

EAST ARAPAHOE (SH 7) TRANSPORTATION PLAN

SETTING THE VISION FOR 2040

March 2018



East
Arapahoe



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CONTENTS

The East Arapahoe (SH 7) Corridor	1
Introduction	1
Corridor Conditions	7
Character Districts	8
The Need for Investment	10
Planning Process	13
Goals	16
Alternatives and Evaluation	18
What is the Long-Term Vision?	19
Vision Statement	19
Vision by Character District	22
Walking and Bicycling	24
Streetscape, Land Use, and Urban Design	25
Motor Vehicles	26
Transit	27
Conceptual Station and Mobility Hub Locations	28
Mobility Hubs	29
Access Management, Parking, and Transportation Demand Management	30
Advanced Mobility	31
What are the Benefits?	32
How will the Plan be Implemented?	34
Implementation Approach	34
Planning and Design	35
Pedestrian and Bicycle	36
First and Final Mile and TDM	37
Transit and Vehicular	38
Funding, Partnerships, and Coordination	39
Monitoring	40
End Notes	41
Appendix A: Existing Conditions Report	
Appendix B: Purpose and Goals Report	
Appendix C: Evaluation of Alternatives Report	
Appendix D: Additional Vision Elements	
Appendix E: Detailed Action Plan	

“ A hallmark of any great city is that its streets are designed with consideration for all people and designed in support of community values. Mobility is not a means in and of itself, but rather a function that supports a vital, healthy, and sustainable community. Today, East Arapahoe is a street with design oriented largely for motor vehicles. The vision for East Arapahoe is one where all users are considered, accommodated, and celebrated. Simply put, complete streets are streets for everyone.”

- East Arapahoe Transportation Plan Vision Statement

THE EAST ARAPAHOE (SH 7) CORRIDOR

Introduction

The East Arapahoe Corridor is one of the city’s busiest regional travel corridors. It is a 4.5-mile segment of Arapahoe Avenue (State Highway 7) that connects downtown Boulder to 75th Street and beyond to neighboring communities. Tens of thousands of people move through the corridor every day. Many call the area home, while even more are employed in the corridor or pass through on their way to jobs throughout Boulder.

The travel needs for people working, living, and accessing services within the East Arapahoe corridor are changing. East Arapahoe is no longer seen as a “pass through” corridor for in-commuters—it has, in fact, become one of Boulder’s largest employment centers. From students traveling between university campuses to employees wanting to grab lunch, people are looking for safe and convenient ways to travel between destinations along East Arapahoe and other areas of the city, whether they are walking, biking, taking transit, ridesharing, or driving. This Plan sets out a long-range vision that will be phased over time, with safety, access, and mobility improvements that can be phased incrementally to improve conditions for people working and living in the corridor today and into the future.

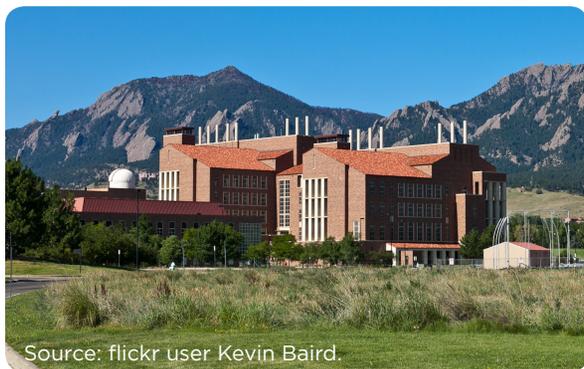
This Plan also addresses increasing regional demand for travel to and through the East Arapahoe corridor, as substantial development is expected in communities east of Boulder. Regional change impacts the local and regional economy; how mobility needs associated with those changes are managed will shape Boulder’s ability to meet its vision for a safe, equitable, efficient, and climate-friendly transportation system.



The Twenty-Ninth Street Retail Center (top) and Ball Aerospace and Engineering (bottom) are two of the major destinations in the East Arapahoe corridor.

To begin to address this challenge, regional partners between Boulder and Brighton have formed the SH 7 Coalition to coordinate and advocate for creating a regional multimodal corridor with high-quality/high-frequency bus rapid transit (BRT), a regional bikeway, pedestrian improvements and first and final mile supportive infrastructure and strategies. East Arapahoe is a key segment of this corridor and this Plan defines the city's commitment to advancing local multimodal improvements in support of improved regional access and mobility along the length of SH 7.

Importantly, the Plan provides a great deal of flexibility to adapt—both to future land use changes within the corridor and to rapid technological advances that have ushered in an era of evolution in mobility options.



Source: flickr user Kevin Baird.

The University of Colorado East Campus

Ridehailing companies such as Uber and Lyft are changing the dynamic of personal mobility; autonomous vehicles and buses bring potential for safety enhancements and may allow transit to operate more ubiquitously.

All these aspects add complexity to the challenge of managing limited street and public space.

Boulder's Community values are strong and clearly documented in the [Boulder Valley Comprehensive Plan](#) (BVCP), the [Boulder Transportation Master Plan](#) (TMP), the city's [Sustainability Framework](#) and [Climate Commitment](#). The vision for the East Arapahoe Corridor connects those values with solutions for the corridor's challenges.



Source: www.rbbarchitects.com

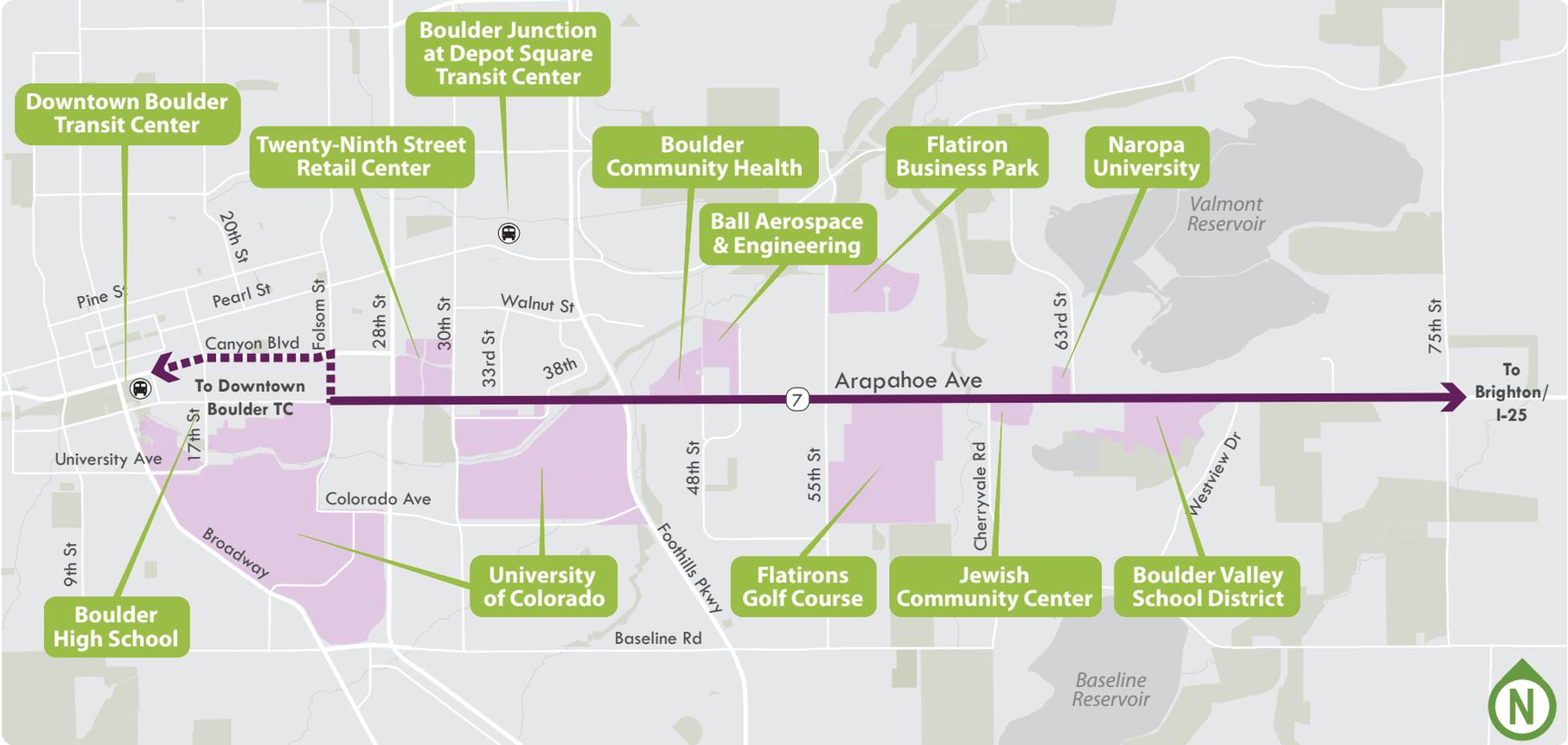
Boulder Jewish Community Center

Plan Organization

The plan includes the following sections:

- The **Existing and Future Conditions** section provides an overview of the corridor and introduces the five character districts that were developed to help frame solutions, and describes their existing conditions and planned land use per the BVCP.
- The **Process** section describes the milestones, community engagement, and overall planning process. It presents the plan goals and describes how alternatives were evaluated to achieve the community's vision.
- The **Vision** section describes the 2040 vision for the corridor and its key elements.
- The **Benefits** section highlights expected outcomes for the corridor and the city.
- The **Implementation** section describes near-, mid- and long-term steps, funding strategies, partnerships and coordination, and monitoring.

East Arapahoe Transportation Plan Study Area



The plan study area extends along Arapahoe Avenue between Folsom Street and 75th Street.

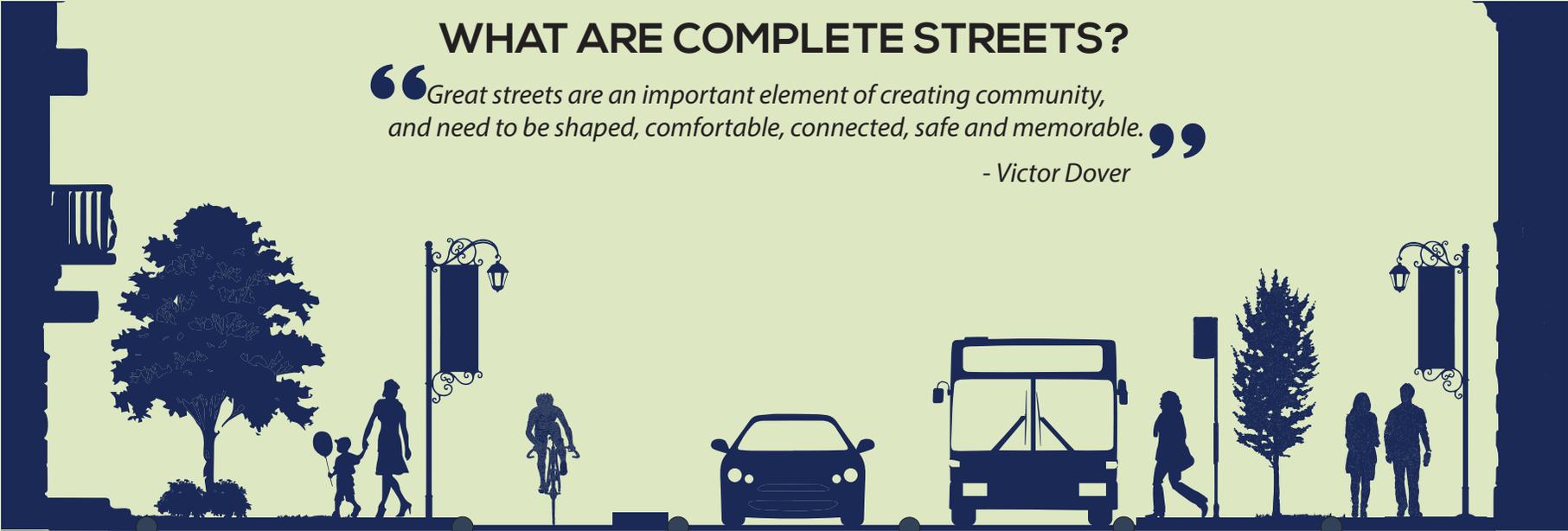
The East Arapahoe corridor is a segment of SH 7 that connects downtown Boulder on the west and I-25/Brighton on the east.

