

**CITY OF BOULDER  
TRANSPORTATION ADVISORY BOARD  
AGENDA ITEM**

**MEETING DATE:** Mar. 10, 2014

**AGENDA TITLE:** Staff briefing and input on TMP Update with an emphasis on Complete Streets Focus Areas: Transit analysis and a summary of the 2014 Walk Bike Summit and a Framework for the Walk Bike Action Plan, along with Regional and Funding Focus Areas

**PRESENTERS:** Tracy Winfree, Director of Public Works for Transportation  
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**EXECUTIVE SUMMARY**

This memo provides a brief status report, check-in and opportunity for the Transportation Advisory Board (TAB) to provide input on progress to date on the Transportation Master Plan (TMP) Update, with an emphasis on the Complete Streets Focus Area, including the Transit planning as well as Bicycle and Pedestrian Innovations, along with the Regional and Funding Focus Areas.

The Bicycle and Pedestrian Innovations update includes information regarding the implementation of the Living Laboratory projects, including the new E-bike pilot and updates from the Walk Bike Summit on Feb. 6, 2014. The Summit was organized around developing a vision of a walk and bike friendly community and then identifying priority strategies and time frames for those strategies to contribute to that vision. Staff is using the community feedback from the Walk Bike Summit and from the planning process throughout 2013 to develop a draft framework for the bicycle and pedestrian Action Plan as part of the TMP update. Initial concepts for this Action Plan are provided in more detail in the analysis section of this memo.

The Transit planning update includes the results of the transit scenario analysis including ridership, cost effectiveness and the performance of each scenario in the four evaluation accounts reflecting the Boulder Valley Comprehensive Plan (BVCP) Sustainability Framework. This analysis shows significant differences between the scenarios so they

successfully illustrate the costs and benefits of different transit strategies. The results of the scenarios and the additional sensitivity tests show that there are strategies that will significantly increase transit ridership.

The Regional Focus area suggests that the city continue the collaborative approach with regional partners that has been successful in delivering transit and bike improvements on US 36, and in the future focus on the Diagonal (SH119) and Arapahoe (SH 7) corridors and other corridors resulting from the Northwest Area Mobility Study (NAMS).

The discussion in the Funding Focus area provides information on the on-going project list review and suggests some initial approaches to prioritizing the investment programs of the update.

Staff continues to move forward with the TMP Update process in 2014 in accordance with City Council and TAB guidance. The major focus over the next two months is on defining and bringing together the major building blocks of the TMP update for TAB input and Council consideration at the April 28, 2014 study session. This work is supported by increased effort in public outreach on social media and a number of open house/community events. Staff also continues actively working on a number of other efforts in collaboration with city-wide planning and sustainability initiatives.

### **TAB ACTION REQUESTED**

Review and provide input on all the work completed in the TMP update with an emphasis on the Complete Streets Focus Areas: Transit analysis and a Framework for the Walk Bike Action Plan as well as the Regional and Funding Focus Areas.

### **COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS**

- **Economic:** Transportation costs are a significant portion of household expenses and important to business competitiveness and employee retention. Enhancing the travel options available to residents and employees supports more sustainable travel behavior and the movement of goods and people essential to the local economy. Providing regional transit and bike options is a particularly important option for in-commuters as it provides alternatives to long distance single-occupant vehicle (SOV) travel. Increased biking and walking reduce road construction, repair and maintenance costs. Completing the walk, bike and transit systems and supporting their use with effective Transportation Demand Management (TDM) programs responds to the lifestyle choices and desires of younger workers, particularly those in the “creative class” that are a foundation of the Boulder economy.
- **Environmental:** Achieving the TMP objectives of reducing single occupant vehicle (SOV) travel, reducing congestion and air pollution emissions including greenhouse gases have direct environmental benefits. Transit has the potential to replace mid and long distance SOV trips with significant greenhouse gas (GHG) emission reductions. Biking and walking are zero emission transportation options reducing greenhouse gas and vehicle miles traveled. TDM programs are key in supporting these modes and to reducing the number of trips made by cars.

- **Social:** Enhanced travel options improve access for all community members. Improved transit access is particularly important to seniors, low income and people with disabilities. Recent research shows that transit riders tend to walk more and be healthier than auto commuters while neighborhood accessibility is an increasing focus related to public health for both children and adults. The increased focus on transit, accessibility and TDM will have multiple benefits to the community, including expanding modal choice for low-income, older adults and children.

## **OTHER IMPACTS**

- **Fiscal:** The TMP Update is supported by existing funding from the city's 2013-14 budget.
- **Staff time:** Staff resources for this project have been funded and included in the 2013-14 budget.

## **BACKGROUND**

The TMP exists within the broader context of the Boulder Valley Comprehensive Plan (BVCP), the city's Sustainability Framework and Climate Commitment goals. The resulting transportation system is expected to support the sustainability and quality of life goals set by the community. As a mature plan, the TMP reflects more than 20 years of consistent policy direction and documented results. The TMP update began with the Policy Refinement phase in 2012, with the results and following work program approved and supported by City Council in 2013-14. Council has directed that:

- The plan should maintain the existing four TMP Focus Areas with the following emphasis:
  - *Complete Streets*, formerly Multimodal Corridors: Rename, address transit system planning, explore bike and pedestrian innovations
  - *Regional Travel*: continue existing approach with a focus on US 36, the Northwest Area Mobility Study and other regional connections
  - *Transportation Demand Management (TDM)*: explore community-wide Eco-Pass and develop TDM packages for development review
  - *Funding*: expand transportation funding focus as the funding shortfall has increased and funding is essential to continued progress. (While recent funding progress has been made to stabilize service levels and provide limited enhancements, the TMP will continue to explore appropriate funding approaches for future TMP enhancements.
- Add "Integrate with Sustainability Initiatives" as a new, fifth Focus Area. This includes integration of the TMP Update with the city's sustainability efforts including the Civic Area plan, Climate Commitment, Sustainable Streets and Centers, Access Management and Parking Strategies (AMPS), East Arapahoe and North Boulder community/corridor plans.
- Add three new measurable objectives of *Safety, Neighborhood Accessibility and Vehicle Miles Traveled (VMT) Per Capita*.

## **TMP Focus Area Progress**

Planning work continues under all the Focus Areas of the TMP. The primary purpose of this memo is to provide an update regarding the Complete Streets, Regional, and Funding Focus Areas. Future TAB materials will include more detailed updates regarding the TDM and Sustainability Focus Areas as well as the measurable objectives.

### ***Complete Streets***

The Complete Streets Focus Area includes all the modes of travel, including the Bicycle and Pedestrian innovations and the Transit planning discussed in detail in the next section.

### ***Regional Travel***

The city continues to work with our regional partners to advance our goals to fully implement true bus rapid transit (BRT) service and regional bikeway system along US 36 corridor and to expand travel options on regional corridors through the Regional Transportation District's (RTD) Northwest Area Mobility Study (NAMS). Additional discussion on additions to the city's approach to regional issues is in the Analysis section.

### ***Transportation Demand Management (TDM)***

The TDM focus area includes partnership activities in the areas of community-wide Eco-Pass with Boulder County, as well as a focus on updates to the city's TDM Tool Kit as part of the AMPS process. The Community-wide Eco Pass Feasibility Study was released on February 25, 2014 following an extended review by RTD. The data, analysis and results of the feasibility study are being incorporated into the TMP Update and specifically in the development of future transit scenarios and investment plans. In coordination with the County, city staff is meeting with local and regional partners, including the University of Colorado, Boulder Valley School District, the Central Area General Improvement District (CAGID), Boulder Junction District Board, Boulder Transportation Connections, and the Boulder Chamber of Commerce to discuss the findings of the report and gather feedback. The Frequently Asked Questions (FAQs) developed for the city's Web site are included in **Attachment A**.

Staff is in the process of finalizing the scope of work for the AMPS project in collaboration with the TMP update's TDM focus area per the staff discussion with TAB at the Feb. 10 meeting. The immediate work will focus on best practices for incorporating TDM into the development review process and recommendations for changes to the Transportation Options Toolkit, which is used by developers and staff to design effective TDM plans for new commercial and residential developments. As part of the best practices research, the consultant will also provide insight into incorporating car- and bike-sharing into the development process and innovative ways of funding, implementing and evaluating TDM programs and services in and outside of general improvement districts.

### ***Funding***

Staff continues work on the review and refinement of the existing TMP investment programs. In addition, initial guiding principles for transit investment have been developed and are included in the Analysis section.

### ***Integrate with Sustainability Initiatives***

This new focus area emphasizes city-wide integration of projects and planning efforts under the city's Sustainability Framework of the BVCP. Collaborative and interdepartmental project management is occurring across the city-wide planning initiatives. Interdepartmental teams are developing the scope for the AMPS effort and a multi-departmental Travel Wise workshop held to begin refining the transportation portion of the Climate Commitment. The Sustainable Streets and Centers effort has been rolled into the Arapahoe project, which is now titled Envision East Arapahoe. The project will serve as the first corridor study and is scheduled to be completed by December 2014 so that it can inform the update to the BVCP starting at the end of the year. The approach for the Envision East Arapahoe corridor plan will be used as a model for subsequent corridor plans along 30<sup>th</sup> Street and Colorado. TAB and Transportation staff will also participate in a joint Board workshop in April as a follow up to the joint board workshops in 2013. The format and content for this next joint board workshop is currently being developed and more details will be available prior to April TAB meeting.

## **ANALYSIS: TMP UPDATE- COMPLETE STREETS, FUNDING AND REGIONAL FOCUS AREAS**

### **Complete Streets**

#### ***Bike and Pedestrian Innovations***

The emphasis of this element of the Complete Streets Focus Area is on increasing bike/walk trips by better accommodating older adults, women and families with children – who are likely to represent a significant portion of “Interested but Concerned Cyclists”. In December 2013, staff briefed the TAB on the Living Laboratory and Boulder Walks program initiatives introduced as part of the TMP update. These initiatives are intended to learn what makes a good pedestrian environment and to test new bicycle treatments and programs. Staff also updated the Board on the development of the Bike and Pedestrian Action plan that will be incorporated into the TMP update.

#### **2014 Walk Bike Summit**

On Feb. 6, 2014, the City hosted the 2014 Walk Bike Summit in collaboration with the Transportation Advisory Board (TAB) and the Bike Walk Steering Committee. The Summit brought together agencies, organizations and businesses/retailers in the active transport industry, community groups as well as select community focus group participants to envision and strategize how to increase walking and biking trips in the City of Boulder. A day-long event, the Summit featured several interactive group activities including a co-design session in the morning that produced drawings detailing elements important to community members in a walk and bike friendly community. Participants ventured out for a walk during lunch to guide a group discussion and reflections of personal experiences on the perception of the walking environment. The afternoon session focused on identifying and prioritizing strategies to achieve the shared vision for a walk and bike friendly community. Participants choose nine strategies to:

- discuss and develop further into a plan of action from idea to implementation;
- outlined first steps and the partners that needed to be involved; and,
- establish a potential timeline for the completion of each strategy.

The entire day's events were captured on a graphic recording. This graphic is included in **Attachment B**.

#### *Bike and Pedestrian Action Plan Development*

**Attachment C** outlines the proposed framework of the Action Plan. It establishes immediate, near term and long-term action items, prioritized to achieve short and long-term mode share targets for bike and walk commute trips by residents and in-commuting employees. TAB input on the framework is requested.

All of the community input collected through the summit, walk audits and bike innovations will be combined with the analysis from the Neighborhood Access Tool and the Low Stress Bike Network analysis to produce recommendations for the update and the Bike Walk Action plan. We envision that some action items will be community led initiatives supported by the City, and propose that these also be included in the action items detailed in the TMP update. A final draft Action Plan will be presented at a future TAB meeting in the Spring.

#### *Living Laboratory Update: E-bike pilot project*

After considering the 92 phone and email comments provided during the 15-day comment period, the city manager approved the proposed rule to establish a [Map of Multi-Use Paths That Allow E-Bike Use](#). The rules became effective on Feb. 7, 2014 and will expire on Dec. 31, 2014 as part of the ordinance that authorized a pilot project allowing e-bike use on multi-use paths.

#### *Bike and Pedestrian Next Steps*

##### E-bike Pilot Project outreach and evaluation

As part of implementing the E-bike pilot, signs to inform path users of the pilot project and the current 15 mph speed limit will be installed at select locations along the pathway system to educate users. A public outreach and educational campaign to raise awareness about proper etiquette on Boulder's multi-use path system will be launched in May to coincide with peak cycling and walking season. There will also be a series of forums for public input about user experience on the path system and the e-bike pilot project.

