City of Boulder)
- Stacy Tschuor (David Evans and Associates)

### ✦ **Purpose** - to consider overall access to the transportation system within Boulder County, particularly for special needs populations such as:

- Low Income; no access to private car
- Too old to drive
- Disabilities (vision, hearing, physical mobility)
- Too young to drive
- No driver's license

### ✦ **Discussion**

- The need for reliable transportation is significant for all populations
- Existing issues with accessibility of the Boulder County transportation system for special needs populations
  - Regional gaps between local services
  - Lost opportunities for use of public funding for transportation through Family Services, Transportation, Special Transit, etc.
  - Limited education and outreach about how to use existing programs and services
- Programs should focus on increasing effectiveness of existing programs
- Evaluations and recommendations focused where the County can have the most effective role
- Potential accessibility programs discussed and evaluated:
  - Local Coordination Council
  - Expanded EcoPass Program
  - Earn a Bike Program
  - Expanded First and Final Mile Initiatives
  - Personalized Transportation Solutions for Mobility Challenged Residents
  - Community Car Sharing Program
  - Funding for Expanded Transportation Options
  - Service Delivery Programs



**Conclusions**

Based on an evaluation matrix, the group prioritized the programs and identified the County role for each, as summarized in the table below.

Although the group believes that all programs that increase accessibility to the transportation system for low income, minority, youth, and special mobility populations should be important for Boulder County, the highest priority recommendations were given to programs that the group believes 1) build on existing programs and 2) the County can have the most effective role.

Potential Program	Conclusions	
	Priority	County Role
Local Coordinating Council	High	Leadership, Facilitation, Coordination
Expanded EcoPass Program	High	Funding, Coordination
Earn a Bike Program	Medium	Coordination, Promotion
Expanded First and Final Mile Initiatives	Medium	Leadership, Infrastructure, Funding
Personalized Transportation Solutions	High	Funding, Coordination
Community Car Sharing Program	Low	Coordination
Funding for Expanded Transportation Options	High	Funding
Service Delivery Programs	Low	Promotion

**Recommendations**

Given the highest priority, the Working Group recommends that the County include the following programs in the Transportation Master Plan to increase accessibility to the transportation system for low income, minority, youth, and special mobility populations:

- ✦ Local Coordinating Council
  - Grant applications
  - Dedication of staff time to initiate
- ✦ Expanded EcoPass Program
  - Continue studies and grant applications for funding
- ✦ Personalized Transportation Solutions for Mobility Challenged Residents
  - Grant applications
  - Funding for expansion and promotion of Special Transit program
  - Connections with case workers for County service programs
- ✦ Funding for Expanded Transportation Options
  - Funding for specific transportation programs or transit services for low income, minority, youth, and special mobility populations



## **East-West Mobility Working Group**

### **Summary of Conclusions & Recommendations**

**July 22, 2011**

#### Participants

Bill Fox, Fox-Higgins Consultants, Group Lead  
Tim Swope, Boulder County Transportation  
Gary Behlen, Town of Erie Public Works / Town Administrator  
Russell Pennington, Town of Erie  
Peter Johnson, City of Lafayette Public Works  
Jim Reeder, City of Boulder Open Space and Mountain Parks  
Mark Gershman, City of Boulder Open Space and Mountain Parks  
Myron Hora, CDOT Region 4  
Julie McKay, Boulder County Transportation

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The east-west working group is tasked with evaluating east-west travel along Valmont, Arapahoe, and Baseline Roads. The goal of the working group is to identify a multi-modal vision for travel in this area along with specific strategies for the following corridors:

- ✦ **Valmont / Isabelle Road Corridor.** Examine travel needs between the Town of Erie and City of Boulder. Include the UP Rail line and other potential multi-modal facilities.
- ✦ **Highway 7 - Baseline and Arapahoe.** Examine Highway 7 corridor (Baseline and Arapahoe) and discuss what type of strategies can be used to best meet the goals as listed in the County's Comprehensive plan.
- ✦ **Future Trail Connections.** The city of Boulder has long term plans to connect Teller Farms with the South Boulder Creek Trail system (Bobolink Trailhead). Identify constraints and opportunities.
- ✦ **Transit Service.** East-west service along South Boulder Road, Baseline, and Arapahoe carry over 34 percent of all transit riders traveling through the unincorporated county and is one of the most heavily-used transit corridors in the unincorporated County, equaled only by US36 for daily ridership.