Complete Streets

The Boulder Transportation Master Plan (TMP) identifies Arapahoe Avenue for complete street improvements and calls for a transportation plan for the corridor. Complete streets accommodate all modes of transportation by planning, designing, and building facilities for pedestrians, bicyclists, transit riders, and vehicle drivers.

WHAT ARE COMPLETE STREETS?

“Great streets are an important element of creating community, and need to be shaped, comfortable, connected, safe and memorable.”
- Victor Dover



Gathering Spaces

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

Bicycle Accommodations

Bicycle facilities offer separation from vehicular traffic for cyclist. These can include multi-use paths, 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 travel reliably 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 are safe walking and have natural features and great destinations that make people walk.

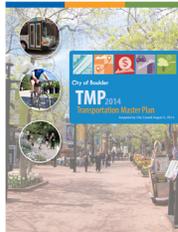
Policy Foundation

Local and regional plans identify the East Arapahoe corridor as a priority for multimodal transportation investments over the short- and long-term. The corridor is critical to connecting a growing region to the many jobs, services, and educational and recreational opportunities in Boulder. The East Arapahoe Transportation Plan builds upon previous planning efforts to craft a clear vision for the future of the corridor.

Local Plans and Policies

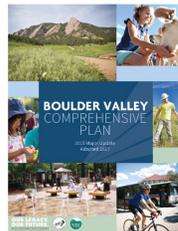
- **City of Boulder Transportation Master Plan (TMP) (2014)**

– Identifies the East Arapahoe corridor as a priority for future bus rapid transit (BRT).



- **Boulder Valley Comprehensive Plan Update (2017)**

– Identifies East Boulder and the East Arapahoe corridor for future employment growth and mixed-use development. A sub-area plan for the 55th & Arapahoe area is expected to be initiated in 2019.



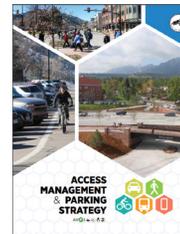
- **University of Colorado (CU) East Campus Master Plan (2013)**

– Documents a partnership between the University of Colorado (CU) and the City of Boulder to advance important sustainable transportation connections in the east campus area.

- **City of Boulder Climate Commitment (2016)** – Provides a vision for Boulder’s future, sets goals and targets related to emissions reduction and sustainability and provides initial pathways to reaching these goals.

- **Boulder Access Management and Parking Strategy (AMPS) (2014-2017)**

– Identifies opportunities in the East Arapahoe corridor including exploring the creation of access management and parking districts and improving travel options, e.g., through shared-use mobility and satellite/edge parking.



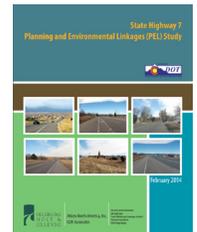
Regional Plans

- **Regional Transportation District (RTD) Northwest Area Mobility Study (NAMS) (2014)** – Includes Arapahoe/SH 7 between Boulder and Brighton as a long-term priority arterial bus rapid transit (BRT) route, with connections in Lafayette and at I-25.

- **Colorado Department of Transportation (CDOT) State Highway 7 Planning and Environmental Linkages (PEL) Study (2014 and 2017)**

– The 2014 study identifies improvements on SH 7 between 75th Street and US 85 in Brighton, including a regional bikeway, transit stations, transit queue jumps, and a future managed lane or expanded shoulder for BRT and high-occupancy vehicles. The 2017 study identifies improvements on SH 7 between US 287 and 75th Street, including a separated multi-use path; intersection enhancements and shoulders in the short-term; and either full width shoulders or a center contra-flow lane for transit, high-occupancy vehicles, and potentially autonomous vehicles in the long-term.

- **Boulder County State Highway 7 Bus Rapid Transit (BRT) Study (2016 - present)** – Confirms regional BRT feasibility and develops an operations plan for the SH 7 corridor, which includes the East Arapahoe study area.



“ The Coalition seeks to advocate for a multimodal corridor that includes high-quality/high-frequency BRT and a regional bikeway accompanied by local bus, bike & pedestrian connections, first and last mile connections, and future innovative transportation modes.”

- *State Highway 7 Coalition Statement of Purpose*

The East Arapahoe corridor is a vital segment of this regional corridor connecting downtown Boulder to I-25 and Brighton.

CORRIDOR CONDITIONS

Today, Arapahoe Avenue is a six-lane arterial through most of the study area. It is served by frequent RTD JUMP bus service. People walking and bicycling enjoy a multi-use path for much of the corridor, but both the path and the sidewalk have significant gaps, crossings are at signalized intersections that may be far apart, and bicycle facilities are limited. Because there are only a few continuous east-west and north-south roads in East Boulder, there are limited alternative routes for many trips through and within the East Arapahoe corridor. This underscores the importance of designing and managing the corridor so that it works for all users. This includes ensuring efficient and reliable freight and goods movement for businesses in the corridor.

For more information see **Appendix A: Existing Conditions Report**



JUMP bus service and the multi-use path on Arapahoe Avenue.

Character Districts

The street features, design, interface with private properties and types of land use along East Arapahoe vary considerably throughout the study area. With input from stakeholders and public, the project team developed five character districts to help frame the discussion of existing travel conditions, identify needs and opportunities, and consider transportation solutions for each unique section of the corridor. The districts are distinguished by key land use conditions (existing and planned per the Boulder Valley Comprehensive Plan), the number of travel and turn lanes, types of intersections and crossings, and the type, extent and quality of pedestrian, bicycle, and transit facilities.

EAST ARAPAHOE CHARACTER DISTRICTS, EXISTING AND PLANNED CONDITIONS



A 29th Street District

Existing Conditions

Land Use:

- Higher density retail and mixed-use
- University of Colorado East Campus

Auto: 6 travel lanes + turn lanes

Bike/Ped: Multi-use path with small gaps

Transit: Queue jumps for buses at selected intersections

BVCP Planned Land Use

- Mixed-use and infill development
- Expansion of CU East Campus



B Boulder Creek Transition Zone

Existing Conditions

Land Use: Riparian wetland

Auto: 6 travel lanes + turn lanes

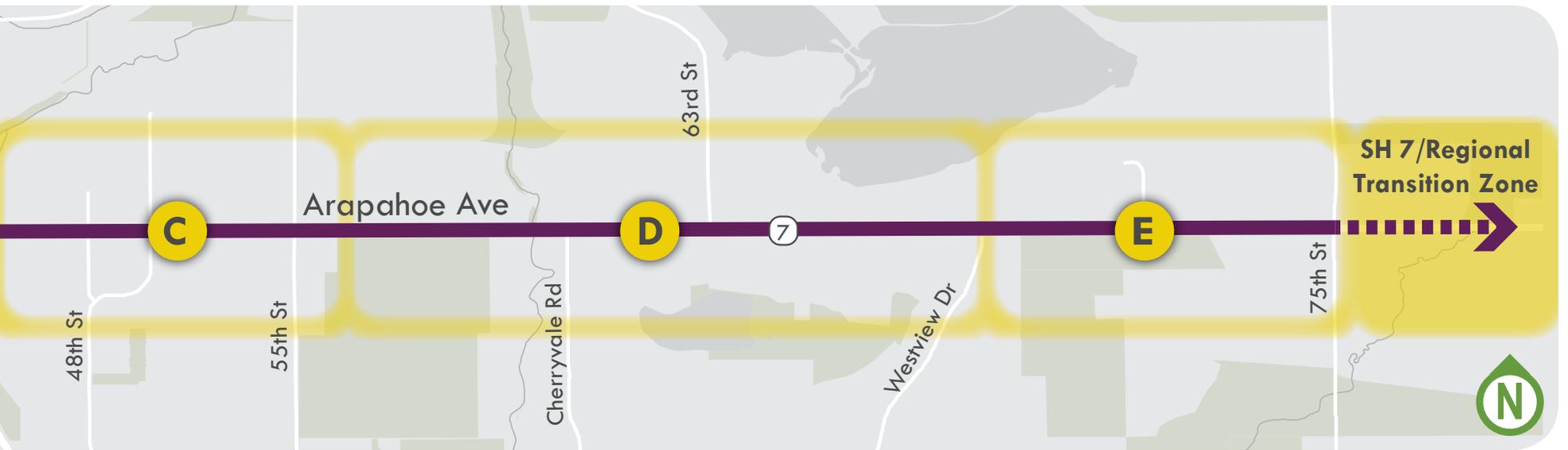
Bike/Ped: Multi-use path

Transit: Queue jumps at intersection

BVCP Planned Land Use

- Similar to existing





C Innovation & Health District

Existing Conditions

Land Use: Medium density institutional & light industrial

Auto: 6 travel lanes + turn lanes

Bike/Ped: Multi-use path incomplete on south side

Transit: No special transit treatments at intersections

BVCP Planned Land Use

- Boulder Community Health expansion
- 55th and Arapahoe neighborhood center, with local retail and other community businesses
- Housing infill and mixed-use development in light industrial areas, where appropriate



D Industry & Education District

Existing Conditions

Land Use: Low-density office, light industrial, retail

Auto: 5 travel lanes + turn lanes

Bike/Ped:

- Multi-use path incomplete on both sides
- On street bike lanes

Transit: Transit lanes east of 63rd

BVCP Planned Land Use

- Housing infill and mixed-use development in light industrial, where appropriate
- Very low to medium-density residential



E Gateway District

Existing Conditions

Land Use: Open space/farmland with clusters of other land uses

Auto: 2 travel lanes + center turn lane

Bike/Ped:

- Multi-use path on north side only
- On-street bike lanes or wide shoulders

Transit: Queue jump for buses at 75th Street

BVCP Planned Land Use

- Similar to existing



The Need for Investment

TRANSIT IMPROVEMENT POTENTIAL

- **Lack of Passenger Amenities:** Of 57 JUMP stops in the study area, only 44% have a bench, 26% have a shelter, and 23% have bike parking.¹
- **Transit Travel Time is Not Competitive:** Eastbound transit travel times are five minutes longer during the evening commute than in the morning, and are nearly twice as long as auto travel times.²