A number of evaluation measures will also be undertaken, including using automatic in-pavement loop detectors will track bike volume. Manual counts and field observations are being conducted throughout the 11 month pilot project duration to collect volume data by user type (pedestrian, bike, e-bike, other). Additionally, an online survey and intercept surveys of multi-use path users will be conducted to gather input on the pilot program and use of e-bikes on multi-use paths. Formal police enforcement activities may be scheduled as resources allow and based on the findings of the field observations.

##### Walk Bike Innovations

Evaluation of other Living Laboratory bike treatments is on-going. Walk Audits will resume in late April or early May. Staff will present the findings of the Living Laboratory

projects and programs to the Transportation Advisory Board and Council at a future meeting.

### ***Transit Planning***

Transit has been a major work area in the Complete Streets Focus Area. TAB received information on the Transit Scenario Development and Evaluation process at its December 9, 2013 meeting. The transit element is now transitioning to the plan development phase as the transit analysis is completed. The modeling of distinct transit capital and operating scenarios provides a quantitative basis for developing the renewed vision for transit and near term action plan for enhancements. The results of the transit analysis are described below.

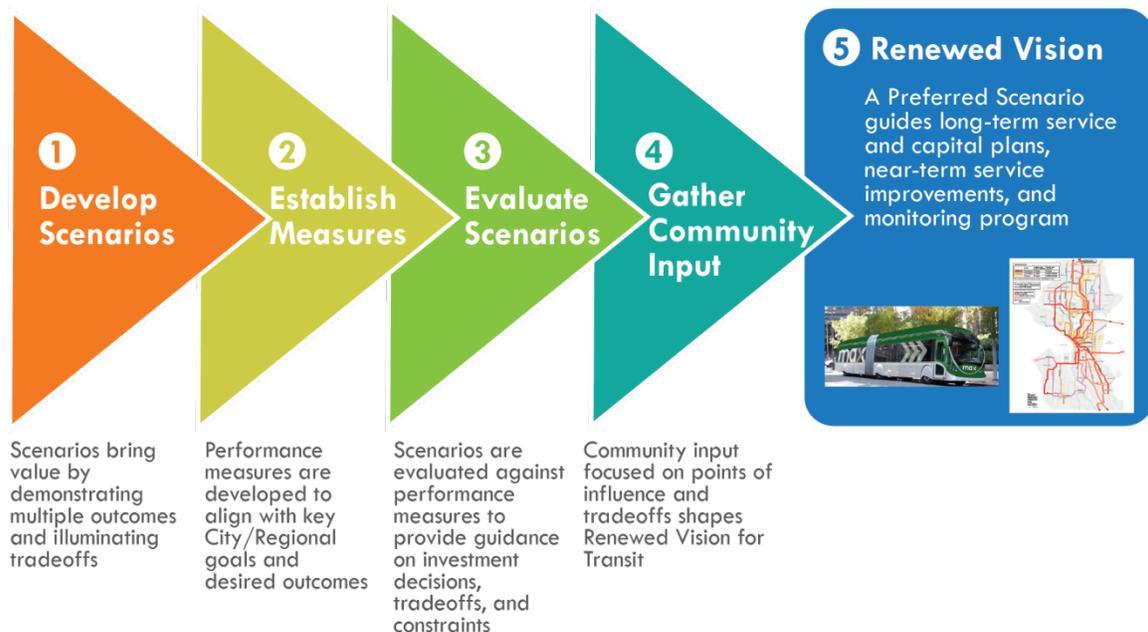
#### Transit Analysis Process

The scenario process models a number of distinct capital and operating strategies for a complete transit system. Exploring these options provides a quantitative basis for considering and justifying future investments and for identifying near-term transit enhancements that provide the greatest return on investment. The scenario evaluation process helps to:

- Illuminate possible futures, not “the future plan;”
- Test key constraints;
- Test tradeoffs; and,
- Inform decisions.

This scenario process follows the steps shown in Figure 1.

*Figure 1. Transit Scenario Evaluation Process*



## Transit Scenarios

The four transit scenarios and analysis process used in the analysis were reviewed by TAB at the December, 2013 meeting. These were developed based on input from the TAC, RTD and the city interdepartmental team, a review of key operating data from the State of the System Report and high level financial projections. The scenarios represent a range of strategies representing the framing concepts developed by the TAC and were financially constrained to amounts judged to be meaningful and achievable. The four scenarios for 2035 are:

- **Baseline:** This scenario represents a “No Net New Service” position based on the assumption that any financial growth is consumed by increases in operating costs and that capital development is limited to currently funded projects such as the US 36 Corridor BRT. The primary intent of this scenario is to act as a point of comparison for Scenarios 1 through 3, which represent varying levels of growth and system investment.
- **Scenario 1: Local and Regional Enhanced Service.** This scenario emphasizes investment in operating resources to develop a CTN level of service on the most productive corridors in the City of Boulder and on regional connections to/from Boulder. Capital investments in transit corridors are limited in this scenario.
- **Scenario 2: Boulder Local CTN Buildout.** This scenario focuses on local Boulder service investment, making the buildout of the CTN network a top priority. CTN service is delivered on all corridors that are believed to have supportive land use attributes by 2035. Corridor capital investments are prioritized on corridors that best support CTN development by providing needed speed and reliability enhancements.
- **Scenario 3: Local and Regional Rapid Transit Network.** This scenario has a more modest level of investment in local and regional transit operations, although it provides a 63% increase over the Baseline scenario. Capital development for Rapid Bus and Enhanced Bus is emphasized in this scenario to improve travel time and reliability. This scenario reflects the regional BRT corridors being evaluated by RTD as part of the NAMS analysis.

Detailed descriptions of the four scenarios are contained in **Attachment D**.

## Evaluation Framework

A standard set of performance measures was used to evaluate and compare each scenario. The 1996 Boulder Transportation Master Plan (TMP) established measurable objectives supporting broader community goals and this update is building upon those objectives while responding to the city’s adopted Sustainability Framework. The areas of the Sustainability Framework have been classified into four accounts consistent with the three general areas of community sustainability plus an account for efficiency as shown in Figure 2.

The ridership model served as the primary tool for measuring the ways that possible transit scenarios could help meet these objectives on the premise that a net gain in new transit system riders is a basic denominator when measuring their achievement. More people choosing to use transit for more trips translates to less driving, lower congestion,

safer streets, affordable access to jobs, lower household transportation costs and many other benefits.

However, it is not enough to only measure ridership or the productivity of the system given the Sustainability Framework. Success will also be measured by calculating how investments benefit low-income households, people with disabilities, seniors with limited mobility options, and other vulnerable populations. The evaluation also looked at transit's ability to help Boulder residents and workers reduce household costs, retain wealth, and live more active, healthy lives. A detailed description of the evaluation measures is in **Attachment E**.

*Figure 2. Boulder Sustainability Framework*



### Transit Scenario Analysis Results

The scenarios themselves were not meant to represent system plans that could be fully implemented but rather illuminate possible futures and test key tradeoffs to help inform the development of the Renewed Vision for Transit. The analysis results answer these key tradeoff questions, among others:

- **Which scenario results in the most cost effective investment from a ridership standpoint?**
- **Which scenario has the greatest impact on greenhouse gas reduction?**

- **Which scenario most effectively captures regional transit riders?**
- **Which scenario most effectively serves job access and transit dependent riders?**

As evidenced by the key findings summarized in Figure 3 and Figure 4 below, there is no one scenario that performs the “best.” Rather, the analysis highlights how local versus regional investments impact these key tradeoff questions differently. For example, local investment in transit (e.g. Scenario 2) is the most cost effective but does not perform the best from a transit dependent riders and job access standpoint. In comparison, regional investment (e.g. Scenario 1) has the greatest impact on reducing greenhouse gas emissions and capturing retained wealth in the local economy.

Figure 3. Summary of Accounts and Measures

Boulder TMP Update

Accounts and Measures Summary

	EFFICIENCY		
	SCENARIO 1 Local & Regional Service	SCENARIO 2 Local CTN Buildout	SCENARIO 3 Rapid Transit/BRT
Ridership/Productivity	2nd	BEST	2nd
Travel Time	3rd	2nd	BEST
Cost Effectiveness	2nd	BEST	2nd
User Experience	3rd	2nd	BEST

	COMMUNITY		
	SCENARIO 1 Local & Regional Service	SCENARIO 2 Local CTN Buildout	SCENARIO 3 Rapid Transit/BRT
Transit Accessibility	2nd	3rd	BEST
Transit Mobility	2nd	3rd	BEST
Housing & Transportation Costs	BEST	2nd	BEST
Active Transportation	2nd	BEST	2nd

	ECONOMY		
	SCENARIO 1 Local & Regional Service	SCENARIO 2 Local CTN Buildout	SCENARIO 3 Rapid Transit/BRT
Neighborhood Accessibility	BEST	BEST	2nd
Access to Jobs	BEST	2nd	BEST
Green Dividend	BEST	3rd	2nd

	ENVIRONMENT		
	SCENARIO 1 Local & Regional Service	SCENARIO 2 Local CTN Buildout	SCENARIO 3 Rapid Transit/BRT
Change in VMT	BEST	3rd	2nd
Mobile Source Emissions/ GhG Reduction	BEST	3rd	2nd
Net New Operating Cost per kg GhG Reduced	BEST	3rd	2nd

Figure 4. Transit Scenario Analysis Results Key Findings

Efficiency	<ul style="list-style-type: none"> <li>▪ Scenario 2 (in-city CTN focused strategy) nets the most new riders at the lowest cost per ride</li> <li>▪ Reducing travel time attracts regional ridership</li> <li>▪ Regional investments are least cost effective but yield other benefits (i.e. travel time, GhG reduction, and other community benefits noted below)</li> <li>▪ In Scenario 3, Longmont (119) has highest ridership potential of all regional BRT routes, but Arapahoe and South Boulder are also strong</li> <li>▪ Scenario 1 (local and regional investment) captures the most regional riders (total and net new riders)</li> </ul>
Community	<ul style="list-style-type: none"> <li>▪ Scenarios with higher service investment outside of Boulder (i.e. Scenario 3) do a better job serving low to mid-income residents, jobs, and transit dependent populations</li> <li>▪ Active transportation outcomes are better for in-city routes due to higher net new ridership and higher rates of walk and bicycle access to transit</li> </ul>
Economy	<ul style="list-style-type: none"> <li>▪ Scenario 2 has highest access to retail and services within Boulder</li> <li>▪ Scenarios that focus on regional investment (i.e. Scenarios 1 and 3) put CTN/frequent service within walking distance of the most jobs and the most low- to mid-wage jobs</li> <li>▪ At a corridor level, Rapid Transit on the Diagonal and Arapahoe are among the best performers for GhG reduced and therefore capture the most “retained wealth” (“retained wealth” is derived from VMT reduction)</li> </ul>
Environment	<ul style="list-style-type: none"> <li>▪ Scenario 2 maximizes reduction in GhG and VMT within the City of Boulder, but Scenario 1 (local and regional investment) has highest overall GhG and VMT reduction benefit</li> <li>▪ Regional investments are a less cost effective way to get people on transit, but trip lengths are longer leading to greater GhG reduction benefits</li> </ul>

The transit scenario analysis results were presented to the Technical Advisory Committee (TAC) in January and February 2014. The detailed analysis results are provided in **Attachment F**. Maps illustrating net new riders and total riders per scenario are provided in **Attachment G**.

At the February 2014 TAC meeting, TAC members were asked to prioritize metrics from the transit analysis results. Although all accounts and metrics are important and will be used to develop the Renewed Vision for Transit, it is essential to understand the TAC’s priorities. Figure 5 provides a summary of the TAC priorities. Ridership/productivity, transit accessibility, housing and transportation cost, and change in VMT/greenhouse gas reduction were identified as their top four priority metrics.

*Figure 5. TAC Accounts and Metrics Prioritization*

Account	Metric	First Priority	Second Priority	Third Priority	Total
Efficiency	<b>Ridership/Productivity</b>	5	2	3	10
	Travel Time	2	1	2	5
	Cost Effectiveness	2	1		3
	User Experience		1	3	4
Community	<b>Transit Accessibility</b>	1	3	7	11
	Transit Mobility	1			1
	<b>Housing &amp; Transportation Cost</b>	1	2	3	6
	Active Transportation				0
Economy	Neighborhood Accessibility				0
	Access to Jobs	2	2		4
	Green Dividend			1	1
Environment	<b>Change in VMT</b>	1	1	2	4
	<b>GhG Pollution Reduction</b>	3		1	4
	Cost per GhG reduced			1	1

Key messages from TAC member comments and discussion include:

- Many TAC members felt that scenarios and projects that did the most to increase ridership should be prioritized, since ridership (and productivity) was emblematic of the investment’s ability to help the City realize other key goals and priorities.
- TAC members placed great importance on transit accessibility, both in terms of the quality of pedestrian and bicycle access to high-quality transit services (i.e., CTN or Rapid Transit routes) and the percent of the population and jobs that were afforded high-frequency service.
- TAC members emphasized that transit needs to play an important role in ensuring Boulder and Boulder County remain a place where people of all income levels can work, live comfortably, and access jobs.
- There was a strong sentiment from the TAC that transit play an integral role in meeting Climate Commitment goals as well as a broader range of environment and sustainability measures. Recognizing that measures around reducing GHG pollutant reduction and

vehicles miles traveled are the best quantitative measures stressing this priority, the TAC also pushed for broader consideration of transit's role in improving the quality of the built environment, positively effecting public health, and leading to more sustainable community form.