#### **DISCUSSION**

Members of the working group agree that facilities within the study area require both operational and multimodal capacity improvements. Improvements to State Highway 7 should be a high priority since those will best meet the multimodal East-West travel needs of the County. Enhancements to transit services, bicycle facilities, and pedestrian facilities both on highway 7 and on parallel facilities should improve both the cost-effectiveness and overall effectiveness of any roadway capacity improvements.



### **State Highway 7**

The County believes the PEL study presents a needed opportunity for Boulder County, CDOT, the City of Lafayette, and the Town of Erie to develop a common vision for the future mobility and associated infrastructure, right of way, and services in the SH 7 corridor. The County also believes that considering the impacts of the alternatives east of SH 287 on the SH 287 – 75th Street segment of the corridor is necessary for an adequate understanding of the benefits and implications of them.

### **Valmont / Isabelle Corridor**

The group reviewed the 2007 Isabelle/Valmont Feasibility Study looking specifically at the alternative options for the 95<sup>th</sup> Street offset intersection couplet. Overall sentiment was that the realignment issues are not feasible due to the potential impacts to surrounding properties and that the County should focus on making minimal traffic control improvements to the off-set intersections and leave it at that. Facilities should be upgraded to meet County's Minor Arterial Road standards even though both roads are currently classified as Collector streets. Focus should be on multi-modal improvements for bicycles and equestrians with pedestrian enhancements to be focused on the parallel UP Rail Trail.

### **Balance Supply-side Improvements with Demand-side programs**

The cost-effectiveness of these multimodal capacity improvements is substantially improved when a portion of the travel along the corridor is addressed with travel demand management (TDM) measures. Strategies include expansion of RTD service and service district; implementation of policies to shift travel away from capital intensive facilities such as new roadway capacity and towards service-oriented facilities such as bicycle, transit, and ride-share travel.

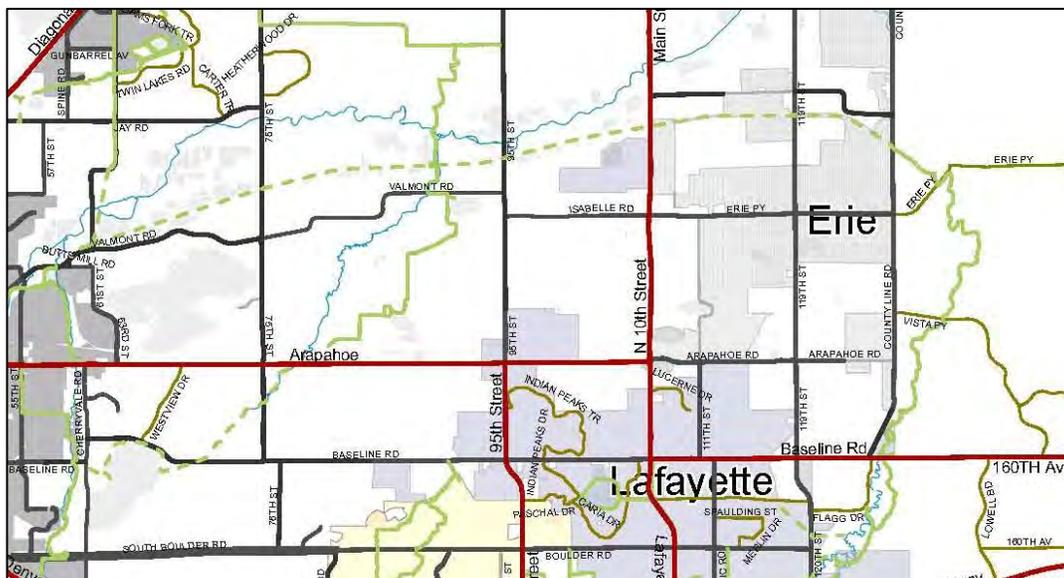
## **DRAFT RECOMMENDATIONS**

Boulder County recommends that multimodal capacity improvements within the study area focus on improvements to State Highway 7 and that those improvements be coupled with increased establishment of demand-side programs and services.

