The 2018 Transportation Report on Progress

CITY OF BOULDER

Prepared by the Public Works Department
Division of Transportation

Contents

Navigating This Report:

Core Priorities: Investing in a Safe and Well Maintained Transportation System

- Continued investments in safety and in operating and maintaining the current transportation system remain top priorities for the city and comprise the largest portion of the transportation budget.

Progress in the Five Focus Areas

- This section provides highlights and program information on the 2014 Transportation Master Plan's five interrelated Focus Areas to move the community toward its transportation and climate action goals.

Progress Toward Nine Measurable Objectives

- This section describes the city's progress toward achieving each of the TMP update's nine measurable objectives and outlines the next steps.

Progress Toward The Future

- This section summarizes the Transportation Report on Progress findings and suggests areas of concentration and improvement for the 2018-19 TMP Update.

*All photographs taken by City of Boulder Employees except where noted

HIGHLIGHTS OF BOULDER'S TRANSPORTATION HISTORY

1858 First gold seekers arrive in Boulder Valley

1859 Boulder Town City Company established to develop lots and stake out roads

1865 A locally financed road is started up Boulder Canyon, to Black Hawk and Ward and includes two toll gates

1869 Silver is discovered in Caribou. Boulder Canyon road is extended to Nederland through the canyon with 33 bridges

Abbreviations

AMPS ..... Access Management and Parking Strategy
AVL ..... Automatic Vehicle Locator
BVCP ..... Boulder Valley Comprehensive Plan
BVES ..... Boulder Valley Employee Survey
CDOT ..... Colorado Department of Transportation
CTN ..... Community Transit Network
DRCOG ..... Denver Regional Council of Governments
OCI ..... Overall Condition Index
PMP ..... Pavement Management Program
ROP ..... Report On Progress (This Report)
RTD ..... Regional Transportation District
S.H. ..... State Highway
SOV ..... Single Occupancy Vehicle
SSBR ..... Safe Streets Boulder Report
TDM ..... Transportation Demand Management
TMP ..... Transportation Master Plan
TNC ..... Transportation Network Company

This report contains links to additional information located on city and partner agency web pages. Readers of a printed version of the report are encouraged to visit www.BoulderColorado.gov/Transportation for an interactive version.

TMP & Report Overview

First adopted in 1989, the Transportation Master Plan is Boulder's long-range blueprint for travel and mobility. The 1996 TMP established the basis for the current policy direction, including identifying walking as the primary mode of travel and calling for accommodating more person travel through the implementation of a balanced, safe, multimodal transportation system. Recognizing the interconnectedness of the transportation network and the broader community, the TMP supports the Boulder Valley Comprehensive Plan (BVCP) and the city's broad sustainability framework.

Boulder's TMP guides all aspects of the city's multimodal transportation system, including policies, programs, and investment priorities. The TMP is a living document and is formally updated every five years.

Measuring Progress

The city collects and analyzes multiple sources of data to track progress toward the TMP's goals and objectives. Travel surveys of city residents and Boulder Valley employees are repeated at regular intervals and evaluated along with vehicle counts, bicycle counts, transit ridership statistics, intersection and travel time studies, crash data, and census data to create a robust picture of travel in the city. A sampling of this data is reported on the city's web-based dashboard.

In the spirit of continuous improvement, every two years the city analyzes the data and publishes a Transportation Report on Progress. The last report was published in 2016.

What's in this Report?

This 2018 Report on Progress focuses on progress since 2016 of the transportation programs and projects outlined in the 2014 TMP. This report provides the status of ongoing work programs and core services and tracks information on community travel trends over time.

This report also evaluates progress in the TMP's five Focus Areas and nine measurable objectives. The figure on the next page summarizes the status of these objectives along with the city's actions and results to date. This report includes data the city collects to measure progress and illustrates how the city refines activities in response to the needs of the community and the world around us.

This 2018 report highlights the accomplishments– and challenges– of developing Boulder's multimodal transportation system. It recognizes the significant support for this system of the dedicated sales tax for transportation initially approved by voters in 1967.

Building on the past, present and looking to the future, the Transportation Report on Progress will serve as a resource to guide the upcoming 2018-19 TMP update process.

Thank You, Boulder

The City of Boulder would like to say a special "Thank You" to the Boulder community for supporting innovative transportation investments for 50 years. To learn more and share your ideas, please visit our webpage

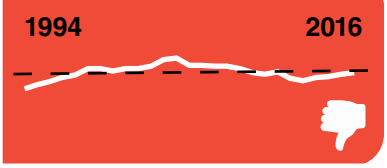
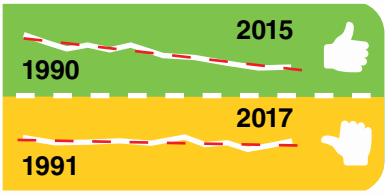
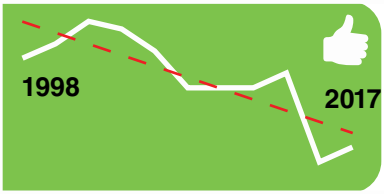
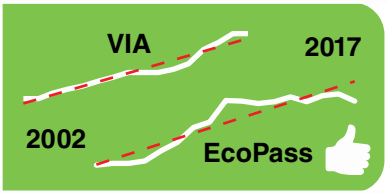
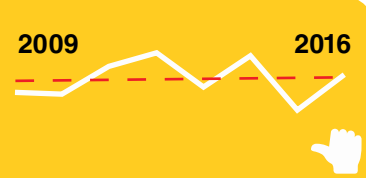
1871 Boulder's first Street Commissioner is appointed and given the authority to demand two days labor from each able bodied man

1871 Wooden sidewalks built on Pearl by individual businesses called a "Woeful state of mantraps"

1873 Two railroads come to town from Erie and Golden, with city or county contributions

1877 University of Colorado opens

TMP Objectives Report Card

Objectives	Baseline	Progress	Trend
Reduce VMT in the Boulder Valley by 20% by 2035	1994 level of 2.44 million daily VMT for the Boulder Valley; target now 1.9 million daily VMT	VMT was last estimated at 2.49 million in 2016	
Reduce SOV travel to 20% of all trips for residents and to 60% of work trips for nonresidents	1990: 44 percent SOV mode share for residents 1991: 81 percent non resident SOV commute mode share	Resident SOV mode share was 36% in 2015 Non resident SOV mode share was 78% in 2017	
Achieve a 16 percent reduction in GHG emissions and continued reduction in mobile source emissions of other air pollutants	423,892 million metric tons of transportation related GHG in 2012	448,994 million metric tons of transportation related GHG in 2016	
No more than 20% of roadways congested at level of service F	20 percent of signalized intersections at LOS E or F in 1998	11 percent of signalized intersections at LOS E or F in 2017	
Expand fiscally viable transportation options for all Boulder residents and employees including older adults and people with disabilities	2002: $160,000 city support to VIA 2002: 3,822 est. residents eligible for Neighborhood EcoPass	2017: $311,000 city support to VIA 2017: 11,298 est. residents eligible for Neighborhood EcoPass	
Increase transportation alternatives commensurate with the rate of employee growth	2002 1. Boulder Employees..... 2. Transit Service Hours..... 3. Bike System Miles.....	 ..... 18% Increase ..... 10% Decrease ..... 30% Increase	
Vision Zero for fatal and serious injury crashes: continuous	53 serious injury and fatal crashes in 2009	66 serious injury and fatal crashes in 2016	
Increase the share of residents living in complete, walkable neighborhoods to 80 percent	26 percent of residents lived in a walkable neighborhood in 2014	29 percent of residents lived in a walkable neighborhood in 2017	
Reduce daily resident VMT to 7.3 miles per capita and nonresident one-way commute VMT to 11.4 miles per capita	11.2 miles per day for Boulder Residents in 2012 14.3 miles for a nonresident one-way commute in 2014	12.8 miles per day for Boulder Residents in 2015 Estimated 15 miles for a nonresident one-way commute in 2017	

2014 TMP 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."

1883 First train runs from Denver through Boulder to Sunset, elevation 8,000 feet. The line crosses Boulder Creek 66 times

1890 Bicyclists establish the Boulder Wheel Club. A larger Union Depot is built at 14th and Walnut streets

Core Priorities: Investing in a Safe and Well-Maintained Transportation System

Core Priority: Safety

Continuing to improve overall transportation safety is a primary objective for the City of Boulder. The 2014 Transportation Master Plan affirmed the city's ongoing commitment to safety by establishing a new measurable objective: Vision Zero to eliminate serious injuries and fatalities resulting from traffic collisions. This objective reflects a national and worldwide approach to innovate and use a data driven, interdisciplinary approach to improve safety for people using all forms of transportation. The 2016 Safe Streets Report provides the framework for the city's Vision Zero safety initiatives by analyzing all collisions from 2009 to 2014, identifying major collision types and factors and proposing mitigation measures for each. Initially titled, "Toward Vision Zero" during the update process of the 2014 TMP, the term has recently been changed in 2018 to "Vision Zero" due to City Council direction based on community input.

In 2017, additional resources provided by City Council as part of the annual priority based budgeting process provided the opportunity to accelerate the implementation of the Vision Zero safety initiatives as well as begin the development of city's revitalized Neighborhood Speed Management Program.

Work advances in each of the E's: Engineering, Education, E nforcement and Evaluation, to implement the mitigation measures as identified in the Safe Streets Report:

Engineering: Since 2016, staff has performed improvements at over 40 intersections consisting of traffic signal modifications and the installation of signs and pavement markings with the goal of improving safety for all road users. The safety of pedestrians and cyclists is continuously prioritized as these groups are overrepresented in all collisions that result in fatal or serious injury.

Education and Enforcement: Transportation Division and the Police Department routinely collaborate to identify and address safety issues and specific areas requiring increased enforcement. Staff collaborates with community stakeholders, such as CU Boulder to conduct numerous safety campaigns over the course of the year. Staff strives to provide a strong emphasis on crosswalk safety where over 60 percent of collisions involving pedestrians and bicyclists occur.

Outreach and Support: The Vision Zero Community Partnership Committee fosters on-going implementation of the city's Vision Zero safety strategies in collaboration with the broader Boulder community. The partnership includes representation from the Transportation Advisory Board (TAB) as well as local, regional and state-wide agency partners, such as, Community Cycles, Cyclists 4 Community, Boulder County, Boulder Valley School District and CU Boulder. This group is charged with providing input and offering feedback regarding the Safe Streets Boulder action plan and co-developing and disseminating Vision Zero safety education and awareness messaging for the greater Boulder Valley community.

It's Up to Us: In addition to the strategic and holistic approach the city takes to improve traffic safety, we are all individually responsible for the safety of ourselves and others. The responsibility is great because the consequences are unforgiving. Whether we walk, bike, or drive, safety should be of the utmost concern. Ultimately, it's up to us to make our streets safe.

Pavement resurfacing on Broadway

Core Priority: Maintenance

Bridge Asset Management Program

Recognizing the critical importance of the city's bridges to the safety of users of the transportation system, the city expanded the Bridge Asset Program in 2016. The key elements of the program include:

- Inventory and inspection of all city bridges;
- Performing necessary maintenance and repairs to extend the life of bridges for as long as possible for the least cost; and
- Performing large rehabilitation or replacement when needed.

Bridges are among the most expensive and complex assets of the transportation system. In early 2016, staff completed the most extensive bridge inventory and inspection effort conducted in the city's history. The inventory included all structures in the right of way or over water with an opening greater than 4 feet.

Per federal requirements, the Colorado Department of Transportation (CDOT) inspects major bridges (span greater than 20 feet) every two years. The City of Boulder has chosen to inspect minor bridges with spans between 4 and 20 feet every four years, a typical inspection frequency that is used nationally for minor structures.

In April 2016 the City of Boulder bridge inventory included:

- 41 major bridge structures,
- 270 minor bridge structures (178 vehicular traffic, 92 pedestrian bridges), and
- 412 outstanding maintenance items.

Major bridges that are Structurally Deficient and Functionally Obsolete are tracked by the Federal Highway Administration. More than 20 bridges on the Boulder inventory are in these categories, which does not make them unsafe but identifies opportunities for near-term minor maintenance, long-term major maintenance and programming for ultimate replacement.

Progress in Pavement Management

The Pavement Management Program was established in 2011 for Boulder's 630-lane mile street system and includes inspecting and rating all streets at three-year intervals. The goal of the PMP is to identify the optimal level of funding, timing and maintenance strategies that will keep the roadway network at or above a "Good" Overall Condition Index (OCI) rating. This translates to an average OCI rating of 75 to 80 for all streets in Boulder and is consistent with other communities in the Denver metro area. The city had an average OCI of 74 in 2017.

Snow and Ice Control Program

Snow and ice control is a key aspect of operating a safe and reliable multimodal system. An internal assessment coupled with community feedback identified opportunities for improvements before, during and after snow events. Specific changes to the program for 2017-2018 are outlined below.

Altering Snow Placement Practices

To maximize safety and operational efficiency, the city changed snow placement practices along four of the five primary routes providing access to regional corridors and emergency services. In previous years, crews moved snow to the center of the street—called "windrowing"—to reduce impacts to bike lanes and sidewalks, which required crews to move the snow multiple times. In select locations where space is available and bike, pedestrian and bus travel would not be compromised, snow crews are plowing to the sides of the street, maximizing efficiency, reducing overall cost and reducing hazards to turning and crossing traffic. Snow program staff will continue to monitor the effect of this change in operations to ensure the overall safety of the transportation system is maintained during snow events and to ensure impacts to pedestrians and cyclists are minimized.

