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City of Boulder

TMP 2014

Transportation Master Plan

Approved by City Council Month ##, 2014

The Transportation Master Plan (TMP) is a Web-based Plan.

Since 2003, the City of Boulder has published the TMP on the Internet to inform the public of the City's transportation goals and make the plan more accessible and useful. The TMP web site (www.BoulderTMP.net) contains all the material from this document along with active links to related topics and extensive background material developed through the plan update. As the TMP is intended to be a "living plan," it also contains materials from planning efforts since 2014 and the resulting amendments to the plan.

The Boulder Transportation Master Plan is available online at www.BoulderTMP.net

In addition, the site contains an updated mapping application allowing anyone with a Web browser to explore the existing and planned transportation system.

Included on the TMP Web site are:

- Final products from each work area of the 2014 update process
- Background research material on the policy focus areas
- "Map It!" interactive mapping and project information display function for the existing and planned transportation system
- Selected materials presented at the public forums
- An introductory video to the TMP
- Selected Power Point presentations
- Materials and links to planning efforts since 2014
- Links to related transportation activities and information
- Opportunities to communicate with City staff
- Links to related studies and on-going planning efforts

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ACKNOWLEDGEMENTS

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BOULDER B cycle
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Appendices Available on the Web:

- 2012 Transportation Master Plan Policy Review
- Transit State of the System Report
- Transit Modal Plan
- Community Wide Ecopass Feasibility Study
- Complete Streets Open House - December 9, 2013
- 2014 Walk Bike Summit Summary
- Transportation Master Plan: Summary of Community Engagement
- TMP Action Plan
- CU East Campus Connections Project Summary

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All images in this document are courtesy of the City of Boulder, unless otherwise noted

What Does This Plan Contain?

Welcome to the City of Boulder's Transportation Master Plan summary document. Developed through an extensive public process, it represents more than twenty years of consistent policy direction to have transportation support the broader community goals identified in the Boulder Valley Comprehensive Plan. This document is meant to be an accessible and usable summary of the City's policies and strategies in transportation.

Policies guiding transportation decisions in Boulder

Modal plans for pedestrians, bicycles, transit, and automobiles

Background on travel behavior and expectations

Strategic actions in the five Policy Focus Areas: Complete Streets, Regional Travel, Transportation Demand Mangement, Funding, Integrate with Sustainability Initiatives

A Current Funding Investment Program of proposed projects within our funding limitations

An Action Investment Program as a framework for community action to fund the next significant increment of transportation investment

The Vision for our ultimate transportation system

Measurable Objectives to establish targets and track progress

The Action Plan for moving from planning to the work of implementation

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VISION & ACTION

1 | MOVING TO A SUSTAINABLE TRANSPORTATION SYSTEM

The Transportation Master Plan (TMP) is Boulder's blueprint for an accessible and connected community through 2035.

What is a Transportation Master Plan?

First adopted in 1989, the Transportation Master Plan (TMP) recognized the need to reconcile two seemingly conflicting goals: first to provide mobility and access in the Boulder Valley in a way that is safe and convenient; and second, to preserve what makes Boulder a good place to live by minimizing auto congestion, air pollution, and noise. The TMP policy direction reconciles these goals by increasing travel choices to accommodate increased person trips in non-automotive modes while limiting the increase in single-occupant auto travel.

The TMP is set within the broader context of the Boulder Valley Comprehensive Plan (BVCP) with the resulting transportation system expected to support the sustainability and quality of life goals set by the community. It also has a significant role in achieving the community's current Climate Commitment goal of an 80 percent reduction in greenhouse gas emissions by 2050. The Sustainability Framework of the 2010 BVCP has been used to evaluate options for the plan and to integrate TMP actions with other city sustainability planning efforts.

The City of Boulder TMP contains goals, policy guidance, and measurable objectives for operating and investing in the transportation system. It also includes an overview of the strategies and investment programs that the city and the community intend to accomplish by the year 2035.

Starting with the 2003 TMP, the plan contains three investment program categories:

- **The current funding or fiscally constrained investment program** shows how the revenue expected from current funding sources would be invested.
- **The action investment program** shows how the city would strategically invest in the next steps of developing a multimodal transportation system if significant additional revenue becomes available.
- **The vision program** tracks the desired build out of the complete multimodal transportation system.

The 2008 Complete Streets investment program, developed to improve connections throughout the community in response to the Regional Transportation District (RTD) FasTracks Program for regional transit improvements, has been integrated into the three standard investment programs.

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History and Foundation

The first TMP was adopted in 1989 with the challenge to accomplish a 15 percent mode shift away from the single occupant vehicle. The Boulder community has advanced that goal with more than 25 years of consistent policy direction and documented results.

TMP Policy Evolution

This version of the TMP builds on the policies and directions contained in the 1996, 2003, and 2008 versions of the TMP. Key concepts developed through these updates are:

- **Walking is the fundamental way to travel** and connects travel by all other modes. The city will prioritize and support pedestrian travel as the primary mode throughout the community and ensure adequate connections to public transit.
- **The street network is the primary infrastructure uniting the fabric of the community.** It is a key public space and critical asset to community placemaking. It will be well-maintained and improved to maximize the safety and efficiency of the existing system for all modes of travel.
- **The city will maintain and support the current Community Transit Network (CTN)** and incrementally expand the bus system. The bus system will be supported by strategic investment in mobility options for older adults and those with disabilities, the targeted expansion of transit pass programs, land use changes and pedestrian-oriented design, seamless connections to other forms of travel, and high-quality transit stops and stations.
- **Major transportation funding improvements will build complete streets** (including all modes—pedestrian, bicycle, transit, and automobile) by prioritized corridor segment. The city will make strategic improvements consistent with the priorities of the investment programs.
- **A complete and safe bicycle system will connect destinations within the community and the regional system.** This system will be enhanced to encourage use by all types of riders for a variety of trip purposes.
- **The Transportation Demand Management (TDM) program** builds on existing citywide efforts and the programs developed by partner Transportation Management Organizations (TMOs) and other service providers. TDM efforts should produce continuous improvement in all parts of the community toward the city's transportation and Climate Commitment goals.
- **The Transit Village Area Plan (TVAP)** is a model for comprehensive TDM and parking management programs that minimize traffic impacts while allowing redevelopment to create new neighborhoods that meet the needs and desires of the community.
- **Transportation improvements will emphasize the five policy Focus Areas** endorsed by City Council for additional work and refinement: Complete Streets, Regional Connections, Transportation Demand Management, Funding, and Integration with Sustainability Initiatives.
- **The TMP will contain prioritized investment programs and a list of projects to complete all modal systems.** Cost estimates will be periodically updated to reflect significant increases in the cost of construction materials.
- **The TMP is a living document** accommodating changes from other planning efforts.

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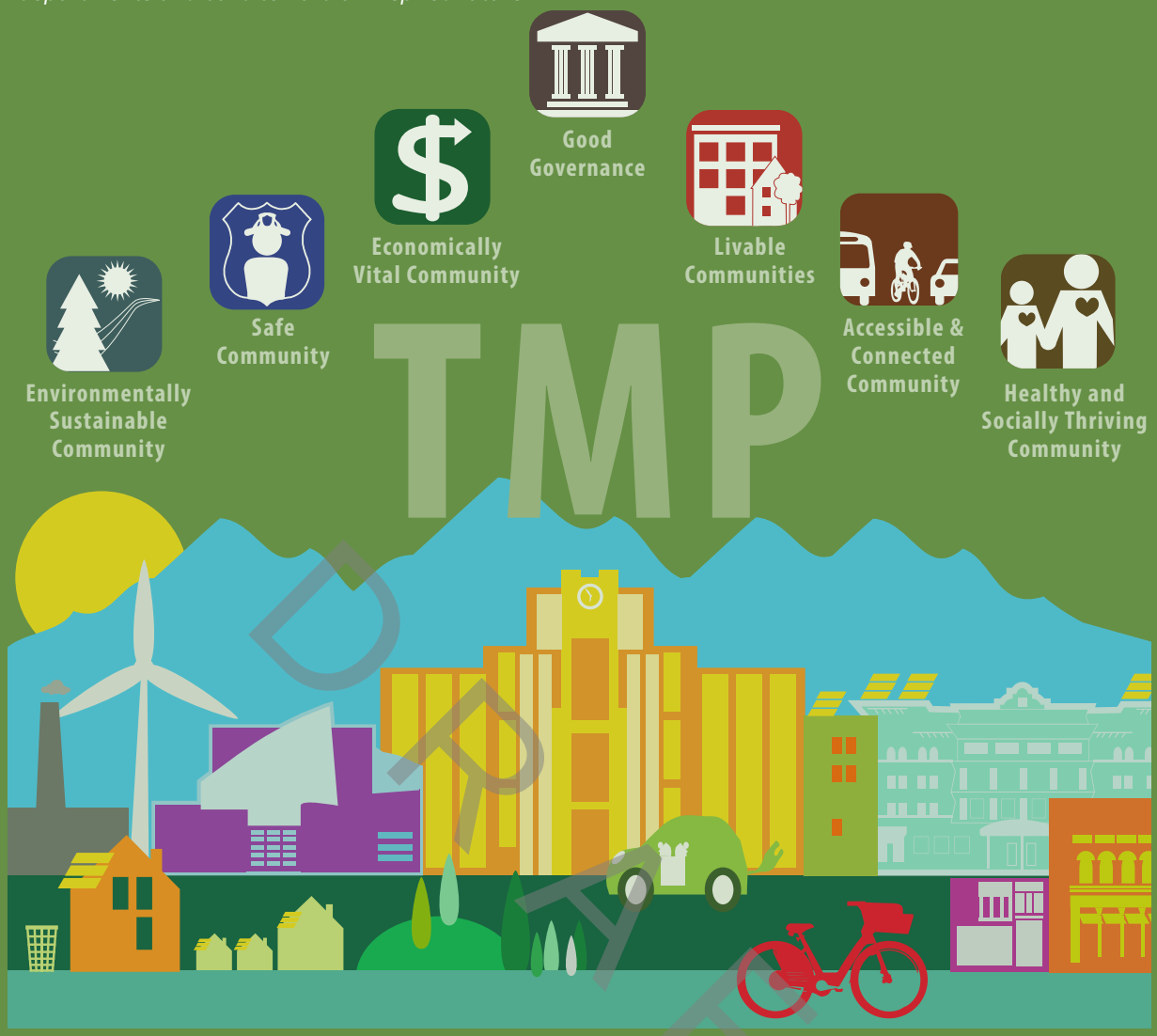
The city's Sustainability Framework uses seven broad categories as desired community outcomes necessary for Boulder's vision of a great community. These categories help the city provide service excellence across departments and build toward an inspired future.



Context of this TMP

This TMP started with a policy review phase, which assessed progress under the plan since 2003 and provided City Council direction on the work areas for the plan. Council supported retaining the previous four Focus Areas (Complete Streets, Regional Travel, Transportation Demand Management, and Funding) while adding a new one for Sustainability. New to the context of this plan is the Sustainability Framework focus of the 2010 Boulder Valley Comprehensive Plan (BVCP). Council provided direction to integrate and coordinate planning efforts across the city under the Sustainability Framework. Consequently, the Framework was used as both an organizing and evaluation structure for this work.

This TMP also recognizes the city's current Climate Commitment of an 80 percent reduction in greenhouse gas (GhG) emissions by 2050. This target represents the scientific consensus on the reductions needed to avoid significant impacts from climate change and will require aggressive action across all parts of the community. The objectives of the TMP have been adjusted to reflect the expected contributions of the transportation sector through mode shift and clean energy sources.

The September 2013 floods occurred mid-way through the development of this plan, highlighting the critical functions the transportation system performs for the community. Boulder was cut off from the region at the height of the storm and some residents of Boulder County were isolated for extended periods. Planning for resiliency both in the response and recovery to increase safety, minimize damage and provide travel options is a renewed focus for the city.

Finally, there are a number of other city planning efforts that will be informed by the TMP and will likely produce results affecting the plan. The TMP is a living document with an amendment process allowing the results of ongoing efforts to be integrated into the plan.

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Regional forecasts suggest population will increase 50 percent by 2035, leading to a significant increase in non-resident employees

What is a Living Plan?

Since 2003, the TMP has been viewed as a living plan that should be updated to remain relevant and consistent with other city efforts. A TMP amendment process was approved by Council in 2006 with some amendments allowed administratively and others requiring Council approval. This allows the plan to remain consistent with other city actions and to most effectively make progress toward the TMP goals. Items that can be accommodated through the amendment process are:

- The TMP should reflect other city planning efforts such as area plans, corridor studies, or other Council decisions that modify and enhance the city's multimodal transportation system. The TMP amendment process ensures that city plans for transportation improvements are coordinated with land use and parking policies, consistent and up-to-date.
- City funding for transportation is largely dependent on sales tax revenue that varies significantly with the economic cycle. Periodic adjustments to revenues and costs provide a realistic basis for programming plan improvements.
- RTD financial support for the Community Transit Network (CTN), which includes the HOP, SKIP, JUMP, BOUND, DASH, STAMPEDE, and BOLT, also varies with sales tax revenue and should be reflected in city financial expectations.
- Growth in population and employment varies from forecasts and is strongly influenced by the economic cycle. The TMP should reflect regional and city growth forecasts.
- The RTD Northwest Area Mobility Study (NAMS) is the initial step in potential arterial bus rapid transit service in Boulder County. Additional planing, design, and funding are needed to make these significant investments to improve regional access, reshape our community, and increase job access.
- The results of evaluating our transportation policies to identify areas that are not working or need improvement and to refine the policy direction.

Population and Employment Growth

Growth in population and employment in the city service area has been significantly less than that forecasted for the 2003 Transportation Master Plan. At that time the city was challenging the 2000 Census counts and city forecasts called for a 2025 population of about 148,000 and employment of 165,000 for the Boulder Valley. Two significant recessions in the 2000s reduced both business growth and relocation activities. Current estimates are a service area population of 114,200 and employment of 105,450. Based on current zoning, the city forecasts the 2035 service area population to be 125,500 and employment to be 119,200. During this same time period, State forecasts expect the regional population to increase almost 50 percent. As employment is expected to increase by almost a third more than the rate of residential growth, these forecasts suggest a significant increase in non-resident employees.

Source: 2014 Community Profile and 2012 City Projections

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Overall Approach for This Update

The Boulder community has achieved the 2003 TMP headline objective of "no long-term growth in vehicle travel." But the policy review identified the need to accelerate mode shift to meet community goals. Council provided direction on the areas for work and refinement.

Policy Review Phase and Findings

The policy review included a public phone transportation survey, employee survey, cross-departmental interviews, Transportation Advisory Board (TAB) comments, and expert panel input. It concluded that the city's transportation policy continues to produce positive results and has strong community support but would benefit from refinement. The policy review results were presented to Council in August and September 2012. Council supported these conclusions and directed that the work program be guided by the following:

- 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 the 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 program and improve TDM Plan process and toolkit for development review
  - *Funding*: diversify transportation funding options and explore opportunities for additional funding to support on-going basic operations and maintenance needs as well as capital funding to achieve TMP goals
- Add "Integrate with Sustainability Initiatives" as a new Focus Area
- Add three new measurable objectives: Safety, Neighborhood Accessibility, and Vehicle Miles Traveled (VMT) per Capita for residents and non-resident employees

Figure 1-1
Vehicle Miles Traveled

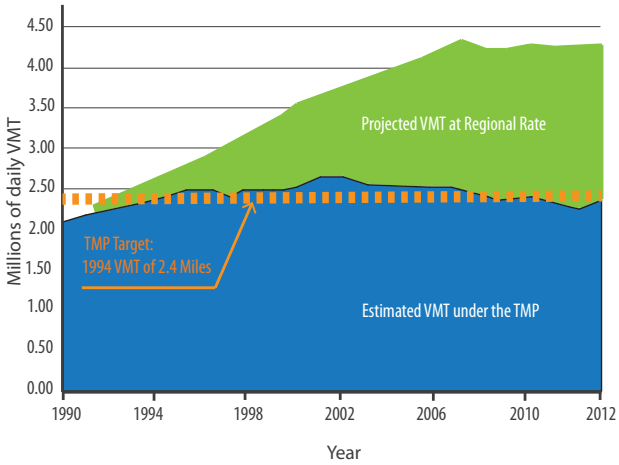
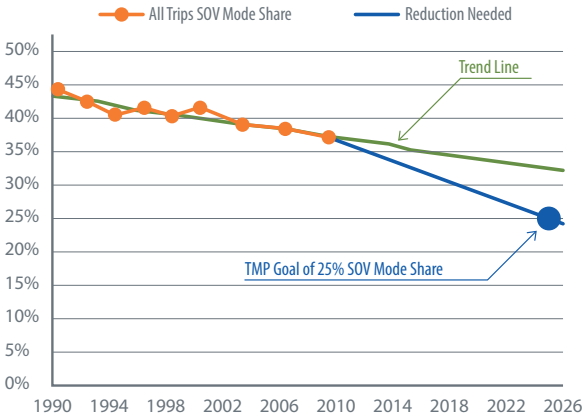


Figure 1-2
SOV Mode Share

Boulder Resident Trips



Source: City of Boulder Modal Shift Reports (Travel Diary of Boulder Residents)

A Strong Foundation Built on Success

The Boulder community has achieved the 2003 TMP headline objective of "no long-term growth in vehicle travel." This is reflected in the estimate of Boulder Valley vehicle miles of travel (VMT) shown in Figure 1-1 compared to the trend of the region.

Despite this success, a key finding from the policy review was the need to accelerate the rate of change in mode shift if the city is to meet the existing TMP objectives. Figure 1-2 shows the trend line moving in the right direction but at a rate missing the 2025 target of 25 percent single-occupant vehicle (SOV) mode share for residents.

The city's Climate Commitment goal will require the need for additional mode shift and reduction in vehicle miles traveled as well as moving to cleaner fuels for transportation.

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2014 WalkBike Summit

Community Input

This TMP is based on an extensive "listening and learning" phase with the community. Comments and ideas were collected from community events, advisory panels, in schools and from a variety of on-line and social media tools.

What Did the Community Say?

This TMP started with an extensive listening and learning phase based in the community. Outreach included advisory committees, Transportation Advisory Board meetings, the 2014 Walk Bike Summit, open houses, store front workshops and an active social media effort reaching a broad cross section of the community. All of these outreach activities are documented in the Summary of Community Engagement document.

The following themes were heard during the listening and learning phase:

- **Make health a central message**. Health speaks to motivating people to choose biking and walking. Look holistically at bike and walk mode share goals, including the benefits and contributions for public health, land use, and recreation.
- **Collaborate with community partners** including Boulder County Public Health and Transportation Departments, CU Boulder, Boulder Valley School District, and city departments such as Parks & Recreation to promote walking and biking.
- **Improve north-south bike corridors** with options for both on-street and off-street travel.
- **Expand the Community Transit Network (CTN) type service.** Giving priority for transit and transit service expansion along key local and regional corridors is important to advancing the CTN. Core CTN elements such as high frequency, branding, and direct routing are highly valued.
- **Parking management is key** to meeting TMP goals. Parking strategies are essential for compact, multimodal mixed use centers and neighborhoods.
- **Focus on connecting to the regional transportation system.** With a growing share of non-resident workers, work with regional partners and adjacent communities to provide fast and efficient transit for commuters. An assertive stance from Boulder and Boulder County, strong partnerships, new fare tools, enhanced partnerships with RTD, and new funding are required to improve transit, add ridesharing services, and engage non-resident employees.
- **The introduction of "fully-featured" US 36 BRT service is an opportunity** to generate momentum for extending the BRT/transit lane enhancements into the city (e.g., on Broadway) and along other important regional corridors.
- **TMP outcomes need to align with the developing Climate Commitment goal** to reach a minimum of 80 percent reduction in greenhouse gas emissions below 1990 levels by 2050. Success will require much greater integration of transportation and land use policies as well as the development of new initiatives to change both personal vehicles and the transit fleet to low/no carbon energy sources.
- **Giving more workers the opportunity to live and work in compact, walkable neighborhoods** and mixed-use districts is an equally essential outcome to improving regional transit. This theme is particularly relevant to the concurrent work efforts on a Comprehensive Housing Strategy, Sustainable Streets and Centers, and the Neighborhood Access analysis.