- **Recommendation 1: Increase person-trip capacity on State Highway 7 between I-25 and the City of Boulder.** Support development of Highway 7 as a multimodal facility with TDM service as specified in the 1997 RTTF report. Focus on transit services along with: operational improvements to key intersections; extensive median treatments for improved safety; extension of the bicycle shoulders and transit lanes; and extension of planned multi-use pathway through the 75<sup>th</sup> Street intersection for future connection to the East Boulder Trail. Continue to encourage transit service along the corridor in pursuit of the RTTF Goal of 10 minute peak-hour headways between Erie, Lafayette, and Boulder.
- **Recommendation 2: Support efforts to improve State Highway 7 between US287 and 75<sup>th</sup> Street** in line with the RTTF recommendations and Boulder County Comprehensive Plan. Ensure that planning efforts include shoulders for bicycle travel, include improvements to the bridge over Dry Creek, accommodate a future extension of the East Boulder Trail and provide for full multi-modal connectivity along the corridor.



- **Recommendation 3: Support transit enhancements along Baseline Road.** Assess need for and implement queue-jumps and transit-signal priority as needed along the corridor.
- **Recommendation 4: Pursue multi-modal improvements along Valmont / Isabelle Road.** Add bicycle shoulders to both Valmont Road and Isabelle Road between the city of Boulder and Town of Erie. Plan for limited improvements to the 95<sup>th</sup> Street intersections (simple signalization) along with shoulder improvements to the section of 95<sup>th</sup> Street between the two intersections. Assess the feasibility of a pedestrian underpass under 95<sup>th</sup> Street at Valmont along with an off-street trail connection along the east side of 95<sup>th</sup> Street between Valmont and Isabelle Roads.
- **Recommendation 5: Pursue the Construction of the UP Rail Trail** in partnership with the City of Boulder and Town of Erie. Develop Master Plan and ensure funding availability for phased improvements over time.
- **Recommendation 6: Ensure mobility improvements are coupled with demand-side (TDM) programs** and support the City of Lafayette and Town of Erie in developing and implementing them. At a minimum TDM programs should include significant alternative modes facility creation in Lafayette and incorporation of the existing Erie town limits into the Regional Transportation District (RTD).
- **Recommendation 7: Encourage Land Use planning that is supportive of Transit service.** Support the city of Lafayette in implementing their existing transit-oriented and multimodal transportation-oriented land use policies. Encourage the Town of Erie to focus development on places that can be served by existing and planned transit routes, facilities, and services.





## **Summary**

### ✦ **Participants**

- Julie McKay, Tim Swope (Boulder County Transportation)
- Debra Baskett (City and County of Broomfield)
- Fred Sandal (DRCOG)
- Peter Johnson (City of Lafayette)
- Troy Russ (City of Louisville)
- Chris Quinn (RTD)
- Alex Ariniello (Town of Superior)
- Audrey DeBarros (US 36 Commuting Solutions)
- Elizabeth Relford (Weld County)
- Bill Fox (Fox Higgins Group)
- Stacy Tschuor (David Evans and Associates)

- ✦ **Purpose** - to discuss the local communities' visions and plans for the multimodal transportation system in the southeast area of Boulder County