Enhanced Clearing of Critical Connection

Community members have reported difficulty traveling between off-street multiuse paths and on-street bicycle facilities during snow events. Staff examined these areas—called "critical connections"—and expanded clearing where possible to enable safe walking and cycling through the city during snow events.

Automated Vehicle Location Technology

Beginning in the 2017/2018 snow season, staff is using enhanced Automatic Vehicle Locator (AVL) technology to track snow plow locations and material usage. These data help staff to evaluate operations and identify potential improvements, such as more efficient plow routes or efficient use of anti-icing and de-icing materials. This technology is also used year-round with the city's maintenance fleet to ensure efficient use of resources and support sustainablity goals.

New Asset Management System

Part of maintaining a safe and efficient transportation system is identifying, tracking and reporting on current assets. The Transportation Division anticipates moving to a new asset management system to proactively track maintenance work on transportation assets. Currently, the Utilities Division is piloting this new system, called Beehive, which is anticipated to be completed in 2018. Depending on the pilot outcomes, the Transportation Division expects to begin using Beehive to improve work planning and tracking in maintenance workgroups.

Diagonal cycle track - freshly plowed

Snow removal on 30th Street.

Completed Projects

Baseline Underpass

Baseline Underpass

The community celebrated the completion of the Baseline Road Underpass on June 14, 2017, after several years of planning, community engagement and construction. One of eleven underpass projects supported by federal funding through the most recent Transportation Improvements Program (TIP), the project showcases the critical importance of federal and state funds to improve the safety and ease of mobility of Boulder's transportation system.

Baseline Road between Broadway (S.H. 93) and 27th Way is an important connection between the University of Colorado (CU) campus, Basemar Shopping Center, and the Martin Acres Neighborhood and has heavy vehicular traffic and a history of crashes. By removing conflicts between vehicles and bicyclists and pedestrians, the underpass increases safety for all users. The project connected the underpass to existing sidewalks, multiuse paths and on-street bicycle lanes; reconstructed medians; and resurfaced the street. A multiuse path was also constructed on the east side of Broadway from Baseline Road to the Skunk Creek Underpass under Broadway. The project also incorporated bicycle parking, a relocated B-Cycle station, a relocated transit stop and landscaping and public art.

Chautauqua Pedestrian, Safety and Lighting Improvements

The section of Baseline Road adjacent to Chautauqua Park is vital in providing access to Open Space and Mountain Parks (OSMP) trails and Chautauqua Association lodging, programming and venues. The Chautauqua area attracts more than half a million visitors per year.

The speed of motor vehicles and the prior lack of a sidewalk on the south side of Baseline Road from Sixth Street to King's Gate created a safety hazard with conflicts between vehicles and pedestrians, and limited mobility for all. Funding for the project was made possible through the 2014 Community, Culture and Safety Tax. The resulting project has been coordinated with Open Space and Mountain Parks (OSMP) and Parks and Recreation staff and honors the historic and natural character of the area while providing important safety improvements.

In 2017, the following parts of the project were completed:

- Five-foot wide sidewalks on the south side of Baseline Road from 10th Street to the end of on-street parking west of Sixth Street;
- Americans with Disabilities Act (ADA) compliant pedestrian crossings along Baseline Road;
- Improved pedestrian connections from Baseline Road to OSMP access trails;
- Native shrubs and plantings to replace non-native species; and
- Bus stop improvements, including an ADA-compliant ramp at King's Gate;

Chautauqua Queens Gate sidewalk along Baseline Road

The Final Chautauqua Lighting Design Guidelines went into effect in November 2017 following approval by the Colorado Chautauqua Association and the City of Boulder Landmarks Board and a 15-day public comment period. The next step will be to submit a Landmark Alteration Certificate to the Landmarks Board for the implementation of pedestrian lighting from the King's Gate entrance to the parking lot east of the tennis courts in Chautauqua Park.

Separated cyclist and pedestrian facilities looking east

Diagonal Highway looking west

Diagonal Highway Reconstruction

City staff and the Colorado Department of Transportation partnered to fund improvements along the Diagonal Highway from 28th Street to Independence Road. Completed in January 2017, the project transformed this deteriorating section of roadway into a safer, multimodal corridor and gateway to and from Boulder while maintaining existing vehicular lanes. Specific safety and transportation improvements included a reconstructed roadway surface, multiuse path, off-street protected bicycle lanes and upgraded transit stops. Additional improvements included an extensive new drainage system, water quality features including rain gardens, public art, more than 6,000 new shrubs and plants, and a new B-Cycle station. The project began in 2010 with conceptual planning and a submittal for federal transportation funding through the Denver Regional Council of Governments (DRCOG). Funding was awarded in 2011 and project engineering and design began in 2013.

The completed project provides transportation options for travelers in multiple modes and creates an inviting and functional entrance into the city for more than 30,000 daily users. It also serves as a model for regional multimodal connections north of Boulder along S.H. 119.

Greenways Collaboration

The majority of Boulder's off-road multi-use path system has been developed along the city's designated greenways. The Greenways Program is a city-wide collaboration that includes funding from the Transportation and Utilities Divisions. The current Wonderland Creek Greenways Improvement Project reflects this partnership as it is making major floodway improvements along with building three underpasses and the associated multiuse path from Foothills Parkway to 30th Street.

Capital Improvement Projects

Since 2014, capital improvement projects have added 4,000 linear feet (3/4 mile) of new sidewalk, 9,483 linear feet (1 3/4 mile) of new multi-use path and 1 new underpass.

Children enjoying the new multiuse path along Hanover Ave funded by a Safe Routes To School (SRTS) grant from CDOT

Progress in the Five Focus Areas

The 2014 TMP update identifies five integrated Focus Areas for targeted work to move the community toward its transportation and climate action goals: Complete Streets, Regional Travel, Transportation Demand Management, Funding, and Integration with Sustainability Initiatives. Each are covered in the pages that follow, and the city focuses its programs, partnerships and outreach efforts to address these areas.

Complete Streets

Regional Travel

Transportation Demand Management

Funding

Integrate with Sustainability Initiatives

1894
Boulder Creek floods destroy bridges in town

1898 Chautauqua opens

1899
The electric Boulder Street Railway opens to carry visitors to Chautauqua with 12 cars and 5 cent fares

1899
A new rail line to Ward, elevation 9,450 feet, opens and is advertised as the "Switzerland Trail of America"

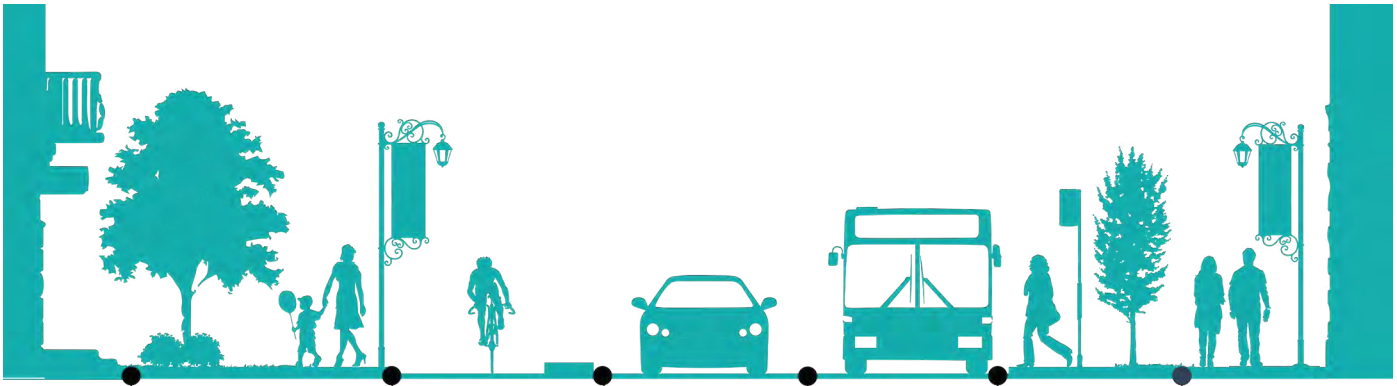
1906
Flagstaff Road is completed. Twenty-six residents drive autos in town and three bridges across Boulder Creek are rebuilt to accommodate them

1906 Bike racks are installed downtown

Complete Streets

The concept of Complete Streets means planning, designing, building, operating and maintaining a transportation system for all users, including pedestrians, bicyclists, transit riders and vehicle drivers. It means putting people first, making safety a top priority. The concept also recognizes that streets are an important element of creating community and need to be comfortable, connected, safe and memorable.

The 2014 TMP identifies key Complete Streets strategies, including the creation of pedestrian and bicycle innovations and the development of a Renewed Vision for Transit. Pedestrian and bicycle innovations may be made as part of corridor planning or through network-wide studies and improvements.



Gathering Spaces
Parks, plazas and courtyards create destinations along the street. These become opportunities for organzied events, space to celebrate nature and culture.

Bicycle Accommodations
Bicycle facilities offer separation from vehicular traffic for cyclists. These can include multi-use paths or on-street buffered and protected bike lanes. A complete street will accommodate a wide range of ages and abilities.

Efficiency
Roadway design and operations should allow people to predict traffic flow and understand how to safely and efficiently move by bus or motor vehicle.

Crossing Visibility
Clearly marked crossings create a safe and comfortable environment for people crossing the street by foot, bike and wheelchair.

Transit
A complete street considers every passenger's trip from start to finish. Transit stops should provide shelter, seating, wayfinding and transit information.

Walking
A complete street should provide a high quality environment where people feel safe walking and have natural features and great destinations that make people walk.

Putting People First

While traditional traffic engineering was highly focused on moving the greatest number of vehicles as fast and efficiently as possible, Boulder recognizes that mobility is about providing safe and comfortable opportunities for people who travel by all modes.

Low-Stress Multimodal Network Plan

The 2014 TMP calls for developing an integrated and connected low-stress network of innovative bicycle and pedestrian facilities and routes. A connected walking and cycling network provides a safe and comfortable transportation experience, enabling people of all ages and abilities to get to destinations by walking and by bicycle. A complete network for these modes, in the same way as the road system, allows people to have freedom of choices to connect to their destinations and feel secure to be able to bring children, older adults, and people with physical disabilities with them.

The Low-Stress Multimodal Network Plan evaluates the stress level of the city's existing bicycle and pedestrian network to identify barriers and opportunities for system enhancements. Initially named the "2.0 bicycle network," this quantitative and qualitative approach was expanded to include walking routes and access to transit. The data collection phase of the plan began in May 2017 and includes coordination with PeopleForBikes City Snapshot program and corresponding Bikeway Network Analysis to determine Boulder's current level of traffic stress along the street network. Additional data is currently being collected through the use of mobile applications including Ride Report and Strava Metro. Data collection will continue through spring of 2018 and will also include several interactive public engagement events to gain a qualitative understanding of where people prefer to ride bikes or walk in Boulder.

The analysis phase will fine-tune the network, identify existing low-stress routes and provide recommendations to complete the low-stress multimodal network. The resulting Low-Stress Multimodal Network Plan will recommend proposed multimodal routes, utilize wayfinding to connect existing routes and prioritize specific capital improvement projects needed to create a complete network. This network will attract a broader population of people (ages 8 through 80) as confident and comfortable pedestrians and cyclists.

Complete Streets: Corridor Studies

City Corridor studies comprehensively consider improvements for all modes of travel while providing a careful evaluation and weighing of the potential impacts on each mode. These planning studies anticipate person travel growth and the multimodal improvements needed to accomodate future travel. Design alternatives are evaluated against the project goals established for each corridor study through an active public process.

Broadway

The Central Broadway Corridor Design Framework articulates the existing and potential future interrelationships among five key activity centers along the central stretch of Broadway, from University Hill to the Boulder County office complex at Iris. In addition to describing the role and character of each activity center, the framework discusses the existing and desired connections among them along the corridor. The integrated approach of the framework provides guidance for future planning efforts and initiatives, including the redevelopment of the former Boulder Community Hospital site and multimodal connections.

Canyon Boulevard

Conceptual Design Option 6 for Canyon Boulevard

The Canyon Boulevard Complete Streets Study focuses on improving travel and the travel experience along and across Canyon/S.H. 119 from 9th to 17th streets, through both transportation facility improvements and urban design. The study began in late 2015 with the identification of strengths, weaknesses, opportunities and constraints and led to the development of a corridor vision, goals and objectives, which were used to develop a range of conceptual design options. Based on community feedback, including input from eight city boards and commissions and the City Council, city staff is now developing a cost estimate and strategies for phasing and implementation for a preferred design concept. This study also highlighted the need to further study and identify improvements for the Downtown Boulder Station to support existing and future transit service.

East Arapahoe

Alternative 3: Business access transit lanes and enhanced bike and pedestrian facilities

The East Arapahoe Transportation Plan (EATP) will be the long-range vision for proposed multimodal transportation improvements along Arapahoe/S.H. 7 between Folsom and 75th Street. These improvements include safety treatments for people using all modes, walking and biking enhancements, improved regional and local transit and safe vehicular travel. In addition, urban design features will work hand in hand with transportation improvements to increase travel options and mobility. The EATP includes planning for local and regional transit from the Downtown Boulder Station to east Boulder and beyond.