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- **Boulder's land use policies and patterns are key factors** influencing the motivation for people to bike, walk and access transit more. Improvements in these areas must be integrated with the TMP goals to support changes in travel behavior.
- **Boulder needs to plan for changing demographics** and deliver a "golden menu" of options to meet the demands of a community that is growing older while recognizing a younger generation of people that are becoming less inclined to rely on automobiles.
- **Real-time arrival information** and improved passenger information are the most requested improvements and are needed to meet passenger expectations and make transit use more convenient.
- **Implement new local transit connections** to reduce the need for transfers, improve frequency, and increase service span.
- **Improve transit access to schools** to reduce vehicle miles traveled (VMT) and congestion in school areas. Open enrollment at Boulder Valley School District poses a particularly daunting challenge as parents are choosing to drive farther to ensure their children have access to desired educational opportunities.

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Whittier Elementary Great Neighborhoods Presentation: Growing Up Boulder
Photo Credit Lynn M Lickteig

Pathways to Success

Five Focus Areas were identified as areas having opportunities for refinement and enhancement to help the community achieve its Transportation and Climate Commitment goals. These areas are interrelated and need to be mutually supporting to have the greatest benefit.

Five Focus Areas

Complete Streets

Multimodal corridors are the major transportation facilities that provide intra-city access and connect to the regional transportation system. The 1996 TMP identified these corridors and called for improving all modes of travel along them, a concept now widely known as Complete Streets. These corridors carry a majority of the trips in the community and link important activity, employment and commercial centers. Maximizing their efficient trip carrying capacity requires improving the relationship between the multimodal transportation system, land use, and urban design. Complete streets are developed as community assets that bring people together.

Regional Travel

Improved regional connections are needed to support the growing population of employees working in Boulder but living elsewhere. Such improvements depend on collaborative efforts with other communities and agencies to bring planning, design, and funding resources to each regional corridor. Boulder has a history of participating in such coalitions supporting projects such as US 36 BRT, the Northwest Area Mobility Study, and regional transit services.

Transportation Demand Management (TDM)

Boulder is a developed community and will not grow outward due to its open space policies, placing more person travel on the existing travelways. Improved management and utilization of the existing system is a primary strategy for providing travel options due to the limited ability to add roadways and the need to limit community and environmental impacts. TDM together with parking management is the most cost effective strategy for maintaining the function of the transportation system and provides a variety of programs such as RTD's Eco Pass, the potential Community Pass, rideshare options, telework, bikeshare, carshare, and traveler information systems.

Funding

Providing transportation facilities and programs requires public funding. The 16-year increase in revenue approved by the voters in 2013 allows the city to support maintenance of the existing system and increase complete streets improvements. Since 2003, declines in city sales tax revenue and unprecedented increases in the cost of construction materials have challenged the transportation budget and slowed investment. The increased funding approved in 2013 addresses needed maintenance but job and population growth will increase the demand for travel. Additional investment will be needed to enhance person travel options while maintaining the community's quality of life.

Integrate with Sustainability Initiatives

The BVCP Sustainability Framework is now the organizing structure for all city planning efforts. Consequently, integration and collaboration across the city organization is the expectation of the TMP. The entire city organization is expected to implement the goals and policies of the TMP while the TMP implements other aspects of city goals like Climate Commitment and economic vitality. The Sustainability Framework provided the evaluation matrix to assess proposals for the TMP.

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2 | FIVE FOCUS AREAS

These areas were identified by City Council for enhancement to move the community toward its Transportation and Climate Action goals.

"Great streets are an important element of creating community and need to be shaped, comfortable, connected, safe, and memorable."

- Victor Dover

Complete Streets

Complete Streets accommodate all modes of transportation by planning, designing, and building facilities for pedestrians, bicyclists, transit riders and vehicle drivers.

The Complete Streets focus in this plan is on Pedestrian and Bicycle Innovations and a Renewed Vision for Transit.

Bicycle and Pedestrian Innovations

This section seeks to broaden the safety and appeal of bicycling and walking in Boulder. An emphasis is placed on fine-tuning the existing system through targeted enhancements to support cyclists and pedestrians of all ages and abilities. Women, older adults and children are the targeted audience for these enhancements. Engineering improvements coupled with strategies to encourage, educate, enforce, and evaluate bicycling and walking are the "Five E's" that comprise a comprehensive approach to increasing the walk and bike mode share.

Boulder's compact size and the city's long-standing leadership in offering travel choices means a large share of people in Boulder commute to work by walking, biking, and transit. Boulder residents use these modes at higher rates than the rest of the Denver Metro Region and the nation. Boulder also compares well to peer communities in the US.

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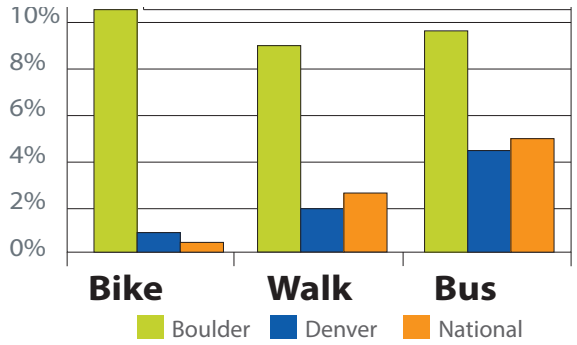
Figure 2-1
Work Mode Share - 2008-2012

5 Year Average | *American Community Survey*



Since 1990, Boulder has been working to build a great transportation system that supports walking and biking. These efforts, coupled with programs to promote safe use of the system, have earned the community national recognition for walking and biking. Achieving our TMP and Climate Commitment goals requires increasing walking and biking trips even more.

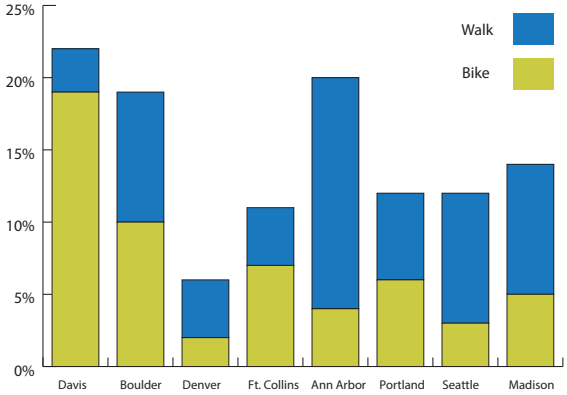
Bike 2.0 means accommodating riders from 8 to 80 years of age—especially women, older adults, and families with children

Boulder residents are more likely to ride a bike than in other US cities; biking to work at a rate 20 times the national average. However, those currently riding follow national trends. The 2012 Boulder Travel Diary shows there are twice as many men as women commuting by bike, while half of all trips completed by women are made by SOV or to transport children compared to just one-third of trips by men. Therefore, a primary goal of this TMP is to increase trips by older adults, women, and families with children. Many are likely "interested but concerned" riders who like riding a bike but don't feel comfortable or confident sharing the roadway with motor vehicles.

Throughout the listening and learning phase of the TMP update, staff also heard that more work is needed to create a bike culture in Boulder that goes beyond sport cycling. The city also learned the community desires to strengthen the coalition of community-based organizations in support of walk-friendly community design.

Figure 2-2
Boulder Walk-Bike Mode Share Comparison

5 Year Average | *American Community Survey*



Living Lab/Innovations

As part of this TMP update, the city introduced new bicycle facility treatments around town through a Living Labs program. These are temporary installations that offer the community a real world environment to test new bike treatments and determine if they are appropriate for Boulder. The aim is to enhance the on-street bike system and improve comfort and confidence for people who want to bike but don't feel comfortable or confident sharing the roadway with motor vehicle traffic. The city has used a low-stress bike network analysis tool to identify areas where new treatments may address the concerns of these potential bicyclists. Successful current pilots will be refined and made permanent as part of the enhancements supported by the recent funding increase.

The Boulder Walks program is a companion effort that includes walk audits and walkabouts with neighborhood residents and city staff. Walk audits are a new tool to assess the qualitative aspects of walking and to identify design elements that support a walk-friendly community. Walkabouts are intended to help residents identify unique and interesting pedestrian aspects of their neighborhood and result in walking maps containing these to encourage walking. A Neighborhood Access tool has been used to map the walking access people have to locations and businesses needed to meet daily needs.

Living Laboratory Project: Cycle Track, Baseline Road

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Transit

Renewed Vision for Transit

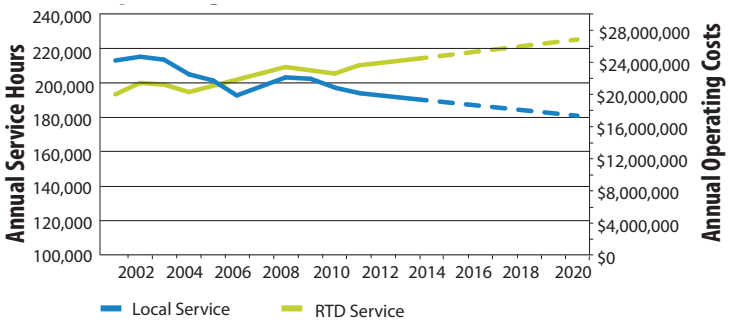
Since the community-designed HOP service started in 1994, Boulder has worked to integrate high quality transit service as a travel choice for all members of the community. Increasing the ease and attractiveness of transit use is key to long term sustainability and mobility.

Why a Renewed Vision for Transit?

While the city made significant progress in transit service in the 1990s, that progress stalled in the 2000s. Transit ridership has stagnated over the past decade, likely due to the decline in funding for local transit service in Boulder. During this time, RTD has cut service in Boulder by 20,500 hours, the equivalent of the DASH route. Yet additional service is needed to increase ridership and address the 80 percent of non-resident Boulder employees that drive alone to work. Capturing this market is critical to meeting the community's sustainability, climate, and mode share goals. The Transit State of the System Report (SoS), completed as part of the transit planning element of the TMP, identified significant opportunities to improve access and connections to transit, serve East Boulder and other transition areas such as East Arapahoe as they redevelop, and serve the growing areas of Boulder Junction and CU East Campus.

The city plays an active role in ensuring its residents and workers have access to quality public transit. The city operates the HOP route under contract with Via and "buys up" service hours from RTD to increase service frequency on local routes. Buy ups from the city and county help support the seven existing CTN routes. The city is also very active in developing partnerships to enhance regional transit. Figure 2-4 shows the distribution of the $1.7 million the city spent on transit in 2012. During the same year, RTD spent $22 million on local transit operations in Boulder and an additional $21 million on regional service connecting Boulder to other communities. The city leverages its transportation resources through cost sharing agreements with the University of Colorado and RTD to help fund the HOP.

Figure 2-3
Boulder Local Transit Service Operating Cost and Service Hours



Source: City of Boulder

Figure 2-4
City of Boulder Transit Funding Contributions

Cost Category	FY 2012 Budget
HOP	$722,797
JUMP & BOUND Buy-Up	$409,719
Paratransit	$228,568
Overhead, Advertising, Misc. Capital Expenses	$262,796
Personnel	$96,000
Total	$1,719,880

Source: City of Boulder

The HOP celebrates 20 years of service in October 2014 as the first Community Transit Network route. It is a community-scaled bus with large windows, unique branding, and perimeter seating to encourage community interaction. The Renewed Vision for Transit builds on the success of the CTN.

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State of the System

The State of the System Report provides in-depth information about land use, travel demand, and transit service and use patterns in Boulder today. It also looks at leading transit innovations in the U.S. and abroad.

The State of the System Report was a first step in developing the Renewed Vision for Transit in Boulder. Image from Nelson\Nygaard

Key findings from the State of the System Report include:

- **Community Transit Network** (CTN) routes are among the most cost-effective and productive transit routes serving Boulder County, particularly those operating largely in Boulder.
- **Ridership is approaching a 10-year high**, even as service hours on local routes have fallen by 9 percent since 2003.
- **There is a growing gap in funding for transit** due to a 40 percent decline in purchasing power since 2002 and stagnant sales tax revenue over the past ten years.
- **The city's transportation demand management system works-** surveys show that people with an Eco Pass are 4 to 7 times more likely to ride transit.
- **The in-commute is growing** due to high housing costs and limited availability of housing in Boulder combined with a strong and growing job base.
- **Planned development in East Boulder** offers significant opportunity for transit investment, including Boulder Junction, Boulder Community Health Foothills Campus, CU East Campus, and Gunbarrel.
- **Significant investments will be needed to develop an interconnected, multimodal street network in East Boulder** that enables safe and efficient access to transit for pedestrians and bicyclists.
- **Changing demographics are shaping transit needs**, including Millennials, Generation X, and aging Baby Boomers.
- **US 36 BRT is an opportunity to improve regional mobility.** The Northwest Area Mobility Study (NAMS) has prioritized three additional arterial BRT corridors connecting Boulder with surrounding communities.
- **Partnerships will be critical to accomplishing the Renewed Vision for Transit**, including Boulder County, RTD, CU, and others.

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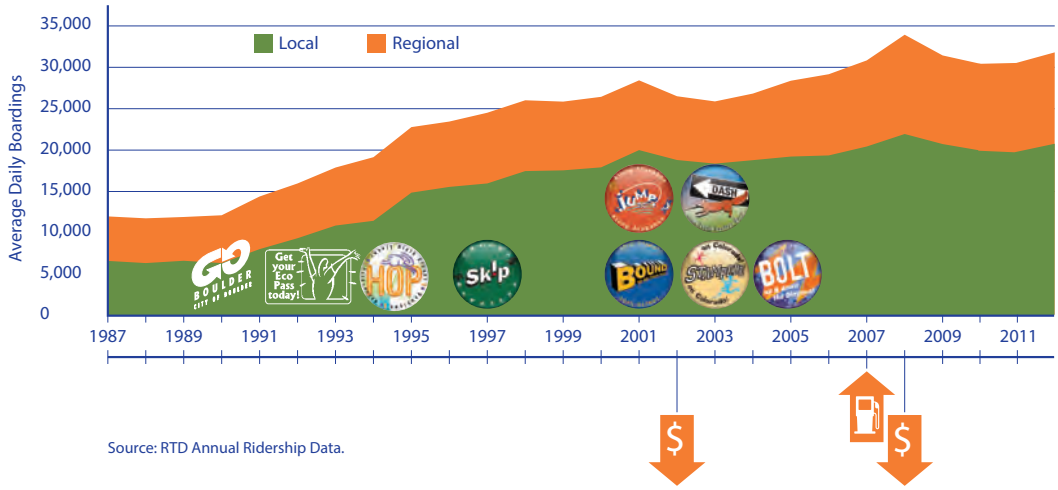
Boulder residents ride transit more than twice the national average.

Transit ridership increased about 300 percent with the implementation of the high-frequency Community Transit Network. However, funding reductions threaten this progress. Thirty local and regional routes provide 32,000 daily transit trips into and from Boulder. Boulder's Community Transit Network routes, including the HOP and the SKIP, are the most productive and cost-effective routes operating in Boulder. Without transit, Boulder residents and workers would drive approximately 250,000 more miles each day and create over 100 additional metric tons of greenhouse gas emissions. Analysis conducted during the TMP also shows benefits for the "green dividend," reflecting dollars that do not leave the community in fuel costs. Transit use by Boulder residents and workers retains approximately $7 million annually that can be spent locally.

Figure 2-5
Boulder Transit Use

Logos represent developments in Boulder transit



Source: RTD Annual Ridership Data.

Greening the Transit Fleet

In addition to expanding the use of transit, the transit fleet will also need to be gradually upgraded to reduce the greenhouse gas emissions from what are currently entirely diesel powered buses. To achieve the city's climate goals, the majority of transit will need to take place with low-carbon energy vehicles by 2035, with all transit vehicles using clean energy technology by 2050.

Recent Progress in Regional Partnerships

- The US 36 corridor is under construction and reflects consistent work by the city since the mid-1990s to provide actively managed High Occupancy Toll (HOT) lanes for transit and a continuous regional bike facility. The project includes a dedicated lane prioritized for bus rapid transit (BRT), providing greatly enhanced travel times and an 18-mile regional commuter bike facility along the corridor.
- With support from the city, 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, Lyons and Longmont.
- Colorado Department of Transportation (CDOT) improvements on east Arapahoe (SH 7) and the Diagonal (SH 119) have been multimodal and include bus priority treatments to improve transit travel time.
- The city and its regional partners have also completed major improvements at the Broadway/ Euclid intersection including a new underpass and transit stops. Funding for this project came from five partners.
- The Boulder Junction (Boulder Transit Village) transit facility called for in the 2003 TMP is under construction as a partnership between the city, RTD and private developers.
- The city and other Boulder County communities have agreed on the results of the RTD Northwest Area Mobility Study and are supporting efforts to fund the next steps of work toward implementing arterial BRT. The corridors connecting to Boulder are the Diagonal (SH 119), Arapahoe (SH 7) and South Boulder Road.

Regional Travel

With significant population growth expected to the east and employment growth in Boulder, regional travel is projected to show the largest increase over the next 25 years.

Population growth to the east and new employment, education, and entertainment opportunities in Boulder will increase the regional travel to and through Boulder. If our businesses are to successfully attract and retain employees and customers, we must provide a range of regional travel options to address congestion and mobility needs.

Transportation modeling by Boulder County shows the greatest increase in future congestion occurring on the limited number of regional facilities connecting Boulder with neighboring communities. While the city has an investment program to fund facilities and programs within the city, very little additional investment is programmed for the regional facilities beyond the US 36 improvements. These include high occupancy toll lanes in each direct that will be uncongested for bus rapid transit and other vehicles, and a separated bike facility. And as part of the FasTracks program, rail service will ultimately be added to Boulder Junction and Longmont. Without some change, a significant increase in regional travel will occur on facilities that look much like they are today.

While travel by Boulder residents within the city is broadly multimodal, regional travel is still highly dependent on single occupant vehicles (SOVs). If future regional travel depends on SOVs, the regional facilities will have increasing congestion. Based on the collaborative model of US 36, the City of Boulder can play an important role in facilitating regional action to provide and fund convenient travel choices. Due to the distances of regional trips, future travel will need to be balanced among automobiles, transit, and strategies such as carpools, vanpools and first and final mile connections for transit riders. As with the US 36 corridor, regional corridors will require long-term regional partnerships to produce solutions that include and integrate multiple travel options.