PREPARE FOR THE FUTURE

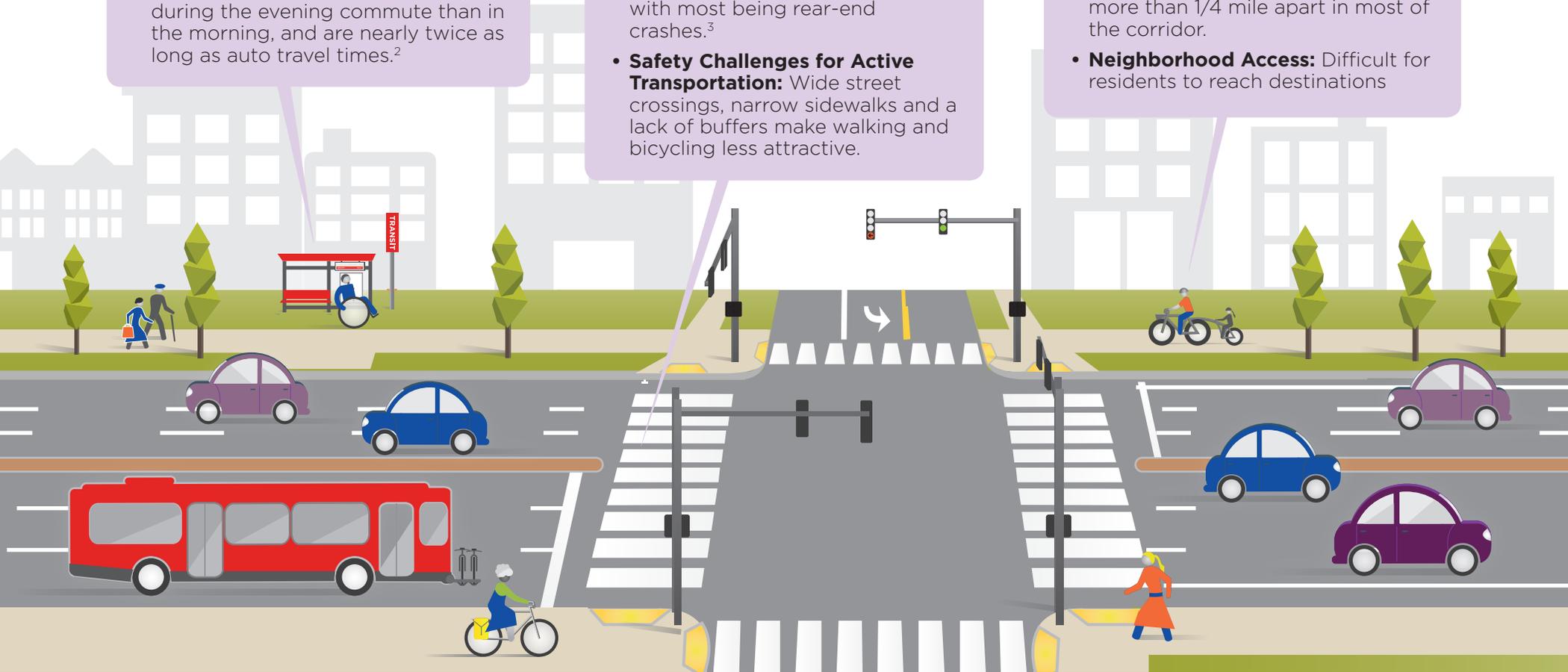
- **Evolving land use and technology:** The plan should allow flexibility to respond to change.

SAFETY AND COMFORT

- **Vision Zero:** Between 2012 and 2014, three intersections in the corridor had over 100 collisions, with most being rear-end crashes.³
- **Safety Challenges for Active Transportation:** Wide street crossings, narrow sidewalks and a lack of buffers make walking and bicycling less attractive.

GAPS IN THE PEDESTRIAN AND BICYCLE NETWORK

- **Incomplete Pedestrian and Bicycle Network:** Multiple locations in the corridor lack a sidewalk or multi-use path on one or both sides of the street.
- **Lack of North-South Crossings:** Signalized crossings are limited—more than 1/4 mile apart in most of the corridor.
- **Neighborhood Access:** Difficult for residents to reach destinations



LIMITED TRAVEL OPTIONS

- **Travel Options:** Currently, only 25% of employees in the East Arapahoe corridor have access to an EcoPass; People with an EcoPass are four to seven times more likely to use transit than those without a pass.⁶
- **Bike Share Access:** There are only four BCycle stations along the corridor and one eGo car share location.

EMPLOYMENT

- **Job Center:** More than 35,500 jobs—roughly 40% of Boulder’s total employment—are located within a half-mile of the East Arapahoe corridor.⁴
- **Jobs and Commerce:** Of the 2,200 development review applications in the City of Boulder in 2015, nearly 25% were within one-half mile of Arapahoe Avenue.⁵ East Boulder has greater potential for commercial development than the rest of the city, while other parts of the city are near capacity.⁶

REGIONAL ACCESS

- **Increasing Vehicle Traffic:** Traffic volumes at the east end of the corridor have nearly doubled in the past 30 years.⁸
- **Large Number of Commuters:** Approximately 47% of Boulder workers commute from other places in the region.⁹ The rate of single-occupancy vehicle (SOV) work trips for in-commuters is well above the rate for residents—80% versus 47%.¹⁰
- **Growing Regional Demand:** Regional forecasts estimate as much as a 20% increase in travel demand over the next twenty years.¹¹



“ As members of the CWG, we feel that this was a credible process that accounted for both a technically rigorous analysis and extensive public input.”

- *Community Working Group Statement of Findings*

PLANNING PROCESS

To seek input from a broad range of perspectives and representatives from across the city and region, the City of Boulder reached out to the community through numerous events and focus groups, met with the Transportation Advisory Board and the City Council, and formed a Community Working Group (CWG) to provide input to the project team throughout the duration of the planning process. The CWG helped the project team establish plan goals and objectives, define character districts, review design alternatives and evaluation criteria, and discuss implementation and phasing. The result is a plan that details a comprehensive vision for the corridor and each of its character districts.

The next phases of the project will include finalizing corridor design and pursuing funding and implementation strategies. This plan is the first step on the journey to accomplishing the vision.



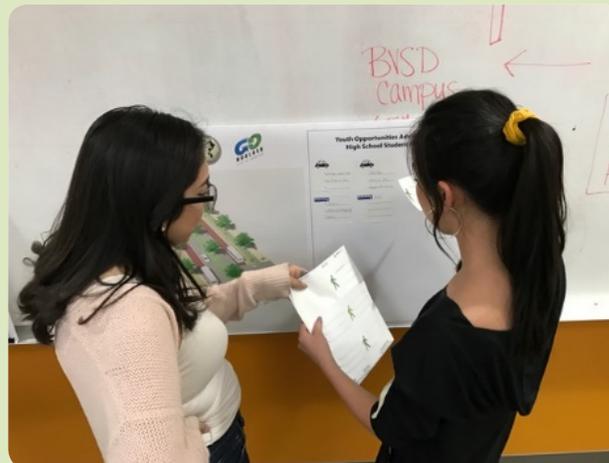
The Community Working Group discusses East Arapahoe character districts at their October 2016 meeting.

Boulder Public Process Principles

The public outreach and stakeholder engagement process for the East Arapahoe Transportation Plan was rooted in the core principles & values of public engagement identified by the Public Participation Working Group (PPWG):

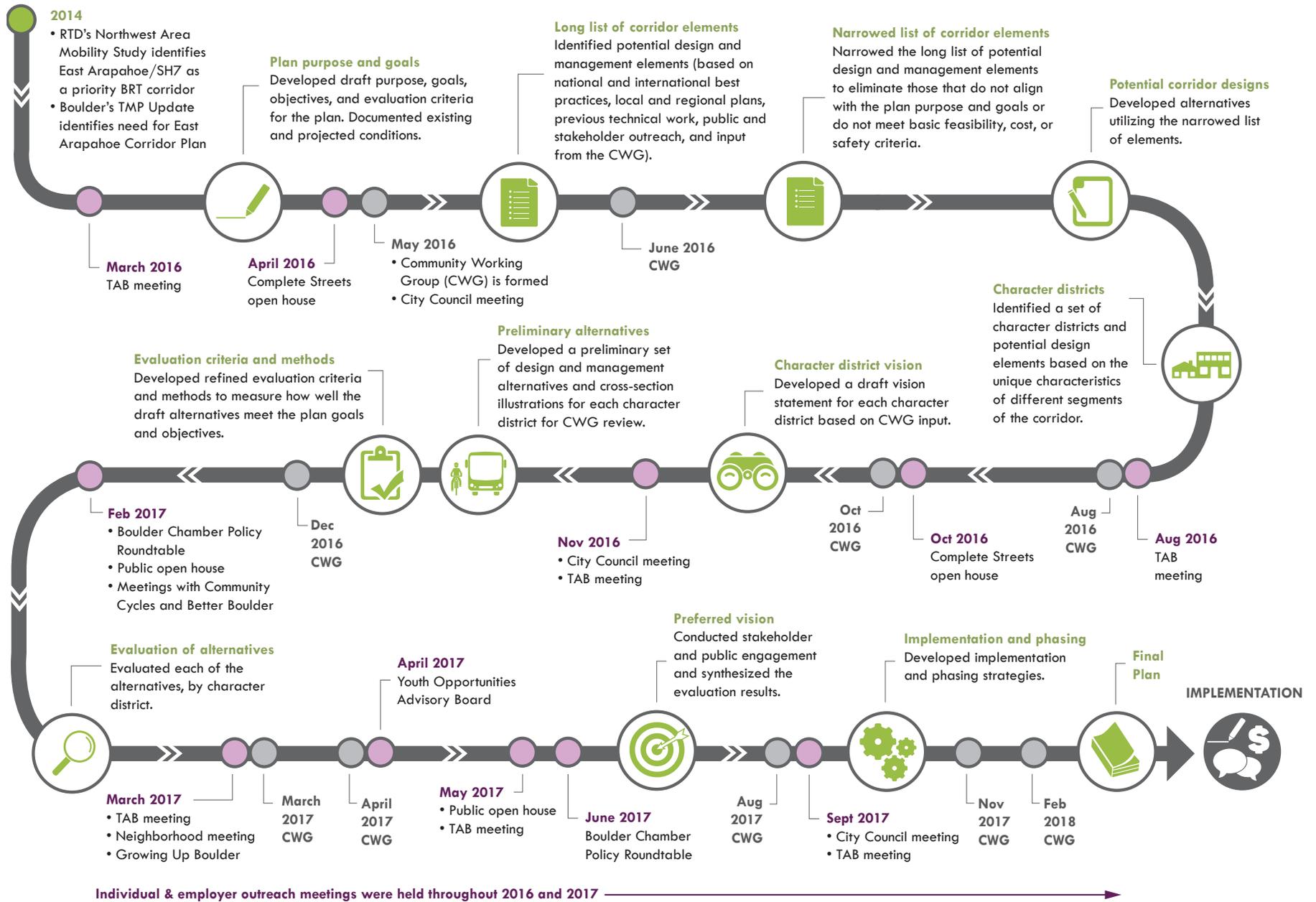
- The problem is clearly defined
- Public engagement is thoughtfully planned
- All voices are encouraged & included
- Public contribution & civil participation are fostered
- The process is trustworthy and transparent

The plan was developed using a comprehensive decision-making process consistent with the nine-step decision-making process recommended by the Public Participation Working Group.



The public engagement process included four open house events (top) and a meeting and walk audit of the corridor with the Youth Opportunities Advisory Board (left).

EAST ARAPAHOE TRANSPORTATION PLAN PROCESS AND MILESTONES



Goals

Plan goals and objectives were developed to guide development of the plan in support of Boulder’s TMP goals and policies. They are based on analysis of existing and projected conditions for the East Arapahoe corridor, and City of Boulder plans and policies.

Goal 1. Complete Streets:

Provide Complete Streets in the East Arapahoe corridor that offer people a variety of safe and reliable travel choices.