- The TAC also recognized that in combination, many of the measured outcomes create a “virtuous circle” of benefit. Put simply, more riders on transit frees street space, changes capacity for more compact urban form and allows safer passage for non-motorized modes. As these things happen, the market for transit improves, cycling and walking becomes more attractive and neighborhood design becomes less auto-based. There is no proper order to these activities, but in concert they lead to the community form and function that Boulder prizes.

### **Sensitivity Analysis**

In addition to analyzing the accounts, measures, and metrics described above, sensitivity testing was performed to better understand the affects of policy and programmatic changes on transit ridership and performance. At this stage, sensitivity testing was used to evaluate the potential addition of parking management districts and the expansion of the Eco Pass program. This work is still in progress and initial results are presented below. Changes to land use along the Arapahoe transit corridor will be analyzed in the near future.

#### *Eco Pass Sensitivity Analysis Methodology & Results*

To analyze the impact from the expansion of the Eco Pass program in 2035, the project team used the *Boulder County Countywide Eco Pass Feasibility Study* as a basis for the analysis. This *Study* assessed scenarios for expanding Eco Pass distribution in the City of Boulder and Boulder County. Three distribution scenarios were evaluated at the scale of the City of Boulder and Boulder County:

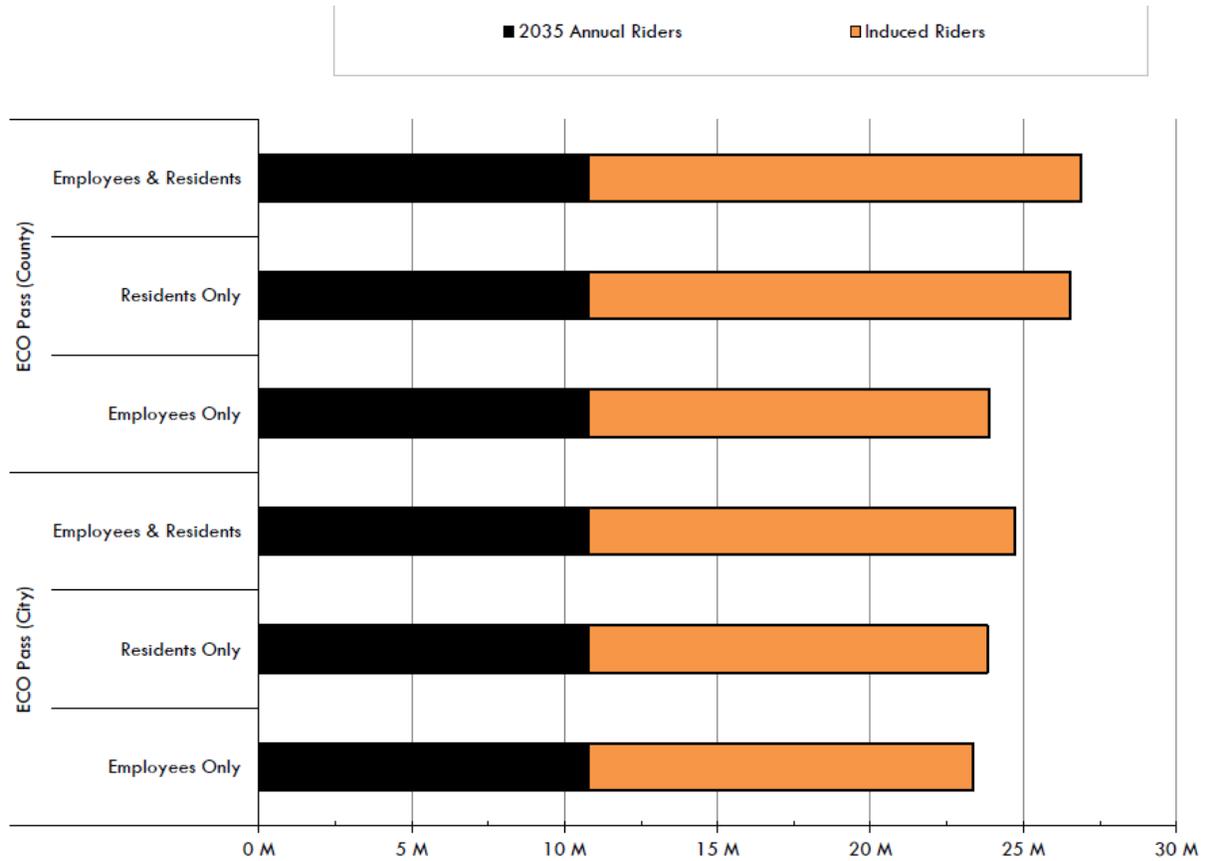
- All residents, employees and university students receive an Eco Pass
- All residents receive and Eco Pass
- All employees receive and Eco Pass

This analysis answers this question:

**If the City only invests in Eco Pass expansion (and did NOT invest in the transit scenarios), what would 2035 ridership be?**

Results for the Eco Pass sensitivity testing are provided in Figure 6. This figure shows induced riders gained from a County-wide or City-ride Eco Pass program compared to the Baseline in 2035.

Figure 6. Estimated Annual Ridership Growth for Eco Pass Expansion, 2035



Based on the induced riders in Figure 6 above, the net new annual cost for each Eco Pass program are shown in Figure 7 below.

Figure 7. Net New Annual Cost for Eco Pass Program, 2035

	Employees & Residents	Residents Only	Employees Only
Net New Annual Cost for Eco Pass (County)	\$9.4M	\$8.6M	\$4.0M
Net New Annual Cost for Eco Pass (City)	\$5.1M	\$3.5M	\$2.9M

Figure 8 below compares investment in a City-wide or County-wide Eco Pass program to investment in each of the three transit analysis scenarios.

*Figure 8. Comparison of Transit Scenario Analysis Investment vs. Eco Pass Investment*

	Baseline Ridership	Net New Annual Riders	Net New Annual Cost <sup>1</sup>	Net New Annual Cost per Net New Ride <sup>1</sup>
Transit Scenario Analysis	Baseline Net New Annual Riders	1.9M	\$10.1M	n/a
	Scenario 1 Net New Annual Riders	9.0M	\$46.4M	\$5.17
	Scenario 2 Net New Annual Riders	9.2M	\$36.4M	\$3.94
	Scenario 3 Net New Annual Riders	8.3M	\$40.0M	\$4.81
Eco Pass Analysis (County)	Employees & Residents	5.4M	\$9.4M	\$1.75
	Residents Only	5.0M	\$8.6M	\$1.71
	Employees Only	2.4M	\$4.0M	\$1.68
Eco Pass Analysis (City)	Employees & Residents	3.2M	\$5.1M	\$1.58
	Residents Only	2.3M	\$3.5M	\$1.52
	Employees Only	1.8M	\$2.9M	\$1.59

Notes: (1) Costs for transit scenarios represent net new annual weekday operating costs. Costs for Eco Pass represent net new costs for purchase of Eco Pass program from RTD. Additional operating costs that would be required to provide new system capacity are not considered.

### *Access District Sensitivity Analysis & Results*

Implementation of paid parking along with policies and programs that manage access to a district influence traveler behavior and increase transits use. Per guidance from Boulder staff, the project team evaluated the impacts of transit ridership assuming paid parking was implemented in the following areas:

- Boulder Junction Access District (BJAD)
- CU East Campus – based on CU decision to price parking on the East Campus (CU East Campus)
- East Arapahoe between 30<sup>th</sup> and 63<sup>rd</sup> Streets
- North Broadway area (between Violet Avenue and Lee Hill Drive).

Of the four, only BJAC is a City-approved access district. The others are conceptual and represent future districts that could be developed in 2035, likely commensurate with future development in these areas.

Ridership testing was conducted at the corridor level to assess ridership change for all impacted corridors. The analysis results are based on 2035 employment numbers and assumed parking rates comparable to the Downtown and 2035 numbers for employees and riders.

Results of the analysis are provided in Figure 9 below.

*Figure 9. Access District Estimated Net New Daily Weekday Transit Riders (2035)*

Potential Access District	Net New Daily Weekday Transit Riders (Low) (1)	Net New Daily Weekday Transit Riders (High) (2)
Boulder Junction	700	840
CU East Campus	2,515	3,018
Broadway	908	1,089
Arapahoe	2,257	2,709
<b>Total Net New Daily Weekday Transit Riders</b>	<b>6,380</b>	<b>7,656</b>
<b>Total Annual Net New Daily Weekday Transit Riders</b>	<b>1.6M</b>	<b>2.0M</b>

Notes: (1) Assumes parking price of \$4.50 per day and elasticity of 0.25; (2) assumes parking price of \$4.50 per day and elasticity of 0.30.

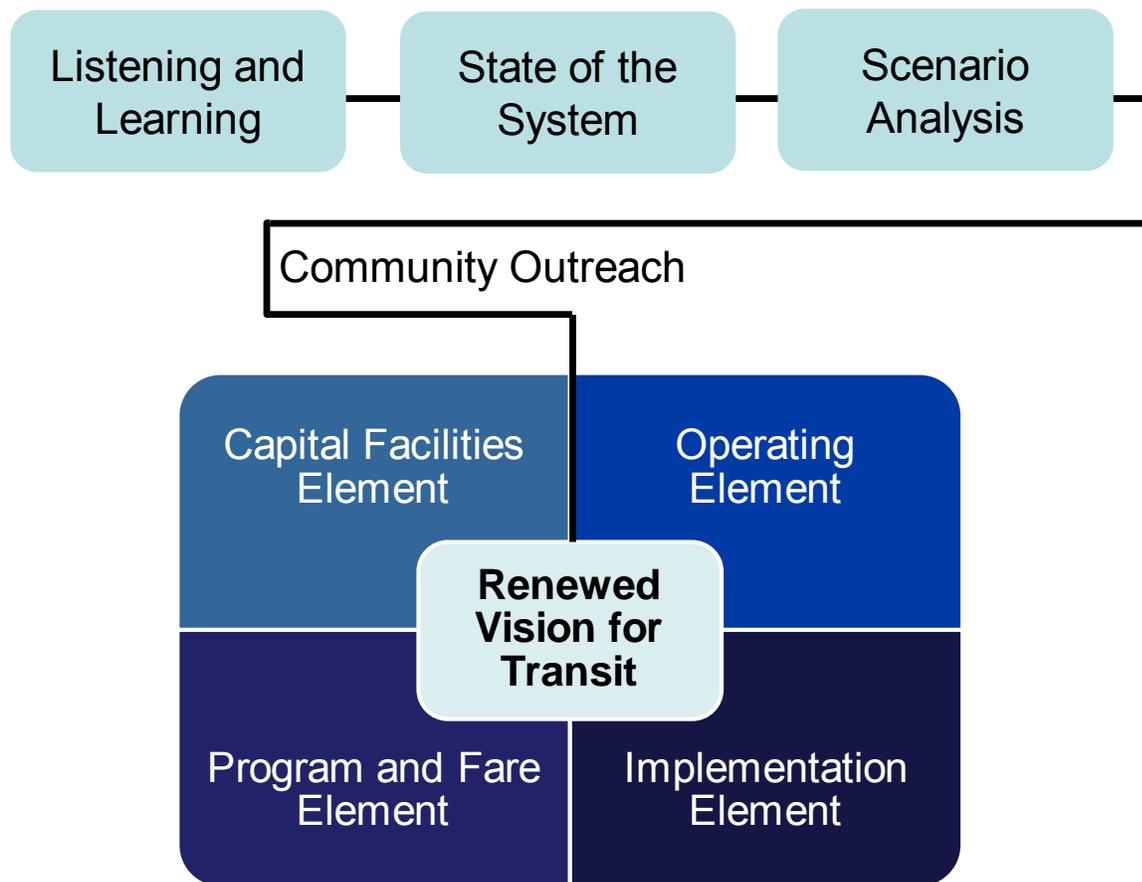
#### Next Steps in Developing the Renewed Vision for Transit

Over the course of the next four months, the project team will work with the Transit TAC, the Transportation Advisory Board (TAB), City Council and the public to develop Boulder’s Renewed Vision for Transit. The Renewed Vision for Transit will be developed based on the following inputs:

- Transit scenario analysis results
- Feedback from the TAC and TAB on priority accounts and metrics
- Professional application of system planning efficiency

The Renewed Vision for Transit will include capital, operating, programmatic, and implementation elements. The specific steps in developing the Renewed Vision for Transit are shown in Figure 10 below.