Planning for the corridor, which has been underway since 2016, includes an enhanced public outreach process with a dedicated community working group. Planning is also integrated with the regional S.H. 7 arterial Bus Rapid Transit Study being conducted by Boulder County and neighboring communities, the Regional Transportation District (RTD), and the Colorado Department of Transportation (CDOT)

30th Street and Colorado

The 30th Street and Colorado Avenue Corridors Study is examining current and future travel needs along 30th Street from Baseline Road to Pearl Parkway and on Colorado Avenue from Foothills Parkway through the University of Colorado (CU) main campus at Broadway and Euclid. The purpose is to identify a conceptual design option for improved travel and safety for pedestrians, bicyclists, transit riders and drivers. The study began in late 2016 and is in coordination with

other funded projects including the 30th and Colorado Bike and Pedestrian Underpass, Colorado Avenue and Regent Drive Intersection Safety Project and the Foothills Parkway Underpass Project, south of Colorado Avenue. The corridors study will be completed in 2018 and provide a guide for complete street improvements between Boulder Junction and the CU facilities on the main campus, East Campus and Williams Village.

Conceptual Design Option 3 for 30th Street

Neighborhood Speed Management Program

A speed hump on Stanford Ave.

Responding to community concerns about speeding traffic on residential streets, City Council directed transportation staff to undertake a redesign of the Neighborhood Traffic Mitigation Program. In early 2017, the project staff team began a community engagement process, hosted by the Transportation Advisory Board (TAB), to design a program to provide education, enforcement and engineering tools to address speeding along residential streets. The program was renamed the Neighborhood Speed Management Program (NSMP) to better reflect the program purpose. The new program guidelines were accepted by TAB and the City Council in the summer of 2017 and the program was launched in October 2017. The registration period for projects to be implemented in 2018 was open through November 24, 2017, and by the end of this period the city had received 48 registrations and 36 petitions. The NSMP will be a key component of the Complete Streets framework for residential streets moving forward.

Complete Streets: Lessons Learned

The Living Lab Pilot Program was created as part of the community engagement process during the planning phase of the 2014 TMP update to provide opportunities for people to test innovative Complete Streets designs in support of the TMP safety and sustainability goals. These pilot projects yielded valuable technical data regarding the operation of different types of facilities, how they affect people using multiple transportation modes and how to better approach transportation projects involving significant trade-offs.

The Folsom pilot helped staff identify new techniques for technical analysis and community engagement process. A clear lesson is that the city needs to do more to bring forward these types of challenging projects and create more opportunities for community engagement and discussion of potential trade-offs and impacts on people using all modes of travel and on adjacent properties. Lessons learned from Living Lab are now being integrated into all transportation projects and community engagement is being enhanced based on recommendations from the Public Participation Working Group including techniques from the International Association of Public Participation (IAP2).The community can expect thorough data collection, analysis and opportunities to weigh in on a set of project alternatives or options. Rapid implementation of pilot projects is not an acceptable approach in Boulder, and it's important to not overload the community with too many major projects at the same time. Balancing project trade-offs and fully vetting projects with the community prior to the implementation and on-going evaluation of projects are key to success.

1908
Denver and Interurban train starts service to Boulder, Louisville, Superior, Marshall and Eldorado Springs. Eighteen trains a day arrive in Boulder

1908
Frederick Law Olmstead, Jr. studies Boulder and stresses the paving of streets for health and safety. He recommends 80-foot-wide streets, 20-foot-wide alleys and 300-foot blocks as ideal

1916
City Council orders first speed limit signs installed

1917 Pearl Street is paved

A Renewed Vision for Transit

The city's Renewed Vision for Transit is a key component of the 2014 TMP and guides local, regional and interregional transit system enhancements in Boulder. Work with regional and local partners continues on implementing this vision. The Renewed Vision for Transit seeks to expand both the local community transit network (CTN) and regional transit connections, including enhanced transit service, capital improvements and first and last mile. connections.

Transit Service Delivery Study

Achieving the TMP vision is challenged by RTD constraints under the current service model. Limited resources and competing RTD priorities mean the city and its agency partners need to find additional and new ways to deliver transit service to fulfill the Renewed Vision for Transit and TMP goals.

In 2017, the city embarked on the first phase of the Transit Service Delivery study to refine the Renewed Vision for Transit and to identify potential funding and service options. As part of the study a financial analysis was conducted to determine what Boulder pays to RTD versus the service that is delivered.

The analysis found that in 2015, the Boulder community paid approximately $32 million for RTD base system bus service through a variety of sources such as the RTD sales tax, fares and EcoPass programs. And in 2015, RTD provided approximatly $34 million in service and capital investment for the Boulder community, based on RTD's fully allocated cost model. Therefore, in 2015 Boulder covered 94 percent of the cost of local service directly provided by RTD. Since then, RTD has made minor adjustments to the bus service in Boulder that reduces service hours and frequency, and is relying on the City of Boulder to cover more costs.

Boulder's portion of the FasTracks sales tax levy paid to RTD in 2015 was $9.3 million, which helped support a variety of FasTracks capital improvements throughout the region. In return, this analysis estimated that an additional $2 million in annualized regional bus service between Boulder and Denver was provided by RTD in the Flatiron Flyer service begun in January 2016.

The next phase of the study will explore the opportunities and challenges of our current service delivery structure and potential alternatives for implementing the Renewed Vision for Transit. This work will continue into 2018.

The current local and regional transit system in Boulder costs approximately $50 million per year to operate. Between now and future system buildout, local and regional operating costs are expected to more than double.

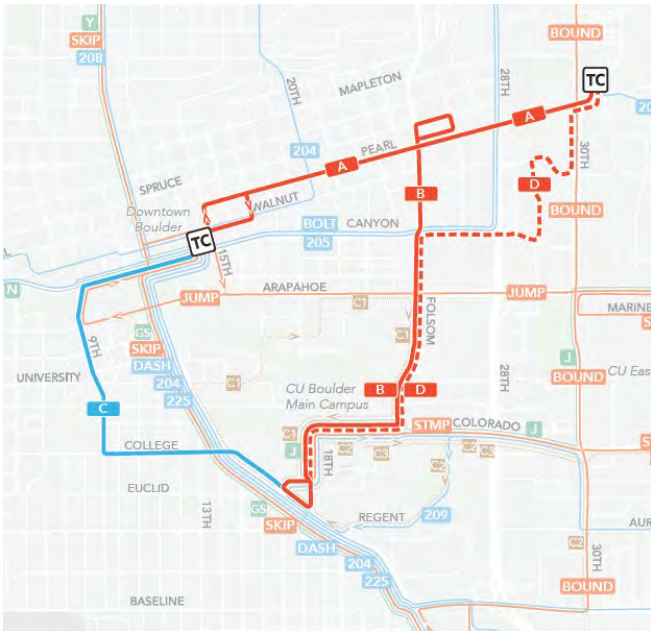
Boulder celebrated our inaugural Bus to Work Day in October 2016 to celebrate those who commute in and to Boulder on the bus. Local organizations and businesses supported the event with refreshments and giveaways at bus stop locations around the city. In 2017, Bus to Work Day expanded regionally to include communities throughout Boulder County.

Bus to Work Day at the Table Mesa/U.S.36 Bus Stop

HOP Transit Study

For the past 23 years, the HOP route has connected CU Boulder, the 29th Street Mall, Downtown, University Hill and now Boulder Junction. The HOP Transit Study was conducted in 2016 and builds on the success of the HOP to enhance customer experience and address changes in land use and transportation options over the last two decades. Based on a technical analysis and public feedback, the planning process will lead to route and service changes, enhanced wayfinding and revised branding in mid-2018. The HOP Transit Study builds on the tradition of a community-driven process that the city has used over the years to design each element of the Community Transit Network (CTN), Boulder's system of high frequency, branded buses such as the HOP and SKIP. More public outreach will begin in 2018 to refresh HOP branding and wayfinding and support new HOP routing in the Fall of 2018. See below for HOP route segments A through D

The debut of the HOP, October 10, 1994



New HOP routes scheduled to be implemented in Fall 2018

Throughout 2016 and early 2017, the city worked with Growing Up Boulder and Whittier International Elementary to engage youth and hear how transit could be improved for people of all ages. As part of the partnership with Growing Up Boulder and Whittier Elementary, the HOP stop at Pearl and 19th Street received a new bench and plaque, and the students developed art murals titled, How Many Bunnies Do You See?, that were installed in all of the HOP buses.

Regional Travel

Boulder's role as a regional economic center and residential growth throughout the metro area and Front Range increase travel on the regional transportation system. City of Boulder works closely with regional partners, including the US 36 Mayors and Commissioners Coalition, Boulder County, Denver Regional Council of Governments, CDOT and RTD, to seek and implement solutions that increase the person-carrying capacity and multimodal "first and last mile connections" for all the major corridors connecting Boulder with surrounding communities.

U.S. 36 Corridor Improvements

The city partnered with the corridor communities, CDOT and RTD to produce corridor improvements that were completed on U.S. 36 in January 2016, including enhanced transit service, express lanes and a commuter bikeway. The Flatiron Flyer provides Bus Rapid Transit (BRT) between Denver, Westminster, Broomfield, Louisville, Superior and Boulder. Average weekday transit ridership increased by 29 percent while auto drive speeds have increased by as much as 29 percent in the peak hours (source: RTD and CDOT). And in 2016, over 70,000 bicycle trips were taken on the adjacent bike path. These integrated, multimodal improvements and collaborative funding provide the model for improvements on other regional corridors.

The FLEX

The FLEX

The FLEX to Boulder began service in January 2016 and has seen continual increases in ridership over the last two years. From early 2016 to early 2017, ridership to and from Boulder increased by approximately 30 percent. The FLEX service to Boulder offers an affordable option for people traveling to and from Fort Collins, Loveland, and north Longmont to Boulder. The FLEX service accepts Eco Pass and College Pass, and provides free Wifi for all riders. Staff expects continuing increases in ridership on the FLEX to Boulder, and will continue to look for ways to invest in more service with corridor community partners.

S.H. 7

The JUMP alongside a cyclist on East Arapahoe / S.H. 7

The S.H. 7 BRT Study was the next step in advancing arterial BRT between downtown Boulder and Brighton and was led by Boulder County with the support and involvement of all jurisdictions along S.H. 7, including the City of Boulder. Starting in 2016, the 12-month study examined the feasibility, operations and cost of S.H. 7 BRT and incorporated findings from the East Arapahoe Transportation Plan. The study recommends intersection design improvements, as well as transit, cycling and pedestrian facilities along the corridor.

S.H. 119

The BOLT in traffic on Diagonal Highway / S.H. 119

1922
City Manager Scott Mitchell proposes streets should be paved. Boulder residents resist having to pay for luxuries like streets, sewers and water systems. Mapleton Hill residents charge he wants to "pave over the city" and get a temporary injunction on paving

1923
Public Service Company takes over management of Boulder Street Railway

1931
Public Service Company purchases a fleet of four Mack buses and the last streetcar is retired on June 1

1940
First traffic signal is installed at Broadway and Arapahoe. It is turned off due to gas rationing during the war and turned back on in February 1945

1946
340 parking meters are installed in downtown

Establishing a more robust multimodal corridor between Longmont and Boulder, including BRT and a separate bike path, is a top regional priority for the city. RTD initiated the S.H. 119 BRT Corridor Study in August 2017. RTD is leading the 18-month study to analyze alternative BRT improvement options between Boulder and Longmont, with the goal of advancing an alternative with broad stakeholder and community support. CDOT's study for a bikeway and managed lanes in this corridor will provide both the design and environmental assessment needed to seek additional funding for improvements.

In addition to these regional transit routes, the City of Boulder and regional partners will work to incorporate managed lanes and commuter bikeways on S.H. 119 and S.H. 7 similar to the recently completed U.S. 36 multimodal corridor improvements.