- Provide safe travel for all modes using the East Arapahoe corridor, including supporting the “Vision Zero” effort to eliminate fatalities and serious injuries from traffic collisions.
- Improve the ease of access and comfort for people walking in the East Arapahoe corridor, and ensure the vision contributes to placemaking.
- Broaden the appeal of bicycling along the East Arapahoe corridor to people of all ages and bicycling abilities.
- Make transit a convenient and practical travel option in the East Arapahoe corridor.
- Move drivers efficiently through the East Arapahoe corridor.

Goal 2. Local and Regional

Travel: Increase the number of person trips the East Arapahoe corridor can carry to accommodate local transportation needs and projected changes in surrounding communities.



- Improve local travel options within the East Arapahoe corridor for residents, employees, and visitors.
- Improve regional travel options between Boulder and communities to the east for work and other regional trips.

Goal 3. Transportation Demand

Management (TDM): Promote more efficient use of the transportation system and offer people travel options within the East Arapahoe corridor.



- Improve first and final mile connections to help people conveniently and safely walk and bike to and from transit.
- Promote the use of multiple transportation options in East Boulder by residents and workers.

Goal 4. Funding: Deliver cost-effective transportation solutions for the East Arapahoe corridor that can be phased over time.



- Coordinate with public and private entities, including adjacent land owners, to implement cost-effective transportation improvements.

Goal 5. Sustainability: Develop transportation improvements in the East Arapahoe corridor that support Boulder’s Sustainability Framework (desired outcomes include a community that is Safe, Healthy & Socially Thriving; Livable, Accessible & Connected; Environmentally Sustainable; Economically Vital; and provides Good Governance).



- Reduce greenhouse gas (GhG) emissions and air pollution from vehicle travel within the East Arapahoe corridor.
- Improve travel options that promote public health for residents and workers along the East Arapahoe corridor.
- Provide access to affordable transit and other travel options to low- and moderate-income residents and workers along the East Arapahoe corridor.
- Preserve and improve economic vitality in the East Arapahoe corridor.
- Promote and improve water quality, and reduce the urban heat island effect through roadway and landscape design.

WHY INVEST IN MULTIMODAL CORRIDORS?

East Arapahoe is one of several corridors where the City of Boulder is planning for complete street improvements that will advance the community goals and desired outcomes outlined in the Sustainability Framework.



ACCESSIBLE AND CONNECTED AND COMMUNITY

- Offers and encourages a variety of safe, accessible, and sustainable mobility options
- Supports strong regional multimodal connections
- Supports a balanced transportation system that promotes 15-minute neighborhoods



ECONOMICALLY VITAL COMMUNITY

- Invests in infrastructure and amenities that attract, sustain and retain diverse businesses, entrepreneurs and jobs



HEALTHY AND SOCIALLY THRIVING COMMUNITY

- Improves access and comfort for people using active and healthy travel options
- Connects people to parks, schools and health care



SAFE COMMUNITY

- Increases safety for people using all modes of transportation



ENVIRONMENTALLY SUSTAINABLE COMMUNITY

- Moves Boulder toward its carbon neutral goal



GOOD GOVERNANCE AND COMMUNITY ENGAGEMENT

- Constructing and maintaining safe and effective multimodal corridors requires smart use of limited public funds
- Ensures a community voice in the planning process for people traveling via all modes



LIVABLE COMMUNITY

- Provides safe and well-maintained infrastructure
- Serves neighborhoods



Alternatives and Evaluation

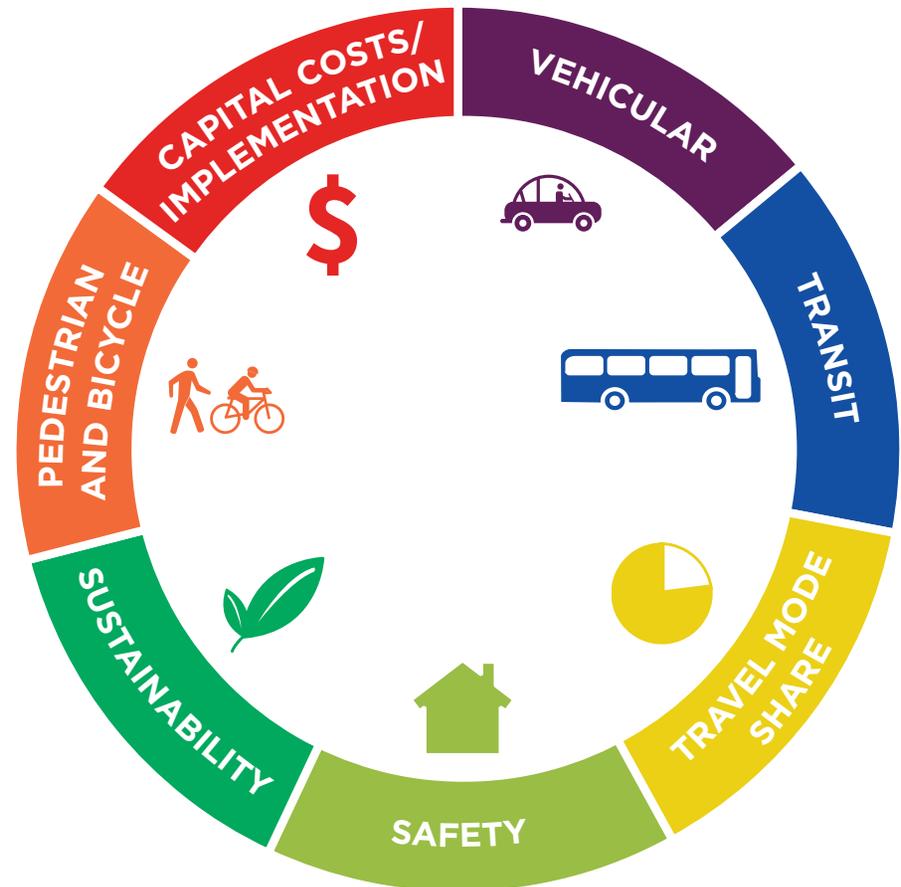
To develop a long-term vision for East Arapahoe, a number of complete street design and management alternatives were developed by the project team; these alternatives were shaped with input from the Community Working Group, corridor stakeholders, TAB, City Council, and the public through meetings and a series of outreach events.

The four conceptual alternatives developed illustrate a range of potential complete street design options for East Arapahoe:

- **Alternative 1/No Build Alternative:** no transportation improvements are made.
- **Alternative 2:** maintains current roadway design and makes a minimal investment in complete street features such as completing gaps in the multi-use path, adding more transit vehicles and enhancing stops.
- **Alternatives 3 and 4:** significant investment in complete street features such as repurposing existing travel lanes for exclusive bus rapid transit (BRT) lanes and adding protected bicycle lanes and pedestrian treatments. Alternative 3 calls for side-running BRT, while Alternative 4 calls for center-running BRT.

To determine which elements of each alternative best met City and plan goals, an evaluation framework was developed. The evaluation addressed seven major aspects of corridor design and operation. For each of the seven categories, a series of measures was applied to each character district to guide development of a corridor vision that is customized to the unique segments of the corridor and is aligned with Boulder’s community values.

EVALUATION FRAMEWORK



Based on the technical evaluation, it was determined that Alternative 3 best meets the plan goals and city’s TMP objectives. In comparison to Alternatives 1, 2 and 4, Alternative 3 is expected to enhance safety for all users, best maintain auto travel time while providing a transit travel time that is competitive with the automobile, and increase access and comfort for all people walking and bicycling. Alternative 3 is the recommended complete street design option and basis for the long-term vision described in the following pages.

WHAT IS THE LONG-TERM VISION?

Vision Statement

A hallmark of any great city is that its streets are designed with consideration for all people and designed in support of community values. Mobility is not a means in and of itself, but rather a function that supports a vital, healthy, and sustainable community. Today, East Arapahoe is a street with design oriented largely for motor vehicles. The vision for East Arapahoe is one where all users are considered, accommodated, and celebrated. Simply put, complete streets are streets for everyone.

The vision for the East Arapahoe corridor is one where:

- Boulder residents of all ages and physical abilities can safely navigate multi-use paths, public transit, protected bike lanes, and roadways as they make their way around the community.
- Commuters travel to and through East Arapahoe using high-quality bus rapid transit, shared transportation, a regional bikeway, and modes that limit impact on community health and the environment.
- East Arapahoe is designed to minimize conflict points for people using all modes, including driveways and intersections, and support the city's Vision Zero goal of eliminating serious injuries and fatalities resulting from traffic collisions.
- Future infill and redevelopment complete the vision streetscape design and transform the street to create a place where people want to be, rather than simply pass through.
- Business and services have an attractive, customer-friendly streetscape in retail areas and reliable access to move goods and freight to and through the corridor.
- People connect seamlessly to transit and shared transportation services using mobility hubs, which provide access to other parts of the community and region.
- The corridor serves as a welcoming community destination and gateway to Boulder, inviting residents, employees, and visitors.
- Boulder community values guide the corridor vision and implementation.

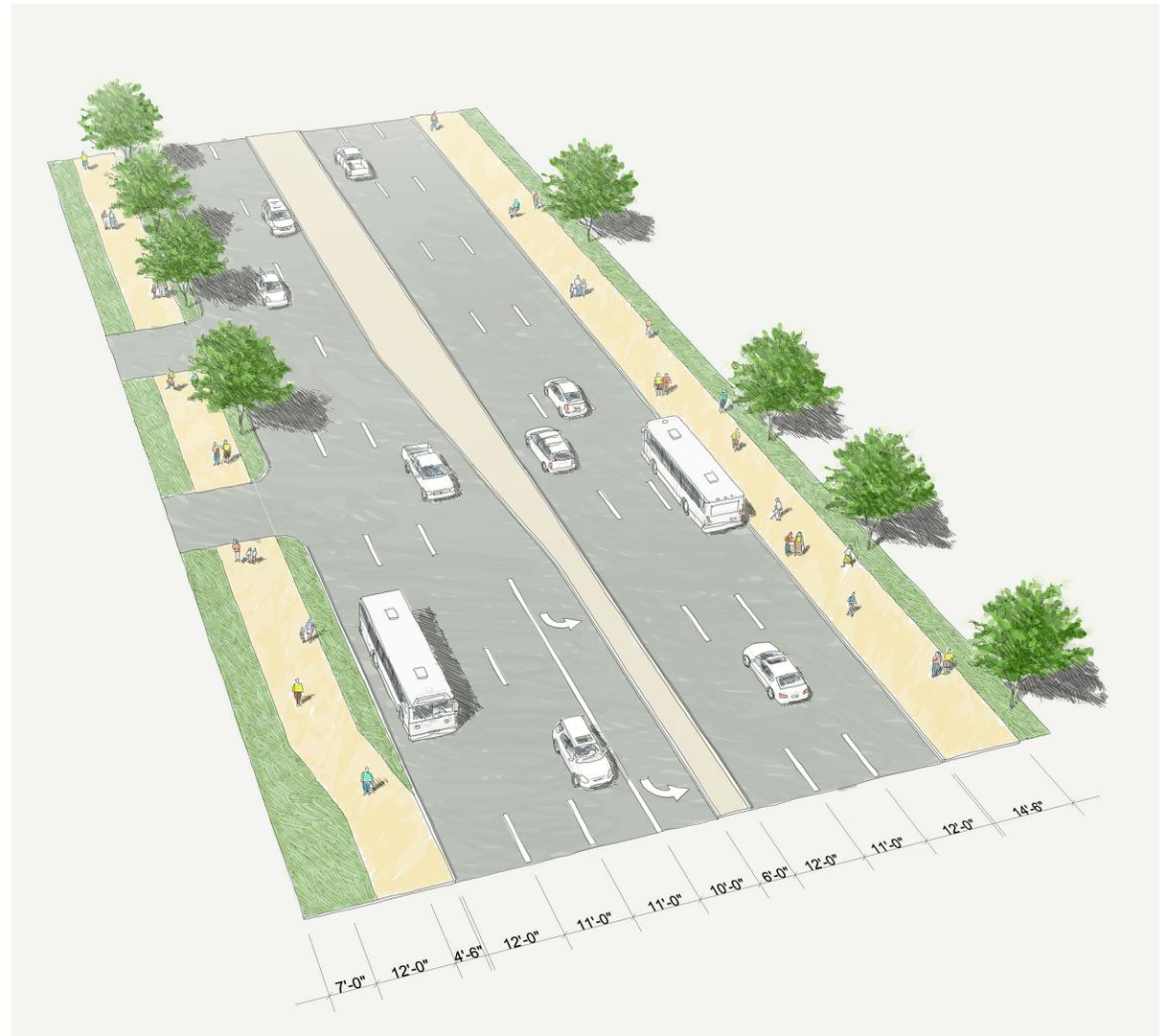
A Vision for 2040

The long-term vision for East Arapahoe describes the desired future condition of the corridor by the year 2040.