Figure 10. Path to the Renewed Vision for Transit



Based on the transit scenario analysis results and priorities identified by the TAC and staff, a list of priority projects will be developed. Capital projects and operating projects will be detailed separately. A detailed matrix will be developed for each Vision Element, which will include the project name, the estimated cost, implementing partners and level of priority. Two approaches illustrating potential directions for the vision will be developed to facilitate discussion:

- A proposal that emphasizes locally-based investment and efficiency; and,
- A proposal that emphasizes regional investment to prioritize capturing the in-commute and greenhouse gas reductions.

The March TAC meeting will be dedicated to reviewing and prioritizing the project lists. The outcome of the March TAC meeting will be a list of priorities, including near-term action items. These two approaches will be presented to TAB and Council in April for feedback. In addition to the operating and capital elements, the Renewed Vision for Transit will include a discussion on programmatic and fare elements and implementation elements such as funding options.

Based on feedback from TAB and Council, the project team will then refine the Renewed Vision for Transit, including the near-term action plan. At that time, the Renewed Vision for Transit will be phased to reflect the action plan and investment priorities of the TMP update.

### ***Transit Planning Nest Steps***

As described in the Transit Analysis section, the staff team and TAC will develop and refine two proposals for a renewed transit vision for consideration by the community and TAB during April and May. These two approaches will include operating and capital elements, along with a discussion on programmatic, fare elements and implementation elements such as funding options.

### **Regional**

The transit planning discussed above is an integral aspect of the Regional Focus Area as transit represents one of the primary options for long distance regional travel. The Regional Focus Area was added to the 2003 TMP based on an analysis of projected population and employment growth and recognizing that limited investment was planned for the regional corridors serving Boulder except for US 36. The on-going improvements on US 36 are in large part a result of a long term collaborative effort by communities along the corridor to bring planning efforts and funding resources to the corridor. Improvements on other regional corridors will only result from similar collaborative and long term efforts.

The approach to regional issues identified in the 2003 TMP was to:

“Create Effective Regional Partnerships that Produce Results

- Boulder is not in this alone. Regional partnerships with Boulder County, neighboring cities, RTD, and the Colorado Department of Transportation (CDOT) are the keys to providing solutions for regional travel into and out of Boulder.
- Form broad coalitions to support a package of improvements and the funding for improvements on the regional corridors.
- Develop regional consensus for multimodal improvements to regional corridors including, but not limited to, automobile, rail, bus, bicycle and pedestrian access.
- Improve regional transit connections through enhanced transit centers such as Boulder’s Transit Village and Broadway/Euclid Transit Center.
- Support a Boulder County transit vision and regional corridor improvements through the Boulder County Consortium of Cities Regional Transit Committee.
- Provide regional bicycle connections to other communities.”

Through consistent work over the last ten years, Boulder has had significant success in following this approach. The US 36 corridor is under construction and largely reflects the vision of the city to provide actively managed High Occupancy Toll (HOT) lanes with greatly enhanced travel times for transit and a continuous regional bike facility. The project will provide a dedicated lane for BRT and an 18 mile regional commuter bike facility along the corridor. With support from the city and following the Community Transit Network (CTN) deployment model, Boulder County has had significant success in improving transit connections between communities in the county. These efforts include the BOLT and DASH transit services and the community Eco Pass

programs for Nederland and Lyons. The city and its regional partners have also completed major improvements at the Broadway/Euclid intersection and the Boulder Junction (Boulder Transit Village) transit facility called for in the 2003 TMP is under construction.

City representatives remain active on both the technical and policy committees of the NAMS study. The NAMS consultant team has released the Draft Arterial Bus Rapid Transit (BRT) Summary and a Revised Financial Evaluation Matrix reflecting the results of their analysis. This analysis shows a significant increase in transit ridership resulting from both increased service and improved travel times on five of the six corridors studies. In particular, ridership from arterial BRT service along the SH119 and Arapahoe/SH7 corridors is particularly strong. The results of the TMP transit scenario analysis for the regional corridors have been compared with the NAMS analysis and shows good consistency in the results.

Work also continues to promote high quality BRT service on US 36 in the high occupancy toll (HOT) lanes to Boulder. While significant public controversy developed around the Colorado Department of Transportation (CDOT) contract to complete Phase 2 of the US 36 improvements and operates the facility, this contract implements the improvements supported by the city and the US 36 mayors and commissioners coalition (MCC) for many years. The contract was approved by the CDOT Board and was signed on Feb. 25, 2014. While RTD decided to use over the road coaches for initial service, members of the US 36 coalition continue to work to improve bike carrying capacity and for features to improve travel times and quality. The US 36 construction, including the regional BRT and bikeway system improvements, is scheduled to be complete by the first quarter of 2016.

As Boulder has neither the financial resources nor the jurisdiction to make improvements on the other regional corridors, the city should continue this incremental, focused work with regional partners to expand travel options on the other regional corridors in Boulder County. A significant asset to this effort is the recently adopted Boulder County Transportation Master Plan. The policy direction of this plan update is consistent with the city's TMP as it has a focus on sustainability, the reduction of VMT and providing travel options between the communities of Boulder County. The County has been very active in providing additional transit services, providing Eco Passes to communities and in addressing first and final mile issues for transit riders.

Other regional partners that have become more aligned with the city's transportation policy are both the University of Colorado (CU) and the Boulder Valley School District (BVSD). The CU Master Plan for the Boulder campus envisions a pedestrian campus, the development of the East Campus area at densities comparable to the main campus and the development of a transit corridor between the main and East Campus areas along Colorado. CU has been an active partner supporting the improvement of the US 36 corridor. The city and CU cooperated on the East Campus connections work and expect to undertake corridor planning efforts on both Colorado and Arapahoe. BVSD is also increasing interested in supporting and improving walk, bike and transit services to their facilities. City and BVSD staffs have held two workshops in the last half year to identify strategies and projects that the agencies can cooperate on.

Based on the transit planning analysis of this update and the RTD NAMS work, the Diagonal (SH119) and Arapahoe (SH 7) have the highest potential for increasing transit ridership and should be the priorities for work in the Regional Focus Area. The work underway on the Envision East Arapahoe Planning Project is one step in this direction and could produce a land use pattern more supportive to high levels of transit use. In addition, improving regional bike connections to surrounding communities was one theme identified in the public outreach and improved facilities are likely needed to attract more of the “interested but concerned” cyclists that commute into Boulder. The bike stress level of analysis being conducted within the city will provide lessons that can be applied to these regional connections.

An additional area of regional work that crosses TMP Focus Areas is represented by the *US 36 First and Final Mile Study (US36 FFM)*. The “first and final mile” issue is characterized by difficult multi-modal access between transit stations and surrounding destinations such as residences, employment and shopping. These connections are made difficult by travel safety concerns, lack of bike facilities, long walk distances and transfers to other transit routes that add unreasonable travel time. The *US 36 First and Final Mile Study* identified suitable options to better connect RTD riders to and from the US 36 BRT stations and the surrounding activity centers utilizing such transportation demand management tactics as long-term bike parking and storage, electric bikes, shuttle circulators, station cars, scooters or golf carts, as well as bicycles. The study’s priority was to increase the convenience of public transit and reduce Single Occupant Vehicle (SOV) travel. Similar efforts should accompany any efforts to improve transit service on the regional corridors identified in the NAMS study. An early action item of the US 36 FFM study is to install secure, covered long-term bike parking storage at park n Ride stations along the corridor. The first installation at the Table Mesa station is complete and will soon be in operation.

### ***Regional Next Steps***

Staff will continue to be actively involved in both the US 36 improvement process and the RTD NAMS project. In addition, staff is involved with the DRCOG efforts to update the regional plans to 2040. Any proposed modifications to the current regional collaboration approach will be included in the draft council study session materials in the April TAB agenda memo.

### **Funding**

One of the primary outcomes of the TMP update process is refining the vision of the completed transportation system supporting the values of the community and updating the investment program supporting that system. The investment policies of the current plan are:

“The city shall generally give priority to transportation investments as follows\*:

- Highest priority - system operations, maintenance and travel safety;
  - Next priority – operational efficiency improvements and enhancement of the transit, pedestrian and bicycle system;
  - Next lowest priority - quality of life, such as sound walls and traffic mitigation;
- and
- Lowest priority - auto capacity additions (new lanes and interchanges).

\* *Note that within each priority level, all items are given equal weight.*

Investment in modal enhancements will be integrated between all modes, focused in the designated multimodal corridors and prioritized by the ranked multimodal corridor segments.

As the street network is the primary infrastructure for all modes, it will be managed and expanded to balance its use by all the modes. Roadway capacity will not be added at the expense of the non-auto modes.

The city's transportation system includes all the modes and the resources needed for the sustainable operation of the system. Any consideration of the share of system funding allocated to future growth will be based on this system."

The Complete Streets investment program was added to the 2008 TMP to reflect the passage of FasTracks in 2004 and recognizing the large increases in construction cost of the mid-2000s and the impacts declining sales tax revenues. These changes reduced the real purchasing power of the Transportation Fund by about 38 percent, yet at the same time there was a need to respond to the coming regional transportation facilities promised by FasTracks. The Complete Streets investment program represents a strategic and focused set of improvements providing community connections to the FasTracks facilities at a reasonable cost.

Additional investment "Guiding Principles" were added as part of the Complete Streets Investment program to reflect the limitation of the current fiscal environment. These Principles include:

- Continue TMP goals and policies
- Insure adequate funding for maintenance and operations
- Balance community mobility and FasTracks access
- Be more strategic in project selection
- Stretch city dollars
- Maximize outside funding
- Leverage city dollars with private investment during development review
- Insure outside funding

Additional description of these principles and examples are included in the existing TMP. Staff believes that these investment policies are sound and recommends that they generally be retained in the update but be modified as needed to reflect the Sustainability Framework and the city's priority based budgeting system as well as to incorporate the proposed transit investment guiding principles.

Since the 2003 TMP, the investment program has been divided into three phases:

- Current Funding- Those priority project and programs that can be accomplished with the expected funding available over the time period of the plan.
- Action Plan- The next set of high value projects that would be pursued if additional funding becomes available. The Action Plan is intended to represent a reasonable increase in funding that might come from any number of sources.
- Vision- The full buildout of the complete transportation system supporting the vision of the community and achieving the objectives of the TMP.

### ***TMP Project List***

One result of this update will be a revised list of projects and programs representing the community's vision for transportation in Boulder. As an initial step in developing this investment program, staff is in the process of reviewing each enhancement project in the current TMP. This list includes over 800 individual projects including various types of bicycle facilities, pedestrian facilities and crossings, underpasses, transit investments and roadway projects. This effort is intended to verify completed projects, identify projects that should be removed from the plan and suggest project additions. Different staff teams are reviewing projects in each quarter of the Boulder Valley based on their knowledge and experience of the area. Proposed amendments will be presented for TAB review and consideration at a future meeting in the Spring.

As a result of these efforts, staff has identified the following principles or strategies related to reviewing and revising the investment program:

- In the area of East Arapahoe, there are a number of projects that were added to the TMP to reflect the East Arapahoe Connections Plan, which was programmed for adoption by council as the 2003 TMP was approved. This connections plan was ultimately not approved and this area is the subject of the new Envision East Arapahoe Planning Project, so a revised set of transportation investments should result from that project and be incorporated into the TMP.
- The city has expanded its programmatic efforts and formalized the criteria for improved pedestrian crossings. Consequently, the proposed pedestrian crossing improvements of the TMP should be integrated into the ongoing program of evaluating and improving pedestrian crossings when warranted. Staff is considering the option of only showing those crossings that are warranted but not funded in the TMP.
- A number of the connections in the Boulder Valley Regional Center (BVRC) are part of the BVRC Connections plan prepared before the construction of the 29<sup>th</sup> Street development. A number of these connections are unlikely to ever be constructed and should be considered for removal from the TMP. This would also require amending the BVRC Connections Plan.
- As part of the pavement management system, the city has a fairly comprehensive inventory of the existing sidewalk system. This inventory allows the TMP to identify missing sidewalk segments and large sidewalk projects should be considered for inclusion in the plan, recognizing that there is an on-going programmatic effort to complete sidewalks in the city.
- Other city planning efforts have identified a number of corridors for additional studies that will likely result in modifications and additions to the TMP project lists. In addition to the East Arapahoe corridor, these include both north and south segments along 30<sup>th</sup> Street, Colorado connection between the main and east portions of the CU campus, and Canyon Boulevard in the area of the Civic Center Plan. Reflecting the living document intent of the TMP, projects coming out of these planning efforts should be amended into the plan using the existing amendment process.