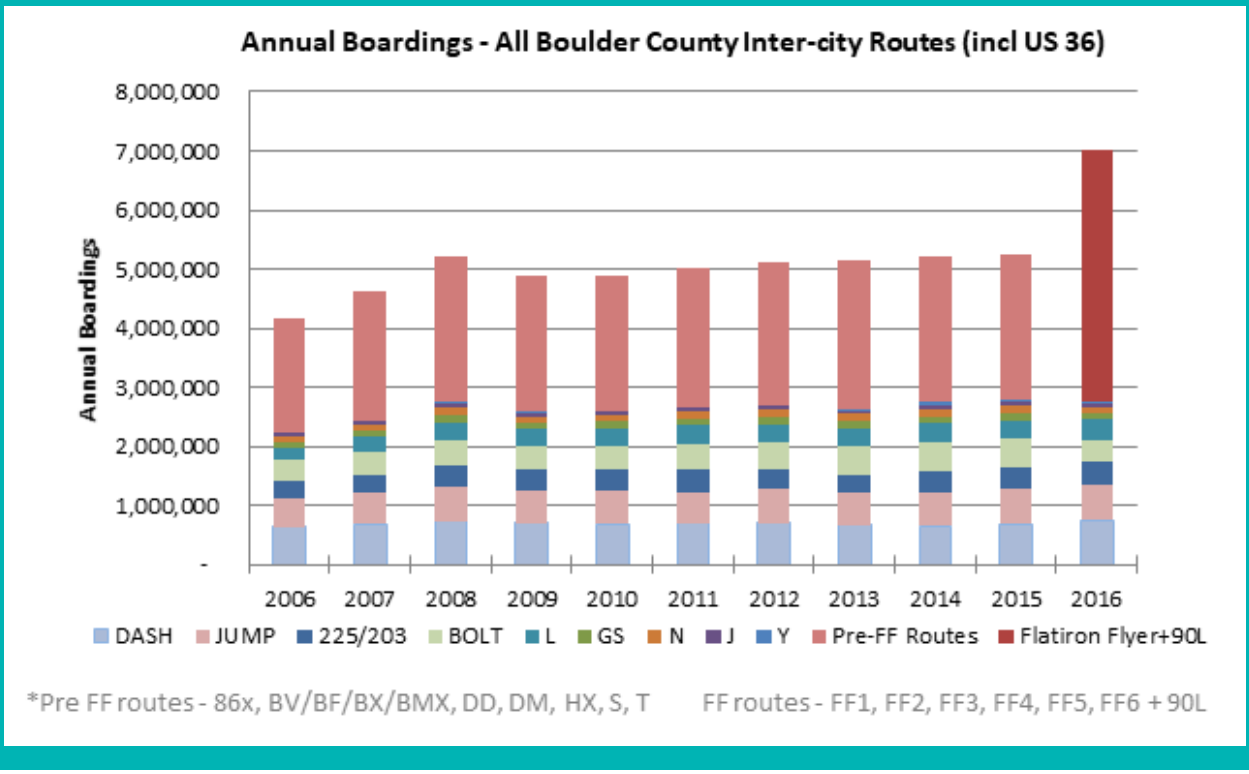
Setting the Record Straight: Regional Trips To Boulder

It is often said that there are 60,000 in-commuters entering and leaving the City of Boulder each day. In reality, there are about 52,000 vehicles entering city limits during the morning rush hour, which is from 6 to 10 a.m. Some of these vehicles may be tourists on vacation, delivery trucks, shoppers, and other people passing through the city. Of the 100,148 jobs in Boulder, the number of jobs held by non-residents employees is approximately 47%. It is important to distinguish between people, jobs, and vehicles - for example, one person may hold multiple jobs, and one vehicle may have multiple occupants. The city recognizes the importance of serving regional trips in alignment with Boulder's sustainability values, regardless of who is making them and why. The city's goal is to connect people and places using all modes of travel in support of the TMP and Climate Commitment goals.

Source: the City of Boulder's Cordon Traffic Counts
Source: BVCP / Community Profile

Regional Transit Ridership

From 2006 to 2016, annual ridership for the Boulder County inter-city RTD network has increased from 4,178,311 boardings (2006) to 7,003,445 riders (2016), an increase of 67%.



Transportation Demand Management

The 2014 TMP calls for transportation demand management (TDM) solutions that offer people travel choices while improving the efficiency of the transportation system. Recognizing that there is very little, if any, room to build additional streets or widen streets in Boulder, TDM helps to find ways to better use the existing system by encouraging the use of transit, biking, walking, and ridesharing transportation network companies (TNC) such as Lyft, Uber, and Z Trip.

The City of Boulder's GO Boulder program provides information on "Great Options" for traveling around the city.

Boulder Valley Employee Survey (BVES) Smartphone App

In order to create successful TDM strategies, staff must understand current travel behavior and trends over time. The BVES tracks trends in travel behavior by both residents and non-residents working in Boulder. City staff has been conducting the BVES since 1990 and uses the results to track progress toward TMP and climate goals and to improve TDM strategies and other transportation programs.

In fall 2017, the city used a smartphone app for the first time for the BVES (a previous version was tested in 2015 as part of the Travel Diary). The smartphone app collects richer data, increases respondent convenience and saves the city money on costs related to data entry, cleaning and analysis. It also provides travel routes for the first time. Results from the 2017 BVES are included here and the BVES report will be available in 2018.

Door to Downtown (d2d) Pilot

The d2d pilot was a joint effort between the city, Rocky Mountain Institute (RMI), Commutifi and ride-hailing services to promote trips to downtown that do not need a parking space. The pilot provided a subsidy for people using TNCs (Lyft, Uber or ZTrip) for rides to downtown during the 2016 holiday season through Valentine's Day 2017. More than five thousand people registered for the pilot, and 2,477 rides were taken. City staff estimate that the amount of money spent on the subsidy was about the same as the estimated city sales tax revenue generated from the spending resulting from these trips.

B-Cycle is one option within the Boulder Junction TDM Access District

Boulder Junction TDM Access District

The Transit Village Area Plan, which gave rise to Boulder Junction, had the goal to create a new pedestrian-oriented neighborhood, integrating with local and regional transit, and allowing for mixed use and increased density without increasing vehicle trips. The district is an example of the city's Access Management and Parking Strategy (AMPS) principles.

Boulder Junction's zoning requires a trip generation allowance of no more than 45 percent of all trips be in single occupant vehicle (SOV). Parking management and code changes allow only one parking space per residential unit, and set parking maximums for commercial developments. Two overlapping general improvement districts collect property taxes to provide shared structure parking, on-street parking management and ongoing TDM programs. Every resident or employee in Boulder Junction receives an EcoPass, subsidized bikeshare membership and a one-time driving credit and application fee waiver for carshare memberships.

1949
Denver-Boulder Bus Company is established with 17 buses running through Lafayette to Denver

1952
Toll road opens with a toll of 25 cents for Boulder to Denver travel. Eight months after opening, traffic is up 11 percent on most arterials

1956
Boulder architects Charles Haertling and Tician Parachristou propose a 20-year plan for closing the downtown to cars from Ninth to 17th and Pine to Arapahoe

1960 Council grants authority to hire the first traffic engineer as numerous intersections produce traffic jams. The city engineer takes on this title. The terminus of the toll road at 28th and Baseline is known as "malfunction junction"

In 2017, the first evaluation of vehicle trip generation showed approximately 58 percent of afternoon peak hour trips were completed in a SOV. While the ordinance target has not been met yet, Boulder Junction is already performing better than the rest of the city outside of the Downtown. As transit service increases in Boulder Junction and new residents and employees are added, innovative TDM programs and services will be added to reach the 45 percent SOV goal.

EcoPass Participation

The RTD EcoPass program remains one of the most effective TDM programs for changing travel behavior. It is estimated that over 82,000 residents, employees and university students have access to an EcoPass. Since 2015, EcoPass program participation has remained fairly stable despite an 18 percent rate increase for businesses and a 13 percent increase for the neighborhood programs. There has been a slight decline in the number of residents eligible to receive Neighborhood EcoPass programs, as some program boundaries shrank in response to rate increases by RTD. However, with expansions in business program and CU enrollment, as well as the addition of Boulder Junction, the number of employees, residents and students with access to the EcoPass has increased by more than 6,000 since 2015.

EcoPass Estimates	2015	2016	2017
College Pass Program	32,945	34,235	34,735
CU Faculty and Staff	7,914	8,286	8,684
CAGID Downtown Program	6,613	6,702	6,864
UHGID University Hill	0	383	343
Boulder Junction Business	68	96	689
Boulder Junction NECO	303	423	417
Business Program BECO	16,137	17,191	19,275
Neighborhood Program	11,619	11,709	11,298
Total	**75,599**	**79,025**	**82,305**

Advanced Mobility

An autonomous shuttle created by EZ Mile

Advanced Mobility includes existing and future transportation options enabled by new technologies, from ride sharing services to cars that "talk" to one another ("connected vehicles") to autonomous vehicles (AVs). Many experts are predicting these technologies will result in a massive shift in how Americans travel with significant impacts across society. These new and emerging technologies will not only shape how we move around as individuals but also have major implications for transportation planning for the City of Boulder. A staff working group has been considering potential city policies and potential updates to complete streets and parking codes. The 2018-19 TMP update will have to consider Advanced Mobility technologies as a major factor in the future.

As part of the Future Is Here series, on Oct. 18, 2017, the city and Boulder Chamber co-sponsored a panel discussion with national practitioners and researchers on Transportation Network Companies, AVs, sustainable mobility, and Mobility as a Service. This session was the start of a community conversation that will continue through the TMP update. The challenge and opportunity with Advanced Mobility is how these services and technologies can support our community goals of an accessible and connected community, neighborhood livability, economic vitality, sustainability, and reduced vehicle miles traveled and greenhouse gas reduction.

1964 Boulder hires first full time traffic engineer who is given authority to install stop signs and traffic signals without a City Council hearing and approval

1967 Toll stations close as U.S. 36 pays off its bonds 13 years ahead of schedule

1969 The Regional Transportation District is created

1964 On the second try, voters approve a better defined sales tax for capital expenditures

1967 One cent sales tax passes with 0.6 cents dedicated to transportation and 0.4 cents dedicated to open space

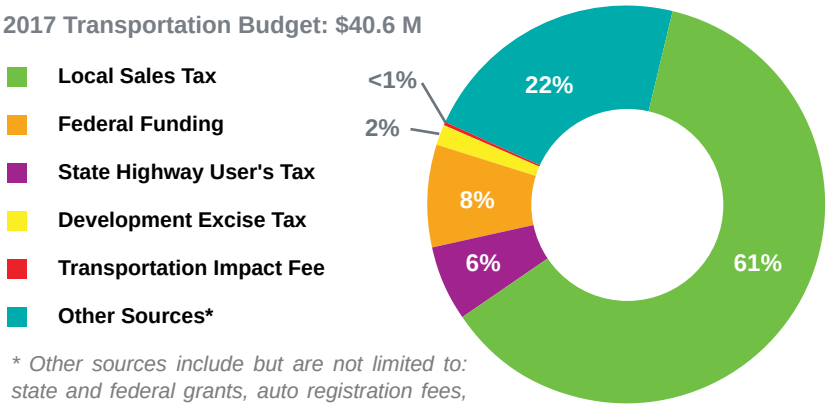
1970 Debut of the boulder bikeway system from the Boulder Public Library to Scott Carpenter Park

Funding

The 2014 TMP provides the policy framework for the city's transportation investment supporting a safe, balanced, sustainable and multimodal transportation system. The TMP investment policies prioritizes safety, operations and maintenance of the existing system, followed by efficiency improvements and multimodal enhancements.

Using Current Funding Wisely

In 2017, the city's adopted budget for transportation was $40.6 million, including $8.8 million in capital improvement projects. A variety of revenue sources contributed to funding transportation investments including the local voter approved sales tax funding since 1967.



** Other sources include but are not limited to: state and federal grants, auto registration fees, highway maintenance contracts.*

The city has historically been very successful in leveraging funding, competing for federal funds in a regional process to average more than $2 million in federal funds per year since 2000. Given the volatility of sales tax revenue, declining federal funds, stagnant state funding and the limited duration of some existing funding relative to the continuing need, the city continues to explore options for sustainable, diverse and long-term transportation funding strategies.

Transportation Impact Fee and Development Excise Tax

As part of the scheduled update of city-wide impact fees and excise taxes, the city increased the transportation development excise tax (DET) and implemented a new Transportation Impact Fee (TIF) in July 2017. Impact fees and excise taxes are paid by new commercial and residential developments and contribute to the funding of the city's Capital Improvement Program (CIP). The new TIF was designed using a next generation, plan-based approach that ensures that new developments pay their share of planned capital improvements of the city's multimodal transportation system based on their generation of new vehicle and person trips.

Crews work on the 28th Street multi-use path.

1970
City Transportation Division is formed. Boulder has 155 miles of roads, of which 13 miles were still unpaved

1970
The Central Area General Improvement District (CAGID) forms to provide parking and related improvements in downtown

1971
City Manager Ted Tedesco asks Council to appoint a Citizens' Advisory Committee on Public Transportation

1972
Voters turn down bond proposal for transportation improvements including a quarter of the spending for bikes

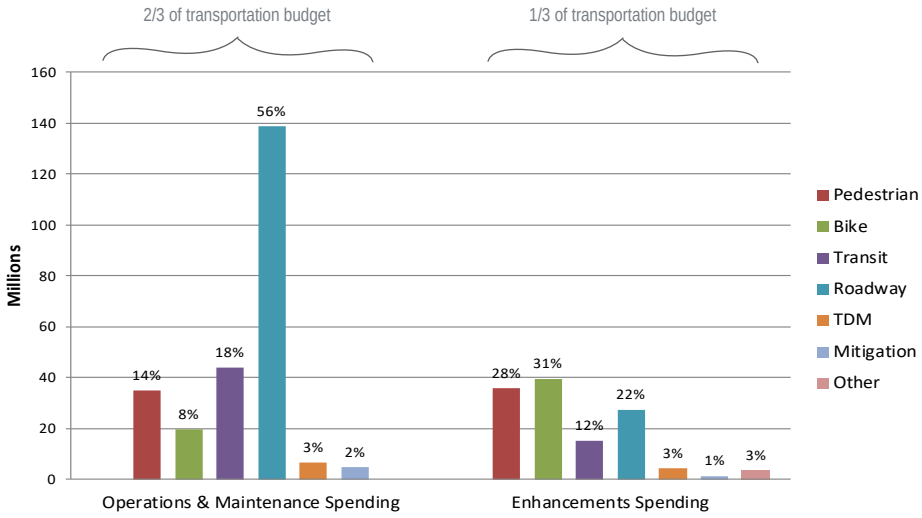
1973
A half-cent sales tax is approved to fund RTD, though it fails in Boulder and Douglas counties

1974
RTD takes over the Boulder bus system from Public Service Company

Aligning Priorities and Funding

To ensure that transportation spending aligns with community values, the city tracks expenditures by mode, identifying how maintenance and operations activities and capital improvements are allocated. Since 2001, two-thirds of Boulder's total transportation spending has supported operations and maintenance of the existing system, including subsidies to transit services, and the remaining amount has gone to enhancements of the system. Roadways account for 56 percent of the money spent on operations and maintenance, receiving more than $155 million over that time. Remaining funds were allocated over the other spending areas, as depicted to the right.