The vision is dynamic—recognizing that change will come in phases—and responsive to evolving community planning, mobility advancements, and how private development shapes the corridor.

The following sections identify the key vision elements, demonstrate how the vision knits the character districts together, and provide detail about each key element.

EXISTING CONDITIONS (TYPICAL)



2040 VISION



The long-term vision for East Arapahoe includes:

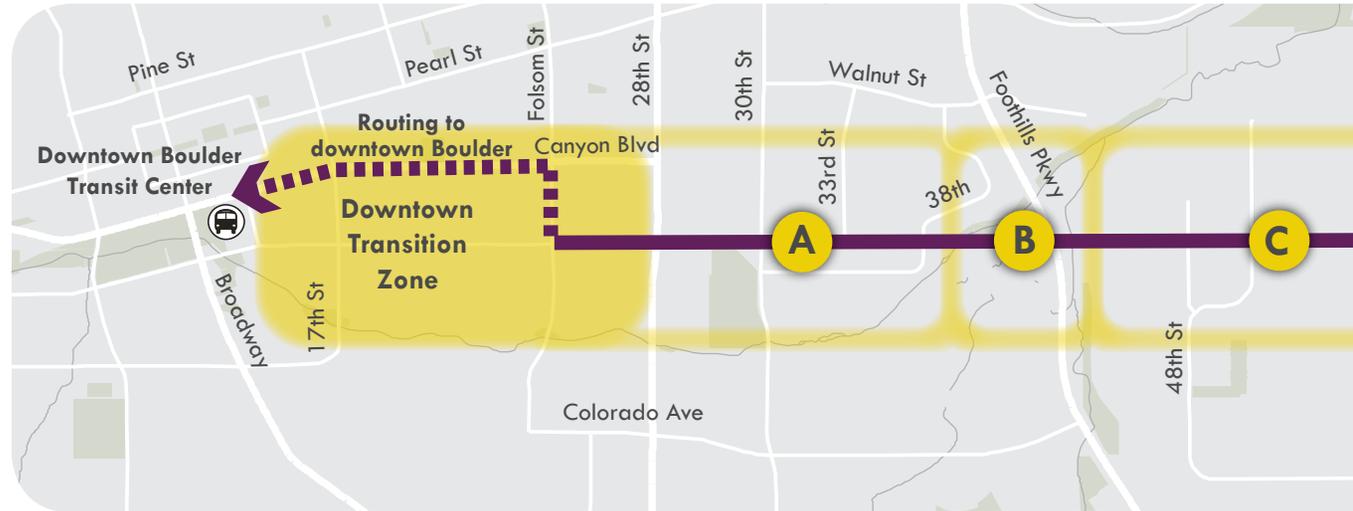
- **Two general-purpose traffic lanes** are maintained in each direction, except in a portion of Character District D and in District E, where the existing condition will be retained.
- **Regional BRT service** connects downtown Boulder to I-25 and Brighton via State Highway 7. BRT operates in **business access and transit (BAT)** lanes. BAT lanes also accommodate HOVs, local buses, right-turning vehicles, and new technologies such as shared autonomous/connected vehicles.
- **Raised protected bike lanes, with a multi-use path**, except in Character District E; the protected bike lane may be set back from or adjacent to the street.
- **Amenity zones** enhance the streetscape and public realm.

Vision by Character District

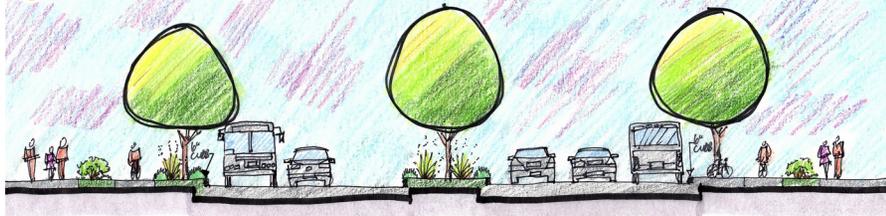
Downtown Transition Zone

Within Boulder, the BRT route connects the Downtown Boulder Transit Center to Arapahoe Avenue using Canyon Boulevard and Folsom Street.

The City of Boulder is conducting a separate corridor study along Canyon Boulevard as well as 30th Street and Colorado Boulevard.



A 29th Street District – Folsom Street to Boulder Creek

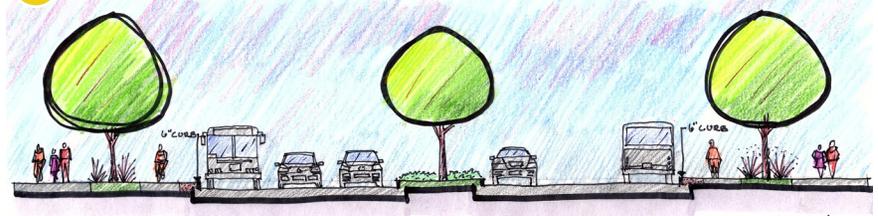


In District A, Arapahoe Avenue is a pedestrian-oriented urban boulevard serving a regional center and the expanding CU East Campus. Sidewalks can be expanded to provide flexible space for café seating and other uses. Transit stations are designed to provide convenient connections to regional BRT and local transit service along 28th and 30th Streets.

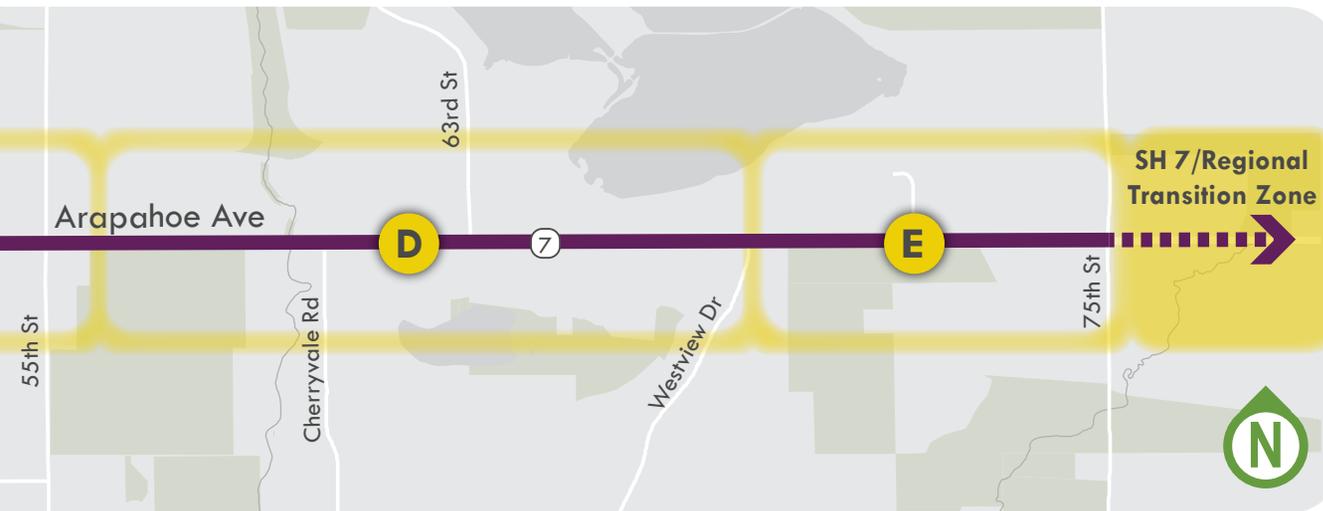
B Boulder Creek Transition Zone

District B is a transition zone between Districts A and C. A separate study will need to resolve the configuration of the Foothills Parkway intersection to accommodate the East Arapahoe plan.

C Innovation and Health District – East of Foothills to East of 55th



In District C, Arapahoe Avenue is pedestrian and bike accessible and permeable, supporting a diverse mix of uses and services. These include Boulder Community Health, Ball Aerospace, a variety of small businesses, and residential neighborhoods to the south. At 55th and Arapahoe, local transit and shared-use mobility options connect the corridor to Flatiron Business Park and a planned mix of uses. The 55th & Arapahoe Area Plan will develop a more detailed integrated land use and transportation vision for this area, including a planned mobility hub.



SH 7/Regional Transition Zone

East of 75th Street, high-quality/high-frequency regional BRT service extends east along SH 7 to I-25/Brighton.

Bicycle and pedestrian facilities along Arapahoe connect to a regional bikeway along SH 7.

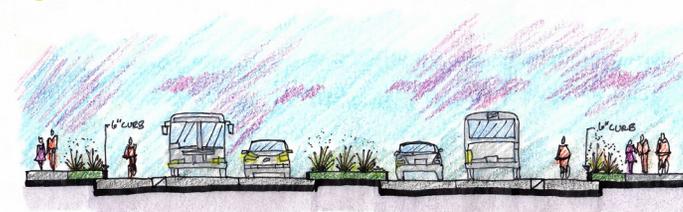
D Industry and Education District - East of 55th to Westview



District D transitions to open space and a less urban character. Arapahoe Avenue provides complete facilities for all users, and supports adaptive industrial uses including the arts, and enhanced cultural and educational institutions.

Where existing traffic lanes transition from three to two lanes per direction east of 55th Street, the next phase of concept design will need to evaluate where the future transition from two to one general purpose traffic lane per direction should occur.

E Gateway District - Westview Drive to 75th Street



District E maintains its rural character. It provides a gateway to Boulder and highlights the corridor's view features. Arapahoe Avenue retains much of its original configuration but extends the existing BAT lanes and enhances pedestrian and bicycle facilities.

The existing multi-use path on the north side connects to a planned regional bikeway along SH 7. On-street bicycle facilities may be buffer- or barrier- protected.

Walking and Bicycling

Long-Term Vision

People walking and biking in the East Arapahoe corridor have comfortable, uninterrupted facilities. There are distinct, context-appropriate facilities for people biking at low speeds or with young children—who may be more comfortable on a multi-use path—and for faster cyclists and bike commuters who may prefer using a dedicated bicycle facility. Enhanced facilities help the city realize its Vision Zero goal of eliminating serious injuries and fatalities resulting from traffic collisions.