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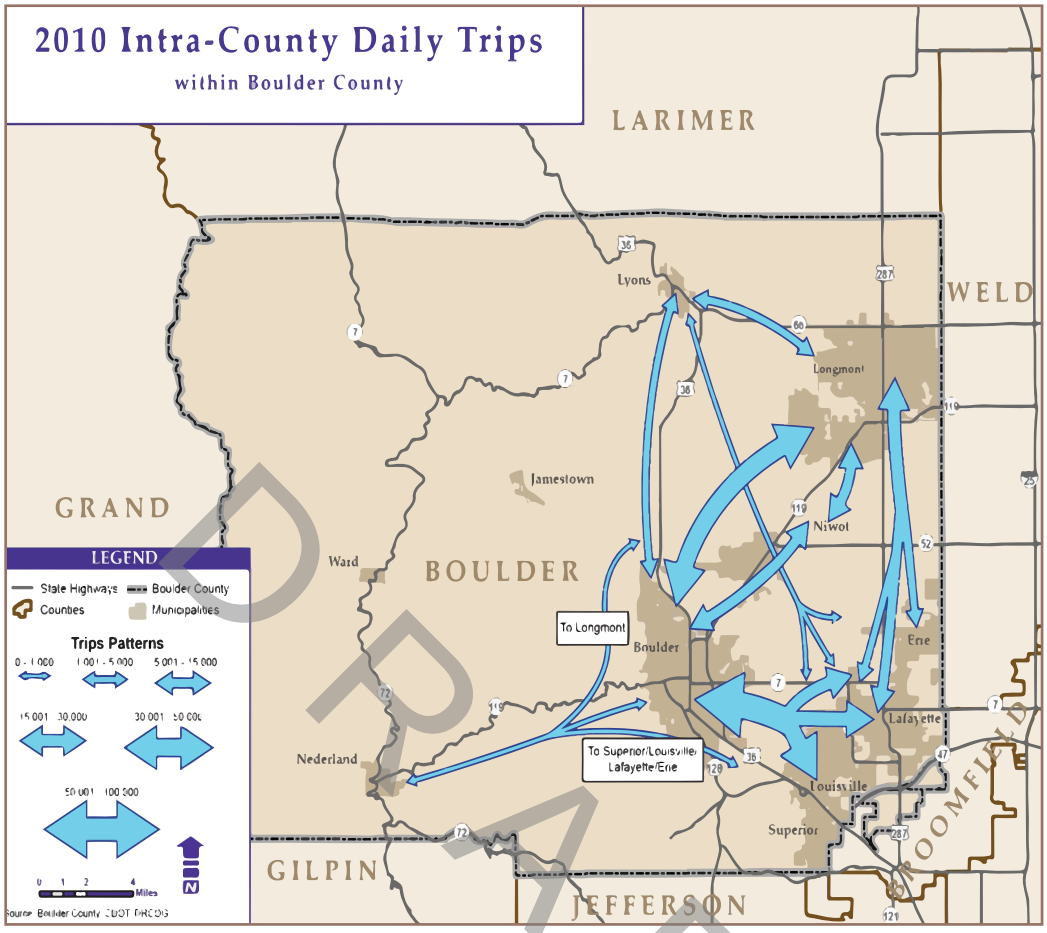
Figure 2-6

2010 & Projected 2035 Intra-County Daily Trips within Boulder County



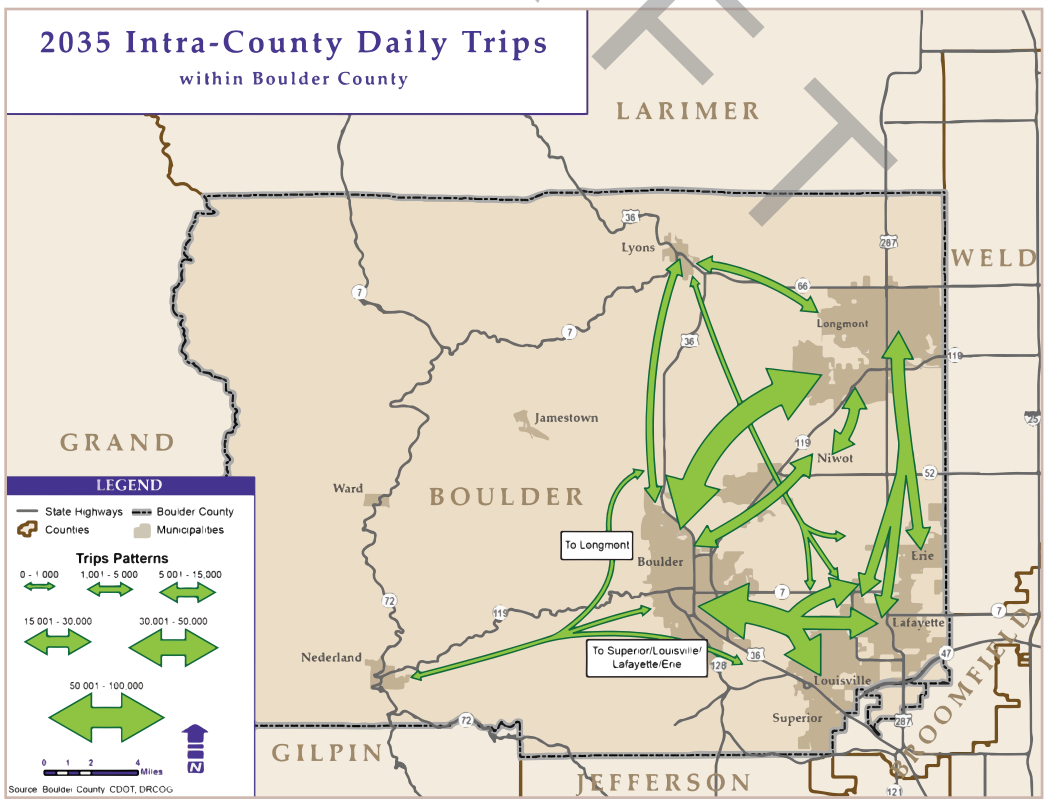
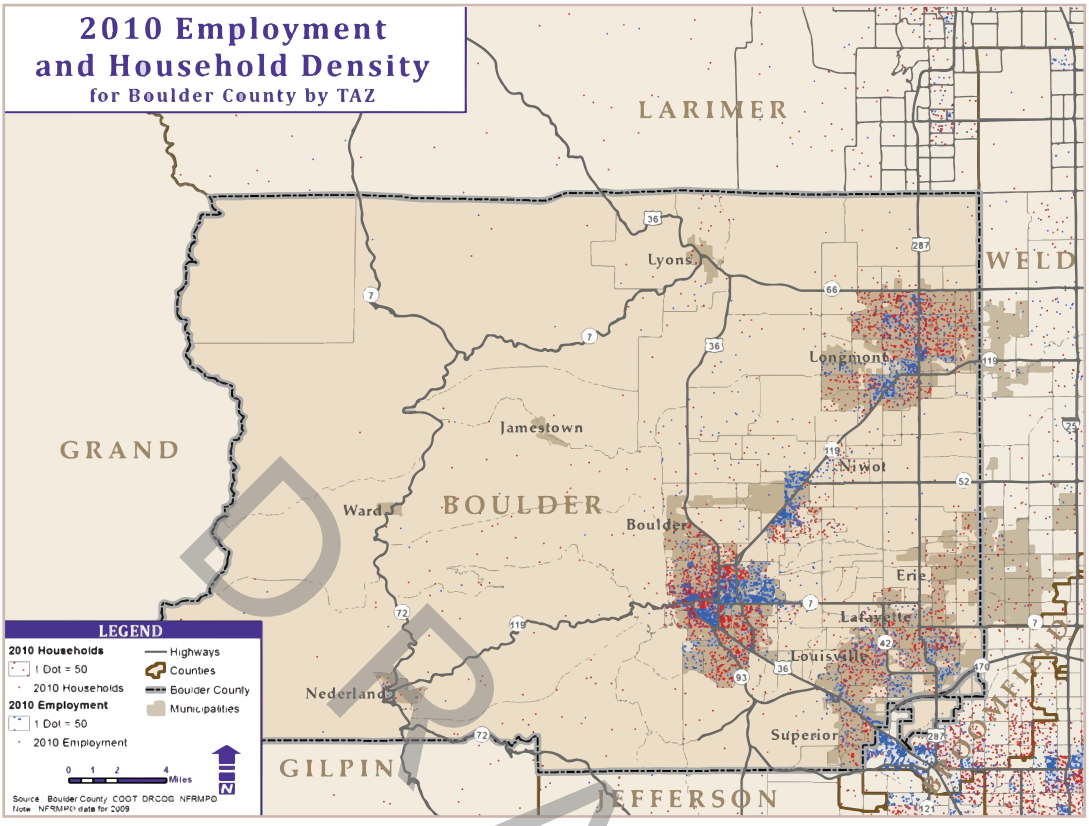
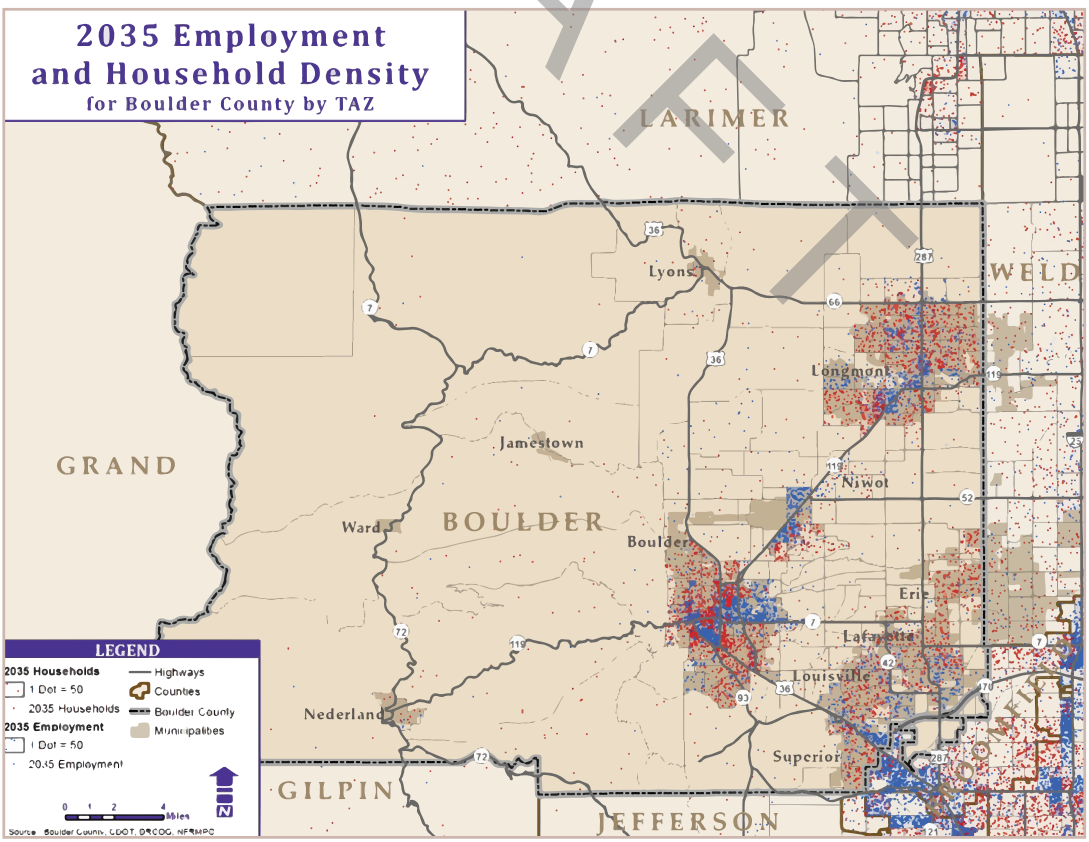


Figure 2-7

2010 & Projected 2035 Employment/Housing Density Growth within Boulder County





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Transportation Demand Management

Transportation Demand Management (TDM) strategies offer people travel choices and options while improving the efficiency of the existing system in a cost-effective way.

TDM is a major component in the effort to achieve Boulder's transportation, sustainability and GhG reduction objectives. Over the past few years, the business community has become more proactive in providing travel choices for their employees through programs like RTD's Eco Pass, employer shuttles BikeShare, and bike amenities. TDM includes the following benefits:

- Improved access and mobility for the community
- Enhanced employer access to employees
- Increased customer parking availability at peak times
- Tax benefits
- Cost savings to employers and employees through tax benefits
- Decreased congestion, GhG emissions, and air pollution

The city must build on its partnerships with businesses and non-profits to both achieve the transportation objectives and to continue as an attractive and vital employment and commercial center. For example, Boulder Transportation Connections (BTC) is a local transportation management organization that works in partnership with the city to provide targeted employer outreach, TDM program implementation, and evaluation of TDM plans. BTC is also responsible implementing DRCOG's regional Way to GO market¬ing and outreach program focusing on ridesharing, telework and vanpooling. Other key local and regional partners include 36 Commuting Solutions, Boulder B-Cycle, eGo Carsharing, and Community Cycles.

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What is Transportation Demand Management?

TDM promotes more efficient use of the existing transportation system by influencing the time, route, or mode selected for a given trip. TDM strategies increase travel choices with the aim of balancing transportation system capacity and demand. Examples include:

- Incentives such as Eco Passes and pre-tax transit benefits
- Providing appropriate price signals such as unbundled, managed, and paid parking
- Modal strategies such as ridesharing, carsharing, vanpools, and teleworking
- First- and Final-Mile solutions such as bikesharing
- Design improvements such as long-term bicycle parking and preferential parking for ridesharing

TDM works best with a sufficient mix and density of land uses, urban design integrated with transportation and multiple and seamless choices between modes of travel. Boulder's downtown and Boulder Junction are models of how integrated land use, parking management, access to transportation options, and TDM strategies can limit the increase in vehicle trips from development.

For new residential and commercial developments, TDM plans are used to mitigate impacts on the transportation system by implementing strategies to reduce vehicle trips and increase multi-modal access. In conjunction with the Access Management and Parking Strategy (AMPS), a revised Transportation Options Toolkit is being developed to improve the effectiveness, enforcement and evaluation of TDM plans.

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Where Does TDM Work Best?

Three ingredients work together to provide the fertile ground necessary for a Transportation Demand Management plan to be effective in providing individuals with transportation choices. These ingredients include: ((1) land use with a sufficient mix and density of land uses in the right places, (2) placemaking and attractive urban design which integrates with our transportation system, and (3) a comprehensive transportation system that provides multiple choices and is seamless between modes of travel. The Transit Village Area Plan, which guides development at Boulder Junction, shows that integrated land use, transportation, and TDM planning built on the base of managed parking can allow significant development while minimizing the increase in auto trips.

In Boulder Junction, two overlapping taxing districts provide sustainable funding to implement parking management and TDM programs to meet the area's Trip Generation Allowance. Within Boulder Junction, 55 percent of all trips must be made without use of the single occupant vehicle. To meet this requirement, the Parking Access district provides the means to manage parking and build shared structured parking over time. The TDM Access district funds will provide all residents and employees of Boulder Junction with RTD Eco Passes, free carshare memberships and discounted annual Boulder B-Cycle memberships. Boulder Transportation Connections will work with the city to implement and monitor the Access District and identify ways to replicate this model in existing and new districts.

Funding

The city's transportation budget is formulated within the policy context of the TMP and is based on implementing a balanced, sustainable, multi-modal transportation system.

For funding the transportation system, the TMP recommends that the city:

- Adequately preserve the existing infrastructure
- Strive to increase safety
- Maximize the efficiency of our existing system (roadway, transit, bicycle, and pedestrian)
- Enhance mobility through investments in the completion of the multimodal system (pedestrian, bicycle, and transit)

With limited resources, investments are first focused on maintaining the existing infrastructure with remaining resources allocated to enhancements. The TMP contains a complete streets investment strategy focused on the system of ten corridors that constitute the designated multimodal corridor grid. The TMP allocates investment for enhancements in the modal systems based on prioritized multimodal corridor segments.

Under the established funding priorities and investment programs, maintenance, operations, and safety activities receive the majority of transportation funds. As the roadway system is the largest and most complete of the modal systems, it requires the majority of maintenance and operation funds in each investment program. The next funding priority after maintenance and safety is improving mobility through complete street enhancements and efficiency improvements. Since 1996, the projects needed to complete each system have been identified in the TMP. While the street system largely exists today, other systems such as transit and bicycle are only partially developed and consequently require greater investment to reach completion. System completion includes a grid-based high-frequency transit system and a grid-based bicycle system of primary and secondary corridors intended to accommodate all levels of users.

Figure 2-8
Transportation Funding Trends Prior to 2013 Voter-Approved Revenue Increase

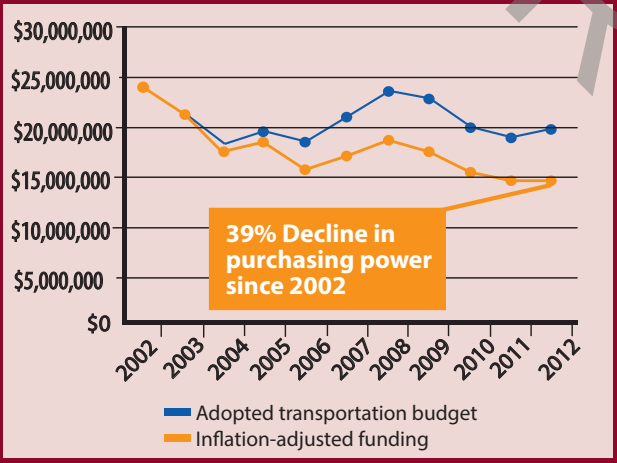
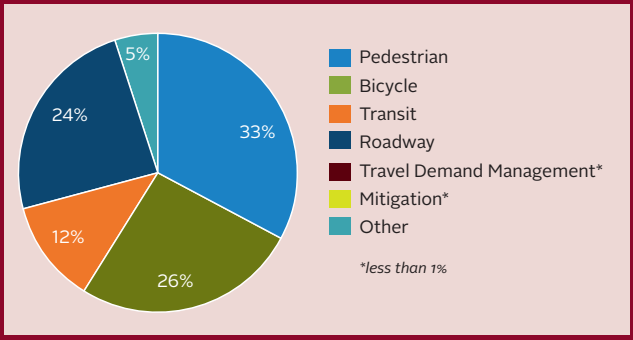


Figure 2-9
10-year CIP Enhancements Modal Funding



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Broadway Euclid Complete Streets Capital Project

Since the 1996 TMP, the plan has recommended that the city move toward a preferred maintenance practice of life cycle replacement. In 2013, following several years of work with the community and technical evaluation of potential funding sources, Council placed two sales tax measures for transportation on the November 2013 ballot. These measures were approved by Boulder voters, redirecting two different increments of expiring sales tax revenue to transportation, providing a total of 16 years of additional funding. This additional funding provides the opportunity to address both maintenance needs and to invest in additional enhancements to advance TMP goals. This funding will:

- Fund the backlog of operations and maintenance projects for the city's transportation system
- Operate and maintain basic service levels for roadway pavement, sidewalks, bike lanes, off-street paths, snow removal, and street sweeping
- Provide core system enhancements and maintain transit service hours
- Develop new complete streets enhancements to advance transit, innovative corridor studies and strategies to increase walking and biking in the community.

Investment Policies

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).

** 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.

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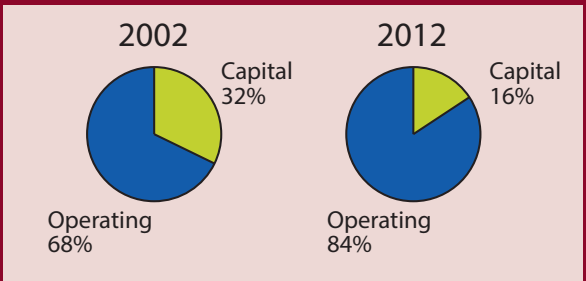
Transportation Revenues and the New Fiscal Reality

Revenues to support the city's transportation programs and investments come from a variety of sources, with by far the largest share coming from the dedicated transportation sales tax of six-tenths of a cent on a dollar. This tax was approved by the voters in 1967 and provides about 63 percent of funding for transportation. With the Nov. 2013 1.5 tenths of a cent increase to the sales and use tax, uncertainly in federal transportation funding, and this TMP, transportation funding is in a transition period. The new funding is primarily directed to operating and maintaining the existing system with the 2015 budget containing proposed additions for major capital reconstruction, increased pedestrian and bikeway enhancements, integrated corridor studies and light pole replacement. These changes reflect the expectations that funding from outside sources will be increasingly limited and that the city will need to leverage those funds to accomplish a variety of community goals. Council has stated a desire to eventually transition transportation funding to more user-fee based sources and the city will continue to explore potential user-fee based transportation funding mechanisms. Without additional long-term funding, increasing costs in materials and energy suggest that operations and maintenance could consume the entire transportation budget.

Figure 2-10

Transportation Budget

Operating vs. Capital



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East Arapahoe Inter-departmental Walking Tour

North Boulder – Victor Dover Inter-departmental Walking Tour

CU East Campus Joint Open House

Integrate with Sustainability Initiatives

This new focus area emphasizes city-wide integration under the city's Sustainability Framework to build resiliency and long term community health.

The 2013 Cool Planning workshop by Smart Growth America at the start of the planning process provided a unique forum for inter-department creative collaboration. The results of the workshop and on-going cross-department collaborations are being used in multiple city planning efforts. An integrated management structure for the TMP and other planning efforts has been established along with a number of joint working teams. Transportation staff will continue to participate in sustainability planning efforts across the organization, including the current Envision East Arapahoe project, Access Management and Parking Strategy (AMPS), the North Boulder Community Plan, and the Comprehensive Housing Strategy.