### ***Investment Policies***

The 1996 TMP prioritized investment by the ten multimodal corridors identified in that plan. These corridors were identified as part of that update process as representing those roadways that provide connections across the community and to the region and that carry the majority of vehicle trips in the Boulder Valley. Investment by multimodal corridors was intended to make the improvements in all modes needed to accommodate increased person trips in each corridor. As part of the analysis leading up to the 2003 TMP, a more detailed analysis of the multimodal corridors identified differences within each corridor and the identification of corridor segments with similar characteristics and function. Projects were identified by corridor segments and these corridor segments were then prioritized to create the three investment programs of the 2003 TMP. Investing by corridor segment continues the intent of completing all the modal systems to create seamless connections between modes and travel choice in the corridor.

The ongoing review of the TMP list of projects and the emphasis on the Complete Streets Focus Area may suggest the need to modify or replace the process used for the existing investment programs. These revised investment programs will be based on a revised estimated of expected funding based on current revenue sources, including the new sales tax revenue from the 2013 recent transportation funding ballot measures.

In addition, principles have been developed to guide the investment of the funds for transit service. These draft principles largely reflect existing practices of maintaining the Community Transit Network and transit service hours within Boulder. These guiding principles are contained in **Attachment H**. Staff is also developing evaluation criteria to reflect the city-wide Sustainability Framework areas in addition to the standard transportation-related criteria similar to the evaluation accounts for the transit analysis. This will include criteria addressing economic, environmental, and community impacts/benefits as well as efficiency and safety.

The TMP Update will include a recommendation for continuing to explore future potential user fee based transportation funding mechanisms in accordance with prior TAB and City Council guidance during the transportation finance discussions in 2013.

### ***Funding Next Steps***

Staff will continue the review of the TMP project lists and the development of the policy basis for prioritizing the TMP investment programs. The Apr. TAB agenda item should include proposed additions and deletions from the current project list. Staff is also preparing for the upcoming Denver Regional Council of Governments (DRCOG) Transportation Improvement Projects (TIP) process. The DRCOG solicitation for projects is expected in late summer and staff is considering project eligibility and competitiveness in the TIP through the project review process. Community outreach for the TIP process will be coordinated with the upcoming TMP Update public events.

## **TMP UPDATE - COMMUNITY OUTREACH**

Since the public outreach efforts reported in the Jan. 13, 2014 TAB memo, the primary outreach effort was the Walk Bike Summit discussed earlier. The summit brought together almost 140 community members and staff for a full day workshop and was a major work effort for staff.

Staff has also been preparing the completion of the transit planning analysis and development of the Bike/Pedestrian action plan. A reinvigorated public outreach effort has been planned through social media, including a series of new topics on the Inspire Boulder Web site and the new TMP update video shared with TAB at the February meeting. Open houses and other community events will be held prior to the Mar. and Apr. TAB meetings as well as a broader open house with other city planning projects this Spring. Staff has also been presenting the TMP update work to a number of community groups since the start of the year.

## **BOARD ACTION REQUESTED**

Key questions for TAB:

1. Does the TAB have any questions or comment on the overall TMP Update and next steps?
2. Does TAB have input or questions about the Bicycle and Pedestrian Innovations and results of the Walk Bike Summit and/or the proposed approach for the Bike Walk Action Plan?
3. Does the TAB have any questions on the transit scenario analysis and approach to create the renewed vision for transit?
4. Does TAB have any questions or comments regarding the Regional and Funding Focus Area information and next steps?

## **NEXT STEPS**

With a number of the major building blocks of the TMP being defined through the Bicycle and Pedestrian Innovations work, the Transit planning and the Eco Pass study, the work of TAB for the next four months will be to shape these into an integrated TMP update. The April TAB memo will include a draft of the April 29 study session memo to council and the TAB will be asked to help improve that material and the key messages to council. A public open house on the TMP update is scheduled for April 14 from 4 to 6 p.m. The Transit options for a renewed vision and the Bike and Pedestrian Action Plan will be presented at the Open House and to the TAB at its April meeting directly following the Open House.

## **Attachments:**

- A. County Eco Pass Study Frequently Asked Questions (FAQs)
- B. Walk Bike Summit Graphic Recording
- C. DRAFT Bike Walk Action Plan Framework
- D. Scenario Descriptions
- E. Evaluation Account Metrics and Assumptions
- F. Detailed Transit Scenario Analysis Results
- G. Net New and Total Ridership Maps
- H. Guiding principles: New City of Boulder Transit Funds

## **Community-wide Eco Pass Feasibility Study – Frequently Asked Questions**

### **What was the purpose of Feasibility Study?**

A Community-wide EcoPass Feasibility Study was conducted for Boulder County and the City of Boulder in coordination with the Regional Transportation District (RTD). The main purpose of this study was to:

- Formulate strategic objectives for a community-wide EcoPass;
- Develop demographic and geographic implementation scenarios;
- Estimate induced demand and program costs under each scenario;
- Analyze program benefits; and
- Address implementation opportunities and challenges.

### **What was the scope of Feasibility Study?**

Three scenarios and two geographic areas were included in the study to examine various ways a community-wide Eco Pass could be designed:

- Scenarios include:
  - All residents, employees, university students;
  - Residents only; and
  - Employees only
- Each scenario was studied in two geographic contexts:
  - City of Boulder only; and
  - All of Boulder County (including the City of Boulder).

### **Why did the City and the County conduct this study?**

The city and the county jointly conducted this study to examine the induced demand and program costs of increasing access to the Eco Pass, which is proven to be one of the most effective tools to encourage residents, employees and students to use transit. A county- or city-wide Eco Pass program would assist in meeting transportation and sustainability goals of reducing single-occupant vehicle trips, increasing transit mode share and improving air quality. Two community-wide programs already exist within Boulder County in Lyons and Nederland.

### **What were the key findings of the Feasibility Study?**

#### Transit ridership:

Based on the study, it is estimated that transit ridership (for all scenarios) would increase significantly with the implementation of a community-wide pass. For Boulder County, the transit ridership increase would range from 26 percent for the employee only scenario to 62 percent for a program that provides an Eco Pass to all resident, employees and students. For the City of Boulder, which already has high transit use, the range of transit ridership increases is from 21 percent for the employee only scenario to 38 percent for a program that provides Eco Pass to all residents, employees and students.

Induced transit ridership from a community-wide EcoPass in Boulder County was estimated based on national and international research on fare elasticity, using examples of transit systems that have converted from cash-fare to fare-free systems.

#### **Estimated increase in Transit Ridership Based on Induced Demand**

<b>Scenarios</b>	<b>Boulder County</b>	<b>City of Boulder</b>
Scenario 1 (All)	62%	38%
Scenario 2 (Residents only)	57%	27%
Scenario 3 (Employees only)	26%	21%

#### Program Cost:

The cost to implement the various community-wide Eco Pass scenarios for Boulder County ranges from \$7 million for the first year for an employee only program to \$21.5 million for the first year for a program that covers all residents, employees and students. For the City of Boulder, the scenario costs for the first year of the program ranges from \$5.8 million for employees only to \$15 million to provide Eco Passes to all community members.

Under the current business, college and neighborhood Eco Pass program, RTD receives approximately \$8.5 million per year from participants in the city and county. The majority of the total Eco Pass contracts are paid by the University of Colorado through its student and faculty/staff Eco Pass programs.

For the feasibility study, scenario program costs were estimated by adding the cost of replacing existing revenue (generated by each scenario group) with the fully allocated cost of providing additional transit service in order to prevent overcrowding from induced demand. Fully allocated costs include operations, maintenance, capital and administrative costs that would be needed as part of any transit service increase. This cost methodology would protect RTD from unfunded service cost increases during the first year of implementation.

<b>Scenario</b>	<b>2011 RTD Revenue</b>	<b>Induced Demand Cost</b>	<b>Estimated Total Program Cost</b>
<b>Boulder County</b>			
Scenario 1 (All)	\$18,217,059	\$3,265,178	<b>\$21,482,237</b>
Scenario 2 (Residents)	\$15,131,422	\$2,525,129	<b>\$17,656,551</b>
Scenarios 3 (Employees)	\$6,500,889	\$573,580	<b>\$7,074,468</b>
<b>City of Boulder</b>			
Scenario 1 (All)	\$14,185,543	\$956,246	<b>\$15,141,789</b>
Scenario 2 (Residents)	\$8,447,519	\$727,536	<b>\$9,175,055</b>
Scenarios 3 (Employees)	\$5,388,194	\$476,758	<b>\$5,864,952</b>

### Program Benefits:

A core benefit of implementing a community-wide EcoPass would be an increase in transit ridership. Depending on the scenario, a county-wide program would result in an annual ridership increase of between 2.2 million (26 percent increase) and 5.2 million (62 percent increase). For comparison, in 2011 annual transit ridership on all Boulder County bus routes was 8.45 million.

The increase in transit ridership would mean fewer trips by automobile in Boulder County. Depending on the scenario, this would equate to a reduction of Vehicle Miles Traveled (VMT) between 13 and 40 million per year under a County-wide program. The reduced VMT would also mean a reduction of Green House Gas (GHG) emissions. Depending on the scenario, the approximate reduction in GHG emissions from a County-wide EcoPass would be between 5 million and 15 million kilograms per year.

A community-wide EcoPass program in Boulder County would increase the number of people eligible for an EcoPass by between 130,000 and 270,000 depending on the scenario. The cost of the bus fare can be a significant barrier to using transit for many people.

A community-wide EcoPass would improve access to jobs by reducing the cost of commuting. The cost of commuting can be a barrier to low-wage earners. For those who can use transit to get to work, the cost of commuting would essentially become free.

The average cost of housing plus transportation per household consumes about 47 percent of the median household income in the Boulder County. The average household in Boulder County spends about \$13,800 annually on transportation (\$12,600 in the City of Boulder). A community-wide EcoPass program could significantly reduce these household transportation costs.

### Implementation Options:

Depending on the scenario and the geographical boundaries, there are a variety of ways that a community Eco Pass could be implemented with potential funding options including property taxes, sales taxes, occupational privilege tax (head tax), university student fees, and transportation system user fees (such as parking fees or other funding mechanisms).

### **What are the next steps with the Feasibility Study?**

For the City of Boulder, the feasibility study will be used to inform the City's Transportation Master Plan update as staff identifies future transit scenarios and investment strategies. As city staff and consultants analyze different future transit scenarios, the different ways a community-wide Eco Pass program can be implemented will be considered within a range of investment strategies.

**For more information:**

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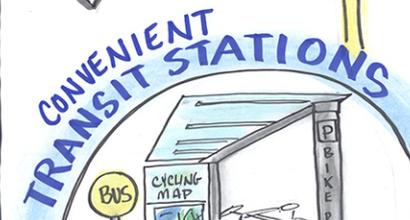
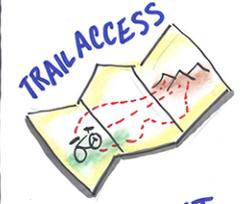
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# BOULDER WALK BIKE SUMMIT

2014  
FEB. 6TH



## OUR CITY IN MOTION



20MINUTE COMMUNITY



HAVE FUN AT SCHOOL!

BETTER REGIONAL TRAIL CONNECTIONS

OBLIVIOUS PEDESTRIAN THROUGHWAYS

LET'S START CALLING THE CAR THE ALTERNATIVE



WALKING IS ENTERTAINING & ENERGIZING!

BETTER COVERED BIKE PARKING

- STOP
- PARK
- SHOP

LOCKS PROVIDED!