Between Folsom Street and Westview Drive (Character Districts A, B, C, and D), raised protected bike lanes on both sides of Arapahoe Avenue are separated from the roadway by a buffer or amenity zone, and a multi-use path provides space for both bicyclists and pedestrians.

Between Westview Drive and 75th Street (Character District E), street-level buffered bike lanes on both sides of Arapahoe are separated from motor vehicle traffic by a striped buffer or vertical separation. The multi-use path continues along the north side of Arapahoe, separated from the roadway by an amenity zone, while a new sidewalk and amenity zone runs along the south side of Arapahoe.

Elements

- **Protected bike lanes** are raised to curb level to provide greater protection from motor vehicle traffic, and are separated from the roadway by either a narrow paved buffer or a wider amenity zone.
- The **multi-use path** is separated from the bike lane by an amenity zone. The multi-use path clearly delineates space between people bicycling and people walking, e.g., using pavement markings.



- Additional **mid-block pedestrian crossings** with context-appropriate treatments (e.g., based on number of lanes and traffic volumes) may be considered based on Boulder’s guidelines and Colorado Department of Transportation (CDOT) standards.

- Two **design options** are feasible, and will likely vary by character district. The configuration will be refined in a later design phase.

DESIGN OPTION 1



A narrow paved buffer separates the protected bike lane from the roadway, and a wide amenity zone with street trees is located between the protected bike lane and the multi-use path.

DESIGN OPTION 2



A wide amenity zone with street trees separates the protected bike lane from the roadway, and a narrower amenity zone is located between the protected bike lane and multi-use path.

Streetscape, Land Use, and Urban Design

Long-Term Vision

Streetscape, urban design, and land use in the East Arapahoe corridor are integrated seamlessly with the transportation elements of the vision. Amenity zones buffer the roadway for the length of the study area, providing space for streetscape and design elements such as landscaping, seating, and lighting that improve the experience of people walking and bicycling.

The corridor vision is consistent with planned land use as detailed in the BVCP, and provides flexibility to adapt to future land use changes, for example by adding transit service and enhancing first/final mile connections. Future phases of planning, particularly BRT station area and mobility hub design, are coordinated with regional, local, and area land use planning efforts. By coordinating transportation planning and investments with anticipated changes in land use, improvements can support community desires for high quality design and placemaking in the East Arapahoe corridor. A transportation system that is accessible and comfortable and provides convenient travel options will create value by helping to make East Arapahoe a great place – to work, live and visit.

Elements

- **Amenity zones** provide space for:
 - Landscaping
 - Bicycle parking
 - Wayfinding signage
 - Seating
 - Pedestrian scale lighting
 - Public art
 - Trash receptacles
 - Transit shelters and shade
- The next phase of planning advances corridor design with continued community and property owner input, and includes a **right-of-way plan** that helps guide development.
- **Local and regional land use plans**, such as the Boulder Valley Comprehensive Plan and the upcoming 55th & Arapahoe Area Plan, incorporate the East Arapahoe vision.



Amenity zones provide space for streetscape features such as bike parking, seating, landscaping, and pedestrian-scale lighting.

Motor Vehicles

Long-Term Vision

Two through traffic lanes per direction are maintained in Character Districts A through C and one traffic lane per direction is maintained in District E, with protected left-turn lanes at intersections. The number of existing lanes varies today in District D, and the concept design for the corridor will need to address where the number of through lanes transitions from two to one in District D.

The curbside business access and transit (BAT) lane allows any vehicle to enter and make right-turns or access businesses. Emergency vehicles, HOVs, and new technologies such as shared autonomous/connected vehicles can also use this lane.

Reduced travel speeds, greater separation between people driving and those on foot and bike, and minimized conflict points between all travelers will help the city realize its Vision Zero goal of eliminating serious injuries and fatalities resulting from traffic collisions.

Elements

- **BAT lanes** can be managed to allow general-purpose traffic at certain times of day, or to allow high-occupancy

vehicles. These lanes can be used for emergency vehicle access, e.g., to Boulder Community Health.

- **Performance standards** for managing transit and/or high-occupancy vehicle lanes will ensure that the curb lane is used in a way that maximizes the efficient and reliable movement of people through the corridor, while helping Boulder accommodate changing travel demand through the East Arapahoe corridor over the time horizon of the plan.
- **Narrowed travel lanes** (10 feet, and 11 feet for curb-side lanes) communicate to drivers that they need to be more careful and enhance safety by slowing traffic speeds consistent with posted limits.



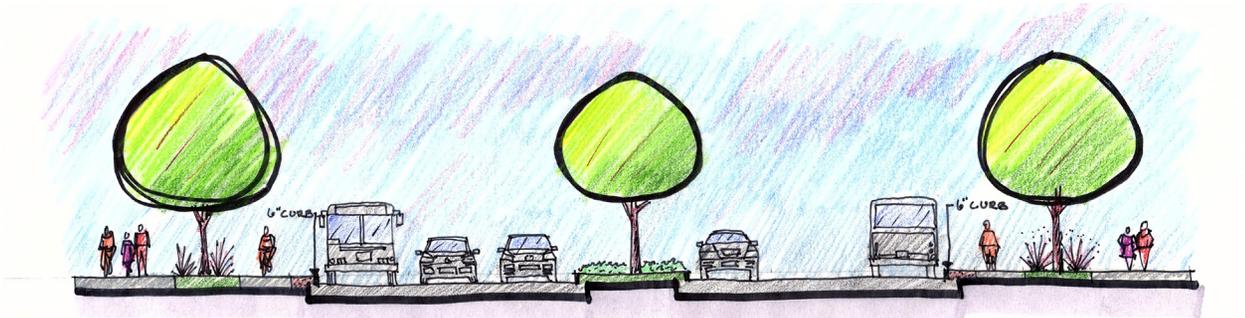
Business access and transit lane on 28th Street.



Posted speeds are 45 mph in much of the corridor.

- **Speed reduction** enhances safety and comfort for all roadway users. Changing the posted speed limit, which is currently 45 mph on much of Arapahoe Avenue, would require approval by the Colorado Department of Transportation and should be accompanied by implementation of all plan vision elements to reduce actual travel speed along the corridor.
- **Coordinated traffic signal timing** improves traffic flow and minimizes conflicts between different roadway users.

Transit



SIDE-RUNNING BRT - EXAMPLE CROSS-SECTION

Long-Term Vision

Regional BRT provides fast, reliable, frequent service on Arapahoe using curbside business access and transit (BAT) lanes. The BAT lanes operate much as they do today along north 28th Street, allowing transit vehicles and right-turning vehicles to use the curbside lanes. Stops are located at key stations, with spacing of at least a quarter-mile and preferably between a third and a half-mile (or more). High-quality stations (see amenities at right) provide a comfortable and convenient passenger experience. BRT stations and electric transit vehicles have a unique brand that distinguishes them from local JUMP buses, which continue to serve existing stops in the corridor.

Elements

- **BAT lanes** allow buses to run faster and more reliably, while allowing all vehicles to use the lanes to access businesses or make right-turns at intersections. These lanes could operate during particular times of day, and could be used by high-occupancy vehicles and future transportation technologies like shared-use autonomous vehicles as long as transit operations are not impacted (guided by performance standards).
- **Transit signal priority (TSP)** gives preferential treatment to buses at traffic signals, e.g., by extending a green signal slightly until a bus passes through.
- **Frequent transit service and longer service span** — up to every 5-10 minutes during the day, and every 15 minutes in the early mornings and evenings (combined BRT and local buses).

- **Branding** distinguishes BRT vehicles, stations, and marketing materials from other transit services
- **Electric transit vehicles** have wide doors and level, low-floor boarding to ease passenger loading and reduce delay
- **Transit stations** will include:
 - Shelters
 - Seating
 - Lighting
 - Schedules
 - Real-time arrival information
 - Off-board fare payment
 - Level boarding
 - Bicycle parking
 - Wayfinding signage
 - Art

The exact location, size, and level of amenities at each station may vary based on land use, ridership, space constraints, or other factors.



BRT Station in Kansas City

Conceptual Station and Mobility Hub Locations

Seven conceptual BRT station locations have been identified between Folsom and 75th Streets. Local bus service would continue to serve other stops in the corridor. Several mobility hub locations have also been identified. Station and mobility hub designs will be refined during the concept design process.



Mobility Hubs

Long-Term Vision

Mobility hubs facilitate transit connections around BRT stations with infrastructure, shared mobility services, and technology. Mobility hubs include pedestrian and bicycle improvements and other sustainable modes (e.g., car or bike sharing) designed to connect transit passengers to adjacent neighborhoods and destinations. Amenities support increased transit transfer activity and placemaking features make transit stations attractive and vibrant community elements for the surrounding neighborhood. Technology helps people navigate the options and promotes shared-use mobility.

Mobility hub locations along the East Arapahoe corridor include:

- 28th & Arapahoe
- CU East Campus
- Boulder Community Health
- 55th & Arapahoe

Elements

Mobility Hubs are context-sensitive solutions that are adaptable to a variety of locations. Each location requires a unique design. Mobility hub elements include:



Source: David Goltz

- A Context-appropriate parking**, consistent with the city's Access Management and Parking Strategy "SUMP" principles—shared, unbundled, managed, and paid.
- B Accessible, universal design** allows people of all physical abilities easy access to transit stops/stations and connections.
- C Shared mobility services**—including bike share stations, car share vehicles, and loading space for other private or public mobility services—enable access outside of transit station walksheds.
- D Loading zones** for transportation network company (TNC) or ridehailing vehicles (e.g., Lyft and Uber), shuttles, and autonomous "microtransit" or other vehicles.
- E Integrated mobility technology**—including kiosks, reader boards with

real-time information on transit and other modes, and shared payment interfaces—assists travelers with trip planning and arranging shared rides, and provides opportunities for other evolving applications.

- F Placemaking** elements, such as public art and public seating, active street environments with a mix of land uses, and strong land use anchors invite social interaction and vibrant business opportunity.
- G Secure, covered bicycle parking** is part of the network of Bike and Ride stations located throughout Boulder County and provides access to the surrounding bicycle transportation network.
- H High-quality pedestrian infrastructure** within a one-mile walkshed.

Access Management, Parking, and Transportation Demand Management

Long-Term Vision

Boulder's Access Management and Parking Strategy (AMPS) (see callout at right) promotes a balanced approach to enhancing access. The vision for East Arapahoe includes the following elements to expand the travel options available within the East Arapahoe corridor, in support of the AMPS guiding principles and consistent with the city's Transportation Demand Management Action Plan.

Elements

- The **bicycle and pedestrian network** is fully connected within a half-mile of transit stations to allow easy, comfortable access to and from the corridor and surrounding neighborhoods and commercial centers.
- **Partnerships** with microtransit, shuttle and/or electric bike services provide connections to major institutions and office parks, such as Flatiron Business Park and the CU East Campus.
- A new **park and ride** at the future RTD Northwest Rail Station, and/or other locations, provides satellite/edge parking that allows regional commuters from cities to the east to park and use transit

or other mobility options for travel within Boulder.

- **EcoPasses** are available to corridor employees and residents through expansion of the existing Business and Neighborhood EcoPass programs, or a community-wide EcoPass.
- **Real-time ridesharing** is available to corridor employees and is incorporated into mobile devices and mobility hub information kiosks.
- **Individualized marketing** promotes travel options to corridor employers and residents in conjunction with the launch of new bicycle facilities and transit service enhancements.
- The **Transportation Options Toolkit** is utilized by existing developments and employers and integrated into the review process for new development along the East Arapahoe corridor.
- **Access districts** are in place, including Arapahoe/55th Street, facilitating coordination between employers. Access Districts are developed with coordination between the City and employers.
- **Managed parking** is in place within new Access (Parking/TDM) districts, in conjunction with enhanced transportation options.