City Transportation Spending by Mode, 2001 through 2016 (includes federal funds)



Railroad Quiet Zones

As an example of leveraging local funds with federal grants, the city has received a one million dollar federal grant though DRCOG to create "quiet zones," at-grade railroad crossings that include physical infrastructure and warning systems so that train engineers are not required to sound the train horn at the crossing. Technical analysis of the nine Boulder-area railroad crossings and a series of public open house events and neighborhood meetings led to a recommended prioritized list of railroad crossing improvements. The list prioritizes Boulder Junction area crossings at Pearl Parkway, Valmont Road and 47th Street. The quiet zone improvements are expected to be completed in 2018–19. Staff continues to work with Boulder County and other agency partners to leverage resources and seek additional funding to complete the remaining improvements needed to create quiet zones for all the Boulder area crossings over time.

1976
Pearl Street Mall opens and 27th Street South Link is under construction

1976
The Broadway Path is completed

1977
Boulder and Boulder County adopt the Boulder Valley Comprehensive Plan, which calls for many street to be widened and extended

1976
Pearl Street Mall opens and 27th Street South Link is under construction

1977
First pedestrian conference is held

1977
First Bike to Work Day is celebrated in Boulder

Integrate with Sustainability Initiatives

The fifth Focus Area of the 2014 TMP emphasizes citywide integration under Boulder's Sustainability Framework, which seeks to ensure city-wide collaboration toward resiliency and long-term community health.

Reflecting the Boulder Valley Comprehensive Plan (BVCP) Update

OUR LEGACY. OUR FUTURE. BOULDER VALLEY COMPREHENSIVE PLAN

The BVCP establishes the overall community, environmental and sustainability goals for the city and Boulder County. The BVCP update was approved in July 2017 and includes refined concepts and policies related to resiliency and sustainability, and alignment with the TMP. The BVCP supports mixed use, pedestrian oriented design, TDM, parking management and supports the TMP goals and objectives, including mode shift and walkable neighborhoods. Future sub-area planning will be an opportunity to further integrate land use and transportation planning.

Responding to Climate Change

City Council approved the Climate Commitment in 2017, affirming the community's goal of an 80 percent reduction in greenhouse gas (GHG) emissions below 2005 levels by 2050. Currently, ground transportation accounts for 28 percent of GHG emissions in Boulder, and the strategies outlined in the 2014 TMP would reduce transportation GHGs by about 16 percent while accommodating an increasing number of trips. Meeting the community's climate goals will require a combination of future TDM actions, land use changes and the transition to clean fuels in both the auto and heavy vehicle fleets.

CITY OF BOULDER CLIMATE AND ENERGY GOALS

80 x 2050	80 x 2030	100 x 2030	100 x 2030
COMMUNITY EMISSIONS REDUCTION	CITY ORGANIZATION EMISSIONS REDUCTION	PERCENT CLEAN ELECTRICITY	MEGAWATTS LOCAL GENERATION

Boulder's Sustainability Framework

The City of Boulder is continuously working to provide service excellence for an inspired future and this effort, the sustainability framework helps to provide a common language for community and City Council goals and priorities and ensure consistency. The framework uses seven broad categories as outcomes necessary for Boulder's vision of a great community. Strategies to achieve those outcomes are developed and advanced in the annual budget as well as strategic and master plans.

Safe Community
- Enforces the law, taking into account the needs of individuals and community values
- Plans for and provides timely and effective response to emergencies and natural disasters
- Fosters a climate of safety for individuals in homes, businesses, neighborhoods and public places
- Encourages shared responsibility, provides education on personal and community safety and fosters an environment that is welcoming and inclusive

Healthy & Socially Thriving Community
- Cultivates a wide-range of recreational, cultural, educational, and social opportunities
- Supports the physical and mental well-being of its community members and actively partners with others to improve the welfare of those in need
- Fosters inclusion, embraces diversity and respects human rights
- Enhances multi-generational community enrichment and community engagement

Livable Community
- Promotes and sustains a safe, clean and attractive place to live, work and play
- Facilitates housing options to accommodate a diverse community
- Provides safe and well-maintained public infrastructure, and provides adequate and appropriate regulation of public/ private development and resources
- Encourages sustainable development supported by reliable and affordable city services
- Supports and enhances neighborhood livability for all members of the community

Accessible & Connected Community
- Offers and encourages a variety of safe, accessible and sustainable mobility options
- Plans, designs and maintains effective infrastructure networks
- Supports strong regional multimodal connections
- Provides open access to information, encourages innovation, enhances communication and promotes community engagement
- Supports a balanced transportation system that reflects effective land use and reduces congestion

Environmentally Sustainable Community
- Supports and sustains natural resource and energy conservation
- Promotes and regulates an ecologically balanced community
- Mitigates and abates threats to the environment

Economically Vital Community
- Supports an environment for creativity and innovation
- Promotes a qualified and diversified work force that meets employers' needs and supports broad-based economic diversity
- Fosters regional and public / private collaboration with key institutions and organizations that contribute to economic sustainability
- Invests in infrastructure and amenities that attract, sustain and retain diverse businesses, entrepreneurs and the associated primary jobs

Good Governance
- Models stewardship and sustainability of the city's financial, human, information and physical assets
- Supports strategic decision-making with timely, reliable and accurate data and analysis
- Enhances and facilitates transparency, accuracy, efficiency, effectiveness and quality customer service in all city business
- Supports, develops and enhances relationships between the city and community/ regional partners
- Provides assurance of regulatory and policy compliance

1980
After 17 neighborhood meetings, the paving of Goss Grove Street is completed along with traffic control measures

1985
Construction on the Boulder Creek Path begins, including flood mitigation, channel restoration and the multimodal path

1989
Creation of GO Boulder.

1989
First Greenways Plan is adopted. Adoption of first Transportation Master Plan, which calls for a 15 percent modal shift

1989
TMP calls for shifting travel from single occupant vehicle trips.

Access Management and Parking Strategy

The multiyear AMPS process, conducted between 2014 and 2017, produced a final report of the principles in alignment of the TMP which include providing for all transportation modes, customizing tools by area, supporting a diversity of people, seeking solutions with co-benefits, planning for the present and future, and cultivating partnerships. Examples of this include:

Chautauqua Access Management Plan (CAMP)

The Chautauqua Access Management and Parking (CAMP) program was designed to manage transportation access to and from the Chautauqua area during the peak summer period in ways that minimize vehicular and parking impacts to surrounding neighbors, visitors and the area's natural and cultural resources. In the summer of 2017, a pilot program provided managed and paid parking on weekends at Chautauqua paired with a free shuttle service from satellite parking lots, providing access for visitors and employees. Operating 936 total hours of service, the free Park to Park shuttle had 22,933 boardings over the course of the pilot, which equates to an average of 882 boardings per day. The city also worked with Commutifi and Lyft to provide subsidized trips to and from Chautauqua. The city also implemented a temporary Neighborhood Parking Program (NPP) north of Chautauqua.

In addition, staff worked with the employers at Chautauqua to develop a TDM plan for all employees at Chautauqua. TDM strategies for employees included limiting parking passes, a parking cash-out program paying $3 per day for not parking on site, and meal credits at the Dining Hall for not driving. Employees were also encouraged to use remote lots and the shuttle service. Prior to the start of the pilot, 78 percent of employees drove alone to work. Results of post-pilot employee questionnaires indicate that driving alone to work reduced by approximately 18 percent over the 13 weekends of the pilot, due to a slight increase in carpooling and with 10 percent of employees regularly using the Park to Park shuttle service from designated lots. During the pilot, approximately 20 percent of employees tried the shuttle at least once during the pilot.

Passengers riding the Park to Park shuttle

Civic Area Improvements

To support reconstruction of the Civic Area and the resulting reduction in parking supply, a new parking management and TDM incentive program was implemented for city employees, including parking cash-out and satellite parking. These strategies resulted in a 34 percent increase in participation by city employees. Going forward, the city is coordinating land use and transportation planning for the Civic Area East Bookend, including options for the Downtown Boulder Transit Station, as part of the on-going Central Broadway Planning Projects.

New Civic Area park improvements: 2017

Project Spotlight: Boulder Junction

Boulder Junction **has continued to develop as a new pedestrian-oriented neighborhood in the center of Boulder. Anchored by the RTD's Depot Square Station and supported by a comprehensive access management and TDM program, significant construction has occurred over the last two years. Projects built or under construction have produced over 900 new residential units including 175 that are permanently affordable. More than 300,000 square feet of commercial space will be added, including a variety of uses in the 10 acre S'PARK, the first development in Colorado aiming for the LEED-ND Platinum designation, the highest available for sustainable development. The city-owned site at 30th and Pearl is also moving forward. The selected development team has proposed 304 residential units with 161 being permanently affordable.**

Boulder Junction is also demonstrating a variety of sustainability features in the public realm, including permeable brick pavers, Silva cells for street tree health, wirelessly controlled LED street lighting and the recycling of removed materials. Boulder Junction is a great example of AMPS in action.

Other Key Projects:

Other examples of city projects and partnerships include:

- City Resiliency Strategy

  While Boulder has long planned for floods and wildfire, following the 2013 floods the city embarked on an integrated effort to develop a Resilience Strategy to "adapt to and thrive in a changing climate, economy and society," approved by council in 2016. Continued work with the 100 Resilient Cities program of the Rockefeller Foundation aims at spread these strategies throughout the community."

- City Scenario Development Effort

  Recognizing that the future is likely to be more uncertain, this project aims to provide the tools for city planning efforts to consider a wider range of potential futures to produce more adaptable plans reducing future vulnerabilities for a wider range of futures.

1990
Creation of Downtown Bus Pass by downtown businesses

1991
New federal transportation legislation (ISTEA) provides supportive national policy

1990
First city travel diary travel survey

1991
CU students vote by a margin of 4 to 1 to increase student fees to turn their student ID's into unlimited-use bus passes

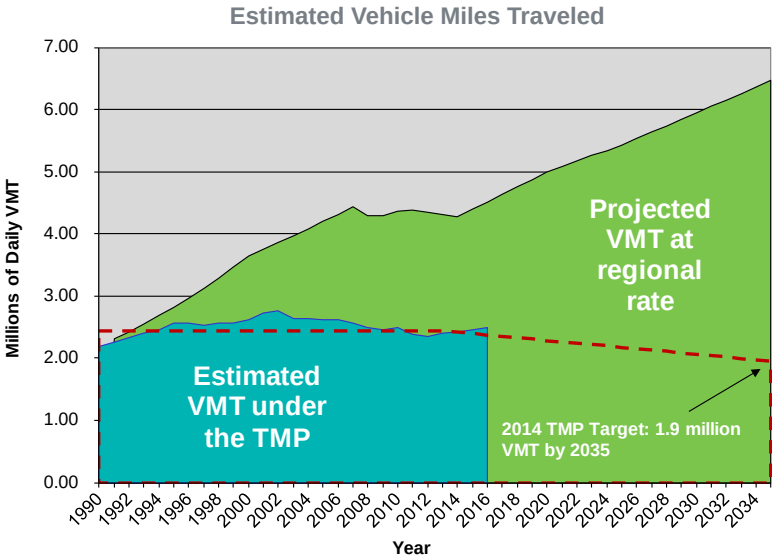
Progress Toward Nine Objectives

The 2014 TMP emphasizes performance measurement as part of a balanced, multimodal and sustainable transportation system. Nine measurable objectives were identified in the 2014 TMP. This section is an assessment of how Boulder has performed so far in achieving the nine measurable objectives and the actions anticipated to promote continued progress.

Objective 1:

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

Vehicle Miles of Travel (VMT) is estimated by a combination of regional modeling and counting cars entering Boulder at key locations and at intersections.



Source: City of Boulder VMT estimates and DRCOG 2014 Annual Report on Roadway Traffic Congestion in the Denver Region.

Progress Snapshot

The estimated number of vehicle miles traveled (VMT) per day in the Boulder Valley remains about 2.5 million, which is slightly above the previous level from 1994. The 2014 TMP set a target of 1.9 million miles per day by 2035– a 20 percent reduction–to support the Boulder's Climate Commitment.

What This Means

Boulder's Climate Commitment seeks to reduce the greenhouse gas (GHG) emissions produced by the community, which is reflected in the 2014 TMP. The new VMT objective supports reducing transportation GHG emissions an additional 16 percent by 2035. Achieving this goal means Boulder needs to further reduce VMT for both residents and nonresident employee trips by 20 percent, though we have not seen progress on this in the last four years.

Next Steps

Success to date in reducing VMT has depended on improving travel options, providing incentives such as the EcoPass and reducing the subsidies to auto travel such as free parking. Continued progress will require ambitious and significant new actions across all these areas. Potential examples are a community-wide EcoPass, expanding Access Management Districts using Boulder Junction as a model, reallocating street space to make biking and walking safer, and implementing corridor studies to improve the speed and reliability of local and regional transit connections.