MIX USE DEVELOPMENT

DENSITY



LARGE AWNINGS FOR PROTECTION



SLOWER BIKES KEEP RIGHT

PHYSICALLY SEPARATED BIKERS, WALKERS, AND CARS

PATHWAYS BECOMING DESTINATIONS

POLICE ON BIKES

EASY TRAVEL NETWORK

CAR SHARE

BUSES CARRY TRAILERS

BUSES CARRY MORE BIKES

LOWER BUS FARE

- ✓ COMFORTABLE
- ✓ SAFE
- ✓ FREQUENT
- ✓ REAL TIME INFO

### WELL IT UNDER PASSES

WALK

BIKE

BIKE LANES ON ALL STREETS

EDUCATE DRIVERS ABOUT CYCLISTS

ON STREET EDUCATION TEAMS

REAL TIME TRAVEL TRACKING

ROUTE FINDER SIGNS

IN HIGH VALUE LOCATIONS

COMMUNITY CYCLES



BIKE COUNTER  
4,000 BIKES TODAY

IMMEDIATE ACTION ITEMS: 2014 AND CONCURANT WITH PLAN ADOPTION					
Action Item	Description	Focus	Responsibility	Funding sources	Funding estimate
<b>Living Laboratory</b>	Continue on-going analysis of pilot projects as well as identify additional treatments and programs to test bicycle facilities to see if they are appropriate for Boulder.	Engineering	GO Boulder, Transportation Operations and Engineering staff	Transportation Operations Innovations	\$ TBD
<b>Boulder Walks Program</b>	Continue to conduct walk audits to assess the built environment and guide future consideration of pedestrian policy changes city-wide. Introduce a neighborhood focus and work with community associations and groups to develop neighborhood-based walking map(s) highlighting points of interest and historic significance.	Evaluation, Education	GO Boulder, CP&S, Historic Preservation	Pedestrian Planning	\$ TBD
<b>Multi-use path Etiquette campaign</b>	Develop a public outreach and educational campaign to raise awareness about proper etiquette on Boulder's multi-use path system.	Education	GO Boulder, Communications	Bike and Pedestrian Planning	\$ TBD
<b>Crosswalk Safety Week(s) project</b>		Education, Enforcement	GO Boulder, Communications, BPD, CU-Boulder Police	Bike and Pedestrian Planning, Safe Routes to School	\$ TBD
<b>City-led Walk &amp; Bike events</b>	Issue a Request for Proposals (RFP) for a professional services contract with organization(s) to plan, host and evaluate educational/encouragement events that will create a utilitarian cycling and walk friendly community with an aim on attracting interested but concerned cyclists. Include Walk & Bike Month and Winter Bike to Work Day events, Bike Skills 101 workshops as examples of city-led events to be accomplished.	Education Encouragement	GO Boulder, Communications, Finance, CAO, CMO	Bike and Pedestrian Planning	\$ TBD
<b>2.0 Bicycle Network Plan</b>	Conduct low-stress connectivity analysis to complete analysis of existing system, identify deficiencies and develop scenarios to support a more complete, integrated and connected low stress network.	Evaluation, Engineering	GO Boulder, Transportation Operations and Engineering, Information Resources	Bike Planning	\$ TBD

IMMEDIATE ACTION ITEMS: 2014 AND CONCURANT WITH PLAN ADOPTION					
Action Item	Description	Focus	Responsibility	Funding sources	Funding estimate
<b>Bicycle Parking Requirements Update</b>	Amend bike parking requirements for new development to be calculated based on land use and square footage (commercial) or units/bedrooms (residential) and that a ratio of short-term bike parking and long-term bike parking be required	Policy Engineering	GO Boulder, Transportation Operations and Engineering, Communications	Bike Planning,	\$ TBD
<b>Bicycle Byways</b>	Brand local bike corridors to raise awareness of a low-stress system of bike routes using lower cost, high-impact, distinctive directional and wayfinding signs and marking treatments. Additional bicycle and pedestrian amenities including public art will be explored, to make these bike byways fun, inviting and to create a sense of place. Initial Bicycle Byway corridors identified include 29 <sup>th</sup> Street, 28 <sup>th</sup> Street Frontage Road, 13 <sup>th</sup> Street.	Engineering	GO Boulder, Transportation Operations and Engineering, Communications	Bike Planning, Capital Bond Initiative	\$ TBD
<b>Traffic Safety Engineer FTE</b>	Hire a new full-time equivalent (FTE) to coordinate data collection, analysis, and reports to identify and prioritize counter measure strategies and improve safety and reduce collisions, including those involving bicyclists and pedestrians	Personnel, Engineering, Safety	Transportation Operations and Engineering, GO Boulder	Transportation Operations	\$ TBD
<b>TOTAL</b>					
NEAR TERM ACTION ITEMS: 2015 AND 2016					
Action Item	Description	Focus	Responsibility	Funding sources	Funding estimate
<b>Bicycle Facility Installation Guidelines</b>	Develop guidelines to provide a set of criteria, procedures, and policies that guide the installation of bicycle facilities within the City of Boulder.	Engineering, Policy	GO Boulder, Transportation Operations and Engineering staff	Transportation Operations Innovations, Bike Planning	\$ TBD
<b>Walk &amp; Bike event sponsorship program</b>	Establish guidelines and criteria to sponsor community-based events that promote walking and bicycling. Award one large sponsorship contribution (up to \$10K) and five small sponsorship contributions (up to \$5K)	Education Encouragement	GO Boulder, Communications, Finance, CAO, CMO	Bike and Pedestrian Planning	\$ TBD

**NEAR TERM ACTION ITEMS: 2015 AND 2016**

Action Item	Description	Focus	Responsibility	Funding sources	Funding estimate
<b>Corridor Studies</b>	Support corridor studies along 30th Street, East Arapahoe Avenue, Colorado Avenue and Canyon Boulevard to evaluate and prioritize options for improved bicycle and pedestrian treatments	Evaluation, Engineering	GO Boulder, CP+S, Transportation Operations and Engineering staff		\$ TBD
<b>Bicycle corrals</b>	Establish threshold criteria for a minimum number of bike parking spaces per commercial block. Develop process for considering requests to convert on-street parking space(s) to bike parking corrals Utilize downtown business improvement district and/or University Hill as geographic focus areas to develop criteria and process	Policy Engineering	GO Boulder, Transportation Operations, Community Planning & Sustainability, Downtown and University Hill Management District – Parking Services,	Bike and Pedestrian Planning, DUHMD-PS, Transportation Operations Innovations	\$ TBD
<b>New GO Boulder FTEs</b>	<ul style="list-style-type: none"> <li>A Transportation Planner I or II to assist in initiating, managing and coordinating transportation planning and implementation of bike, walk and transit modes of travel options.</li> <li>A Community Outreach Specialist to provide programmatic support and outreach coordination for the GO Boulder team, including grant writing to secure state, federal and other funding in support of transportation programs and capital projects.</li> </ul>	Personnel			\$ TBD
<b>TOTAL</b>					\$ TBD

**LONG TERM ACTION ITEMS: 2017 AND BEYOND**

Action Item	Description	Focus	Responsibility	Funding sources	Funding estimate
	•				\$ TBD
	•				\$ TBD
<b>TOTAL</b>					\$ TBD

# Boulder TMP Update: Transit Element

## Renewed Vision for Transit - Scenarios

Scenario Title	Scenario Description	Annual Operating Elements & Costs			Capital Elements & Costs (Including Vehicles & Facilities)				
		Distinguishing Features	Total	Local	Regional	Distinguishing Features	Total	Local	Regional
<b>Baseline</b> -- Current and Funded Service and Capital	<ul style="list-style-type: none"> <li>Illustrative of 20-year transit future under current funding sources</li> <li>Provide point of comparison for other scenarios</li> </ul>	<ul style="list-style-type: none"> <li>US 36 BRT</li> <li>Service levels comparable to existing system</li> </ul>	\$60M	\$26M	\$33M	<ul style="list-style-type: none"> <li>US 36 BRT facilities to Table Mesa</li> <li>Bus only lanes with enhanced stops on 28th, Diagonal, and Arapahoe</li> <li>Transit Hub at Euclid and Broadway</li> <li>Boulder Junction Transit Center</li> </ul>	\$112M	\$37M	\$74M
<b>Scenario 1</b> -- Local and Regional Enhanced Service	<ul style="list-style-type: none"> <li>High operating cost</li> <li>Low capital cost</li> <li>Enhances local and regional service</li> </ul>	<ul style="list-style-type: none"> <li>Provide circulation between Boulder Junction, 29th St, CU Main Campus, and CU East Campus (CTN+ route)</li> <li>Expand service within other Boulder County communities, including Lafayette, Louisville, Broomfield, and Superior</li> <li>Provide commuter express service from Denver to IBM and other Gunbarrel employers via US 36</li> </ul>	\$106M	\$33M	\$73M	<ul style="list-style-type: none"> <li>US BRT facilities to Table Mesa</li> <li>CTN bus stop improvements on Broadway, 19th/20th, 28th, 30th, Diagonal, South Boulder Rd, Arapahoe, Pearl, and Valmont</li> </ul>	\$173M	\$45M	\$128M
<b>Scenario 2</b> -- Boulder Local Community Transit Network (CTN) Buildout	<ul style="list-style-type: none"> <li>Low operating cost</li> <li>Medium capital cost</li> <li>Builds out Boulder CTN grid</li> <li>Enhances service on highest priority regional routes</li> </ul>	<ul style="list-style-type: none"> <li>Provide rapid transit on N and S Broadway</li> <li>Provide circulation between Boulder Junction, 29th St, CU Main Campus, and CU East Campus (CTN+ route)</li> </ul>	\$96M	\$41M	\$54M	<ul style="list-style-type: none"> <li>US 36 BRT facilities extended to North Boulder</li> <li>CTN bus stop improvements on 28th, South Boulder Rd, Baseline, Arapahoe, Valmont, Iris, and Jay</li> </ul>	\$238M	\$115M	\$124M
<b>Scenario 3</b> -- Local and Regional Rapid Transit Network	<ul style="list-style-type: none"> <li>Medium operating cost</li> <li>High capital cost</li> <li>Supports reliable, competitive regional connections with substantial capital investment</li> <li>Coordinated with Northwest Area Mobility Study (NAMS)</li> </ul>	<ul style="list-style-type: none"> <li>Provide rapid transit on N and S Broadway; 28th; 30th &amp; the Diagonal; Arapahoe to Lafayette</li> <li>Enhance bus on South Boulder Rd; Pearl St</li> <li>Upgrade express bus from North Boulder to DIA via Broadway and US 36</li> </ul>	\$100M	\$27M	\$72M	<ul style="list-style-type: none"> <li>US 36 BRT facilities extended to North Boulder</li> <li>Rapid Transit facilities on 28th, 30th and the Diagonal, and Arapahoe to Lafayette</li> <li>Enhanced Bus facilities on South Boulder Rd and Pearl St</li> <li>CTN bus stop improvements on Valmont, Iris, and Jay</li> </ul>	\$466M	\$176M	\$290M

**Key**

 \$50 million

 \$25 million

NOTE: Scenario programmatic elements will be determined in coordination with City and County studies that evaluate EcoPass expansion and opportunities for new or expanded parking districts; strategies identified in the City of Boulder Climate Commitment; and through the US 36 Commute Solutions partnership that has identified first and last mile commuting needs.

## BOULDER RENEWED VISION FOR TRANSIT

### Transit Scenario Analysis: Account Metrics & Assumptions

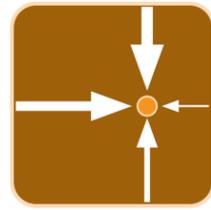
Account	Measure	Individual Metrics	Notes / Key Assumptions
<b>Efficiency</b>	§ Ridership/productivity	Total Daily Riders	Weekday daily rides, based on stop-level August 2012 average daily ridership
		Net New Riders	Net new figures for Scenario 1-3 are relative to 2035 baseline accounting for future
		Annual Weekday Riders	Assumes 255 weekdays per year
		Annual Net New Weekday Rides	Net new figures for Scenario 1-3 are relative to 2035 baseline accounting for future
		Annual Weekday Service Hours	
		Productivity	Weekday; rides per service hour
		Net New Riders/Service Hour	Net new figures for Scenario 1-3 are relative to 2035 baseline accounting for future
	§ Travel time/reliability	Aggregate Annual Travel Time Savings (hours)	Weekday daily rides, based on stop-level August 2012 average daily ridership
	§ Cost effectiveness	Annual Weekday Operating Costs	Existing weekday operating costs based on August 2012 service report and 2011 operating cost per route; assume 255 weekdays per year
		Net New Annual Weekday Operating Costs	
		Operating Cost per Ride	Annual operating costs divided by annual weekday rides
		Net New Operating Cost per Net New Ride	Net new figures for Scenario 1-3 are relative to 2035 baseline accounting for future Net new annual operating costs divided by net new annual weekday rides
		Lifecycle (annualized capital and operating cost) per net new ride	Capital costs annualized assuming 12-year vehicle life, 20+ year infrastructure life, and 2% discount rate
		Operating and Annualized Capital Cost per Net New Ride	Net new figures for Scenario 1-3 are relative to 2035 baseline accounting for future

Account	Measure	Individual Metrics	Notes / Key Assumptions
	§ User experience	Qualitative measure of user experience based on incorporation of user amenity, information, and station design features (% of corridor network that is CTN, enhanced bus, or rapid transit)	Weighted miles based on capital improvement contribution (CTN, Enhanced Bus, Rapid Transit) to enhanced user experience divided by total corridor miles.
<b>Community</b>	§ Neighborhood accessibility	Accessibility score	Used Boulder Access Tool data in-city; intersection data out of city; available only at the corridor level (see map).
	§ Transit accessibility	% of residents (2035) within 3/8 mile walking distance of CTN/frequent service	From Boulder and regional population projections (2035).
		% of low-to-middle income jobs within 3/8 mile walking distance of CTN/frequent service	From LEHD; based on residential location.
	§ Transit mobility for low-income, people with disabilities, and seniors	% of transit dependent residents within 3/8 mile walking distance of CTN/frequent service	
	§ Household housing and transportation costs	% of middle and low-income households within 3/8 mile walking distance of CTN/frequent service (households paying 45% or more of household income for housing and transportation costs)	Average household income and housing cost from ACS; Average transportation cost from CNT H+T index. Households paying > 45% of block group average are counted.
	§ Active transportation	Annual calories burned from walking or cycling to transit by new riders	Assumed 0.25 mi walk and 1.5 mi bike distance per new trip, walk and bike access shares from 2008 RTD on-board survey for Boulder local, regional, and express. Converted to calories burned based on per-hour rates.
<b>Economy</b>	§ Neighborhood accessibility	Access (bus trips per day) to retail and neighborhood services, main streets, or shopping centers	Based on land use data and Scenario bus trips per day.
	§ Access to jobs	% of jobs (2035 Employees) within 3/8 mile of CTN/frequent service (% of Total)	From Boulder and regional employment projections (2035).
		% of low-to-middle income jobs within 3/8 mile walking distance of CTN/frequent service	From LEHD; based on job location.
§ Green Dividend	Retained wealth in community (\$ not exported for fuel)	Assumed VMT reduced, converted to fuel savings based on 2030 projected fleet fuel efficiency. Fuel cost component based on AAA driving cost per mile. Assumes about 75% of fuel savings would be retained in community based on NYC Green Dividend Report.	