Boulder Access Management & Parking Strategy (AMPS)

The city's Guiding Principles for AMPS are:

- Provide for All Transportation Modes
- Customize Tools by Area
- Support a Diversity of People
- Seek Solutions with Co-Benefits
- Plan for the Present and Future
- Cultivate Partnerships

The strategy provides the following tools for change:



District Management



On- and Off-Street Parking



Transportation Demand Management



Technology and Innovation



Code Requirements



Parking Pricing

Advanced Mobility

Long-Term Vision

The East Arapahoe corridor vision plan and city policy prepare for the changes in transportation that are likely to occur over the life of the plan by working with mobility service providers, integrating new technology, and crafting policies that anticipate the future challenges and opportunities presented by advanced mobility.

“Advanced” (or “Emerging”) mobility refers to a range of new technology and transportation options, including ridehailing companies like Uber and Lyft, integrated trip planning platforms, autonomous vehicles, and privately-operated shuttles and microtransit services, i.e., autonomous small transit vehicles that can operate on flexible routes and/or on-demand. Autonomous transit may be among the first candidates to utilize autonomous vehicle infrastructure and technology. These new and emerging technologies are important opportunities for advancing the community’s sustainability and climate goals.

Elements

Recommended actions include:

- Convert to a fleet of **electric transit vehicles**
- Examine **curbside practices** (i.e., pickup and dropoff) of ridehailing companies, and:
 - Designate safe pickup and dropoff locations at or near popular destinations such as Boulder Community Health, CU campus, and Flatiron Business Park (including and in addition to Mobility Hub locations).
 - Work with ridehailing companies to ensure safe pick-up and dropoff locations and identify designated pickup/dropoff zones for them to integrate into their platforms and guide drivers.
- Identify **potential for microtransit** connecting land uses to transit stations along the East Arapahoe corridor.
- **Promote technology** that seamlessly integrates mobility options.
- **Incorporate smart kiosks** with flexible upgrade options at mobility hubs to

bridge the equity gap in access to technology.

- **Adopt policies** that encourage shared rather than single-passenger use of autonomous vehicles.
- **Monitor and adopt electric and autonomous vehicle technologies** as they are sufficiently proven, such as allowing shared-use autonomous vehicles or microtransit to use the transit/HOV lane and incorporating these technologies into regular transit service along the corridor.



Source: EasyMile/ Laura A. Oda

Autonomous shared-use vehicles and microtransit services may play a role in providing first and final mile connections to transit service on the East Arapahoe corridor.

WHAT ARE THE BENEFITS?

The East Arapahoe Transportation Plan provides a vision for multimodal transportation and streetscape improvements along the corridor. The corridor's overall look and feel and functionality will be vastly improved—streetscape enhancements will make it safer and more comfortable for people to bike and walk; transit service enhancements will make it more convenient and reliable for people to ride transit; urban design features will work hand in hand with mobility improvements make Arapahoe a more appealing place to travel and spend time.

For more information see end notes on p. 41 and Appendix C: Evaluation of Alternatives Report.

BY 2040 . . .

All comparisons are between 2040 Vision implementation and the 2040 No-Build Alternative, which assumes minimal improvements are made in the corridor.

There will be **14% fewer vehicle miles traveled** in the corridor than if no improvements were made.



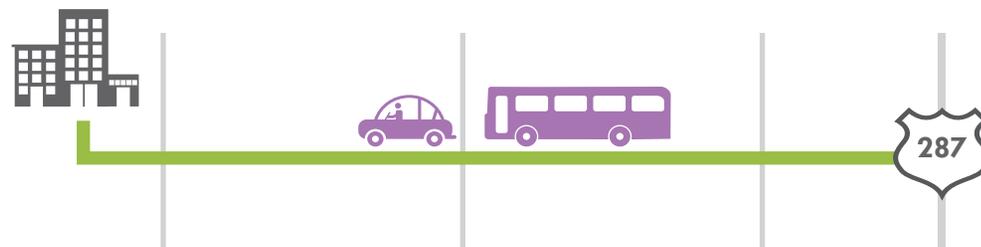
Person carrying capacity of the corridor increases, by doubling the number of buses during commute hours and providing more dedicated space for people walking and biking, while maintaining current capacity for people driving.



A trip along Arapahoe from US 287 to Boulder Community Health at 48th and Arapahoe during the morning rush hour takes:

19 minutes on BRT service - 6 minutes less than with no improvements

17 minutes driving - the same as with no improvements



Bus rapid transit service will extend from downtown Boulder to I-25 and Brighton, and operate **at least every 15 minutes between 6 am and 10 pm**, and up to every 5 to 7 minutes during peak commute times.



The safety and comfort of people of all ages and abilities biking and walking in the corridor will be improved by a raised protected bike lane and multi-use path, helping the city move towards its **Vision Zero** goal of eliminating fatal and serious injury collisions.



Driveway consolidation and intersection and crossing improvements will help **reduce collisions for drivers.**



East Arapahoe will see:



Trips made on foot increase **to 2% of total trips**, contributing to the citywide target of 25% for residents.



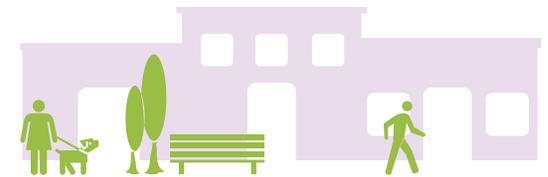
Bicycle trips increase **to 4% of total trips**, contributing to the citywide target of 30% for residents and 2% for non-residents.



Transit trips increase **to 11% of total trips, meeting the citywide target** of 10% for residents and 12% for non-residents.

Based on estimates on Arapahoe Avenue at 30th and 55th Streets.

Transportation and urban design improvements will **enhance livability and attract community-oriented businesses** to the corridor.



More people walking, bicycling, and taking electric buses will **prevent an increase in Greenhouse Gas (GHG) emissions.**



HOW WILL THE PLAN BE IMPLEMENTED?

For more information see **Appendix E: Detailed Action Plan**

Implementation Approach

Setting the vision for the East Arapahoe corridor is the first step in a multi-year journey. Implementing the vision and advancing regional mobility improvements along the length of SH 7 between downtown Boulder and I-25/Brighton will be a long-term project for the City of Boulder and key local and regional partners. It will require the city and its partners to seek out and take advantage of grants and other funding sources as opportunities become available to implement elements of the vision.

There is also flexibility to achieve the vision incrementally through short to medium-term actions. Some changes to the public realm may be coordinated with infill developments as property owners construct or reconstruct pedestrian facilities and amenity zones. Making changes to the location of the curbs in the longer term, where required, will require block-by-block and segment-by-segment reconstruction, similar to the city's multi-phased approach to improving 28th Street.

In conjunction with local improvements in the corridor, the city and regional partners will continue to refine plans for a regional multimodal corridor that has broad support and integrates Boulder's vision for East Arapahoe with planned improvements along the full extent of SH 7 between Boulder and Brighton.

Each implementation action described on the following pages is either categorized as ongoing or is assigned a general timeframe:

- Short-term actions would occur between 2018 and 2022
- Mid-term actions would occur between 2023 and 2027
- Long-term actions would occur between 2028 and 2040

The actions on this list should not be considered absolutely sequential; more than one action can be pursued simultaneously. Should viable opportunities or partners become available to pursue or accelerate specific transportation improvements or features sooner than is indicated for that specific implementation action, the city will pursue these prospects. The City of Boulder will be proactive and creative in monitoring and pursuing funding opportunities to implement the vision for the East Arapahoe corridor.

Planning and Design

Area	Element	Action	Time Frame
Corridor Design	Local Corridor Design	<ul style="list-style-type: none"> • Advance corridor design and refine cost estimates. With 10-15% corridor design concept: <ul style="list-style-type: none"> – Design intersection configurations and traffic signal practices to enhance safety – Develop Right-of-Way Plan. Integrate right-of-way needs into development review process – Develop Access Management and Connections Plan to consolidate driveways and improve access points – Conduct a study to resolve the configuration of the Foothills Parkway intersection to accommodate the plan vision 	Short-term
	Regional Corridor Design	<ul style="list-style-type: none"> • As part of SH 7 Coalition between Boulder and Brighton: <ul style="list-style-type: none"> – Participate in a regional Environmental Assessment to advance design and environmental clearance for a regional multimodal corridor (BRT, regional bikeway, pedestrian improvements, first/final mile strategies, etc.) – Pursue local, regional, state, and federal funding for multimodal improvements 	Ongoing
Integrated Land Use Planning	Mobility Hubs/Corridor-wide	<ul style="list-style-type: none"> • Refine station area design concepts in coordination with broader land use planning 	Ongoing
	Mobility Hubs/55th & Arapahoe Area Plan	<ul style="list-style-type: none"> • Prioritize and coordinate mobility hub planning with the 55th and Arapahoe Area Plan, expected to be initiated in 2019 	Short-term
	Streetscape	<ul style="list-style-type: none"> • Develop a streetscape plan for the corridor, including arts and aesthetics; a gateway element for the east end; signage to improve wayfinding and safety; and pedestrian-scale lighting 	Short-term
Policy Guidance	Transportation Master Plan	<ul style="list-style-type: none"> • Incorporate the East Arapahoe Transportation Plan into the 2018/19 TMP update and the TMP Capital Improvement Program 	Short-term
Plan Monitoring	Metrics/Monitoring	<ul style="list-style-type: none"> • Establish and implement multimodal metrics and monitoring program to regularly measure progress toward plan goals 	Ongoing

SHORT-TERM = 2018-2022

MID-TERM = 2020-2027

LONG-TERM = 2028-2040

INTERSECTION DESIGN



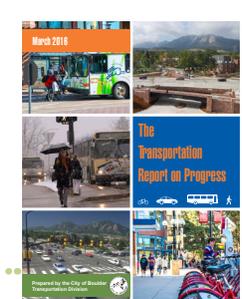
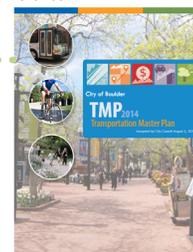
REGIONAL SH 7 BUS RAPID TRANSIT/MULTIMODAL STUDY



STREETSCAPE



TMP



Pedestrian and Bicycle

Area	Element	Action	Time Frame
Pedestrian	Crosswalks	<ul style="list-style-type: none"> Develop pedestrian crossings where needed, consistent with City of Boulder guidelines 	Ongoing
	Americans with Disabilities Act (ADA)	<ul style="list-style-type: none"> Upgrade existing intersections to be ADA compliant 	Ongoing
Pedestrian/Bicycle	Multi-Use Path	<ul style="list-style-type: none"> Reconstruct multi-use paths and amenity zones, as needed, to plan specifications 	Ongoing
	Multi-Use Path	<ul style="list-style-type: none"> Complete missing multi-use path links with a goal to create separate space between pedestrians and cyclists 	Short-term and ongoing
	Ped/Bike Underpass	<ul style="list-style-type: none"> Coordinate with S. Boulder Creek Flood Mitigation Project to implement new underpass (approximately 200 feet east of 55th Street) 	Mid- to Long-term
Bicycle	Interim buffered bike lanes	<ul style="list-style-type: none"> Investigate options to enhance existing bike lanes using striped buffers where feasible, e.g., east of 55th Street 	Short-term
	Protected bicycle lane	<ul style="list-style-type: none"> Implement protected bicycle lanes per the plan vision 	Mid- to Long-term