Transportation is a major component in meeting the city's Climate Commitment goal and a major work effort under Climate Commitment. This work developed a comprehensive inventory of transportation emissions and analyzed the potential for greenhouse gas emission reductions. The results of this work are contained in the next chapter and highlight the need for a multifaceted strategy in greenhouse gas (GhG) reduction. The challenge of the 80 percent reduction goal requires that the community increases mode shift, transitions to cleaner fuel sources for both the personal vehicle and transit fleets, houses more of our workers, and creates mixed use neighborhoods where more destinations are closer together and can be reached by walking. In addition to GhG reductions, these strategies will have multiple co-benefits under the Sustainability Framework.

The Sept. 2013 flood highlighted the importance of the transportation system to the community. Individuals and portions of Boulder County were isolated for extended periods and evacuees without cars needed to rely on other modes for moving around Boulder. The accessibility of major destinations in Boulder by the Community Transit Network and transit passes distributed through relief efforts were a major asset to residents displaced by the flood. Other residents found that the bike system recovered quickly and that bikes offered a travel option where roads were damaged or closed. The multimodal transportation system is an asset to the community in resilience planning efforts and to sustainability in providing equitable access to mobility for all parts of the community.

Another aspect of recent research and inter-departmental collaboration is the need for increased integration of land use and transportation planning. The Envision East Arapahoe project is seen as the first of numerous corridor planning efforts that will integrate land use, transportation and TDM strategies to support city goals in Transportation, climate, and community placemaking. This results in an iterative cycle for continuous improvement and coordination among transportation and land use planning, economic vitality, environmental and public health, and a wide array of community livability goals.

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3 | FOCUS ON PERFORMANCE

The TMP goals, policies and measurable objectives are intended to reflect how the transportation system responds to the Boulder Valley Comprehensive Plan and the community's vision for sustainable transportation in Boulder.

This chapter contains the TMP goals and the measurable objectives for the year 2035. While the objectives reflect important aspects of the plan's goals, it is important to recognize that no set of objectives completely represents the ultimate goals of the TMP in building the sustainable community described in the BVCP and its Sustainability Framework. The measurable objectives discussed below would meet aspects of these broad community goals. However, they can only be achieved through significant investment and policy actions on the part of the city, its citizens, and private sector and agency partners. The city and its community partners will continue to track progress for all of these objectives and use the results to adjust and refine future plans and investment decisions with a focus on continuous improvement. The city intends to publish the Transportation Report on Progress every two years as one way to monitor progress in meeting the community's vision for transportation and help guide the course for a transportation system to serve people of today as well as future generations.

Vision Statement

While the TMP has long contained goals and principles, there has not been a concise vision statement for the transportation system desired by the community. The following statement was developed through the integrated and coordinated planning efforts of this TMP and reflects 25 years of experience with shifting single occupant auto trips.

VISION

"Create and maintain a safe and efficient transportation system meeting the sustainability goals of the community to accommodate increased person trips by providing travel choices and reducing the share of single occupant auto trips."

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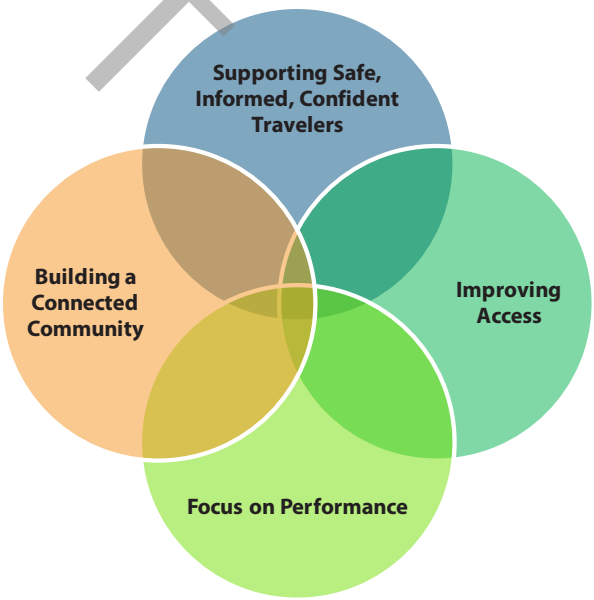
The 2014 TMP retains the goals from the 2008 TMP:

- An **integrated, multimodal transportation system** emphasizing the role of the pedestrian mode as the primary mode of travel.
- A transportation system **supportive of community goals**.
- **Sufficient, timely, and equitable financing mechanisms** for transportation.
- **Public participation and regional coordination** in transportation planning.
- A transportation system **supportive of desired land use patterns and functional, attractive urban design**.

The 2035 TMP objectives described on the following pages are enhanced to better reflect the policy direction of the city, particularly the Climate Commitment reduction of greenhouse gas emissions.



TMP Performance Measures and Air Quality/GhG Reduction

Part of this plan involves collaboration with the city's Climate Commitment analysis to quantify the GhG emissions generated through the transportation sector and identify strategies making a significant contribution to the current 80 percent GhG reduction target. The core objective is to establish an ambitious but achievable objective for transportation GhG reduction.

A multi-departmental and consultant team conducted this analysis and the strategy development process based on the 2014 goal of an 80 percent reduction in GhG emissions by 2050. The steps of the analysis process were:

- Quantify VMT and GhG emissions from seven leading transportation sectors.
- Factor up travel expectations to 2035 based on population and employment forecasts.
- Project the VMT reduction potential of the range of travel demand management (parking and access management) and travel mode change actions (bike/walk promotion, transit system development, other travel share programs).
- Evaluate heavy vehicle, including transit, emissions of GhG and different clean vehicle options.
- Quantify the anticipated GhG reductions created by federally-mandated improvements in light-duty vehicles (CAFÉ standards).
- Identify the additional reductions needed from innovations like energy efficiency, fuel source switching, land use change and additional TDM programs like expanded parking management.

The inventory results of this analysis are shown in Figure 3-1.

Figure 3-1

Climate Commitment 2013 Inventory of VMT and GhG Emissions

Transportation Sector	Annual VMT	% VMT	Annual GhG (MT)	% GhG
Resident	323,769,600	51%	118,809	38%
Non-Resident Employee	192,192,000	30%	70,526	23%
Student	70,200,000	11%	25,760	8%
Visitor	25,550,000	4%	9,376	3%
Transit	10,435,000	2%	31,110	10%
Freight	18,250,000	3%	52,980	17%
Boulder Personal Aircraft			2,188	0.7%
Annual GhG (Metric Tons)			**310,749**	**100%**

Source: Climate Commitment Analysis, 2013

Findings of this analysis show that Boulder residents are responsible for the majority of transportation-related GhG emissions, either from auto vehicle use or from freight deliveries. Average vehicle emissions are similar to national averages, as the high share of efficient hybrid vehicles is offset by a high number of SUVs. Freight and transit also have a disproportional share of GhG emissions relative to their VMT, due to their diesel engines and heavy weight.

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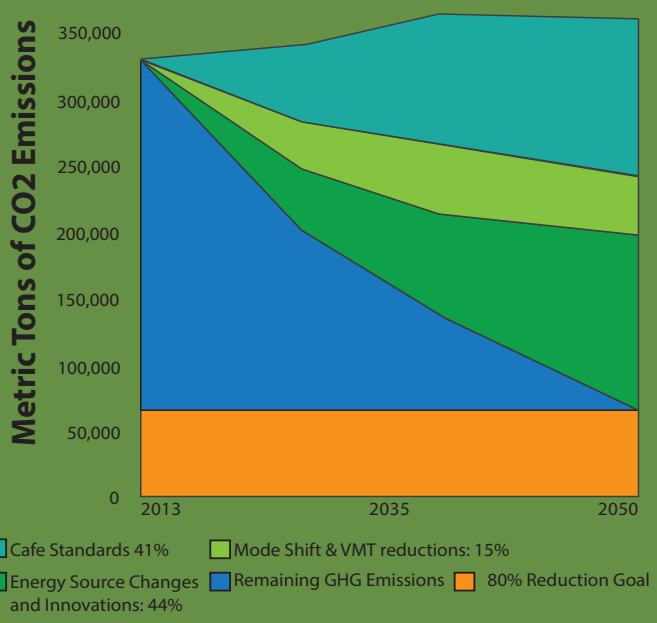
The results of the Climate Commitment analysis are reflected in the expectations for GhG reduction provided in the chart below. A growing number of cleaner fuel options are available for the transit fleet, including electric vehicles, and the potential for reductions from these options has been analyzed. Electric personal vehicles are among the options available for the innovations wedge, which also includes land use changes to make long trips into short ones that can be walked or biked. These changes will also have many co-benefits to the community under the categories of the Sustainability Framework, including community livability, economic vitality, equitable access, and a wide array of environmental benefits. A detailed description of the Climate Commitment analysis and an extensive set of policy options for promoting fuel source change for the transportation fleet are contained in the Climate Commitment technical appendix. A related sensitivity analysis conducted as part of the transit planning shows that both the community Eco Pass and expanded managed parking have the potential to significantly increase transit ridership and decrease VMT.

Figure 3-2

Transportation Sector VMT and GhG Emissions



Source: Climate Commitment Analysis, 2013

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TMP Goals & Measurable Objectives

Previous versions of the TMP contained goals, objectives, and an extensive set of policy statements. As many of the policies from previous plans have been incorporated into city design standards and practices, these policies continue as a given for the city. The smaller set of policies contained in this plan focuses on areas where continued progress is needed. Modal specific policies are contained in Chapter 5.

Objectives are those measurable things that reflect our goals and track progress toward them. These objectives are expanded in this TMP to more fully reflect the desired transportation system with three objectives being new to this plan. These 2035 targets have been modified to reflect the city's current Climate Commitment target of an 80 percent reduction in GhG emissions by 2050 and will be reported periodically. The strategies and programs to achieve these objectives are summarized in Chapter 7 and are contained in the detailed action plans contained in the Appendix.

Reduce vehicle miles of travel (VMT) in the Boulder Valley by 20 percent by 2035

Modeling of changes in travel behavior and research conducted in other communities suggests that strategies in the transportation sector can produce a 20 to 40 percent reduction in VMT with the corresponding reduction in GhG emissions. Given Boulder residents already have made significant mode shifts and the difficulty in moving regional trips from the single occupant auto, the Climate Commitment analysis suggests that an aggressive program aimed at mode shift could reduce total VMT by approximately 20 percent.

Reduce single occupant vehicle travel to 20 percent of all trips for residents and to 60 percent of work trips for non-residents

As discussed for the previous objective, a reduction in anticipated VMT requires an increase in non-single occupant auto (SOV) travel. Boulder residents already have high non-SOV mode shares yet residents would need to increase use of walk, bike, multiple-occupant vehicles, and transit modes. The Climate Commitment analysis anticipates reducing resident SOV mode share to 20 percent of all trips and non-resident employee SOV mode share to 60 percent of all trips by 2035. For the majority of non-resident employees, this will require increased use of transit, carpools, and vanpools. Incremental targets will be established for intermediate years for some of the non-SOV mode shares such as biking, walking, and transit to help track progress toward the 2035 targets.

Additional strategies and investments in transit service, walkable neighborhoods, first- and last-mile walk and bike connections to transit, and TDM strategies including parking management will also be needed to support these shifts.

Achieve a 16 percent reduction in GhG emissions and continued reduction in mobile source emissions of other air pollutants

Air pollution has a variety of direct health effects and motor vehicles are significant sources. Regulation by the Environmental Protection Agency (EPA) under the Federal Clean Air Act has caused cars to become 90 percent cleaner with technological change being the biggest driver of emission reductions. Yet the region remains in violation of national ozone standards. While the city does not have a regulatory role in reducing vehicle emissions, reductions in VMT and shifts to non-auto trips also produce a direct reduction in pollution. The city's new Climate Commitment GhG reduction goal adds a new dimension to this objective and will be monitored through the ongoing Climate Commitment inventory process.

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No more than 20 percent of roadways congested at Level of Service (LOS) F

This objective recognizes that the roadway system is used by all modes and the safe and efficient functioning of the roadway system is in everyone's best interest. Evaluating congestion across all modes and across the transportation system allows for informed and systematic trade-offs. This perspective is reflected in the city's approach to operating the signal system, where the goal is to minimize the overall delay for all users of signalized intersections, while maintaining acceptable service and safe conditions for all modes and movements. This approach reduces delay to the pedestrian in service of maximizing vehicle movements and allows for the consideration of transit priority. This objective is evaluated on the basis of counts and modeling for the city's signalized intersections. The analysis will now include person delay at these intersections. A multimodal level of service will be added as technology improvements allow for reasonable data collection.

Maintaining the efficient operation of the roadway system for all users—pedestrians, bicyclists, transit, and autos—while not adding vehicle capacity is a continuing priority of the TMP.

Expand fiscally-viable transportation options for all Boulder residents and employees, including older adults and people with disabilities

This objective recognizes the aging of the population and the increasing diversity of transportation needs. Close to a third of the population does not drive due to age or infirmity and transit access is a key aspect of mobility for this population. Expanding access to transit and paratransit services is the best measure for this objective. This objective has been tracked based on the city's contributions to Via, the area's provider of paratransit service, and the number of Eco Passes available to the community. The city should continue to expand funding to Via to keep pace with the growing population of older adults and persons with disabilities in Boulder, while supporting Via's programs to increase efficiencies and service enhancements to the elderly and disabled community.

The city will continue to report the percent of Boulder's population that has access to high quality transit service, enhanced by using the actual walk distance to the stop and the quality of the available transit service.

Increase transportation alternatives commensurate with the rate of employee growth

The city intends to expand transportation options to employment areas, reflecting the reality that many of the city's employment centers are in the east and have an auto-focused development pattern. Redevelopment of these areas and the completion of their modal connections is one of the challenges and opportunities to reaching the city's transportation and GhG goals.

This measure has been reported as the change in transit service hours and miles of bike facilities relative to employment change. However, using the Neighborhood Access Tool and transit service levels, the portion of employees having access to high quality transit can be evaluated. Other measures that can be mapped and reported would be:

- The change in intersection density (to reflect the change to a finer, more pedestrian-friendly grid)
- Land use and zoning change from single to mixed-use
- Areas with TDM programs and with managed parking

"Toward Vision Zero" fatal and serious injury crashes: continuous improvement in safety for all modes of travel

Safety has always been a priority under the TMP, with safety being its first investment priority. The 2012 Safe Streets Boulder Report was the result of several years of staff work to allow for the review and analysis of pedestrian and cycling crashes from the city's comprehensive database of crashes. Bike and pedestrian crashes involve a high rate of injury so preventing these types of accidents is particularly important.

The federal government has recently established a goal of eliminating fatalities on the highway system. **Reflecting this, the city's ultimate goal is to strive toward zero serious injury and fatal accidents.** Draft measures to track progress include total crashes, injury crashes and fatal crashes by mode, expressed as a rate to reflect usage and allow benchmarking to local, regional, and national cities.

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"Today,

26 percent of Boulder's population lives in 15-minute walking neighborhoods. By 2035 Boulder aims to increase the number of neighborhoods that have walking access to a grocery store, restaurant, transit stop, and other daily amenities."

Increase the share of residents living in complete neighborhoods to 80 percent

The GIS-based Neighborhood Access Tool produces walk sheds based on a 15 minute walk to get to a variety of destinations. The number of destinations available by walking determines the access score. About 26 percent of Boulder's population lives in a neighborhood with an Access score greater than 69, meaning they can walk to a grocery store, park, restaurant, and transit stop. Increasing the number of complete neighborhoods will help change long trips into short ones, making walking a reasonable option for a greater share of trips. It is the lack of destinations in many areas that generates the current low Access score.

Reduce daily resident VMT to 7.3 miles per capita and non-resident one-way commute VMT to 11.4 miles per capita

Developing an objective for VMT on a per capita basis provides people with a goal or target that resonates on a personal level and allows a connection between their day-to-day travel choices and overall community goals. Creating a VMT per capita objective for both residents (all trips) and non-resident employees (work trips only) will help people better understand and compare their travel choices. To achieve a 20 percent reduction in VMT from current levels, daily VMT and the SOV mode share by residents and non-resident employees will need to be reduced from the current 11.2 miles per capita for residents and 14.3 miles per capita (one-way work trip distance) for non-resident employees.

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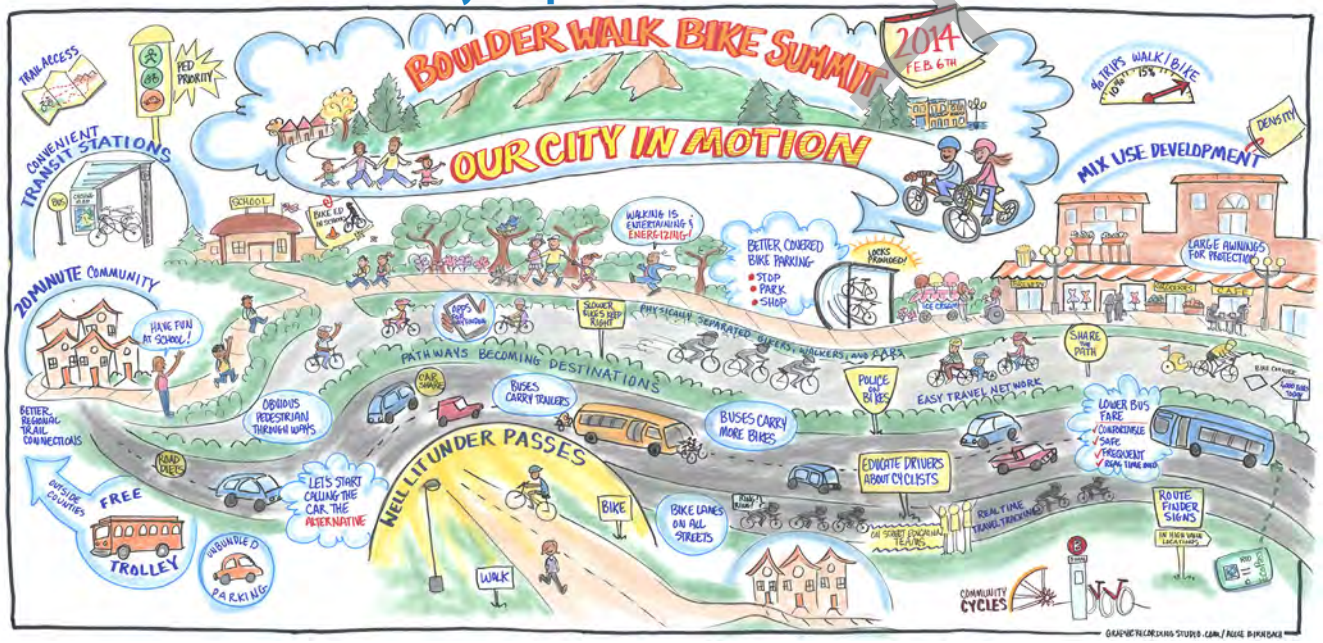
Figure 3-3

Walk Bike Summit Summary Graphic



2014 WalkBike Summit Vision Graphic

Increase Pedestrian, Bike, and Bus Mode Share

Reducing single occupant vehicle travel (SOV) to 20 percent of all trips for Boulder residents requires a corresponding increase in walking, biking, and transit. The individual mode share targets in the table below reflect the capacities and strategies expected for each mode.