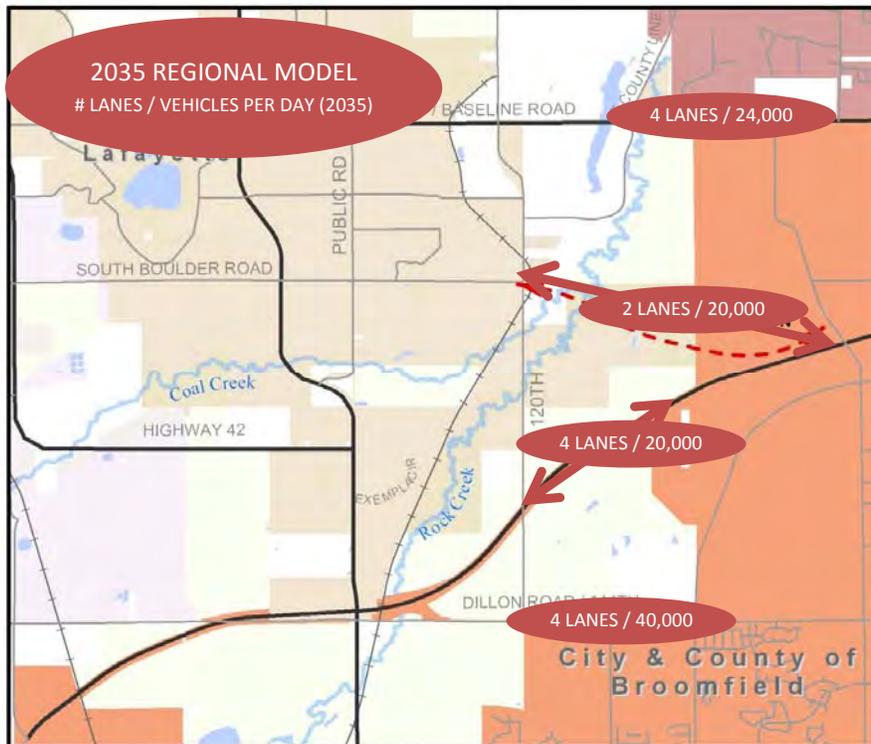
### ✦ **Discussion**

- Growth in population and employment within southeast Boulder County, the City and County of Broomfield, and areas east of Broomfield County, including Southwest Weld County and northwest Adams County, result in significant increased projected travel demand along the southeast border of Boulder County according to the DRCOG 2035 Travel Demand model.
- Current facilities in the study area, including SH 7 (Baseline), South Boulder Road, the Northwest Parkway, and Dillon Road / 144th Avenue, carry approximately 45,000 trips per day on eight vehicle lanes. The 2035 model shows this increasing to over 100,000 trips per day on fourteen vehicle lanes in 2035. (See map on next page for lanes and 2035 travel forecasts.)
- Each local agency representative discussed transportation plans and issues, including projects, expected land use changes, and current funding levels.
  - Group discussion generally focused on multimodal issues and improvements along 96th Street, US 36 / McCaslin, SH 7 (Baseline), Dillon Road / 144th Avenue, and South Boulder Road.
- The group discussed support for new transit routes extending east of 120th Street into Broomfield.
- The impacts of not constructing the planned extension of South Boulder Road (120th St – Lowell Blvd) were examined. Specifically of concern for planning purposes was the fact that all current travel projections for the area assume that a two-lane arterial will be constructed to link Lowell Blvd in Broomfield with the 120th / South Boulder Road intersection in Lafayette. (See map on next page for lanes and 2035 travel forecasts with South Boulder Road.)
  - Because the financial feasibility of this connection is not solid, it's important to consider the impacts if it is not constructed.



- Removing the potential two lanes of capacity on South Boulder Road would force additional traffic onto the other facilities:
  - Additional 8,000 vehicles/day on SH 7 (+33%)
  - Additional 3,000 vehicles/day onto Northwest Parkway (+15%)
  - Additional 4,000 vehicles/day onto Dillon Road / 144th Ave (+10%)
  - Additional 1,000 vehicles/day onto 120th Street (+9%)
  - Traffic reduction of 6,000 vehicles/day on South Boulder Road through Lafayette (-31%)
  - Traffic reduction of 4,000 vehicles/day on South Boulder Road through Louisville (-14%)

**2035 MODELING ASSUMPTIONS FOR SOUTHEAST BOULDER COUNTY**



Facility	2010		2035		
	Lanes	Person Trips	Lanes	Person trips with S Boulder Rd ext	Person trips without S Boulder Rd ext
SH 7	2	18,000	4	24,000	32,000
S Boulder Rd, east of 120th St	-	-	2	20,000	-
Northwest Parkway	4	12,000	4	20,000	23,000
Dillon Rd / 144th Ave	2	16,700	4	40,000	44,000
<b>TOTAL</b>	<b>8</b>	<b>46,700 TPD</b>	<b>14</b>	<b>104,000 TPD</b>	<b>99,000 TPD</b>



## **Conclusions**

- ✦ The connection of South Boulder Road to the City and County of Broomfield could affect future traffic conditions on SH 7 (Baseline); the Northwest Parkway; Dillon Road / 144th Ave; and South Boulder Road through Lafayette and Louisville.
  - Road planning, intersection design, transit services and bikeway designs along with both private and public development pro-forma use these projected volumes from the current 2035 travel model for both planning and financing of facilities.
  - Until it can be reliably assumed that the extension of South Boulder Road will be constructed, the current traffic projections may be overstating future traffic on South Boulder Road and understating future traffic on other facilities in southeast Boulder County.
- ✦ The County's TMP should show a potential transit route along South Boulder Road extending east into Broomfield, along either Dillon Road / 144th Ave to 120th St or along the planned South Boulder Road extension.
- ✦ The planned future transit route along SH 7 as shown in the County's Transit Enhancement Plan should be retained in County plans as a future route connecting to an east transit facility (North Metro and/or I-25 park-n-Ride).