SHORT-TERM = 2018-2022

MID-TERM = 2020-2027

LONG-TERM = 2028-2040

PEDESTRIAN / BICYCLE CROSSINGS



MULTI-USE PATH DIAGONAL HIGHWAY



RAISED PROTECTED BIKE LANE PEDESTRIAN / BICYCLE UNDERPASS



GAPS IN MULTI-USE PATH



First and Final Mile and TDM

Area	Element	Action	Time Frame
First and Final Mile	First and Final Mile/Bicycle	<ul style="list-style-type: none"> • Explore and expand bike share partnerships to activity centers and employment concentrations in coordination with mobility hub planning 	Ongoing
	First and Final Mile/Pedestrian & Bicycle	<ul style="list-style-type: none"> • Identify gaps in the connecting ped/bike network within 1-mile of station areas and improve multi-use path connections 	Short-term
	First and Final Mile/Transit	<ul style="list-style-type: none"> • Explore transit partnerships to activity centers and employment concentrations along the corridor, e.g. microtransit/shuttles, mobility on demand, mobility as a service, fixed route transit 	Ongoing
	First and Final Mile/Transit	<ul style="list-style-type: none"> • Coordinate East Arapahoe transit service with Boulder's Renewed Vision for Transit fixed route network, including regional BRT network connections 	Ongoing
	First and Final Mile/Satellite Parking	<ul style="list-style-type: none"> • Explore park-and-ride locations in conjunction with other regional transit corridors 	Short- to Mid-term
TDM	Employer TDM Programs	<ul style="list-style-type: none"> • Work with area employers to encourage use of parking management and transportation options, e.g. ridesharing, transit, vanpooling and other TDM programs like parking cash out, EcoPasses, alternative work schedules, etc. 	Ongoing
	Neighborhood TDM Programs	<ul style="list-style-type: none"> • Promote transit service and other travel options along the corridor to area residents, including expansion of Neighborhood EcoPass program. Work with multi-family residential properties to manage and unbundle parking. Provide safe and convenient pedestrian and bicycle access to transit. 	Ongoing
	District TDM Programs	<ul style="list-style-type: none"> • Work with area property owners to explore the potential for new access (parking/TDM) districts per AMPS action items 	Ongoing

SHORT-TERM = 2018-2022
MID-TERM = 2020-2027
LONG-TERM = 2028-2040

ECOPASS



PARK-AND-RIDE



BCYCLE BIKE SHARE



AUTONOMOUS MICROTRANSIT



BOULDER HOP COMMUNITY TRANSIT NETWORK ROUTE



Transit and Vehicular

Area	Element	Action	Time Frame
Transit	BRT	<ul style="list-style-type: none"> • Implement regional BRT service in cooperation with SH 7 Coalition partners, including phased service options 	Mid- to Long-term
	Local Transit	<ul style="list-style-type: none"> • Enhance existing transit service in the corridor through transit priority, frequency and quality improvements 	Ongoing
	West End Routing & Stations	<ul style="list-style-type: none"> • Refine west end terminus, alignment, and stations, coordinated with other street and transit projects connecting 28th Street to Downtown Boulder 	Short-term
	Stations & Stop Improvements	<ul style="list-style-type: none"> • Implement stop improvements and refine BRT station design concepts to maximize passenger and pedestrian access, comfort and safety 	Ongoing
Transit/ Vehicular	BAT Lanes	<ul style="list-style-type: none"> • Implement transit priority measures for local and regional transit, including BAT lanes for priority direction and time of day in key segments, HOV 2 or 3+, emergency vehicles and evolving technologies 	Mid- to Long-term
	Communication Technology	<ul style="list-style-type: none"> • Evaluate need for advanced communication technology to support advanced mobility (bus priority, autonomous vehicles, etc.) 	Ongoing
Vehicular	Lane Striping	<ul style="list-style-type: none"> • Where feasible, restripe lanes consistent with plan vision, coordinated with potential future roadway repaving 	Ongoing
	Signal Timing	<ul style="list-style-type: none"> • Incorporate findings of future city-wide signal timing and progression analysis, as appropriate 	Ongoing
	Speed Limit Evaluation	<ul style="list-style-type: none"> • Evaluate posted speeds with CDOT, coordinated with corridor improvements, safety considerations, and community vision for the corridor 	Short- to Mid-term
	Lane Configuration	<ul style="list-style-type: none"> • East of 55th Street, where existing traffic lanes transition from three to two lanes per direction, evaluate where the future transition from two traffic lanes to one traffic lane per direction should occur 	Short-term

SHORT-TERM = 2018-2022

MID-TERM = 2020-2027

LONG-TERM = 2028-2040

EXISTING LOCAL TRANSIT:
JUMP



BRT STATION



BAT LANES: 28TH STREET



Funding, Partnerships, and Coordination

Creative funding strategies utilizing a variety of sources will be needed to implement the East Arapahoe vision. Potential sources include local, regional, state, and federal sources as well as public-private partnerships. These partnerships will be critical to implementing the vision for the East Arapahoe corridor. The city will actively engage with the community and regional partners including CDOT, Boulder County, RTD, and neighboring jurisdictions. Roles for key partners include:

- **CDOT**, which has jurisdiction over SH 7 will be a key funding partner in implementing the plan vision. For vision elements that can be accomplished within existing curb-to-curb dimensions, CDOT roadway maintenance projects may provide an opportunity to make incremental improvements that enhance safety and comfort for all users. CDOT will also be a key partner in advancing concept designs and securing funding for improvements within the East Arapahoe corridor and along SH 7 to the east.
- **RTD** will be a critical funding partner in enhancing transit service and capital facilities in the corridor, including improving the quality of service in the

corridor today, and in launching future regional BRT service.

- **SH 7 Coalition** is a forum to coordinate and advocate for a regional multimodal corridor that includes high quality/high frequency BRT and a regional bikeway accompanied by local bus, bike and pedestrian connections, first and final mile connections, and future innovative transportation modes. The Coalition is comprised of representatives from the cities of Boulder, Brighton, Lafayette, and Thornton; the Town of Erie; Adams County and Boulder County; and the City and County of Broomfield. As an active participant in the Coalition, the City of Boulder will work collaboratively with member jurisdictions and agencies to secure funding for these corridor improvements, which include the East Arapahoe vision, through the DRCOG Transportation Improvement Program (TIP), the RTD Strategic Business Plan (SBP), the CDOT Development Program, and, when appropriate, by pursuing state and federal grants.

- **Private sector and institutional partners, including the Chamber of Commerce, Commuting Solutions, and Boulder Transportation Connections**, will work with the city to develop programs and policies that encourage use of travel options and support other elements of the vision, such as expanding EcoPass distribution and participating in programs that enable ride sharing and supporting shuttle services.
- **Private application developers** can help the city develop technology applications to deliver real-time information and shared mobility solutions.
- **Ridehailing companies** (such as Lyft and Uber) and autonomous vehicle operators can collaborate with the city to create policies to effectively manage how their vehicles utilize curb space and integrate with potential managed lanes.
- **Carshare and bikeshare providers** (such as BCycle and eGo CarShare) will also be important in providing first and final mile connections at stations and mobility hubs.
- **Private developers** will help implement the plan's vision for the public realm as infill and redevelopment occurs.

Monitoring

The City of Boulder will continually monitor progress toward the plan vision and goals. Specifically, the city will monitor thresholds for implementing specific types of improvements and evaluate the benefits of implementing the vision, particularly as they contribute to meeting the city's TMP objectives and Climate Commitment goals. The city will:

- Continue to collect auto travel time data annually and monitor trends over time.
- Continue to collect and evaluate safety data to evaluate safety trends over time.
- Continue to monitor performance of the RTD JUMP route to assess the impact of congestion on transit performance, and the justification for improvements that ensure reliable transit travel time and mitigate increases in operating costs (or degradation in frequency) that would result from the travel time impacts.
- Evaluate performance measures for the curbside lane to identify when and where it is appropriate to implement BAT and/or HOV lanes.
- Engage in on-going community input and feedback to ensure continuous improvement of the project development process



End Notes

NEED FOR INVESTMENT

1. Inventory of passenger amenities from City of Boulder inventory, 2016.
2. Transit travel times based on the existing JUMP Schedule, 2016; Auto travel times from City of Boulder Traffic Count Data and Drive Time Data, 2014.
3. The intersections of Arapahoe Avenue with 28th Street, 30th Street, and Foothills Parkway each had more than 100 total collisions between 2012 and 2014. Source: Collision data based on City of Boulder analysis of Boulder Police Department crash data, 2012-2014.
4. Existing employment data from US Census Longitudinal Employer-Household Dynamics (LEHD), 2015.
5. Based on analysis of open development cases, 2016. Source: <https://bouldercolorado.gov/open-data/city-of-boulder-open-development-review-cases/>
6. Employment capacity from [Boulder Valley Comprehensive Plan, 2015-2040 Projections](#).
7. Based on EcoPass data as of May 2016 and employment from US Census LEHD, 2015, within 1/2 mile of the corridor between Folsom Street and 75th Street.

8. Historical traffic based on City of Boulder Traffic Count and Drive Time Data, 2014.
9. Non-residents hold 47% of the 100,148 jobs in Boulder. Source: [Boulder Community Profile, 2017](#). Based on 2016 estimate by City of Boulder Dept of Planning , Housing, and Sustainability.
10. Based on the 2014 Boulder Valley Employee Survey, Table 10, 47% of Boulder residents drive alone to work, compared to 80% of nonresidents.
11. Regional travel demand forecasts from DRCOG, 2040.

BENEFITS

1. In 2040, vehicle miles of travel in the corridor are projected to be 130,100 miles with no improvements and 20% traffic growth, and 111,300 miles with vision implementation and 0% traffic growth. For more information see [Evaluation of Alternatives Summary Report](#), Vehicle Operations: VMT, p. 27.
2. Carrying capacity is estimated based on modeled traffic volumes, transit capacity, and projected bicycle and walking trips. See [Evaluation of Alternatives Summary Report](#) Attachment D: Mode Share for more information.
3. Auto and transit travel times are based on traffic modeling performed for this plan, and east of 75th Street, on analysis

- that was done for the SH 7 BRT Study. For more information see [Evaluation of Alternatives Summary Report](#), Transit Operations: Sample Travel Times, p. 34. .
4. Multiple studies have shown that reducing the number of access points on urban and suburban arterials reduces the number of collisions. For more information see the [Evaluation of Alternatives Summary Report](#), Safety, p. 51, and Attachment E: Safety.
 5. Mode share estimates are calculated separately for each mode based on travel demand modeling, ridership forecasts, and increases in bike trips seen by other communities after facility improvements. See the [Evaluation of Alternatives Summary Report](#), Travel Mode Share, p. 46, and Attachment D: Mode Share for more information.
 6. Mode share targets are from the 2014 [Transportation Master Plan](#).
 7. In 2040, greenhouse gas emissions in the corridor are projected to be 47.7 metric tons with no improvements, and 40.8 metric tons with vision implementation. Estimates are based on vehicle miles traveled. For more information see the Evaluation of [Alternatives Summary Report](#), Community Sustainability: Greenhouse Gas Emissions, p. 54, and Attachment F: Sustainability.