Objective 2:

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

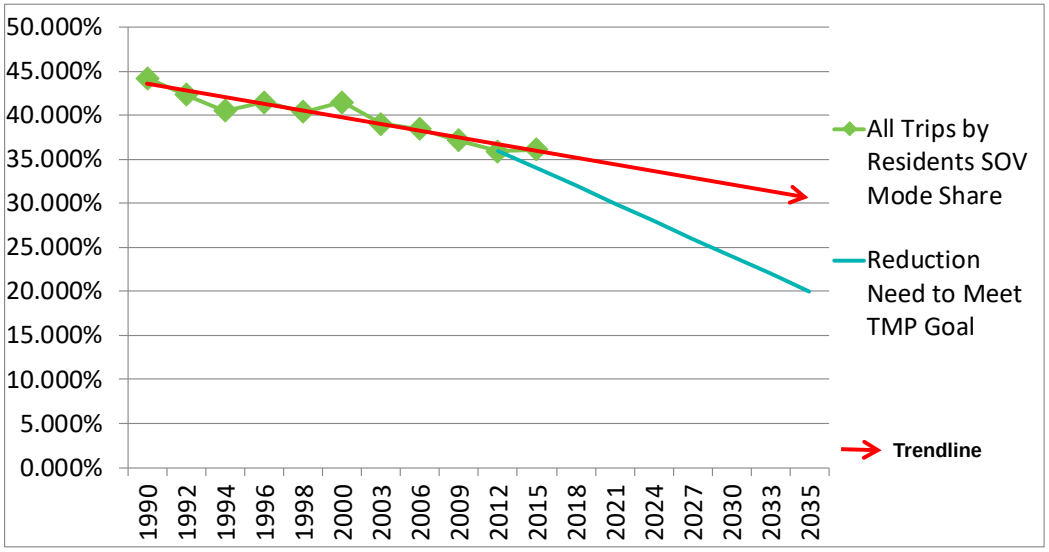
One aspect of reducing VMT is to reduce the number of trips made by one person driving alone in a car, called the "single occupant vehicle" (SOV) mode share. The TMP calls for reducing SOV mode share to 20 percent of all trips by Boulder residents by 2035.

Progress Snapshot

Since 1990, city residents have increased transit and bicycle use, while walking has remained relatively stable and single occupant vehicle use has declined. This chart is based on travel diary surveys of city residents only. The city uses these survey results to track changes over time, rather than to provide a national comparison, as survey methodologies differ significantly.

All Trips by Residents SOV Mode Share Trends

Source: 2012 Mode Shift Report, 1990-2012
2035 TMP goal: Reduce SOV trips to 20% of all trips.



The recent 2017 Boulder Valley Employee Survey shows 48 percent of employed Boulder residents driving to work alone, down from 59 percent in 2011. While this represents significant change in travel behavior by Boulder residents, the survey found that 78 percent of non-Boulder residents make SOV trips to work, which is unchanged from 1991.

What This Means

While Boulder has made progress—and areas of the city with paid parking, including downtown and the CU campus, are on track to achieve or exceed the objective—the community as a whole is not on track to reach the 2035 target for reducing SOV trips. Since 1990, resident SOV trips have been falling by about 0.4 percent per year. That rate needs to double to 0.8 percent per year to reach the current objective by 2035. Non resident SOV mode share has remained around 80 percent since 1991

Next Steps

Today, each resident takes an average of about 12 trips per week in an SOV. If each resident shifted slightly more than six of those trips per week to other modes, this objective would be reached. A combination of additional investments, new TDM and parking policies, and creating more opportunities for trips made by walking and biking are needed for residents to shift more trips.

The challenge is much greater for nonresident employees, and solutions need to include better regional transit and expanded vanpool and carpool connections and shared-ride TNCs.

To help both groups, the city will pursue first and last mile strategies to link people biking and walking to transit, including enhanced amenities and continue to improve maintenance standards to keep routes free of snow and ice to enable multiple modes of transportation year-round and continue working with regional agencies and partners to advance more commuter transit options.

1992
College Avenue underpass is constructed in partnership with CU

1993
Neighborhood EcoPass program starts

1994
In October, HOP high frequency service starts, linking CU, downtown and Crossroads Mall. It is started with the first round of awards from the new ISTEA federal funding bill

1994
Special Transit helps HOP high frequency service pass its ridership goals within the first six weeks of service

Objective 3:

Achieve a 16 percent reduction in greenhouse gas emissions and continued reduction in mobile source emissions of other air pollutants.

Reducing air pollution from transportation is a long-standing community objective. Reducing VMT and increasing the fleet of clean fuel vehicles, especially electric vehicles and electric transit vehicles, are two strategies for meeting this objective.

Progress Snapshot

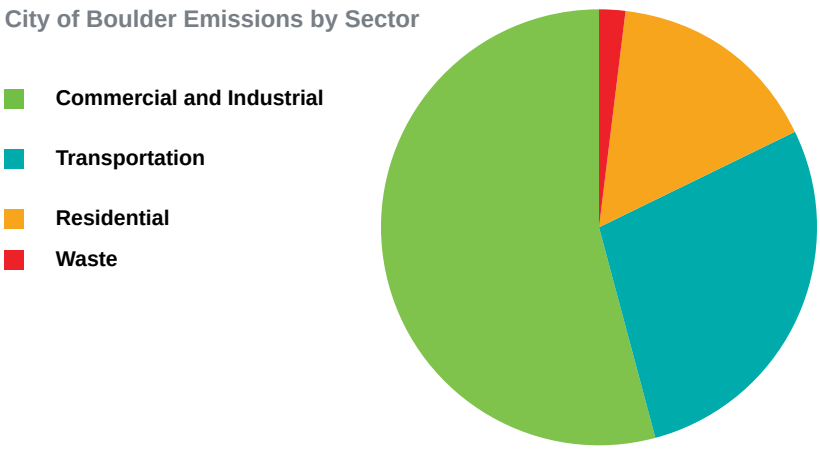
The city's 2017 Climate Commitment shows that vehicles in Boulder's transportation system currently produce 28 percent of the city's total GHG emissions. Based on analysis conducted as part of the 2014 TMP, the majority of these emissions are produced by Boulder residents, although nonresident employees produce about 17 percent of the total. Heavy vehicles such as trucks and transit vehicles produce a disproportionate share of transportation GHGs (21 percent) relative to their VMT (5 percent), highlighting the need to clean the fuel source of this fleet.

What This Means

Transportation related GHG emissions will likely be the most difficult to reduce of the three major sectors covered in the Climate Commitment. This is due to the need to develop the technology and behaviors to achieve these goals. The 2014 TMP analysis estimates that the strategies in the plan would reduce transportation GHG about 16 percent. An additional 40 percent reduction in the transportation sector is needed to meet the city's climate goals. This GHG reduction is directly related to reducing VMT, providing the opportunity for more trips to be short trips made by walking or biking and increasing the use of shared and clean energy electric vehicles (EVs). Nonresident employee trips are long distance with a large GHG impact, highlighting the importance of improved transit into Boulder and the need to electrify the transit fleet.

Next Steps

While Boulder residents continue to reduce their SOV mode share, the mode share of nonresident employees has not changed since 1991. Faster and more reliable and predictable transit, carpool and vanpool connections and improved first and last mile connections are needed to decrease SOV mode share for commuters. Regional corridor studies on the Diagonal Highway (S.H. 119) and East Arapahoe Avenue (S.H. 7) support providing these improvements. The city also supported recent grant applications with Via resulting in funding for electric-powered transit vehicle replacement as well as broader community programs to encourage accelerated adoption of EVs for personal and fleet vehicles. The city is also increasing its transportation demand management (TDM) and parking programs to support non-SOV trips by nonresident employees.



1996
TMP sets an objective of "no long term growth in vehicle traffic" to limit the environmental and community impacts of auto travel.

1997
SKIP high frequency service replaces the 202 on Broadway

1998
CU faculty/staff EcoPass is started

1998
First Circle Boulder by Bicycle ride, now called the Boulder 360

Objective 4:

No more than 20 percent of roadways congested at Level of Service E or F

The 2014 TMP calls for minimizing the number of heavily congested intersections to maintain efficient travel by all modes of transportation. In this case, "heavily" refers to congestion that is causing motor vehicles to wait through more than one traffic signal cycle. The transportation profession identifies this as a Level of Service (LOS) E or F condition. LOS is calculated using federal methodology for the city's 140 signalized intersections during the three daily peak periods of a typical weekday.

Progress Snapshot

The percentage of heavily congested intersections (11 percent) is well below the TMP goal of 20 percent and significantly less than the 1998 Baseline metric. The percentage of heavily congested intersections did increase from 9 percent to 11 percent over the last two years. This is consistent with increasing traffic counts over the same time period.

What This Means

Boulder staff use a combination of turning movement counts, traffic signal timing and phasing and intersection geometry to calculate the level of service (LOS) for each of the 140 signalized intersections in the city. Signalized intersection LOS is calculated every two years using federal methodology during the three daily peak periods of a typical weekday. The recent increase in congestion means about 13 intersections were heavily congested in 2015 and about 15 intersections in 2017. The percentage increase during the morning, noon and afternoon peaks was greater than 1 percent for each time period.

In addition to calculating the signalized intersection LOS at these locations, since 2015 the city has also tracked the number and percentage of vehicles of vehicles that experience heavy congestion during the peak hours. The 2017 analysis shows that there were marginal decreases in a.m and noon but an increase in this metric of 14 percent during the p.m. peak hour. The p.m. peak hour has the most congestion, and the percentage of vehicles encountering heavy congestion increased from 9 to 10 percent during this time period. The 2017 percentages of vehicles entering intersections and experiencing congestion at peak hours are shown below.

Percent of Signalized Intersections at LOS E or F Over Time

2017 Total Entering Volumes and Vehicles Experiencing LOS E or F

Peak Hour	Total Entering Volume	# of entering vehicles experiencing LOS E or F	% of entering vehicles experiencing LOS E or F
a.m.	291,060	16,848	6%
noon	282,590	8,438	3%
p.m.	361,803	35,308	10%
Total	935,453	60,594	6%

Source: 2017 City of Boulder Signalized Intersection Level of Service Technical memo by Fox/Tuttle/Hernandez.

The finding that the number of vehicles experiencing LOS E or F has increased at a greater rate than the number of intersections with LOS E or F suggests that the busiest intersections are becoming more congested. This is likely because overall traffic volumes entering, exiting and traversing the city on major arterial roadways are increasing, as described below.

Next Steps

Many members of the community have expressed concern about the level of congestion they experience on Boulder's roadways and that their experience is not represented by the city's findings as it pertains to LOS, traffic counts or travel delay. City staff will be investigating the methodology that we use to assess congestion and performance in this metric area as part of the upcoming 2018 Transportation Master Plan update with a goal of using the most state of the art technology to create performance measures that more accurately reflect the experience of our community. In 2017, the city began documentation and review of the current traffic signal practices including a national peer city review of best practices in this area. The goal of this effort is to ensure that the city's practices align with all of the TMP goals. This includes alignment with Vision Zero, and the need to balance practices which enhance safety with other TMP goals such as minimizing congestion and encouraging

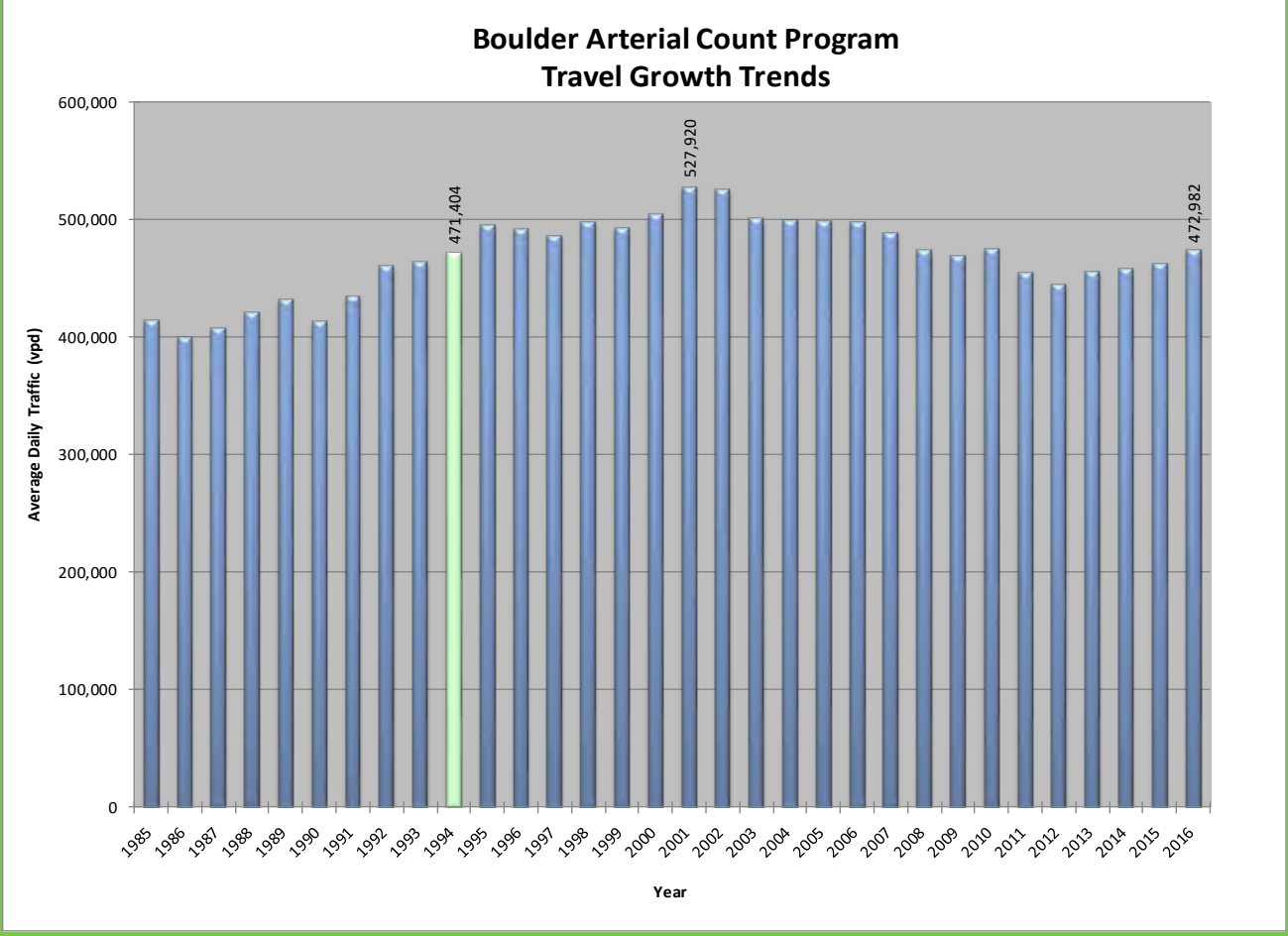
mode shift. This effort is scheduled for completion in 2018 with the development of an implementation plan for change in traffic signal infrastructure and operations. It is anticipated that this project will result in additional congestion at some intersections in support of the city's safety objectives. In the long-term, avoiding increases in congestion will require continued shifts in travel mode, as noted in other TMP objectives.