Attachment E: Evaluation Account Metrics

Account	Measure	Individual Metrics	Notes / Key Assumptions
<b>Environment</b>	§ Change in VMT	Annual VMT reduced based on ridership projections, assumptions for length of trip, and % of new transit trips shifted from vehicle trips	Based on assumptions for local and regional transit trip distance, trips converted from vehicle trips.
	§ GhG reduction	Annual GhG reduction based on reduced vehicle miles travelled (see above)	Light Duty Vehicle replacement factor (APTA GhG guidance), assumed average distance of route traveled, 28 MPG 2030 fleet fuel efficiency, EPA CO2 content for gas factor.
		Net new operating cost per kilogram of GhG reduced	

# Accounts and Measures Evaluation

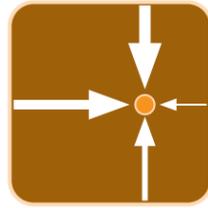


## Efficiency: TOTAL

		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
<b>Ridership/ Productivity</b>	Total Daily Riders	34,800	42,200	77,400	<b>78,400</b>	74,800
	Net New Daily Riders	N/A	7,400	35,200	<b>36,200</b>	32,600
	Annual Weekday Rides	8.9 M	10.8 M	19.7 M	<b>20.0 M</b>	19.1 M
	Annual Net New Weekday Rides	N/A	1.9 M	9.0 M	<b>9.2 M</b>	8.3 M
	Annual Weekday Service Hours	337,300	404,600	<b>728,100</b>	653,500	612,400
	Productivity (Riders/Service Hour)	26.3	26.6	27.1	<b>30.6</b>	31.1
	Net New Rides per Service Hour	N/A	4.7	12.3	<b>14.1</b>	13.6
<b>Travel Time</b>	Aggregate Annual Travel Time Savings (hours)	--	209,800	365,900	434,000	<b>716,200</b>
<b>Cost Effectiveness</b>	Annual Weekday Operating Costs	\$49.9 M	\$60.0 M	\$106.4 M	<b>\$96.4 M</b>	\$100.0 M
	Net New Annual Weekday Operating Costs	N/A	\$10.1 M	\$46.4 M	<b>\$36.4 M</b>	\$40.0 M
	Operating Costs per Ride	\$5.62	\$5.58	\$5.39	<b>\$4.82</b>	\$5.24
	Net New Operating Cost per Net New Ride	N/A	N/A	\$5.17	<b>\$3.94</b>	\$4.81
	Lifecycle (Annual Cost per Net New Ride)	N/A	\$71 M	\$123 M	<b>\$117 M</b>	\$136 M
	Operating & Annualized Capital Cost per Net New Ride	N/A	\$37.41	\$13.67	<b>\$12.65</b>	\$16.36
<b>User Experience</b>	User Experience Based on Incorporation of User Amenity, Info, and Station Design Features	Will add	14%	17%	23%	<b>32%</b>

# Boulder TMP Update

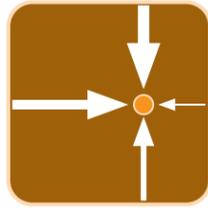
## Accounts and Measures Evaluation



### Efficiency: IN-CITY

		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
<b>Ridership/ Productivity</b>	Total Daily Riders	23,800	28,800	49,700	<b>61,300</b>	52,300
	Net New Daily Riders	N/A	5,000	20,900	<b>32,500</b>	23,500
	Annual Weekday Rides	6.1 M	7.3 M	12.7 M	<b>15.6 M</b>	13.3 M
	Annual Net New Weekday Rides	N/A	1.3 M	5.3 M	<b>8.3 M</b>	6.0 M
	Annual Weekday Service Hours	181,300	215,800	279,800	<b>348,000</b>	206,000
	Productivity (Riders/Service Hour)	33.5	34.0	45.3	44.9	<b>64.7</b>
	Net New Rides per Service Hour	N/A	5.9	19.0	23.8	<b>29.1</b>
<b>Travel Time</b>	Aggregate Annual Travel Time Savings (hours)	--	0	0	209,800	<b>280,300</b>
<b>Cost Effectiveness</b>	Annual Weekday Operating Costs	\$21.9 M	\$26.1 M	\$33.4 M	\$41.2 M	<b>\$26.7 M</b>
	Net New Annual Weekday Operating Costs	N/A	\$4.2 M	\$7.4 M	\$15.1 M	<b>\$0.6 M</b>
	Operating Costs per Ride	\$3.61	\$3.55	\$2.64	\$2.63	<b>\$2.00</b>
	Net New Operating Cost per Net New Ride	N/A	\$3.27	\$1.38	\$1.82	<b>\$0.10</b>
	Lifecycle (Annual Cost per Net New Ride)	N/A	\$30 M	<b>\$38 M</b>	\$50 M	\$39 M
	Operating & Annualized Capital Cost per Net New Ride	N/A	\$23.22	<b>\$7.06</b>	<b>\$6.01</b>	\$6.51
<b>User Experience</b>	User Experience Based on Incorporation of User Amenity, Info, and Station Design Features	--	23%	22%	<b>28%</b>	27%

# Accounts and Measures Evaluation



## Efficiency: OUT-OF-CITY

	EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3	
<b>Ridership/ Productivity</b>	Total Daily Riders	11,000	13,400	<b>27,600</b>	17,100	22,500
	Net New Daily Riders	N/A	2,400	<b>14,200</b>	3,700	9,100
	Annual Weekday Rides	2.8 M	3.4 M	<b>7.0 M</b>	4.4 M	5.7 M
	Annual Net New Weekday Rides	N/A	0.6 M	<b>3.6 M</b>	0.9 M	2.3 M
	Annual Weekday Service Hours	155,900	188,900	<b>448,400</b>	299,400	395,700
	Productivity (Riders/Service Hour)	18.0	18.1	<b>15.7</b>	14.6	14.5
	Net New Rides per Service Hour	N/A	3.2	<b>8.1</b>	3.2	5.9
<b>Travel Time</b>	Aggregate Annual Travel Time Savings (hours)	--	209,800	365,900	224,200	<b>435,900</b>
<b>Cost Effectiveness</b>	Annual Weekday Operating Costs	\$27.9 M	\$33.9 M	\$73.0 M	<b>\$54.3 M</b>	\$72.1 M
	Net New Annual Weekday Operating Costs	N/A	\$6.0 M	\$39.0 M	<b>\$20.4 M</b>	\$38.2 M
	Operating Costs per Ride	\$9.96	\$9.93	<b>\$10.37</b>	\$12.46	\$12.57
	Net New Operating Cost per Net New Ride	N/A	\$9.77	<b>\$10.78</b>	\$21.64	\$16.46
	Lifecycle (Annual Cost per Net New Ride)	N/A	\$41 M	\$85 M	<b>\$66 M</b>	\$96 M
	Operating & Annualized Capital Cost per Net New Ride	N/A	\$66.83	<b>\$23.47</b>	\$69.95	\$41.33
<b>User Experience</b>	User Experience Based on Incorporation of User Amenity, Info, and Station Design Features	--	12%	17%	24%	<b>34%</b>

Boulder TMP Update

Accounts and Measures Evaluation

	Community: TOTAL					
		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
Neighborhood Accessibility	Accessibility Score	Only provided at the corridor level (see map)				
Transit Accessibility	% of Residents Within 3/8 Mile Walking Distance of CTN/Frequent Service	24%	25%	30%	25%	<b>32%</b>
	% of Low-to-Middle Income Jobs Within 3/8 Mile Walk of CTN/Frequent Service	47%	48%	59%	50%	<b>63%</b>
Transit Mobility	% of Transit-Dependent Residents* Within 3/8 Mile Walk of CTN/Frequent Service	35%	36%	42%	37%	<b>44%</b>
Housing & Transportation Costs	% of Low-to-Mid Income Households Within 3/8 Mile Walk of CTN/Frequent Service	32%	33%	<b>41%</b>	34%	<b>41%</b>
Active Transportation	Annual Calories Burned from Walking to Transit by New Riders	--	--	176.1 M	<b>203.7 M</b>	175.3 M
	Annual Calories Burned from Cycling to Transit by New Riders	--	--	16.2 M	<b>18.6 M</b>	17.0 M

\* Low-Income, disabled, and/or senior residents

Boulder TMP Update

# Accounts and Measures Evaluation

	Community: IN-CITY					
		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
Neighborhood Accessibility	Accessibility Score	Only provided at the corridor level (see map)				
Transit Accessibility	% of Residents Within 3/8 Mile Walking Distance of CTN/Frequent Service	--	--	21%	<b>24%</b>	21%
	% of Low-to-Middle Income Jobs Within 3/8 Mile Walk of CTN/Frequent Service	--	--	40%	<b>48%</b>	39%
Transit Mobility	% of Transit-Dependent Residents* Within 3/8 Mile Walk of CTN/Frequent Service	--	--	33%	<b>36%</b>	33%
Housing & Transportation Costs	% of Low-to-Mid Income Households Within 3/8 Mile Walk of CTN/Frequent Service	--	--	<b>30%</b>	<b>34%</b>	30%
Active Transportation	Annual Calories Burned from Walking to Transit by New Riders	--	--	126.0 M	<b>189.0 M</b>	143.6 M
	Annual Calories Burned from Cycling to Transit by New Riders	--	--	10.9 M	<b>16.3 M</b>	12.4 M

\* Low-Income, disabled, and/or senior residents

Boulder TMP Update

Accounts and Measures Evaluation

	Community: OUT-OF-CITY					
		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
Neighborhood Accessibility	Accessibility Score	Only provided at the corridor level (see map)				
Transit Accessibility	% of Residents Within 3/8 Mile Walking Distance of CTN/Frequent Service	--	--	18%	9%	<b>24%</b>
	% of Low-to-Middle Income Jobs Within 3/8 Mile Walk of CTN/Frequent Service	--	--	41%	25%	<b>53%</b>
Transit Mobility	% of Transit-Dependent Residents* Within 3/8 Mile Walk of CTN/Frequent Service	--	--	28%	17%	<b>33%</b>
Housing & Transportation Costs	% of Low-to-Mid Income Households Within 3/8 Mile Walk of CTN/Frequent Service	--	--	26%	13%	<b>31%</b>
Active Transportation	Annual Calories Burned from Walking to Transit by New Riders	--	--	<b>50.1 M</b>	14.7 M	31.7 M
	Annual Calories Burned from Cycling to Transit by New Riders	--	--	<b>5.3 M</b>	2.3 M	4.6 M

\* Low-Income, disabled, and/or senior residents

Boulder TMP Update

# Accounts and Measures Evaluation



## Economy: TOTAL

		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
<b>Neighborhood Accessibility</b>	Access (Bus Trips per Day) to Retail, Main Streets, etc.	1,674	1,668	<b>2,950</b>	2,940	2,725
<b>Access to Jobs</b>	% of Jobs Within 3/8 Mile Walking Distance of CTN/Frequent Service	36%	39%	<b>50%</b>	44%	<b>50%</b>
	% of Low-to-Middle Income Jobs Within 3/8 Mile Walk of CTN/Frequent Service	24%	26%	31%	25%	<b>34%</b>
<b>Green Dividend</b>	Retained Wealth in Community	--	--	<b>\$4.4 M</b>	\$2.2 M	\$2.8 M