Figure 3-4

Proposed Mode Share Targets

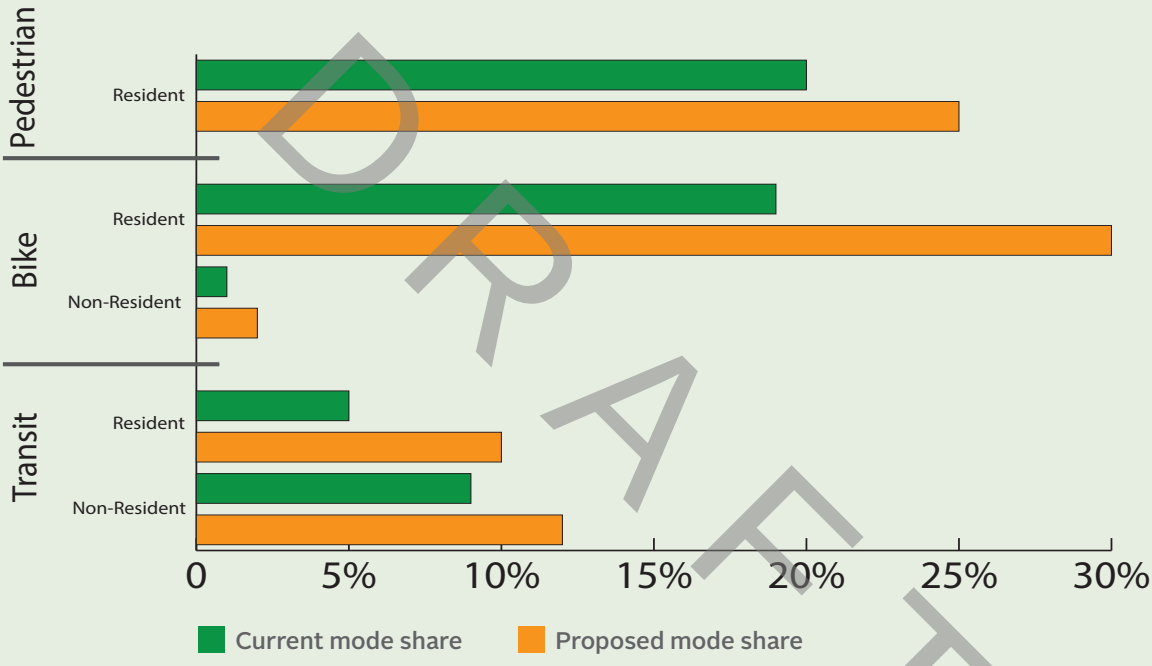


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Figure 3-5

Proposed Modal Targets for 2035

	Boulder's Current Mode Share		2020 Targets Established for Resident Trips in the Previous TMP	New Proposed 2035 Mode Share Targets	
	Resident Trips	*Non- Resident Trips*		*Resident Trips*	*Non-Resident Trips*
Ped	20%	0%	24%	25%	0%
Bike	19%	1%	15%	30%	2%
Transit	5%	9%	7%	10%	12%
SOV	36%	80%	25%	20%	60%
MOV	20%	10%	29%	15%	26%

Current Mode Share estimates are derived from the 2012 Travel Diary Survey. The Boulder Valley Employee Survey was also used to establish current mode share.

Welcome Aboard
RTD
The Ride

4 | PEOPLE FIRST:
SUPPORTING SAFE, INFORMED, CONFIDENT TRAVELERS

Traditional transportation activities focus on the design and construction of facilities–yet travel behavior and mode choice are determined by a broader set of factors. The City of Boulder enhances the safety and appeal of non-automotive transportation options by embracing a comprehensive approach utilizing the Five E's illustrated in the adjacent figure.

Figure 4-1
The Five Es

Providing places for people to walk, bike, and access transit through engineering treatments is important and these access improvements are detailed in Chapter 5. But, we know that getting people on bikes and walking also requires a social and cultural shift. People need to be supported through encouragement, education, and enforcement programs. And continued improvement and success in achieving our goals requires monitoring and evaluation.

Supporting Culture Change

People bike and walk along routes that are enjoyable, feel safe, and connect to the places they want to go in a reasonable distance. But a community where people leave their car at home and choose walking, biking, and transit means changing ingrained habits. Enhancing programmatic efforts to create a culture of cycling and walking as sustainable travel options for getting around town by people of all ages in all stages of their life is a priority for meeting our transportation and Climate Commitment goals. This section of the plan shares information about how Boulder informs, incentivizes and inspires people to choose active transportation options.

As described in Chapter 2, Transportation Demand Management is the Focus Area that includes all the E's except for Engineering.

2014 Winter Bike to Work Day
Image from Tanya Dueri

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Encouragement

Promoting active transportation creates awareness of travel options, the first step in shifting behavior.

The city promotes walking, bicycling, and transit through a variety of encouragement and TDM programs. Encouragement programs are designed to disseminate information on non-auto options, including the benefits of active transportation options. This section highlights current and new initiatives that encourage walking, bicycling, transit and ride sharing.

Walking

The city introduced the Boulder Walks program to celebrate walking, highlight historic and cultural resources, and emphasize the health and community benefits of walking. Walkabouts bring together community members to promote walking as a great option for transportation. Walking route maps are developed to encourage visitors and locals to explore Boulder's unique neighborhoods.

Biking

Boulder celebrates Bike Month, Bike to Work Days in the summer and winter, and Bike to School Day with events and programs for different skill levels. Priority TMP initiatives include:

- **Continue expanding the city-wide bike sharing system** that the City of Boulder and the non-profit Boulder B-cycle launched in 2011, serving residents, employees and visitors.
- **Promote and support community-based social rides and events** to broaden the appeal of cycling as a fun, viable transportation option for people of all ages and abilities. The Bike 2.0 focus is to encourage more women, older adults, and families with children to bicycle more often.

2011 Boulder Walk to School Day

WINTER BIKE TO WORK AND SCHOOL DAY 2014
BOULDER · COLORADO

Transit

The CTN system's visually attractive buses and friendly and helpful drivers help make using transit in Boulder a positive experience. TMP community outreach efforts, including the interactive Design Your Transit System tool, solicited community input on enhancements that would encourage Boulder residents and employees to use transit more often. Resulting TMP priorities include:

- **Provide access to real-time transit information** to reduce time spent waiting time for the bus and to make transit more convenient and affordable. The city will take a leadership role, working with partners and RTD to provide real-time information displays at transit centers and high-ridership stops and system-wide on phones and mobile device applications, by making bus location data available to application developers.
- **Expand transit-bicycle Integration** to enable bikes to serve more first- and last-mile connections on either or both ends of a transit trip. The city should partner with Boulder County to expand bike-transit commuting options, including secure bike parking facilities and increased on-board bike capacity.

Ridesharing and Vanpooling

The single occupant auto represents the most underutilized aspect of the transportation system, with three out of four seats generally empty. Carpool programs and various new ride-sharing applications encourage filling these empty seats. The city promotes regional and school district car pool and vanpool programs.

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Education

Education efforts are fundamental to creating safer and more courteous shared roads and pathways and to increase the comfort of using all modes.

The city works with community partners to educate users on their rights and responsibilities when traveling throughout Boulder. Safety education materials on the rules of the road and paths, including maps of where cyclists cannot ride, are available to the community and distributed during CU-Boulder orientation. Safe Routes to School programs are offered in most elementary and middle schools. Several community-based organizations and clubs offer children and youth opportunities to learn cycling skills outside of school. More recently, the Heads Up Boulder campaign educates users on crosswalk safety and rules of the road. Additional efforts are proposed to address conflicts in the use of public roadways and pathways.

Pedestrian

Concern for pedestrian safety along multi-use paths was identified during the listening and learning phase of this plan. The city is launching an **etiquette campaign** to raise awareness of multi-use path rights and responsibilities. **Additional crosswalk safety education** programs are planned for middle school students and the city is working collaboratively with CU to improve pedestrian safety on campus and throughout the city.

Bike

In addition to the pedestrian efforts described above, bicyclists will benefit from transportation-related ordinance revisions that clarify the rights and responsibilities of right-turning motorists on roadways with on-street bicycle lanes. Outreach through agency partners and local bike shops will help cyclists understand their rights and responsibilities. The city will host a Bicycle Education Coalition to establish a consortium of agency partners and local organizations to guide and identify future priority initiatives. Initial initiatives include hosting bicycle commuting 101 and "train the trainer" cycling instructor courses. The city also supports a Bicycle Ambassador program and the fall Lighten Up Boulder bike light campaign to highlight the danger of riding at night without proper lighting.

Transit

The city and Boulder County currently publish a Boulder County transit map. In addition, the city publishes route-specific information and maps for the CTN routes on its web site and offers education sessions for employees and others by supporting US 36 Commuting Solutions and Boulder Transportation Connections.

The Heads Up program aims to reduce collisions between motor vehicles and bicyclists and pedestrians.

Capturing long-distance regional trips on transit is a key strategy in meeting the city's Climate Commitment goal for reducing GhG emissions. Attracting potential customers to transit will require both general and targeted education and outreach programs:

YSI after school program

- **General public information campaigns** should highlight the community and individual benefits of transit, including environmental, health, and economic.
- **Individualized marketing programs for targeted groups** such as commuters, students, and older adults have been successful at both the neighborhood and business scale. Boulder should focus resources in this area on targeting new residents and employees, including new non-resident employees, and marketing new services such as US 36 Bus Rapid Transit.

Auto

Developing technology is rapidly leading toward an Intelligent Transportation System (ITS). The city already deploys real-time camera monitoring of major construction projects and operates the Cone Zone hot line and Web site for construction delay information. The city intends to expand real-time monitoring and traveler information as the communication technology allows.

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Enforcement

Enforcement is a critical element in changing behavior where safety is a primary concern.

Enforcement is a critical element in changing behavior as safety is a primary concern. The Safe Streets Boulder report identifies locations where motor vehicle crashes involving a bicyclist or pedestrian occur most frequently. This analysis guides targeted enforcement at these locations to improve safety by reducing conflicts and traffic-related crashes. The Boulder Police Department periodically launches targeted enforcement campaigns at key intersections and crossings. These are timed to follow the roll-out of the Heads Up Boulder and other education campaigns. Enforcement is most effective if it is coordinated with education efforts. The city's communication team also ensures that the enforcement efforts are publicized to maximize their effectiveness.

Improve Pedestrian and Bicycle Safety

The Transportation Division and Boulder Police Department will continue to conduct targeted enforcement of crosswalk-related ordinances and at the locations with the most crashes and close calls involving a bicyclist or pedestrian. A priority is to strengthen our partnership with CU-Boulder Transportation and Police through programmatic efforts that support enforcement activities.

Improved Pedestrian Crossing in Boulder

City of Boulder Bike Patrol Officers
Image from City of Boulder Police Department

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Evaluation

The city's evaluation program collects travel data from a number of local and national sources. This data is evaluated in an integrated way to identify trends over time and between data sources.

Since the first TMP in 1989, the city has conducted surveys focused on mode share and following the 1996 TMP, the city has maintained a Transportation Metrics program to monitor and assess progress under the TMP policy direction. This program includes a number of surveys, count activities for vehicles, bicycles, and pedestrians and travel time surveys. One product of this program is the Transportation Report on Progress which compiles the results from all these data sources. The major surveys included in this report are described below.

- The **American Community Survey (ACS)** is conducted by the U.S. Census Bureau every year to produce annual estimates on population, housing, journey to work, and a variety of other demographic data. The survey asks "How did this person usually get to work in the last week?" Since the ACS methodology is consistent across the country this data is used to compare Boulder to other peer cities, the region and the nation.
- The **Travel Diary** is used to examine long term trends in resident travel behavior. The Travel Diary has been conducted since 1990 and looks at all trips taken by respondents during a given day. Participants in the Travel Diary Study are asked to keep a log or "diary" of their travel for one randomly assigned day during the third week of September. For the Diary a trip is defined as any "one-way travel from one point to another that takes you farther than one city block (about 200 yards) from the original location."
- The **Boulder Valley Employee Survey (BVES)** is used to understand the travel behavior of Boulder employees, including both residents and non-residents. The survey collects data on the work commute trip, trips taken during the day and commute benefits provided by employers. The BVES work trip data for residents has been very similar to the ACS findings.

The city is continuously looking for ways to improve these surveys and other data collection methods and is researching new ways to collect travel behavior data from residents, students, employees and non-resident employees. One potential step is to take advantage of the data collected by GPS devices and smart phones to track the origin and destination of trips. Many of the fitness apps used to track workouts already can supply a rich data set of travel and potentially can be modified to track travel in vehicles and on transit as well. The Transportation Metrics program will continue to evolve to inform the city's transportation planning efforts and to evaluate progress relative to the community's goals and objectives.

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Living Laboratory Pre-Evaluation: University Ave.

Transportation Demand Management (TDM)

In addition to including encouragement and education efforts, transportation demand management (TDM) programs focus on the demand side of travel and seek to level the field relative to the many embedded subsidies for auto use. Consequently, these programs often have a financial component, with managed parking being the foundation of successful TDM efforts. The financial aspect, whether through incentives or disincentives, is one of the most powerful influences on travel behavior.

Incentives: Make it Easy

The city has a long history of providing incentives to use the non-automotive modes. The most effective incentive developed by the city and RTD is the Eco Pass—an annual, universal transit pass. Not only is the Eco Pass deeply discounted when an employer buys it for all employees or a group of neighbors join together, but the city also provides rebates for first-time commercial participants and an on-going subsidy to neighborhood programs. This type of pass also removes the out-of-pocket cost of using transit and the hassle of paying cash fares. A sensitivity analysis conducted as part of the transit planning effort shows that the Eco Pass is one of the most cost effective tools for increasing transit ridership; Eco Pass holders also walk and bicycle more.

An expanded community-wide Eco Pass program could make discounted transit passes available to residents and/ or employees city or county-wide.

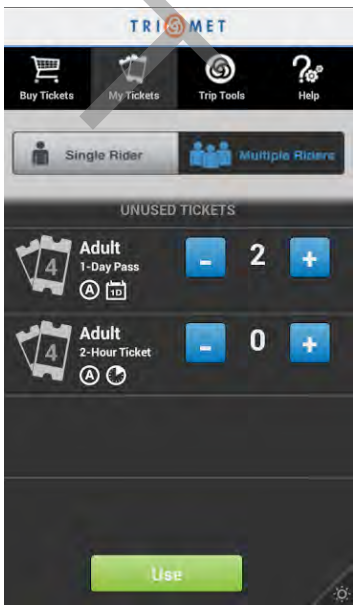
A recently-completed feasibility study examined options for extending the program to residents and/or employees within the City of Boulder or County-wide. The study showed that much of the cost of a community Eco Pass is already being spent in the different pass programs.
Image from Boulder County

The program is currently limited to university students, employees/residents of participating businesses or neighborhoods but there are still almost 70,000 annual transit passes in the community. The city will continue the current work with Boulder County and RTD to expand the Eco Pass program.

Disincentives: Get the price right

Price signals are a strong influence on behavior and the majority of existing price signals encourage the SOV trip. Studies have calculated that the auto driver only pays for 10 to 60% of the true cost of an auto trip. One of the largest hidden costs is "free parking" and paying for parking is one of the biggest factors in mode choice. The city has developed the "SUMP" principles—shared, unbundled, managed, and paid parking—to minimize the amount of required parking, increase parking efficiency, and support mode shift. Minimizing required parking promotes high quality urban design, placemaking and the pedestrian oriented place that support community.

Wider application of the SUMP principles will help remove an incentive to auto use and will support a wide variety of community sustainability, built form, and transportation goals.



The TriMet mobile ticketing application in Portland (OR) makes it easier for regular and occasional riders to pay for transit and is integrated with trip planning tools including real-time arrival information.

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5 | INVESTING FOR IMPROVED ACCESS

Investing to maintain and complete the walking, biking, transit, and roadway systems is a key strategy for accommodating increasing trips and providing travel choices in Boulder.

Funding Plans

Enhancing the System

While the city's investment strategy focuses on first maintaining and operating the existing transportation system, the remaining funds are used for capital improvements or enhancements to build toward the complete streets vision. Using the policy direction and investment priorities of the TMP, every year the city prepares a capital improvements program (CIP) as the near-term investment program of the city. The CIP is reviewed by boards and adopted by council annually, with the first year being approved in the city budget by council for the coming year. The remaining four years of the CIP represent the anticipated investment program to allow for project planning and coordination. Each subsequent year will be approved and adopted into the city's budget by City Council using the Priority Based Budgeting approach and the CIP will be extended to cover the investment program for the coming five years.

Funding Priorities

As part of the 2015 budget development process, revised Transportation Budget Guiding Principles have been developed to better reflect the positive vote in November 2013, priorities coming out the TMP update, and the new financial projections. The proposed revised principles are:

- **Budget Guiding Principles** – Credible, Clear and Consistent
- **As top priority, maintain and operate the existing, valuable multi-modal system**, including investments in safety
- **As additions are made to the system**, address ongoing operation and maintenance needs
- **Continue to advance innovations** in the design, construction, operation, and maintenance of the system
- **Strategically enhance the Complete Street network**, prioritizing projects that have maximum impact improving safety, mobility, and efficiency
- **Advance corridor studies** integrating the city's Sustainability Framework and resiliency strategy
- **Leverage external funds** extending the ability of local dollars to implement city goals
- **Continuously strive for efficiency and effectiveness** in how work is accomplished
- **Assure budget decisions are sustainable** over time
- **Keep in mind the goal of identifying long-term, sustainable funding** that is tied to vehicle use

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Investment Policies

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
- **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.

Investment Packages

The TMP investment programs are based on three levels of funding: Current Funding, Action, and Vision. Any investment above Current Funding would depend on additional funding, though these funds are not limited to the city's Transportation Fund. Partnerships resulting from collaborative planning efforts and grant programs are potential funding sources.

The following investment programs implement the policy direction of the TMP at each funding level. While the 1996 TMP outlined the complete multimodal vision for Boulder, it was not fiscally constrained and the changing revenue picture resulted in the need to prioritize transportation spending in 2000. Starting with the 2003 plan, transportation investment has been prioritized through three investment programs. In each of these programs, funding of transportation operations, maintenance, and safety is the highest order. The priority of investment was established in the 1996 TMP and has allowed Boulder to maintain and operate its transportation system at a high level of service.

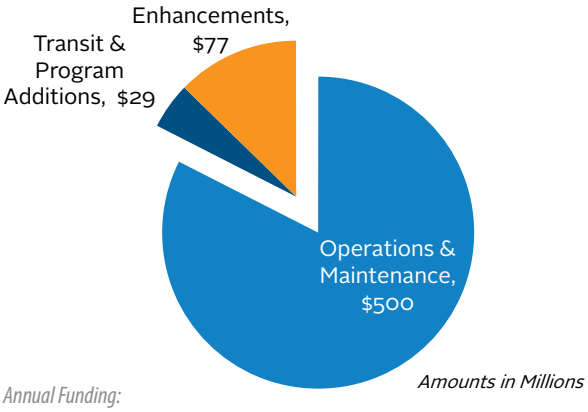
The following investment programs reflect cost increases since 2003 and include the enhanced maintenance supported by the 2013 sales tax increase. These maintenance costs reflect a high level of understanding of pavement condition as every street has been evaluated and included in a pavement management system. The level of capital improvement investment is dependent on the funds remaining after these maintenance priorities are funded.

Current Funding

The Current Funding investment program reflects investments limited to the funds expected from existing revenue sources. Including the 16 years of sales tax increase for transportation approved in 2013, this funding is estimated at $635 million through 2035. Over 80 percent of these funds are for maintenance of the existing transportation system. The Current Funding investment program will:

- **Prioritize safety and maintenance/operations for the transportation system.** The additional 2013 sales tax revenue fills the maintenance deficit of the 2000's and will return street pavement conditions to recommended levels as well as prioritize sidewalk repairs
- **Enhance programmatic support for all modes** such as the sidewalk missing links program, small bike connections, TDM efforts, and transit support
- **Increase programmatic support for the Bike & Walk Innovations** and to support all of the "five Es"
- **Add funding for major reconstruction,** recognizing that as city facilities age there will be the need for increased reconstruction activity
- **Increase funding of Via** to provide needed transportation service for the growing population of older adults and persons with disabilities
- **Include funds that can be leveraged as match amounts** for various grant programs
- **Provide funding for corridor studies** for integrated land use, transportation, and TDM planning starting with east Arapahoe, Canyon, and 30th.
- **Evaluate and test public right of way re-purposing strategies** such as road diets to improve transit travel, bike safety, pedestrian travel, and public place making.