## **Recommendations**

- ✦ Future planning studies and facility designs should examine future traffic projections using the 2035 model with both the South Boulder Road extension included and excluded from the network assumptions in order to more accurately portray future traffic conditions along facilities in southeast Boulder County.
  - Specifically, plans for the 120th / Dillon Intersection and ROW preservation for the widening of Dillon Road / 144th Ave should plan to accommodate traffic needs under either scenario in case the South Boulder Road extension is not completed.
  - The working group would recommend that the CDOT SH 7 PEL study also look at future traffic conditions under a build and no-build scenario for the South Boulder Road Extension.
- ✦ The TMP should include a future transit route along South Boulder Road, 120th Street and Dillon / 144th to link Boulder County communities with the City and County of Broomfield by transit.



**Working Group Summary**

**July 28, 2011**

Participants

Bill Fox, Fox Higgins  
Phil Greenwald, City of Longmont  
Jared Hall, Boulder County  
Robert Hays, CDOT  
Julie McKay, Boulder County  
Chris Quinn, RTD  
Randall Rutsch, City of Boulder

Purpose

The purpose of the Working Group was to:

- Review implementation status of the 2001 Diagonal Consensus/Vision Statement;
- Evaluate 2035 travel forecasts and needs for the Diagonal; and
- Update the 2001 Diagonal Consensus/Vision Statement to meet 2035 needs.

Discussion

- The 2001 Diagonal Consensus/Vision Statement resulted from previous corridor studies of the SH 119 Diagonal, most recently the “SH 119 Alternatives Assessment (2001).” It reflects agreement among the City of Boulder, City of Longmont, and Boulder County about desired short, mid, and long-term multimodal improvements to the SH 119 Diagonal and formed the basis for project partnerships among local communities, CDOT, and RTD.
- The 2001 Diagonal Consensus/Vision Statement was developed before voter approval of the 2004 FasTracks sales tax. Voter approval of the sales tax resulted in an extension of the planned commuter rail corridor to Longmont, as the northwestern most segment of the Denver to Longmont FasTracks Northwest Rail.
- Many of the improvements identified in the 2001 Vision Statement have been implemented or are currently scheduled for construction in the near-term. The timing for implementation of commuter rail service is uncertain, due to funding shortfalls.



- CDOT has completed design and Right-of-way acquisition for the SH 119/SH 52 interchange. The project remains in the RTP, although is not in the current TIP. Funding for construction is partially contingent upon local support from Boulder County, City of Longmont and City of Boulder. Implementation of commuter rail will necessitate an interchange at this location.
- Current daily traffic in the corridor ranges from approximately 29,000 vehicles per day just southwest of Hover Road to over 45,000 vehicles per day just southwest of Jay Road. The 2035 DRCOG travel model projects an increase in daily traffic in the corridor of approximately 8,000 to 10,000 vehicles per day. This represents an increase of approximately 24% to 34% depending on location in the corridor. As experienced today, meeting future peak hour travel demand is the biggest challenge.
- The SH 119/SH 52 intersection is currently problematic for westbound to southbound left turning vehicles from SH 52, particularly in the morning peak hour. Turning movements to/from SH 52 from/to 71<sup>st</sup> Street are also problematic when the westbound queue from SH 119 backs through this intersection. Queues on SH119 are also an issue at this intersection. In the morning the southwest bound queue can extend over 1.5 miles through the Niwot Road intersection. In the evening the northeast bound queue can extend over 1.5 miles through the 63<sup>rd</sup> St. intersection.
- The BOLT currently has 1,300 average weekday total boardings, which compares to the JUMP (1,800) and DASH (2,300) in Boulder County.
- Connectivity (modal, physical) to bus service along the Diagonal from adjacent residential areas and businesses is a significant issue as is crossing the Diagonal to access bus service (for boarding/alighting).
- Corridor conditions have not changed significantly since the 2006 TMO feasibility study, which concluded that that a TMO should not be established to serve the corridor and Longmont. This, however, may change with an extended increase in the price of gasoline and the addition of rail as a travel option. At this point in time, it is still appropriate for TDM services to be available to residents and employees along the Diagonal and in Longmont.
- Because the timing for implementation of commuter rail service is uncertain, it is appropriate to look at enhancements to bus service along the Diagonal that could occur between now



and the implementation of commuter rail service. This includes bus rapid transit service elements.