Travel Time Measures

In addition to measuring the overall LOS at signalized intersections, the city collects other data on vehicle movements. These include average daily traffic counts each year at 44 distinct locations in and around the City of Boulder. These counts represent traffic entering and exiting the City of Boulder and traffic on key arterial roadways within the City. Travel time studies for three north/south and three east/west arterial roadways are also periodically measured.

- **Traffic volumes on key arterial roadways internal to the city have increased by approximately 6 percent between 2012 and 2016 but are almost 10 percent lower than the peak seen in 2001 (see graph below).**
- **Traffic volumes on roadways entering the city have grown at more than 1 percent in both 2015 and 2016 but are still 3 percent below the peak volumes seen in 2003.**
- **Travel times to traverse the Broadway, 28th Street and Foothills Parkway corridors have increased by 8 percent, 12 percent and 3 percent, respectively, between 2014 and 2016.**

All of this data is collectively used to assess changes in traffic within the City and the corresponding congestion during peak periods.



Objective 5:

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

Boulder is committed to providing transportation options for everyone in the community. Close to one-third of the population does not drive due to age or infirmity, and transit access is a key aspect of mobility for this population.

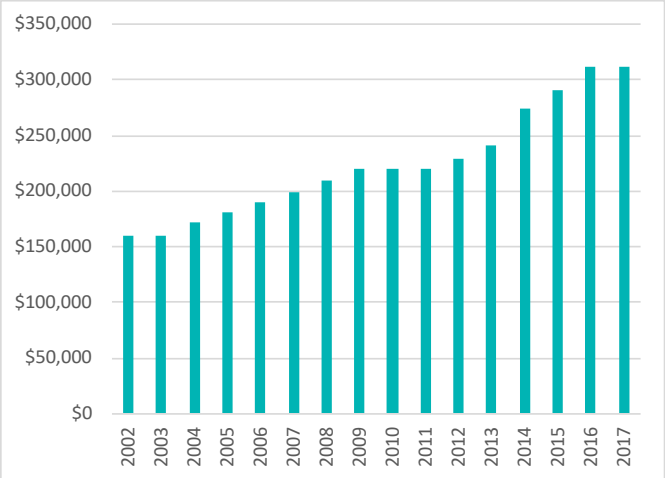
Progress Snapshot

The 2016 American Community Survey shows that people residing in Boulder continue to travel to work in ways different from Denver, the region or the United States as a whole. These results parallel the trends in the city's surveys that show these mode shares have increased over time. Boulder residents are almost five times more likely to walk, bike or use transit than the average resident of the Denver region.

What This Means

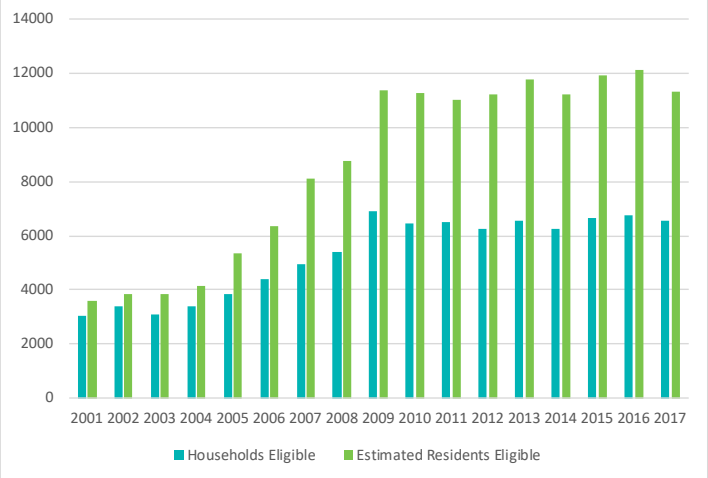
The city works to expand access to walking and biking facilities and transit and paratransit services. In addition to building facilities, the city increases access to transit by making contributions to Via Mobility Service, the area's provider of paratransit service, and by subsidizing EcoPasses to make them available to the community. The city has significantly increased its funding contributions to Via and to expand the EcoPass program. The city is participating in an RTD regional pass study exploring the future of all RTD pass programs. Expected increases in the elderly population means their mobility is a local, regional and national issue, requiring additional attention and funding.

City Payments to VIA



Source: City of Boulder budget documents.

Resident EcoPass Eligibility



Source: City of Boulder EcoPass program.

The city also invests in capital improvements to meet Americans with Disabilities Act (ADA) design guidelines through its Annual Sidewalk repair and Street pavement maintenance programs. In 2016 and 2017, a total of 450 curb ramps were installed or upgraded.

Next Steps

The ongoing RTD pass study will determine the cost and feasibility of providing any future pass programs to residents and workers in Boulder or Boulder County. Recommendations from the study are expected in 2018. City staff and members of council are continuing to participate in RTD's process and providing updates to the Boulder community. The city has also finished the first phase of the Transit Service Delivery Study, designed to look at service options and potential funding for implementing the TMP's vision for greatly increasing transit service and this work will continue in 2018 as well.

2001
JUMP, LEAP and BOUND services begin

2003
U.S. 36 EIS process begins to identify multimodal transportation improvements for the corridor

2003
TMP creates three investment programs and four Focus Areas for improvement

2003
DASH high frequency service begins in partnership with Louisville

Objective 6:

Increase transportation alternatives commensurate with the rate of employee growth.

As the number of jobs in Boulder increases, the transportation system needs to provide improved local and regional travel choices to areas with employment growth and redevelopment.

Progress Snapshot

In 2017, 63 percent of trips to and from work by Boulder Valley employees, including both those who live in Boulder and those who don't, were made in single occupant vehicles, a statistically significant decrease from 68 percent in 2014. In 2017, 5 percent of trips to and from work were made only on transit and 8 percent were multimodal, a significant increase. As most of these multimodal trips include transit as a portion of the trip, transit ridership has increased from 9 percent transit and over 1 percent multimodal in 2014.

One way to track progress toward this objective is presented in the following table, which shows the growth of workers in Boulder and changes to the transit and bike system. The table does not reflect all major capital improvements or planning efforts to provide travel choices. Since the last report, these include completion of the Diagonal Highway (S.H. 119) reconstruction and the Baseline underpass, as well as the East Arapahoe (S.H. 7) study to improve regional transit connections. Additional capital construction is expected east of 28th Street, where the transit, bike and pedestrian systems are less developed.

Boulder Employee Growth and Transit Ridership

	2002	2016	Percent Change
Estimated Boulder Employees	84,530	100,148	18.48%
Local Transit Service Hours	215,074	195,202	-9.24%
Avg. Local Weekday Ridership	18,631	19,848	6.53%
Regional Transit Service Hours	100,956	152,786	51.34%
Avg. Regional Weekday Ridership	7,446	15,876	113.22%
Centerline Miles of Bike system	138	179	23.19%

Source: 2017 Boulder Community Profile, Nataly Erving of RTD and City GIS inventory

Boulder Employee Growth and Transit Ridership

What This Means

The city and Boulder County both provide funding for RTD transit service to preserve the CTN transit service frequency and increase the regional transit service available to workers. The BOLT, DASH and FLEX services to surrounding communities and between Fort Collins and Boulder have significantly increased regional transit connections. However, RTD continues to reduce the number of local transit service hours and budget forecasts for the next six years call for additional reductions. Expansion of the bike system has more than kept pace with the rate of employee growth. The new U.S. 36 Bikeway that opened in March 2016 further adds regional bikeway options.

Next Steps

As the eastern part of the community matures, there will be opportunities to increase and complete the non-auto transportation systems in these areas. The Renewed Vision for Transit calls for additional facilities and services throughout the community. RTD and CDOT are looking at new BRT and bikeway options on S.H. 119, and the city along with Boulder County are collaborating on the East Arapahoe (S.H. 7) BRT Study.

2004
City and RTD purchase Pollard property for the bus facility to anchor what will become the Boulder Junction transit-oriented development

2004 FasTracks passes

2004
BOLT service starts in partnership with Boulder County and Longmont

2007
Adoption of Transit Village Area Plan with strong parking and TDM elements

2008
Adjusted to the FasTracks regional transit services.

2008
Boulder receives Platinum designation for Bicycle Friendly Communities

Objective 7:

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

The city works to provide a safe and efficient transportation system for people using all modes of travel. Vision Zero is a TMP policy to eliminate fatalities and serious injuries for people using all modes of travel and builds on similar national and international efforts.

Progress Snapshot

In 2016, the city published the second edition of the Safe Streets Boulder Report (SSBR). This report reviewed crash data between 2009 and 2014 and identified overall trends in collisions occurring in the City of Boulder as well as strategies for future mitigation. Below you will find traffic collision data that builds off of the SSBR to include data from 2015 and 2016.

- From 2009 to 2016, the city averaged 2,835 reported collisions, almost 60 serious injuries and approximately 2 to 3 fatalities per year.
- The percentage of collisions involving serious injury or fatality are highly variable and but remain at 2 percent of the total over this eight-year span.

Supplementary information provided in the 2016 SSBR:

- Crashes involving bicyclists, pedestrians and impaired or distracted people were all over-represented in the percentages of serious injury and fatalities.
- Almost half of all traffic collisions occur at intersections, with almost three quarters of these collisions occurring at signalized intersections.
- Almost 60 percent of collisions involving a bicyclist, and almost 70 percent of collisions involving a pedestrian occur in crosswalks

The SSBR included location-specific engineering, enforcement and education mitigation strategies, as well as recommendations on city-wide education and enforcement efforts. The engineering treatments identified in the 2016 SSBR have all been installed and include:

- Green pavement markings to warn of bicycle conflict at right turn and left turn movements;
- Signs and pavement markings at crosswalks and across right-turn bypass islands;
- Heads up decals on the access ramps at high-conflict crosswalks; and
- Upgrades to traffic signal displays allowing for flashing yellow and red arrow displays.

In addition, the city has partnered with CU on Heads Up Campaigns targeting safer crosswalk interactions through stepped up enforcement and education. Additional educational campaigns include Lighten Up Boulder, which provides free bike lights and safety messaging, and Way of the Path, encouraging fewer conflicts between bicyclists and pedestrians on the path system. The city has also produced an web-based story map pinpointing top collision locations, close calls, engineering improvements, educational campaigns and enforcement efforts. Engineering treatments address specific locations where physical improvements can address a given crash type. Programs and education efforts are intended to influence traveler behavior by increasing general awareness of safety and the need to recognize the dangers of distracted driving.

2009
First Winter Bike to Work day

2011
Boulder B-cycle launches in May 2011

2009
U.S. 36 Final EIS approved

2010
Broadway Reconstruction Project finishes.
30th Street bike lanes and multimodal improvements underway

2011
Ballot Item 2A three-year capital bond passes

What This Means

Boulder's data shows that numbers of serious injury and fatal crashes are variable from year to year, however, nationally and statewide, these numbers are on the rise. Deaths involving auto collisions have increased nationally by 14 percent over the last two years, the largest increase in more than half a century. In Colorado, traveler fatalities in 2016 were 26 percent higher than in 2011*. While a number of factors are involved in this increase, distracted and impaired driving, cycling and walking are identified as a major contributors. Staff has identified this trend through the SSBR and is developing an educational campaign to encourage a decrease in this distracted and impaired behavior.