Figure 5-1
Current Funding



Annual Funding:
Enhancements: $3.7; O&M: $23.8; Transit & Program Additions: $1.4

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- **Prioritize the limited capital improvement funds** in high-demand city and regional arterial bus rapid transit (BRT) travel corridors
- **Provide funding for service buy-ups** on the current, high-frequency CTN bus service
- **Increase transit investment** to implement some of the high-priority programmatic items in the Renewed Vision for Transit
- **Preserve the existing Eco Pass program** (RTD's bus pass program) and TDM efforts to promote and encourage alternatives to driving alone

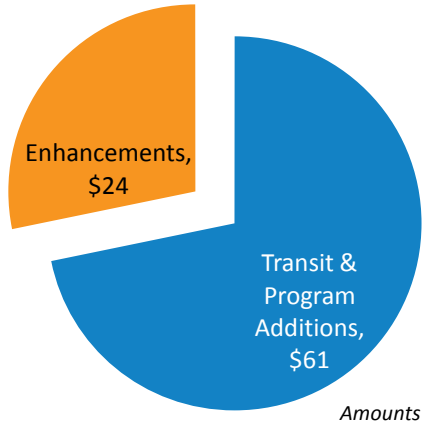
Action Investment Program

The Action investment program represents the next strategic set of investments toward reaching the community's transportation goals if additional funding becomes available. Pursuing and funding the Action investment program would add approximately two corridor segments that would be developed into multimodal environments. These improvements will increase safety, mobility, access and efficiency for all modes. Intersection improvements will manage congestion at these locations, pedestrians and bicyclists will have access to completed facilities and transit, and transit service is expanded in line with the Renewed Vision for Transit. The combination of multimodal transportation investment and expected land use changes have the potential to create in other parts of the community the kind of vibrant, interesting, and pedestrian-friendly environments that characterize the downtown.

The Action program assumes that an additional $85 million, or more than $4 million annually, becomes available through various funding sources over the life of the plan. While increases are proposed for the expansion of the bus pass program and travel demand efforts, a significant portion of the additional funds are targeted toward transit expansion and the needed capital improvements to support walk and bike access to transit in those multimodal transportation corridors. In addition to the items in the Current Funding program, the Action investment program would:

- **Expand the Eco Pass program** to a community-wide program covering Boulder residents and employees
- **Make multimodal investments by priority corridor segment** in additional corridors compared to the Current Funding program
- **Advance the vision from the 15-minute neighborhood analysis and Boulder Walks program** for pedestrian environment policies and enhancements
- **Implement 2.0 bicycle network priority corridor** and location-specific enhancements in support of a more complete, integrated and connected low-stress bicycle network
- **Add additional CTN-type service** on priority corridors per the Renewed Vision for Transit
- **Support partnerships for quiet zone improvements** at railroad crossings in the Boulder Valley
- **Increase regional emphasis by expanding actions to support the Renewed Vision for Transit**, supporting high-value transit service expansion and on the high priority arterial BRT corridors of SH 119 and SH 7
- **Expand support for public/private partnerships** such as Business Improvement Districts (BIDs) and Transportation Management Organizations (TMOs) to provide TDM services
- **Provide additional funding for Via** to expand needed transportation opportunities for older adults and people with disabilities
- **Increase operations and maintenance funding** proportional to the construction of new projects
- **Provide real-time** roadway system, transit, and ride share information and services
- **Offer first- and last-mile enhancements** including mobility hubs

Figure 5-2
Action Plan Funding



Amounts in Millions

Annual Funding:
Enhancements: $1.1; Transit Service & Program Additions: $2.9

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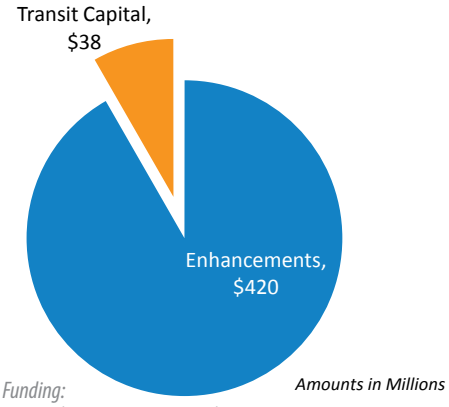
Vision

The Vision investment program reflects the 1996 TMP in representing the complete multimodal system desired by the community. It is fiscally unconstrained and will take longer than 2035 to support financially as it has an additional estimated project cost of $554 million, more than $459 million over revenues expected to be available for enhancements by 2035. This cost reflects refined financial assumptions of city financial participation in the projects to be funded by future development. This program includes the strategic initiatives of the Current Funding and Action investment programs and also would:

- **Continue to increase maintenance and operations funding** to a full life-cycle replacement level for all facilities
- **Complete the modal enhancement investments** in all the multimodal corridors
- **Maintain city funding for high-frequency local transit service** to reflect expected cost increases
- **Complete the Renewed Vision for Transit** providing additional services including transit enhancements and BRT routes in Boulder
- **Complete the mobility hubs and transit center improvements** from the Renewed Vision for Transit
- **Complete the regional BRT on South Boulder Road** as envisioned in the RTD NAMS work
- **Complete remaining bicycle and pedestrian system enhancements** in support of a 2.0 bike network of low-stress bicycle routes and walk friendly built environment
- **Expand parking management** to other areas of the community
- **Complete all roadway improvements**

Figure 5-3
Vision Plan Funding



Amounts in Millions

Annual Funding:
Transit Capital: $1.8; Enhancements: $20.0

Funding for Investments Beyond the Current Funding Program

To accomplish the additional investments beyond the Current Funding investment program, additional funding will be required. The Action investment program amount equals approximately $4.5 million of additional funding annually. One source of funds that staff will continue to pursue is federal and state grants. Historically the city has been able to receive about $2 million per year in these grants. However, these funds are becoming more limited and are unlikely to contribute significantly to the Action program. Consequently, a significant source of new revenue will be needed to fund this program. Council has directed that staff continue to explore expanded funding sources, particular ones that more closely relate transportation use and cost. Examples of funding sources that might be considered to help fund the Action investment program include:

- An increase in sales tax
- An employee head tax
- A tax on greenhouse gas emissions per metric ton of CO2 equivalent
- A VMT fee for Boulder residents and non-resident employees
- Some combination of these or other sources such as a Transportation Utility Fee

The declining ability of the city to fund enhancements to the transportation system is demonstrated by the changes in the Transportation budget. From 1980 to the proposed 2015 budget, the portion of funding available for enhancements has decreased from being more than half of the transportation budget to 22 percent. Some of this change is due to the increased maintenance needed on a larger system and reductions in enhancements consistent with the TMP priority to maintain the system. Roadway maintenance is by far the largest expense. Even with the additional funding from the 2013 sales tax approval, the ability to make capital investment in the transportation system has clearly fallen short of the amount needed to achieve our transportation goals and objectives. The trend of diminishing capital investment will likely continue. Work prepared for the Blue Ribbon Commission in 2007 shows that with increasing costs for operations and maintenance, these functions could consume the entire transportation budget within a few years. The 2013 sales tax increase for transportation will help delay this event, but without a new long-term and stable revenue source, the ability to invest in enhancements will decline over time.

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Transportation Plan Modal Elements

An over-arching concept that is reflected in the practical application of the TMP investment philosophy is the development of complete streets. This concept is widely used to describe streets that are designed for the safety and comfort of all road users and accommodate travel by automobile, foot, bicycle, and transit, regardless of age and ability. Such streets are welcoming to people in wheelchairs or pushing a stroller and consequently for everyone else. They also provide safe and easy connections between all modes and the amenities that make the public right of way an asset for the entire community. Making streets that are shaped and comfortable can include public art, gathering and sitting places, shade trees, and other elements providing protection from the weather.

The TMP contains policies and detailed plans for each mode of travel, reflecting the vision of a balanced and completed transportation system. The elements of each modal plan are included in a geographic information system containing information on each individual project.

The 1996 Transportation Master Plan identified a vision for the buildout of Boulder's transportation system. This vision continues to address all modes of transportation including pedestrian, bicycle, transit, and automobile. Through a review of the improvements completed since 2003 and an analysis of the modal improvement plans, the TMP modal elements have been refined and each project's description and costs updated for this plan. All proposed projects can be viewed using a geographic database available through the TMP web site. Maps illustrating the modal elements are also provided through the TMP web site.

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Broadway Euclid Complete Streets Project

Boulder Walk: Pearl Street Walk Audit

Pedestrian Modal Element

Pedestrian travel is the real measure of the accessibility of the transportation system. Walking is the original mode of travel and is essential to all other modes.

Whether one is walking from a parked car to the front door of a business or from a transit stop to home, the pedestrian portion of every trip helps determine the enjoyment, safety, and convenience of that trip. The pedestrian system provides the connections between the different modes and is critical to supporting the transit system. The lack of a pedestrian system is also identified as a major obstacle to "active living," with the resulting increase in obesity and related health issues nationwide.

To encourage more walking, the pedestrian element:

- **Provides a continuous network** so that pedestrians are not stranded short of their destination or forced into difficult or potentially dangerous situations
- **Ensures a safe walking environment** through adequate maintenance, snow removal, vegetation trimming, and lighting
- **Creates a pedestrian-oriented environment** through high-quality urban design and pedestrian amenities
- **Provides routine education and enforcement** on the rights and responsibilities of pedestrians, bicyclists, and vehicle drivers

The pedestrian element address key improvements needed to complete the missing links connecting popular destinations and providing linkages between home, shopping, work, and transit, creating a complete neighborhood. With the proposed pedestrian improvements, 43 new underpasses, 27 enhanced pedestrian crossings, and more than 7.7 miles of new pedestrian facilities will be added to complete the pedestrian system under the Vision program. This last figure does not include multi-use paths, which have been included in the count of bicycle facility miles.

Pedestrian Policies

The city will:

- **Develop a high-quality pedestrian environment** as the foundation for the desired multimodal transportation system
- **Uphold the standard for pedestrian mobility and accessibility** so that a wheelchair user can move safely and conveniently through the transportation system
- **Support a high-quality pedestrian environment** including the ability to travel safely and conveniently along the street and to have reasonable crossing opportunities; to travel through a comfortable and interesting environment provided by high-quality urban design; and to have appropriate pedestrian amenities such as benches, shade, and water fountains
- **Identify alternative means of meeting defined pedestrian needs where applicable**—if the need can be met safely within the traveled way of a rural residential street or access lane, then sidewalks may not need to be developed

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Boulder Journey School
Walking & Transit Field Trip

Walk Audits & Walkabouts

As part of the Living Laboratory, the Boulder Walk program was established to engage neighborhoods and explore what makes a good pedestrian environment. Community Walkbouts and Walk Audits are used to identify design elements supporting a walk-friendly community. In particular, the relationship between the transportation network, the land use it serves, and the streetscape interface of the two are factors that influence walk-friendliness.

Neighborhood Access Tool

The Neighborhood Access Tool characterizes the people's ability to walk to locations and businesses to meet daily needs. It is a new tool that illustrates aspects of the 15-minute neighborhood by displaying the area that can reach a given attractor in a 15-minute walk (walk shed). These walk sheds are aggregated to display the number of attractors available from a given location. The distance that one can walk in a given time depends on the quality of available pedestrian facilities. Information from the Walk Audits can be incorporated into the Neighborhood Access Tool.

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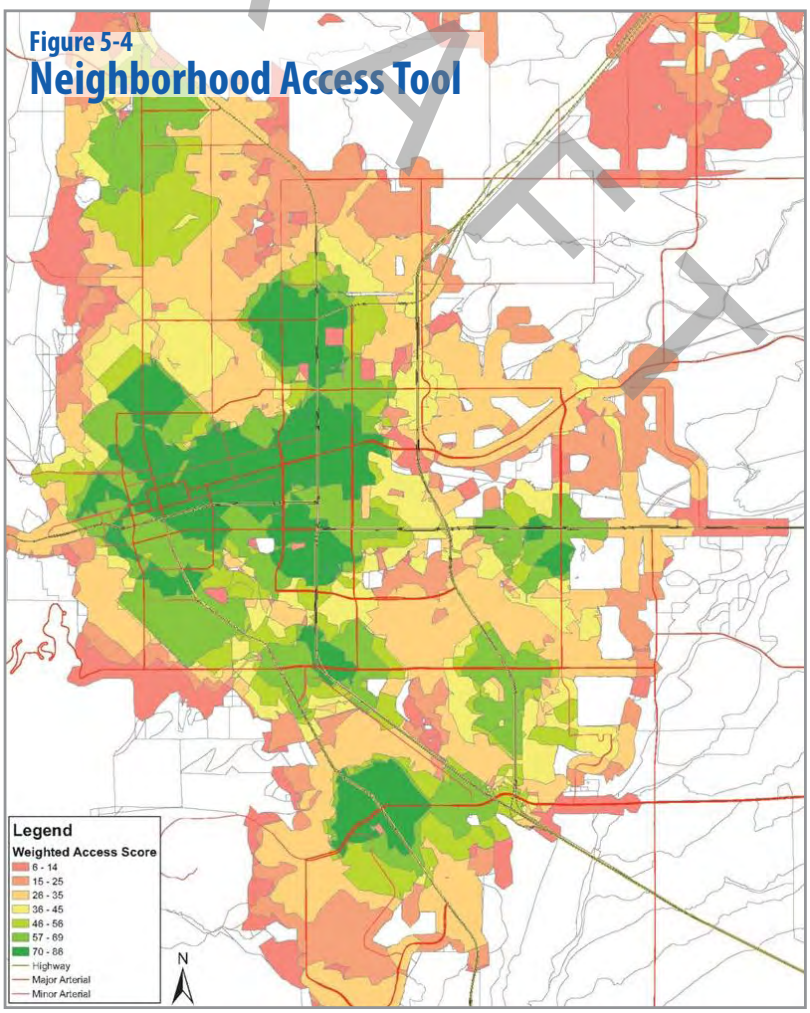
Figure 5-4
Neighborhood Access Tool



Bicycle Modal Element

Bicycling is a symbol of the healthy and active community and lifestyle found in Boulder. Boulder already has high bicycle use compared to most U.S. communities.

With growing public health concerns about obesity and air quality, increased bicycling remains one of the most effective ways to travel while achieving personal health and air quality benefits. With an average trip length of about four miles, many of the trips made by Boulder residents could be accomplished by bike.

The bicycle element is based on developing a continuous bicycle network of cross-town corridors allowing for safe and convenient bicycle travel for all members of the community. While these corridors may be composed of a variety of facility types, continuous corridors avoid the missing links that disrupt bicycle travel and put bicyclists in unexpected, difficult, and potentially dangerous situations. The bicycle element also recognizes that bicycle users range from the experienced commuter who is comfortable in traffic to children who cannot safely use a busy street. Consequently, a system of off-street multi-use paths provides an alternative to the street system and the Bike 2.0 innovation efforts aim to make more of the system appealing to all users.

The long-range bicycle network for the city of Boulder is comprehensive and will provide both on- and off-street connections throughout the city. With the completion of the bicycle element, an additional 95 miles of bicycle lanes, routes, and shoulders will be added. In addition, enhanced crossings, overpasses and underpasses will be added to the bicycle network. These facilities will provide safe connections and the opportunity for bike travel throughout the city for all levels of riders.

Living Lab/Innovations

The Living Labs are temporary installations that offer the community the opportunity to test new bike treatments and determine if they are appropriate for Boulder. The aim is to enhance the on-street bike system to improve comfort and confidence for people who want to bike but don't feel comfortable or confident sharing the roadway with motor vehicle traffic.

Bicycle Policies

The city will:

- **Complete a grid-based system** of primary and secondary bicycle corridors to provide bicycle access to all major destinations and all parts of the community
- **Coordinate** with Boulder County, CU, the Boulder Urban Renewal Authority, neighborhood plans, the city Parks and Recreation Department, the Open Space and Mountain Parks Department, and other government entities and plans to ensure that all city and county projects connect with and/or help to complete the corridor network
- **Work with property owners, developers, the Boulder Valley School District, the city Parks and Recreation Department, and CU** to ensure that commercial, public, and mixed-use and multi-unit residential sites provide direct, safe, and convenient internal bicycle circulation and parking oriented along the line of sight from external connections to areas near building entrances and other on-site destinations
- **Combine education and enforcement efforts** to help instill safe and courteous use of the shared public roadway, with a focus on better educating students on how to properly share the road with bicyclists, pedestrians, and transit users

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A 'Try-It' Approach

The Living Laboratory approach offers a real-world environment for community members to interact with and test temporary installations based on national and international best practices, provide input, and envision other locations for these treatments. Before, during, and after studies of the impacts to travel behavior are part of the evaluation process. The interactive format of the Living Laboratory allows cyclists and pedestrians to experience and comment on how bikeway treatments and the built environment address their need for improved mobility, comfort and safety with the aim of increasing the use of these systems.

Low-Stress Bicycle Network

One aspect of the Living Laboratory approach is developing an integrated and connected low-stress network of protected bike lanes and other innovative bicycle treatments. The low-stress analysis evaluates the stress level of the city's existing bicycle network to identify barriers and opportunities for system enhancements.

This programmatic approach will be used to fine-tune the network and identify improved bicycle facilities for a more complete low-stress bicycle network. The city will develop Bicycle Facility Installation Guidelines to create a "2.0 bicycle network" of a complete and connected low-stress network. The Guidelines will be informed by the evaluation of the installed treatments and be similar to the city's Pedestrian Crossing Treatment Installation Guidelines. The 2.0 bicycle network of planned improvements will attract a broader population of people as confident and comfortable cyclists.

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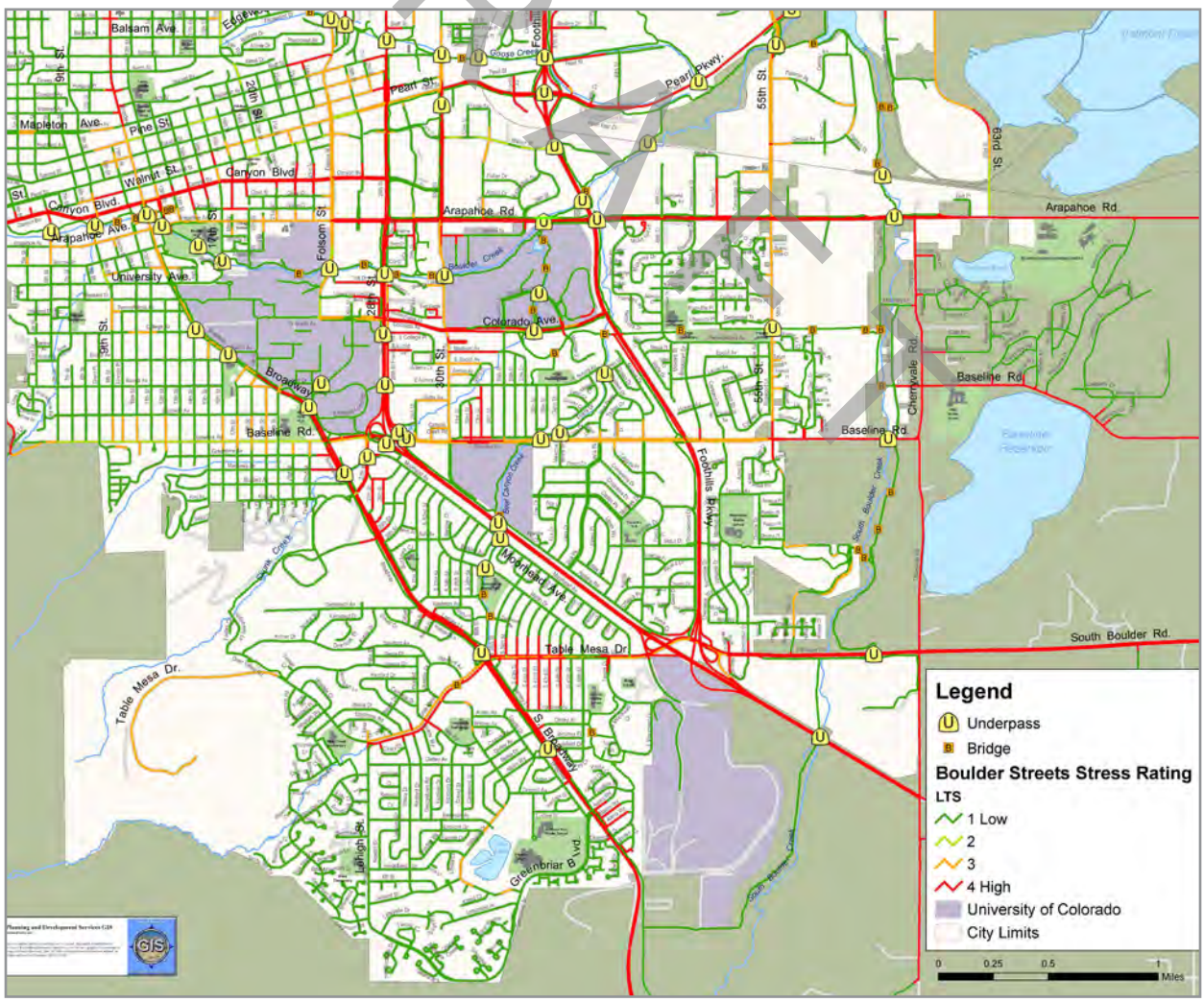
Figure 5-5

Low-Stress Bicycle Network (Excerpt)



Transit Modal Element: A Renewed Vision for Transit

The Renewed Vision for Transit consists of four elements—Service, Capital, Policies and Programs, and Implementation—that respond to the key trends and opportunities facing transit in Boulder. This section focuses on the service and capital elements while the policies and program elements are integrated into the overall TMP and appendices.