- In addition to the timing issue, bus service along the Diagonal needs continued enhancement as it will serve those markets and locations in the corridor that will not be served by commuter rail. When rail is implemented, regional bus and rail service should complement one another such that an attractive transit option (rail or bus) exists for travelers.

### Recommendations

The following are recommendations from the Working Group, to be forwarded through the decision-making process for the master plan:

- The SH 119 Diagonal Multimodal Improvement Scenarios should serve as the vision statement and planning framework for the corridor, updating the 2001 Diagonal Consensus/Vision Statement.
- Agency partnerships should be pursued to evaluate, fund, and implement the transportation programs, services, and multimodal facility improvements included in the SH 119 Diagonal Multimodal Improvement Scenarios.
- Future corridor studies should use the SH 119 Diagonal Multimodal Improvement Scenarios as a basis for defining and evaluating corridor alternatives.
- The long-term vision (2035) for the SH 119 Diagonal should consist of those improvements identified in Scenario C of the SH 119 Diagonal Multimodal Improvement Scenarios, which include regional commuter rail service, bus rapid transit elements, and an interchange at SH 119/SH 52. This vision should be described as a shared vision among CDOT, RTD, City of Boulder, City of Longmont, and Boulder County.



**Participants**

Julie McKay, Scott McCarey, Anita Riley (Boulder County Transportation); Denise Grimm, (Boulder County Land Use); David Cook (University of Colorado); Audrey DeBarros (36 Commuting Solutions); Randall Rutsch (City of Boulder); Bob Whitson (Boulder East TMO); Matthew Kaufman, Matt Formanack (UrbanTrans Consultants)

**Purpose**

To identify effective transportation demand management (TDM) strategies, determine where specific strategies should be implemented within the county, determine to whom the strategies should be targeted, identify methods for implementation, determine the role that the county would play and prioritize strategies.

**Discussion**

To focus the discussion, five categories of TDM projects were ultimately developed:

- 1) Provide and coordinate TDM services (county wide)
- 2) Support TDM development in local communities in the urban service areas
- 3) Support employer-based programs within multimodal travel corridors
- 4) Provide TDM services in unincorporated Boulder County
- 5) Incorporate TDM into Land Use Development

Within these five categories, close to two dozen draft programs were developed. This list was trimmed and several programs were combined into one until we reach a total of twelve programs for evaluation. A mechanism was established to evaluate and ultimately prioritize each of the twelve programs. As a group we assigned high, medium and low values to the following parameters:

- 1) VMT Reduction
- 2) Economic/ Business Development
- 3) Ability to supports efficient land use
- 4) Opportunity for partnerships
- 5) Actionability/ Cost Effectiveness
- 6) Feasibility/ Implementation Barriers
- 7) Measurability

**Conclusions**

The results of the Working Group evaluation are summarized in the table below in order of preference.

Potential Strategy	Impact
Assist local communities to establish and implement TDM services/programs	High
Support the establishment of a community-wide transit pass for residents and businesses	High
Use Boulder County Multimodal Transportation Standards to require multimodal facility connections and TDM measures for new and expanded development	High
Encourage incentives that encourage the formation of rideshare programs for residents in unincorporated Boulder County	High
Provide funding support to TMOs to offer services along multimodal corridors	High
Provide micro grants to businesses for changes that improve access to regional transit services	Medium
Invest County TDM resources in areas with strong access to the existing and future regional multimodal transportation network	Medium
Provide cities, TMAs and other TDM service providers with a forum to aid service delivery and share resources	Medium
Support regional and state initiatives to implement congestion pricing, specifically mileage-based fees + taxes	Medium
Develop online site that consolidates all transportation information available with the county	Low
Encourage neighborhood groups to implement TDM programs	Low
Programs/services to support Boulder Valley and Saint Vrain School Districts student-focused TDM programs	Low