For correctable collisions, engineering projects were identified and implemented as a result of the 2016 SSBR. City Council allocated an additional $150,000 in the 2017 budget to be used for Vision Zero implementation. Additional crash trend locations have been identified and engineering improvements have been made such as additional green pavement markings at potential bicycle conflict points, and the installation of additional traffic signal displays for flexible traffic signal timing. Targeted education and enforcement initiatives are continuing at high crash locations and to address frequent crash types. Evaluation of all the E's will occur in 2018 as part of the updated SSBR. The best practice for this type of evaluation is to review several years of crash data after the implementation of improvements and programs. However, staff will not have that many years of "after" data and will draw what conclusions we can about the effectiveness of these treatments from the data we have. These evaluations will be included in the next SSBR, expected to be released late 2018.

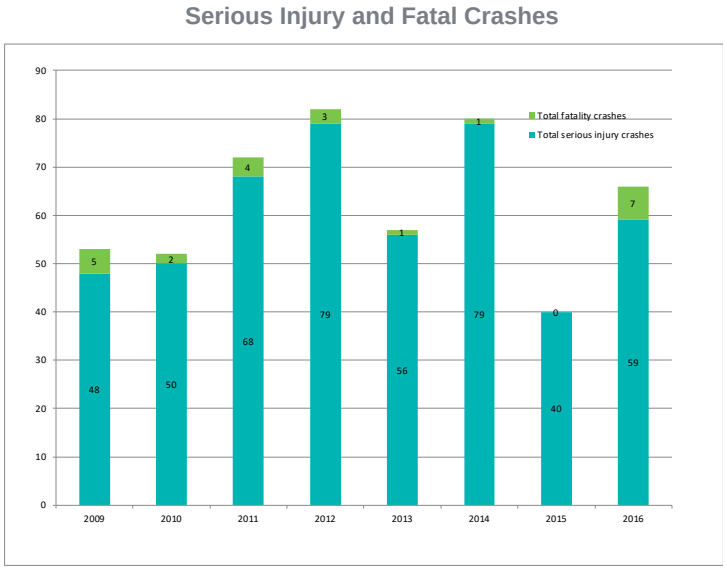
Total Collisions	2009	2010	2011	2012	2013	2014	2015	2016
Total Collisions**	2,694	2,688	2,781	2,725	3,002	2,834	2,914	3,045
Serious Injuries	48	50	68	79	56	79	40	59
Fatalities	5	2	4	3	1	1	0	7

Bicycle Collisions	2009	2010	2011	2012	2013	2014	2015	2016
Total Collisions	166	189	175	203	183	184	177	203
Serious Injuries	21	23	22	27	18	36	17	27
Fatalities	1	1	0	0	0	0	0	1

Pedestrian Collisions	2009	2010	2011	2012	2013	2014	2015	2016
Total Collisions	55	49	51	52	77	57	57	73
Serious Injuries	13	13	15	12	14	11	8	12
Fatalities	1	0	3	0	0	1	0	3

Next Steps

In 2018, city staff will evaluate crash trends for 2015 through 2017 to produce the third edition of the SSBR. Staff will also evaluate the engineering, education and enforcement treatments implemented previously to determine whether they are appropriate for continued use within the community. The results of the SSBR will be used in determining recommendations for current and future corridor studies, additional signing and pavement marking installations and additional traffic signal modifications to help mitigate crash trends. The city will also continue to implement and modify its education and enforcement programs by targeting specific behaviors that have been shown to lead to crashes. Additionally, the city will utilize the strength of community stakeholders through the Vision Zero Community Partnership to co-develop and amplify traffic safety campaigns, while continuing to elevate the awareness for improving traffic safety throughout the region. It's through these combined measures that the city will continue to work to achieve Vision Zero.



*Source: Colorado DOT & "As Reported" to NHTSA by FARS

***Tables and chart do not include counter reports. Counter reports are completed either online or in-person by people involved in traffic collisions within the city under circumstances where there was no on-scene investigation, no injuries and no major damage to vehicles.*

Objective 8:

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

Analysis for the TMP found that about 26 percent of Boulder residents live in "15-minute walking neighborhoods," meaning they can walk to stores, parks, restaurants and other destinations in that time and accomplish many of their daily needs by walking.

Progress Snapshot

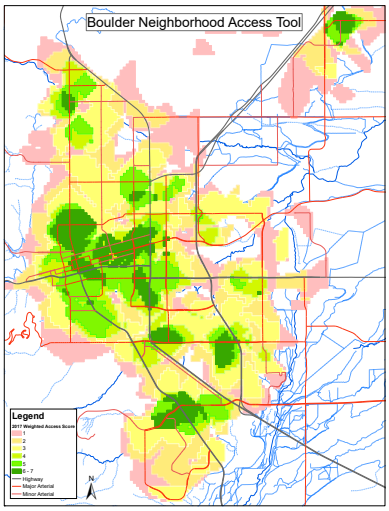
To measure this objective, the city developed a GIS tool that creates "access scores" representing the ability to walk to various destinations. The 2014 TMP analysis found that although transportation facilities exist in most areas, low access scores in some parts of the community are due to the lack of nearby destinations. The tool was run again against 2017 land use information and showed a slight improvement due to additional mixed-use development.

What This Means

While Boulder residents can generally access complete bike and pedestrian systems, the existing land use pattern provides few neighborhood commercial destinations in large parts of the community, preventing residents from satisfying daily needs by walking. Where mixed use or commercial development has occurred with additional destinations, neighborhood access has improved.

Next Steps

The BVCP update identified land use changes in some parts of the community that could provide more destinations in more neighborhoods. Development and redevelopment in these areas also offer the opportunity to complete the physical connections for walking and biking in those areas. The GIS neighborhood access tool has been developed into a web-based tool that can be used to perform updated analysis over time, and as part of sub-area plans.



2017 Cumulative Neighborhood Access Analysis

Objective 9:

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

To help make the TMP VMT goals more "real" and meaningful for people, the 2014 TMP established daily per capita VMT targets for both residents and nonresident employees. These targets reflect the 20 percent VMT reduction called for by the update and Boulder's Climate Commitment.

Progress Snapshot

Travel data is collected through periodic surveys of residents and employees. These surveys show that in 2015, the average VMT of Boulder residents was 12.8 miles per day, an increase from 11.2 in 2012. In 2017 nonresident employees had one-way workday commutes of 15 miles compared to 14.3 miles in 2014.

What This Means

As this is a new objective, the 2014 TMP numbers are the baseline relative to future change. The first comparisons show a small increase in per capita VMT. A smart phone app has been developed and refined since 2015 to provide more complete and accurate data on travel. The app was a major component of the 2017 BVES, providing employees a complete record of their work day travel relative to this objective. The app will also be used for the 2018 resident survey.

Next Steps

This objective translates VMT and mode share objectives to a personal level, so changes in those objectives will also be reflected here. Success across these related TMP objectives requires accelerated travel changes for both residents and nonresidents. As part of TMP and Climate Action implementation, new and aggressive education, incentive, and disincentive efforts are required to produce and accelerate change in these areas.

Progress and Challenges for the Future

In the 28 years since the first TMP, and with on-going investment from the voter-approved sales tax over the past 50 years, Boulder has developed its nationally and internationally renowned multimodal transportation system and embraced multimodal transportation choices.

Travel by Boulder residents is significantly different from the surrounding region and the nation, reflecting greater travel by walking, biking and transit. The Climate Commitment, as well as the city's Resiliency Strategy, also benefit from a complete transportation system and reduced SOV use as well as lower VMT. The city remains committed to continuous improvement and providing better options and realistic choices for local and regional trips.

The 2014 TMP identified the need to double the rate of change for mode shift in support of the Climate Commitment. This report provides indications that the rate of change may be flattening or even reversing, suggesting that the current set of actions may be plateauing in their effectiveness. Increases in vehicle counts and in vehicles entering signalized intersections likely reflect continued population and employment growth as well as low gas prices. Boulder is also an increasingly wealthy community and continues to be attractive to tourists and for outdoor recreation, bringing both sales tax dollars and vehicle miles of travel into the community. Changing regional travel mode share remains one of the city's biggest challenges and creates additional opportunities for Boulder to continue partnering with regional neighbors to connect people to live, work and play in Boulder and the surrounding metro area.

Another challenge is that funding is becoming more limited at all levels: local, regional, state and federal. Additional funding will be needed, and the TMP supports continued exploration of new funding sources and strategies for transportation, including user fees tied to the amount of use and new ways and more partnerships to deliver transit service.

Continuing progress and success in achieving TMP and Climate Commitment goals will require continued improvements in a complete transportation system; expansion of managed parking; and new approaches to solving transportation challenges and enhancing equitable access for people of all ages and stages of life. The Low-Stress Multimodal Network Plan started in 2017 should provide improved facilities for walking and biking that are comfortable for a wider portion of the population. Expanding the use of managed parking is consistently proven to reduce SOV travel, suggesting that existing Access Districts be expanded and new ones added. Efforts are underway to build on the success of the U.S. 36 corridor improvements and to tap the potential of advanced mobility, such as autonomous vehicles, connected vehicles (cars that "talk" to one another), ride-sharing services, and Mobility as a Service (MaaS) or "Mobility on Demand" (MOD). These services, implemented through shared fleets and with clean vehicles, have the potential to complement transit service and significantly reduce private vehicle use and ownership.

Regional Partnerships

Average weekday transit ridership increases and faster travel times for drivers resulting from the U.S. 36 project provide a strong model for investment in other regional corridors. The S.H. 7 study results and the on-going S.H. 119 study provide the framework for cooperative efforts to design and fund these improvements and support continuation of the city's active partnership in regional coalitions.

Advanced Mobility

Advanced mobility includes a variety of shared fleet and riding hailing services that will increasingly make owning a car unnecessary. These innovations lead toward Mobility as a Service (MaaS) provided by autonomous vehicles, significantly reducing the costs of travel and the number of vehicles and parking spaces needed. Advanced mobility can be used today to address first and last mile connections to high quality transit service. The city's ongoing Transit Service Delivery Study is exploring the costs and alternative service models for achieving the TMP's Renewed Vision for Transit, which could include Advance Mobility options. Advanced Mobility will be a key component in developing the 2019 Transportation Master Plan.

2012
Euclid/Broadway Underpass is completed

2013
Ballot Issue 2B six-year and 2D twenty-year sales tax extensions for transportation funding passes

2014
Ballot Issue 2A City Community, Culture and Safety three-year funding passes

2015
Boulder Junction transit facility opens

2016
U.S. 36 Flatiron Flyer bus rapid transit service and FLEX service to Fort Collins begin

2016
Real time transit service information available

2018-19 Action Items

A major item will be the 2018-19 TMP update, including an emphasis on complete streets, TDM, advanced mobility, regional travel, and funding.

Complete Streets

- Increase the ongoing commitment to safety and Vision Zero initiatives and high quality operations and maintenance for all modes of travel.
- Complete the East Arapahoe and 30th Street and Colorado Avenue corridors planning studies.
- Complete the Low-Stress Multimodal Network analysis.
- Complete the Transit Service Delivery Study and implement the first phase of the HOP Study redesign recommendations.
- Prepare for the planned RTD bus service funding cuts.
- Complete planning and design for capitol projects such as North Broadway reconstruction, railroad quiet zones, Arapahoe and Boulder Creek underpass replacement, and the 30th and Colorado underpass.
- Continue to advance next generation of corridor planning studies, such as central Broadway.
- Initiate and complete the Pedestrian Plan and an update to the city's Americans with Disabilities Act (ADA) plan.

Transportation Demand Management

- Continue participation in the RTD-led Pass Program Working Group.
- Continue collaboration with Boulder County, CU, Boulder Chamber and RTD to explore the community-wide EcoPass concept
- Implement the recommendation of the Access Management and Parking Strategy report including modifying parking requirements in the code and development of a TDM Plan ordinance for new developments.
- Plan and implement a pilot parking cash-out program in the Downtown area.
- Expand the Boulder Junction TDM Access District as new developments are added to area.

Regional Travel

- Support implementation of the U.S. 36 First and Final Mile Study to provide alternatives to accessing the U.S. 36 corridor BRT service.
- Continue engagement with the U.S. 36 Mayors and Commissioners Coalition, Commuting Solutions, and Northwest Chamber Alliance to advance regional arterial BRT corridors, commuter bikeways, and managed lanes on S.H. 119 and S.H. 7 and explore new funding options.

Funding

- Investigate transportation funding options such as user based fees and address expected declines in existing funding sources.
- Partner with local community and regional stakeholders to identify new/additional funding source and strategies needed to accomplish TMP's service, capital, operations, and programmatic action items.
- Explore the implementation of the district approach to funding TDM and Parking Management in areas outside of Downtown and Boulder Junction.

Integrated Planning

- Participate in area plans and small area studies as part of the BVCP Action Plan, such as Civic Area East Bookend, which includes re-imagining the Downtown Boulder Transit Station to better serve existing and future transit patrons and expanded local and regional transit routes, the East Arapahoe and 55th area and Central Broadway.
- Continue cooperation and funding for grant applications for clean transit vehicles in support of the Climate Commitment.
- Initiate the Transportation Master Plan update to reflect the 2015 Boulder Valley Comprehensive Plan and Climate Commitment.

2017
Baseline Underpass completed marking Boulder's 80th underpass

2018
Final stage of 28th Street improvements scheduled to be completed

Public Works Department
Transportation Division
1101 Arapahoe Avenue
Boulder, CO 80302
Phone: 303-441-3266
Fax: 303-441-4271
www.BoulderTransportation.net

Mailing Address
PO Box 791
Boulder, CO 80306