Service

Boulder's Community Transit Network (CTN) provides transit service with broad appeal and high levels of ridership. The solid blue lines in the Renewed Transit Vision map (Figure 5-9) show the proposed future expansion of CTN service to build-out a high-frequency grid within Boulder and put CTN service within reach of more residents and jobs.

Bus Rapid Transit (BRT) will provide fast service and high-quality amenities on the major corridors connecting Boulder and other communities, as shown in the Renewed Transit Vision map. These regional connections provide an opportunity to attract more of the growing number of workers commuting to Boulder from outside the city, 80 percent of whom currently drive alone, to use transit.

- **US 36 Bus Rapid Transit (BRT)** is scheduled to open in early 2016, with trips serving Downtown Boulder and the Boulder Junction transit center in East Boulder. An important action for the city is to work with RTD and other partners to ensure a minimum of 15-minute peak and 30-minute off-peak service to Boulder Junction with no reduction in service to Downtown Boulder. In addition, local service will be redesigned to serve Boulder Junction and carry passengers to/ from other destinations in the city.
- **SH 119 (Diagonal), SH 7 (Arapahoe), and South Boulder Road** are corridors prioritized for "regional arterial BRT" service through the Northwest Area Mobility Study (NAMS) initiative, which studied the feasibility of new BRT service along major corridors northwest of Denver. Two of the top three NAMS corridors, SH 119 (#1) and SH 7 (#3) terminate in Boulder. The city will have an important role defining the level of transit priority and travel speed provided and the physical design of the BRT running way and stations. As shown in the Renewed Transit Vision map, Broadway Street, Canyon Blvd., and 28th Street are the recommended local segments for the NAMS/Rapid Transit corridors. The potential for community BRT is also identified in the Renewed Vision for Transit.

Community Transit Network (CTN)

The Community Transit Network (CTN) includes seven bus routes, which are among the most cost-effective and productive transit routes in Boulder County. Key CTN design principles include:

- Frequent service (every 10 minutes) so that no schedule is needed
- Community-oriented buses with large windows and unique branding
- Perimeter seating to encourage social interaction

Current CTN routes are the HOP, SKIP, JUMP, BOUND, STAMPEDE, DASH, and BOLT.
Image from Nelson\Nygaard

Bus Rapid Transit (BRT)

Bus Rapid Transit (BRT) is a form of bus service that provides many of the advantages of rail service—capacity, speed, and quality—at a fraction of the cost. Key features of BRT include:

- Exclusive lanes or queue jumps and coordinated traffic signals with transit priority provide fast travel times. These features are important even along arterial streets and through urban centers to realize the full travel time benefit of BRT.
- High-end, stylized vehicles offer the look, feel, and increased capacity of light rail vehicles, including multiple boarding doors.
- Highly developed station areas with real-time information and off-board fare payment streamline passenger boarding.

The Emerald Express (EmX) in Eugene (OR) uses transitways and dedicated lanes to bypass congestion as well as operating in mixed-traffic travel lanes with queue jumps and transit signal priority.
Image from Nelson\Nygaard

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Transit Scenario Analysis

The Renewed Vision for Transit was grounded in an extensive analysis of transit system scenarios for service and capital improvements in Boulder and surrounding communities.

An iterative scenario evaluation process provided the opportunity to test various levels and types of future transit investment under projected 2035 land use conditions. The figure below illustrates the analysis process and how it helped obtain input from the community and led to the Renewed Vision for Transit.

Three transit scenarios that were developed to test different approaches to transit investment. The bottom figure shows the four evaluation "accounts" and supporting measures that are tied to Boulder's Sustainability Framework and were used to evaluate the scenarios. These metrics helped city staff, the Transit Technical Advisory Committee and the Transportation Advisory Board assess trade-offs between the scenarios into the renewed transit vision described in this section.

A detailed report on the Transit Scenario Analysis is included in the TMP Appendices.

Figure 5-6

Transit Scenario Analysis Process

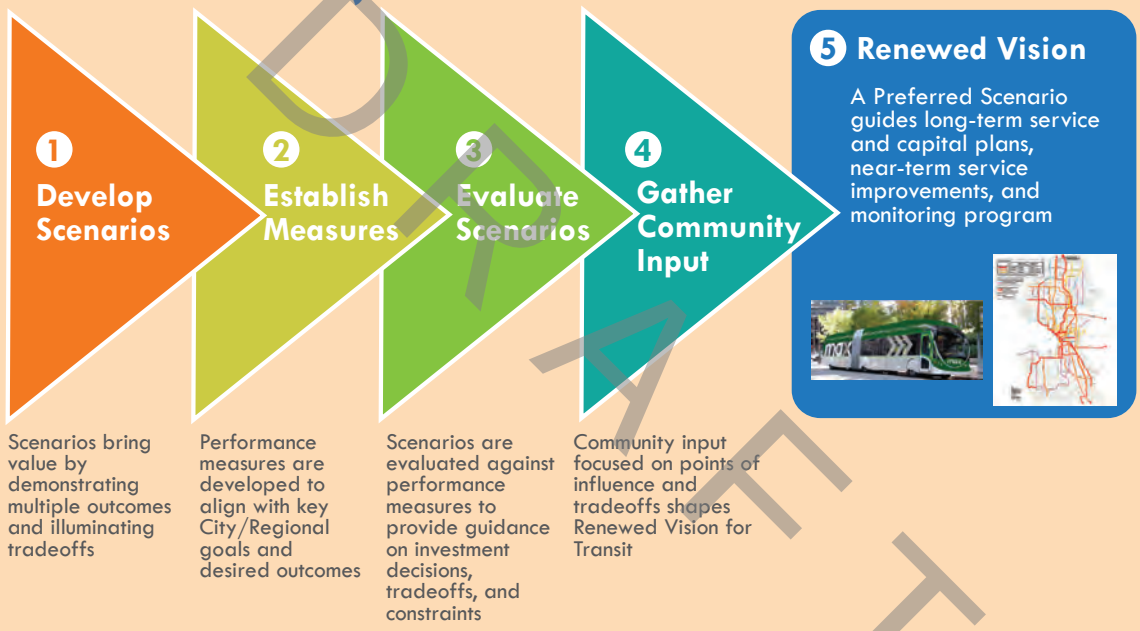
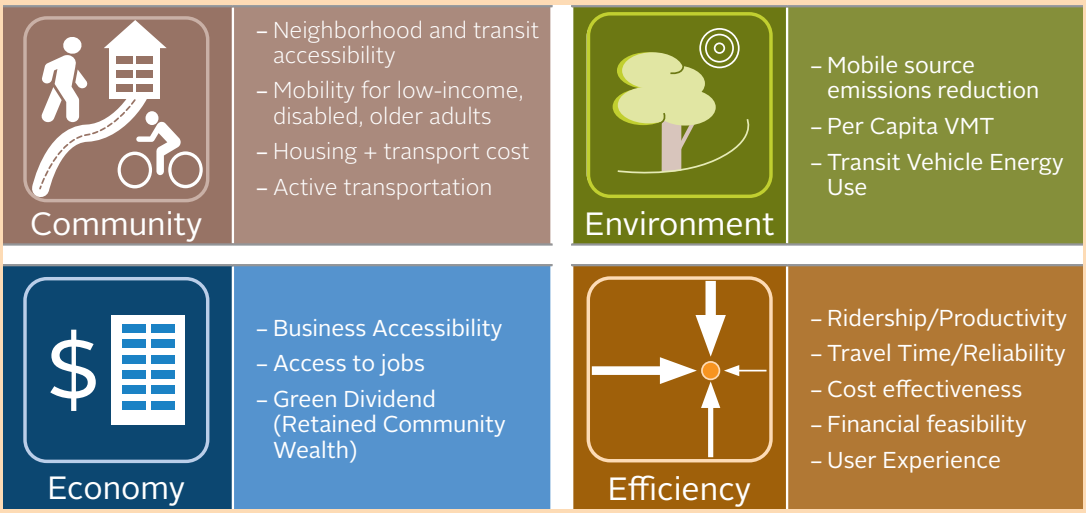


Figure 5-7

Transit Scenario Evaluation Accounts and Metrics



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Capital

Corridor Investments

Capital investments in transit corridors help Boulder realize travel time and operating efficiency benefits for Rapid Transit and CTN service.

Bus Rapid Transit corridors would have the highest level of capital investment and could include:

- **Exclusive lanes, queue jumps, and/or transit signal priority** along most of the corridor.
- **Articulated, highly-stylized vehicles** with multiple doors and off-board fare payment for fast boarding.

Cleveland's investment in the HealthLine BRT reduced commute times, improved air quality, and helped revitalize a neglected corridor. It also leveraged over $3 billion in new construction and $2.4 billion in building rehabilitation.
Image from Nelson\Nygaard

Renewed Vision for Transit Policies

The city will:

Service

- **Maintain and improve the integrity of the Community Transit Network (CTN) system,** including frequent and direct service, discrete branding, etc.
- **Incrementally improve and expand the high-frequency CTN** throughout Boulder County as funding allows.
- **Prioritize city operating subsidies to meet or surpass Boulder's minimum service level standards for the CTN** (10-minute peak and 15-minute off-peak headways, as defined in the TMP Transit Modal Element), particularly when routes serving the CTN exceed RTD's maximum passenger loading standards.
- **Manage arterial transit streets to provide priority to transit vehicles** carrying high average passenger loads while considering cross-street pedestrian and traffic demand
- **Work with RTD to develop performance agreements** that ensure service hours gained through city-funded transit investments will be reinvested in routes that serve Boulder, particularly the CTN
- **Work with RTD and partners to establish a high level of US 36 BRT service to Boulder Junction and Downtown Boulder** and ensure no reduction in US 36 service to Downtown Boulder
- **Take a leadership role in implementing Northwest Area arterial BRT services** identified by NAMS and in this plan.
- **Enhance connections between the following major developing activity centers:** CU Main and East Campuses and the Boulder Junction and Table Mesa transit centers
- **Increase funding to Via** over time to enhance service to older adults and persons with disabilities, including support for programs that provide efficiencies and service enhancements to the paratransit system

Capital

- **Design and implement bus priority** (speed and reliability) improvements for CTN routes
- **Support implementation of arterial Bus Rapid Transit service in Boulder County**, as prioritized through the Northwest Area Mobility Study (NAMS) process
- **Collaborate with RTD, Via, and other partners to transition the transit fleet to "clean," low-carbon emissions fuel/energy sources** through vehicle acquisition for new services and fleet replacement
- **Design major transit centers and mobility hubs** to provide high-quality bus and multimodal connections
- **Provide funding for transit stop improvements**, prioritized based on a tiered facility investment hierarchy linked to the level of current and/or projected ridership

Policies and Programs

- **Work with partners to make real-time transit information available** at major transit centers/facilities and accessible over the web and on mobile devices by working with RTD and other partners
- **Explore and pursue expansion of the Eco Pass transit pass program** and other TDM programs. See TDM Action Plan.
- **Promote urban design and development that supports walking, cycling, and safe access to transit.** Encourage affordable housing and transit demand generating land uses along existing or planned CTN and BRT corridors
- **Expand and support first- and last-mile programs** with local and regional partners.
- **Support development of technology and standards** that enable current and evolving shared mobility applications in Boulder. See TDM Action Plan.
- **Work with local and regional partners to explore the most effective and efficient transit service delivery and governance options** for implementing the Renewed Vision for Transit.

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CTN corridors would have a more moderate level of capital investment and could include:

- **Queue jumps and/or transit-only lanes** in key congested locations.
- **Standard buses with unique naming and branding** for high passenger recognition, wide boarding doors, and large windows.

Facilities

The location, design, and operations of transit facilities provide the first impressions of transit for current and potential riders. Figure 5-8 identifies the level and type of amenities at each type of facility. Figure 5-9 shows the locations of existing, funded, and future major transit facilities.

- **Transit Center (TC)** improvements are planned and funded at the current Table Mesa Park & Ride, the existing Downtown Boulder TC, and at the new transit center opening at Boulder Junction in conjunction with the opening of the US 36 BRT. Routes that end at Boulder Junction will use the underground transit center facility,

Figure 5-8

Transit Facilities and Level of Amenities

Facility Type		Facility Location	20-Year Plan Improvements
Transit Center *(Includes Park & Ride)*	Existing	Boulder Transit Center	Multimodal Hub and BRT/high amenity bus stop features plus: ▪ Real-time passenger information displays ▪ Comprehensive multimodal wayfinding and highly legible bicycle and pedestrian network integration ▪ Bike share stations
	Existing	Table Mesa Park & Ride	
	Planned/Funded	Boulder Junction	
	Future	North Boulder Transit Center	
Mobility Hub	Future	Multiple locations (see Figure 5-9)	BRT/high amenity bus stop features plus: ▪ Real-time passenger information ▪ Transit wayfinding ▪ High quality bike parking (preferably secure) ▪ Bicycle network integration ▪ Placemaking features (street furniture, public spaces)
BRT Stop	Future	Multiple locations	High amenity bus stop features plus: ▪ High capacity shelters and seating at all stations ▪ Level boarding platforms ▪ Transit information for all routes serving area ▪ Real-time bus arrival information ▪ Off-board fare payment (where route appropriate) ▪ Stop and area lighting ▪ Passenger/disabled waiting beacon (after dark) ▪ Curb bulbs where appropriate ▪ Fully improved intersections including curb ramps ▪ Bicycle parking (covered if possible) ▪ Pedestrian improvements within ½-mile radius of stop
Bus Stop *(Prioritized for CTN and by level of boarding activity)*	High Amenity	Multiple locations	Basic and moderate stop amenities, plus: ▪ Shelter with transit information ▪ Crossing markings and pedestrian signals (sufficient crossing time; based on roadway width, design speed) ▪ Bicycle parking
	Moderate Amenity		Basic amenities plus: ▪ Seat or bench
	Basic Stop	Standard	▪ Stop pole and sign with stop identifier ▪ ADA accessible bus pad with sidewalks and curb ramps

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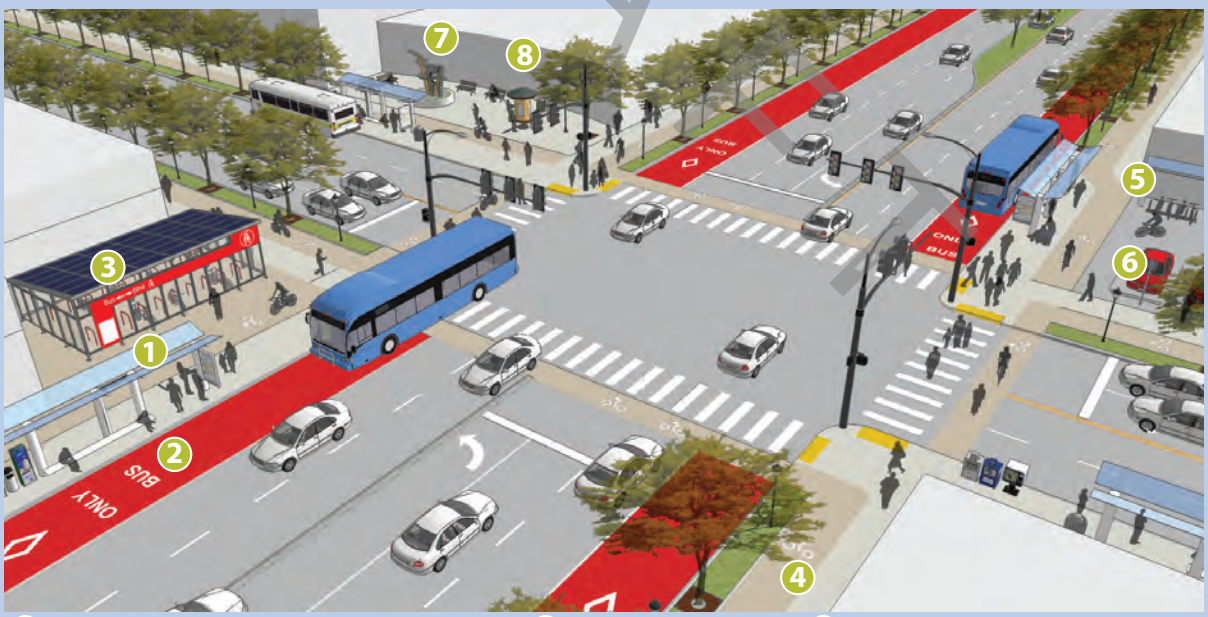
while routes continuing to other destinations will pick up and drop off passengers at the street level. A future transit center in North Boulder is recommended to improve local and regional transit connections.

- **Mobility Hubs** are designed to facilitate safe multimodal access and connections at the intersection of frequent transit lines, e.g., CTN or Rapid Transit, or at locally or regionally significant activity centers with high transit demand. Mobility Hub elements are described in more detail below. Figure 5-9 shows recommended Mobility Hub locations.
- **Bus stops** for BRT/Rapid Transit services would have high-capacity shelters and the highest-level of stop amenities, including real-time information displays and bicycle parking; see Figure 5-8 for examples.