Boulder TMP Update

# Accounts and Measures Evaluation



## Economy: IN-CITY

		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
<b>Neighborhood Accessibility</b>	Access (Bus Trips per Day) to Retail, Main Streets, etc.	--	--	2,073	<b>2,431</b>	1,774
<b>Access to Jobs</b>	Jobs Within 3/8 Mile Walking Distance of CTN/ Frequent Service	--	--	37.4%	<b>41.7%</b>	35.4%
	Low-to-Middle Income Jobs Within 3/8 Mile Walk of CTN/Frequent Service	--	--	21%	<b>24%</b>	21%
<b>Green Dividend</b>	Retained Wealth in Community	--	--	\$0.7 M	<b>\$1.1 M</b>	\$0.7 M

Boulder TMP Update

Accounts and Measures Evaluation



Economy: OUT-OF-CITY

		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
<b>Neighborhood Accessibility</b>	Access (Bus Trips per Day) to Retail, Main Streets, etc.	--	--	877	509	<b>951</b>
<b>Access to Jobs</b>	Jobs Within 3/8 Mile Walking Distance of CTN/ Frequent Service	--	--	31.2%	21.2%	<b>37.5%</b>
	Low-to-Middle Income Jobs Within 3/8 Mile Walk of CTN/Frequent Service	--	--	18%	8%	<b>25%</b>
<b>Green Dividend</b>	Retained Wealth in Community	--	--	<b>\$3.8 M</b>	\$1.1 M	\$2.1 M

Boulder TMP Update

Accounts and Measures Evaluation



Environment: TOTAL

		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
<b>Change in VMT</b>	Annual VMT Reduction (miles)	--	--	<b>39.2 M</b>	19.3 M	25.2 M
<b>Mobile Source Emissions/GhG Reduction</b>	Annual GhG Reduction (MT CO2e)	--	--	<b>12,400</b>	6,100	8,000
	Net New Operating Cost per Kilogram GhG Reduced	--	--	<b>\$0.70</b>	\$1.50	\$1.00

Boulder TMP Update

Accounts and Measures Evaluation



Environment: IN-CITY

		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
Change in VMT	Annual VMT Reduction	--	--	5.8 M	<b>9.9 M</b>	6.1 M
	Annual GhG Reduction (MT CO2e)	--	--	1,800	<b>3,100</b>	1,900
Mobile Source Emissions/GhG Reduction	Net New Operating Cost per Kilogram GhG Reduced	--	--	<b>\$3.00</b>	\$2.70	\$3.20

Boulder TMP Update

Accounts and Measures Evaluation



Environment: OUT-OF-CITY

		EXISTING (2012)	BASELINE (2030/2035)	SCENARIO 1	SCENARIO 2	SCENARIO 3
Change in VMT	Annual VMT Reduction	--	--	<b>33.4 M</b>	9.4 M	19.1 M
	Annual GhG Reduction (MT CO2e)	--	--	<b>10,600</b>	3,000	6,100
Mobile Source Emissions/GhG Reduction	Net New Operating Cost per Kilogram GhG Reduced	--	--	<b>\$0.30</b>	<b>\$0.30</b>	\$0.40

Figure 1 Scenario 1 Net New Riders

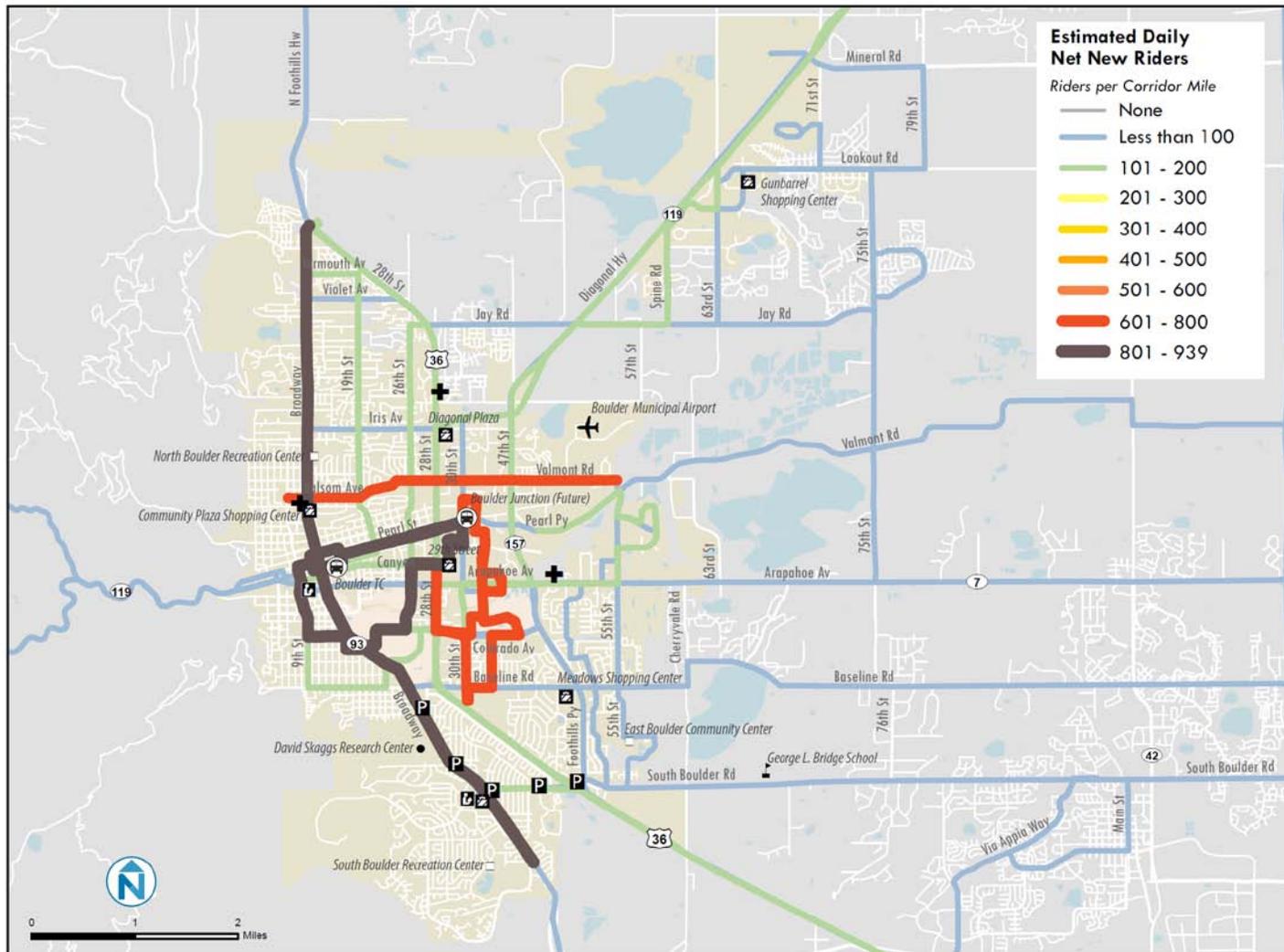
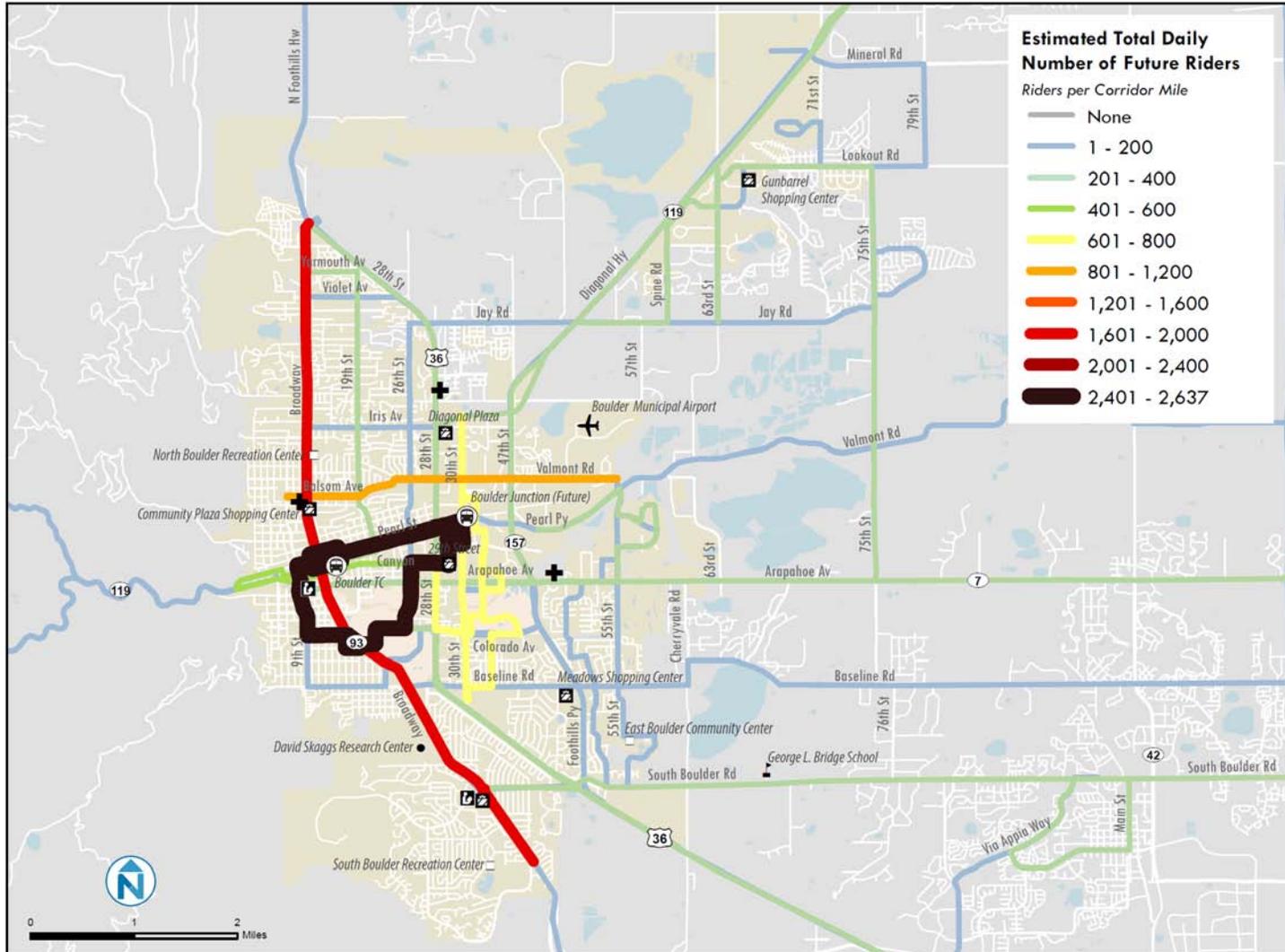






Figure 4 Scenario 1 Total Riders









## Draft Guiding principles: City of Boulder Transit Funds

The following principles are intended to guide future investment decisions for use of the City of Boulder transportation funds for transit.

### **Strategically Invest Local Revenues –**

- **Invest Resources that are consistent with Transportation Master Plan Priorities**
- **Local revenues need to support local improvements** - Locally raised transit funds should benefit the local community.
- **Prioritize Operating and Capital Investments for Efficiency and Effectiveness –** Strive to achieve a cost-effective investment program that increases transit ridership and mobility.
- **Leverage public investments to achieve multiple purposes whenever possible -** The transportation system should also support other community goals such as environmental sustainability, economic vitality, and community health and energy independence.

**Ensure Accessibility:** The transportation system must be accessible and safe for users of all abilities and incomes.

**Preserve Integrity of Community Transit Network –** Branded, direct, frequent and user-friendly service attributes are the hallmarks of the CTN, which has increased ridership significantly. Maintain and expand CTN service attributes.

**Emphasize Reliable and Predictable Transit Service:** The reliability of the system and predictability of travel time are frequently as important as speed. Prioritize multiple multimodal options over reliance on a single option. Expand real-time travel information.

### **Cultivate and Expand Partnerships -**

- **Develop and maintain effective regional partnerships and coalitions:** Regional transit is important to provide enhanced options to in-commuters to support the local employment base and improve air quality for Boulder residents and employees.
- **Coordinate and pursue regional partnerships that leverage local funds -** Improve regional transit to and from Boulder. Develop and maintain regional partners to help provide effective regional service and partner on funding.

**Maintain “net” service hours in Boulder:** During the last decade, there has been significant reduction in RTD transit service in Boulder.

- Ensure rebuilding of the local transit system to ensure “no net loss” of service hours and if possible, service expansion and enhancement to transit routes that are effective, productive, meet community needs and are consistent with the Transportation Master Plan.
- Some parts of the transit system may need to be reduced while other parts are enhanced or expanded to meet changing demand.
- As Boulder invests more in transit, assure that RTD does not divest resources.