Mobility Hubs

The goal of a Mobility Hub is to provide seamless mobility with a full integration of the transit network with pedestrian and bicycle facilities, car/ridesharing, and context-appropriate parking supply. Mobility Hubs emphasize excellent pedestrian infrastructure within a quarter to half-mile walkshed and connections to the bicycle network. Mobility Hubs are context-sensitive solutions that are adaptable to a variety of locations. Each location requires a unique design, but most include the features identified in the bullets and graphic below:

- Accessible, universal design that allows people of all physical abilities easy access to the transit stop/station
- Congregation of multiple shared mobility services, including bike share stations, car share vehicles and loading space for other private or public mobility services
- Integrated technology, including mobility kiosks, reader boards to assist travelers with mobility planning, shared payment opportunities, and opportunity for other evolving applications
- Active street environments safe for a variety of users
- Secure, covered bicycle parking and access to the bicycle transportation network
- "Placemaking" elements, such as public art and public seating, that invite social interaction and vibrant business opportunity
- Context-appropriate parking



1. Enhanced bus stops with real-time information
2. Designated bus lanes and priority signals
3. Secure bike parking
4. Bike parking
5. Car sharing
6. Off-street bike path
7. Public art
8. Transit and community information kiosk

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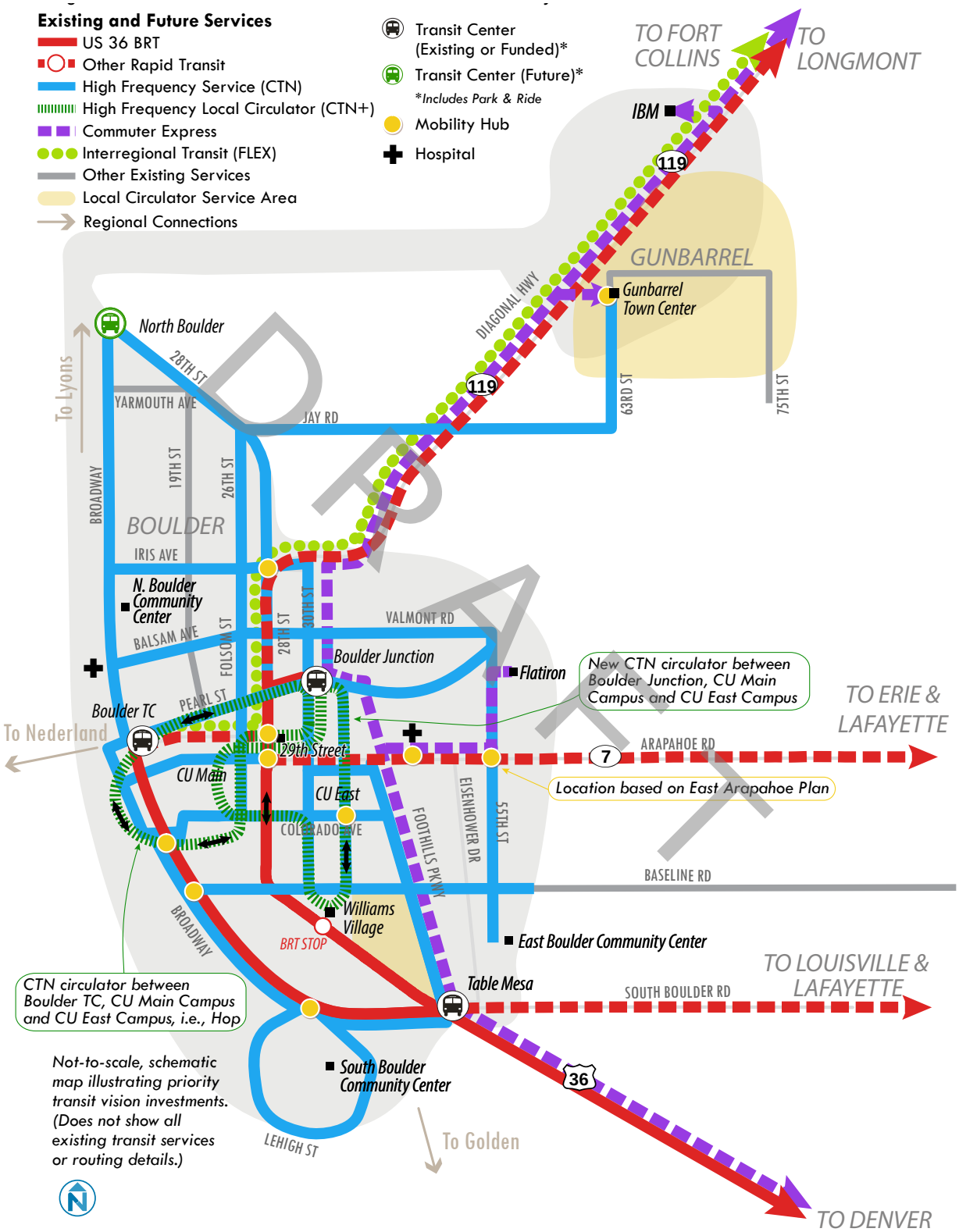
Figure 5-9

Boulder Renewed Transit Vision

Schematic of Priority Transit Corridors



Note: This map does not directly illustrate all services or routing details currently in place. A map of the existing transit system can be found on the City of Boulder **website**.

Automobile Modal Element

The street network is the primary transportation system and serves a variety of modes and vehicular types–including automobile, truck, emergency response, transit, bicycle, and pedestrian.

Boulder's street system is largely built out and constrained by Boulder being a mature community, so the emphasis in the automobile modal element is to operate the system as safely and efficiently as possible. A limited number of intersection improvements are planned to increase efficiency, remove bottlenecks, and address multimodal congestion at these locations. The intersection operational improvements are designed to balance traffic flow with impacts to the other modes. These projects generally include additional left- or right-turn lanes along with raised crossings and refuge islands to improve safety for pedestrians. Traffic flow improvements also include the installation of new signals and improved signal timing and progression of existing signals.

Additional emphasis is needed on repair and replacement of street sections that have reached the end of their expected life. Boulder is committed to replacing high-volume streets and intersections in concrete, providing a smoother travel surface, greatly extending their expected life and significantly reducing long-term maintenance costs. The recent street reconstruction projects on Table Mesa and Broadway are examples of this emphasis. Additional funding for these kinds of capital replacement projects have been included in the proposed investment programs of the plan.

Maintenance and care of the street system includes all the public infrastructure in the right of way. This includes the storm water system, curbs and gutters that carry flood flows, and street trees and other public fixtures. Multiple city departments are involved in maintaining and improving the public right of ways to make them more sustainable, resilient and an asset to the community.

The street system is defined by a Street Functional Classification, consisting of a hierarchy of streets from the local streets to collector streets to freeways. These functional classifications establish a common understanding of the use of the street and its character and regulate access from adjacent properties.

Access Management and Parking Strategies

Parking management is the foundation of TDM efforts and the most effective tool in promoting mode shift. The city has started a multi-year effort to reconsider all aspects of parking in the community. This effort should align parking policies and expectations with the community's transportation, Climate Commitment and sustainability goals. Results from this effort will be integrated into the TMP as they are produced.

Roadway Policies

The city will:

- **Develop and manage its street network** in a manner that places reliance on improving the efficiency of the existing system before expanding that system
- **Pursue development of a highly-connected and continuous road system** based on a grid pattern allowing for convenient and efficient travel by all modes

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6 | BUILDING A CONNECTED COMMUNITY

Strong relationships across the city organization and with our community agency partners created the foundation of the 2014 TMP and guided the collaborative planning process and community engagement strategies. This foundation connects the TMP with the city's Sustainability Framework and reflects the broad range of Boulder's community values.

Integrated Planning Efforts

Various foundational relationships formed the project management structure for the TMP as well as guided the collaborative planning process and community engagement strategies within the context of the city's Sustainability Framework reflecting the broad community values.

Throughout the TMP process, the city worked with our city and community partners to integrate our transportation and land use planning processes with a wide variety of initiatives, including:

- Two technical advisory committees guided the development of the walk and bike innovations as well as the Renewed Vision for Transit as part of the TMP's Complete Streets Focus Area. Our goal is to continue working with our community partners in on-going collaboration to advance the walk, bike, and transit strategies developed by these innovative and dedicated contributors.
- Engaging with Growing Up Boulder, Boulder Valley School District, and CU to develop and test new ideas to serve future generations of Boulder's travelers.
- A new GIS-based neighborhood accessibility tool developed by Transportation, Community Planning & Sustainability, and IT to evaluate existing conditions and future opportunities to create walkable "15-minute neighborhoods" for people of all ages and abilities throughout Boulder. This tool will help to inform the next Boulder Valley Comprehensive Plan update.
- Sensitivity testing of transit scenarios with parking management and Eco Pass programs show great results from leveraging multimodal travel options with the built environment.

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2014 WalkBike Summit

- Collaboration among the technical teams for the TMP and the Climate Commitment to develop tools for assessing the transportation related greenhouse gas emissions and to shape refinements to the TMP's measurable objectives—helping Boulder on the path to achieving the desired goal of reducing GhG emissions by 80 percent below 1990 levels by 2050.
- Teams from throughout the city organization are working on the Access Management & Parking Strategy in collaboration with the TMP's Transportation Demand Management focus area.
- Conducted a variety of joint board workshops with the Transportation Advisory Board, Planning Board, Environmental Advisory Board, and District Boards to discuss TMP, AMPS, Climate Commitment, Sustainable Streets + Centers, and Envision East Arapahoe.
- The TMP supports RTD's Northwest Area Mobility Study (NAMS) to advance arterial Bus Rapid Transit service along the Diagonal/SH 119, East Arapahoe/SH 7, and South Boulder Road.
- The TMP and RTD's NAMS recommendations will help guide the new Envision East Arapahoe corridor plan providing an opportunity for on-going integrated land use and transportation planning.
- North Boulder plan update, Civic Area, corridor plans, Eco Districts, and the upcoming Boulder Valley Comprehensive Plan update are additional opportunities for on-going integration of land use, urban design, and transportation to link together to create great streets and great places for the Boulder community.

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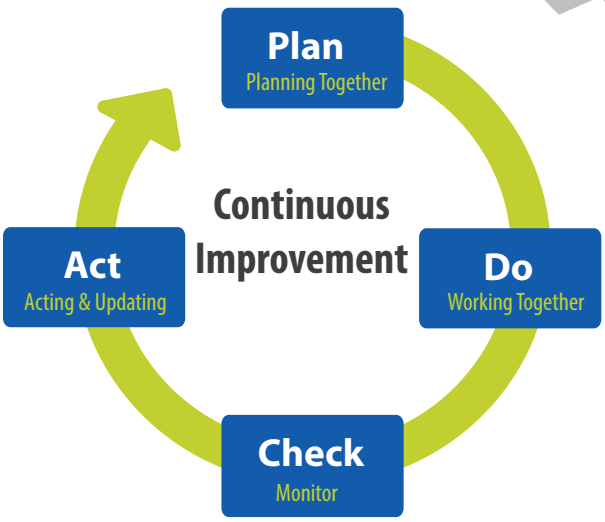

Model for Collaborating on Integrated Sustainable Planning Initiatives

Partnerships

The TMP was developed through both internal and external partnerships:

- Transportation connections across all areas of the city organization and the internal partnerships and spirit of collaboration serve the day-to-day development and implementation of the TMP policies, strategies, and action items: Public Works, Transportation, Community Planning & Sustainability, Housing, Parking Services, Parks, IT, Police, and city Administration.
- External existing partners include: Boulder County, Regional Transportation District (RTD), Via, Boulder Valley School District, University of Colorado (CU), CDOT, DRCOG plus Growing Up Boulder, Boulder Chamber of Commerce, Boulder Transportation Connections, Community Cycles, 36 Commuting Solutions, neighboring cities along the US 36 corridor, plus Longmont, Loveland, Fort Collins/Transfort and the North Front Range Metropolitan Planning Organization.

Community Engagement in Decision Making

The TMP is the community's plan—intended to achieve a broad range of sustainability and resiliency goals based on community values and reflecting the role of the transportation system to connect people and places.

Connecting people and places goes beyond the traditional physical connections we tend to think of in transportation—streets, bikeways, sidewalks, multiuse paths, and buses. It includes bringing people together through communication channels of all shapes and sizes—in-person and using social media—to reach the broad and diverse community that is Boulder.

Throughout the TMP planning process, staff, consultants, policy makers, agency partners, business leaders, community members, and Board and City Council members have helped shape the work in each of the TMP Focus Areas through community meetings, store front workshops, on-line feedback applications, youth programs, open houses, and other public events large and small.

The ideas from people of all ages and stages of life have guided the TMP and their feedback supports advancing integrated policies linking transportation, land use, parking, urban design/placemaking, housing, health, safety, economic vitality, environment, and good governance—reflecting the wide range of Boulder's sustainability and resiliency values.

The TMP process is an opportunity to renew and refine the transportation related policies, strategies, action items, and investments priorities to support these community values over time—guiding the present and the future for Boulder's access and mobility goals.

Moving forward, the TMP serves as a living document and helps to inform and be informed by on-going planning initiatives happening locally and regionally as well as at the state and national levels.

The TMP will help to inform—and be informed by—the Boulder Valley Comprehensive Plan update as well as future corridor plans such as Envision East Arapahoe and the overarching Access Management & Parking Strategy initiative.

New tools created as part of the TMP Update—such as the neighborhood accessibility and low-stress bike network GIS mapping tools—will be used on an on-going basis to identify opportunities for infrastructure investment and ways to enhance the mix of available land uses within easy walking and bicycling distances from Boulder neighborhoods.

The TMP will continue to guide the community's long-term transportation vision, action strategies, and day-to-day decisions for many years to come.

The TMP can be amended and refined over time to keep pace with the changing needs and desires of the Boulder community. The array of TMP measurable objectives will be monitored every two years and shared with the community in future "Report on Progress" updates. These results will help the city and the Boulder community to gauge our progress and adjust our course as needed over time.

On-going community engagement is the cornerstone of Boulder's success in envisioning and creating a world-class transportation system to serve people today, tomorrow, and for generations to come.

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TMP Community Storefront Workshops and Public Open Houses

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7 | IMPLEMENTING OUR SHARED VISION: A CALL TO ACTION

Moving from the planning stage to the action and implementation stage is key to reaching the desired outcomes of the TMP. Success will depend on collaborative partnerships with agency partners such as Boulder County, Via, RTD, Boulder Valley School District and the University of Colorado.

Next Steps and Tracking Progress

Throughout the TMP process, action items have been developed to advance each of the Focus Areas. Each of these items identify the stakeholders and partnerships that will be needed to move the action item forward. Many of them involve the city, partner agencies, and community groups. A summary of these implementation steps is included here while the Action Plan appendix contains the detailed recommended action items. In the Action Plan, these action items are identified for immediate (2014-2016), near-term (2017-2020), and long-term (2021-2035) implementation in each Focus Area. As this is a comprehensive list and likely exceeds the resources available to the city and partner agencies, each action item is also classified by TMP Investment Program.

The TMP Action Plan is envisioned as a dynamic, working document to track work and progress toward the community's goals. The city's priorities will be refined through the annual budget process and work programs and will be adjusted for the progress of related planning efforts such as Envision East Arapahoe, the Access Management and Parking Strategies, the North Boulder Area Plan update, Comprehensive Housing Strategies, and the planned corridor studies.

2014 Winter Bike to Work Day
Image from Tanya Dueri

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Multimodal Corridors - "Complete Streets"

- **Focus on roadway enhancement and street corridor projects** that address safety issues while supporting the community's desires for public placemaking, right of way re-purposing, innovations, and creating streets that are amenities for the community
- **Continue to implement efficiency improvements** to the overall system through real-time traffic information, traffic flow improvements at key intersections, corridor timing plans, and other efforts
- **Continue to prioritize, design, and construct complete streets for all modes**
- **Continue to pursue lower-cost pedestrian and bicycle facility enhancements** (such as pedestrian crossings, access ramps, bike lanes, and missing links) through the dedicated pedestrian and bike facilities funds
- **Continue the Living Lab program** and increase the emphasis on all five E's to increase use of the system by people of all ages and stages of life
- **Expand the living laboratory philosophy** to walking, transit, and TDM to increase use and effectiveness of these systems
- **Complete the transportation networks in Boulder Junction** to support its development as a new pedestrian-oriented neighborhood
- **Coordinate transportation planning and investments with anticipated changes in land use** through corridor studies to maximize their effectiveness and support community desires for high quality design and placemaking
- **Maintain and expand the existing CTN transit service** within the community following the Renewed Vision for Transit as funding allows
- **Work with regional partners to implement high quality BRT service** to surrounding communities on US 36 and the identified NAMS regional corridors
- **Pursue implementation of providing real-time transit information** at major bus stops and directly to transit passengers
- **Explore and develop transit service delivery options** with local and regional agency partners to implement Boulder's Renewed Vision for Transit
- **Implement mobility hubs** and other solutions to expand options for addressing the first- and last-mile portion of transit trips
- **Enhance transportation data collection and system status reporting** as new data collection and distribution technology becomes available, working toward the vision of a complete mobility planning and payment system being available on any personal electronic device

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Regional Travel

- **Continue to support and participate in coalitions to create multimodal plans and funding for implementing BRT** on the identified NAMS corridors of the Diagonal (SH 119), Arapahoe (SH 7), and South Boulder Road
- **Maintain the city's role in supporting the locally preferred improvements and high-quality BRT on the US 36 corridor** by active participation in the US 36 Mayors and Commissioners Coalition
- **Provide separate bike facilities on regional corridors** to link communities and integrate these connections into the local bike system
- **Increase collaborative planning and funding activities** with partner agencies, including Boulder County, Boulder Valley School District, the University of Colorado and the Boulder Chamber
- **Increase the city's activities to create effective regional partnerships** and influence policy at the regional agencies of the Denver Regional Council of Governments, RTD, and the Colorado Department of Transportation

Transportation Demand Management

- **Continue to work with Boulder County and RTD on the development of a Community-wide Eco Pass program** and to expand the existing pass programs
- **Continue to support and coordinate activities with the existing transportation management organizations**, such as Boulder Transportation Connections and US 36 Commuting Solutions, and DRCOG's regional Way to GO TDM program
- **Continue to support and coordinate activities with partner community organizations** providing options in transportation, including Via, E-Go Car share, Boulder B-cycle, and Community Cycles
- **Continue the AMPS process to align parking utilization and requirements to city sustainability goals** and broaden parking management as the foundation of TDM activities
- **Refine the TDM Toolkit for development review with partner organizations** to produce more consistent and substantial reductions in SOV use through TDM programs appropriate to the location of the development

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Funding

- **Develop the annual transportation budget and CIP** to reflect the spending priorities of the TMP
- **Actively pursue outside funding** from federal, state and private sources to leverage city dollars in implementing the investment programs of the TMP
- **Continue exploring long-term, sustainable, and user fee based funding** mechanisms for transportation.
- **Use the new transportation revenues approved by the voters in 2013** in the ways described in the ballot and the TMP to restore operations and maintenance funding and add complete streets enhancements
- **Continue discussions with businesses, community groups, and Council to develop a use-based proposal** to diversify and increase transportation funding well before the 2013 transportation sales tax and user fees expire in 2030

Sustainability Initiatives

- **Continue cross-departmental coordination and collaboration** on integrated sustainability planning efforts
- **Maintain the GhG inventory system** developed through the Climate Commitment work and include GhG reduction strategies in transportation planning and construction activities
- **Carry out a series of corridor studies** to undertake land use/transportation/TDM planning to make these areas more supportive of city goals. Initial corridors identified for study include Canyon, east Arapahoe, Colorado, and 30th Street
- **Support First and Final Mile bicycle and pedestrian connections to regional transit** to encourage and enable multimodal trips
- **Prepare a Report on Progress document every two years** and maintain an up-to-date web-based dashboard

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The Community's Role in Delivering Boulder's Plan

As described throughout this document, the TMP has been developed and envisioned by the Boulder community. It is intended to represent and fulfill the role of transportation in the community's overall goals of protecting the environment, providing a high quality of life to all members of the community, and becoming a more sustainable and resilient community. These goals are expressed in the Boulder Valley Comprehensive Plan, its Sustainability Framework and the city's progress in integrating its planning and sustainability efforts across the city organization.

While all city departments have a role in implementing the vision of the TMP, this planning process clearly shows achieving the community's goals in transportation, climate commitment and sustainability requires the efforts of partner agencies and community members. The TMP update process started with a policy review identifying the need to accelerate mode shift to reach transportation goals. The Climate Commitment analysis conducted as part of this plan shows the potential and need to reduce both vehicle miles of travel (VMT) and single occupant mode use by an additional 20 percent. Accomplishing many of the Action Plan items identified to reach this reduction requires sustained collaboration and long-term efforts while not being under the control of the city. The TMP also exists in a more fluid and dynamic environment, where other planning efforts will inform the plan and where technological and social change will challenge many long held assumptions. Everyone has a role responding to these changes to help reach our community goals. Given the large negative consequences of increased vehicle traffic and climate change, everyone has a real interest in helping to reach our community goals.

Achieving the ambitious new VMT and mode shift targets will be challenging but also offer a host of co-benefits to the community and individuals. Increased walking and biking have significant health benefits and can be established as habits in children—with life-long benefits. Creating more diverse, mixed use neighborhoods will allow more trips to be short and attractive for walking or biking. Increased walk and bike use builds community and supports local businesses. As households need to spend a smaller amount of their budget on transportation costs, they can direct these savings into other areas such as housing and local businesses. And as the major public space connecting the community, streets can increasingly be used for a balance of travel, placemaking and community amenity. Boulder has a long history of intentionally planning for change and creatively approaching its challenges—which will need to continue as we successfully implement the TMP.