



Welcome TO LIVING LAB PHASE I

FEEDBACK OPEN HOUSE

WHAT IS THE LIVING LAB?

An action item of the Transportation Master Plan, the Living Lab program allows the city to test new street designs intended to enhance travel safety and multi-modal access. Over the past two years, the city installed several pilot projects as part of the Phase I Living Lab program. All projects are considered experimental at this time.

YOUR experience and feedback is a vital component of the Living Lab evaluation process

We are seeking your feedback on the following phase I pilot projects:

1. **SPRUCE STREET - BUFFERED BIKE LANE**
2. **UNIVERSITY AVE. - BACK-IN ANGLED PARKING**
3. **UNIVERSITY AVE. - PARKING-PROTECTED BIKE LANES**
4. **BASELINE RD. - PROTECTED CYCLE TRACK**
5. **HARVARD LANE - DASHED BIKE LANES**

WHAT WOULD YOU LIKE TO DO:

CONTINUE IT?

REFINE IT?

REMOVE IT?



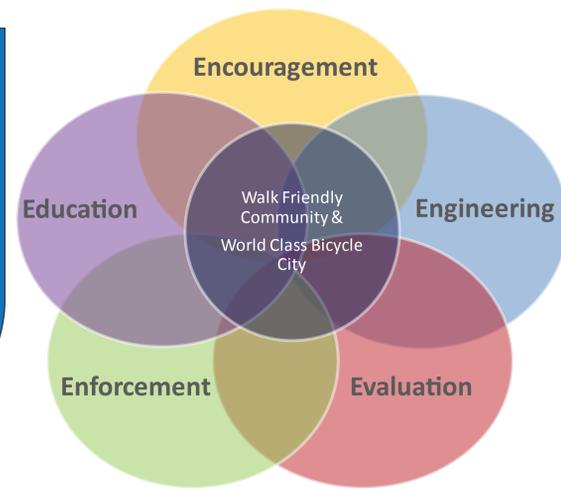
2014 TRANSPORTATION MASTER PLAN

AND THE LINK TO LIVING LAB

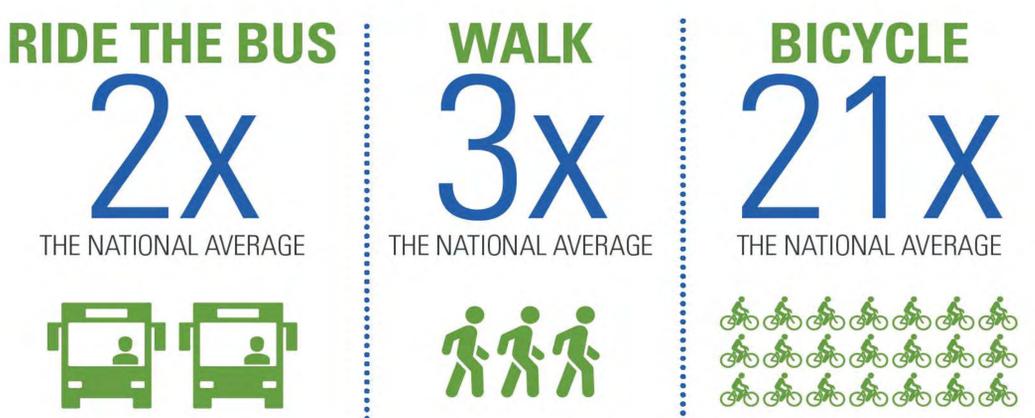


The vision of the Transportation Master Plan (TMP) is to create and maintain a safe and efficient multimodal transportation system meeting the sustainability goals of the community and increased options for walking, biking, and transit

TMP objectives include safety improvements for people using all modes of transportation working "Toward Vision Zero" for fatal and serious injury crashes. Complete Streets also supports the National Campaign, Safer People, Safer Streets. Cities across the country are committing to improve the safety and comfort of our streets for people of all ages and stages of life.



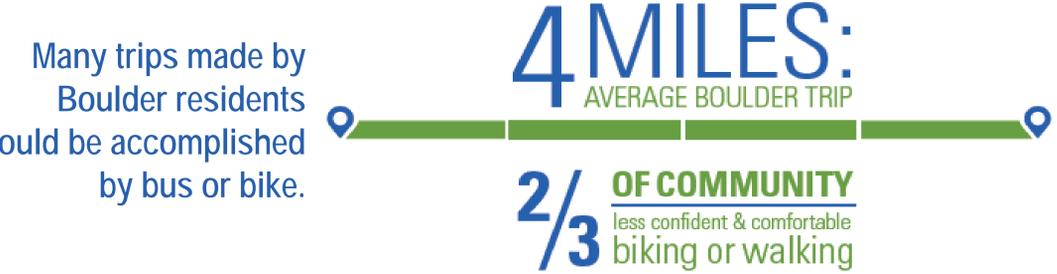
Currently, Boulder residents:



The TMP sets ambitious yet realistic mode share goals of:



- According to the 2012 Boulder Travel Diary Survey
- Men bike at 2x that of women
 - Women make more Single Occupant Vehicle trips than men
 - Currently there are more bike trips for recreation than commute



2014 TMP OBJECTIVES

- Reduce Vehicle Miles Traveled (VMT) by 20%
- Reduce Single Occupancy Vehicle (SOV) to 20% of trips
- Max of 20% Roadways at LOS F
- Expand fiscally viable alternatives for residents and employees
- Increase alternatives with rate of employee growth
- Safety Vision Zero
- Increase Neighborhood accessibility 15 min neighborhoods
- Reduce VMT per capita by 20% residents and employees

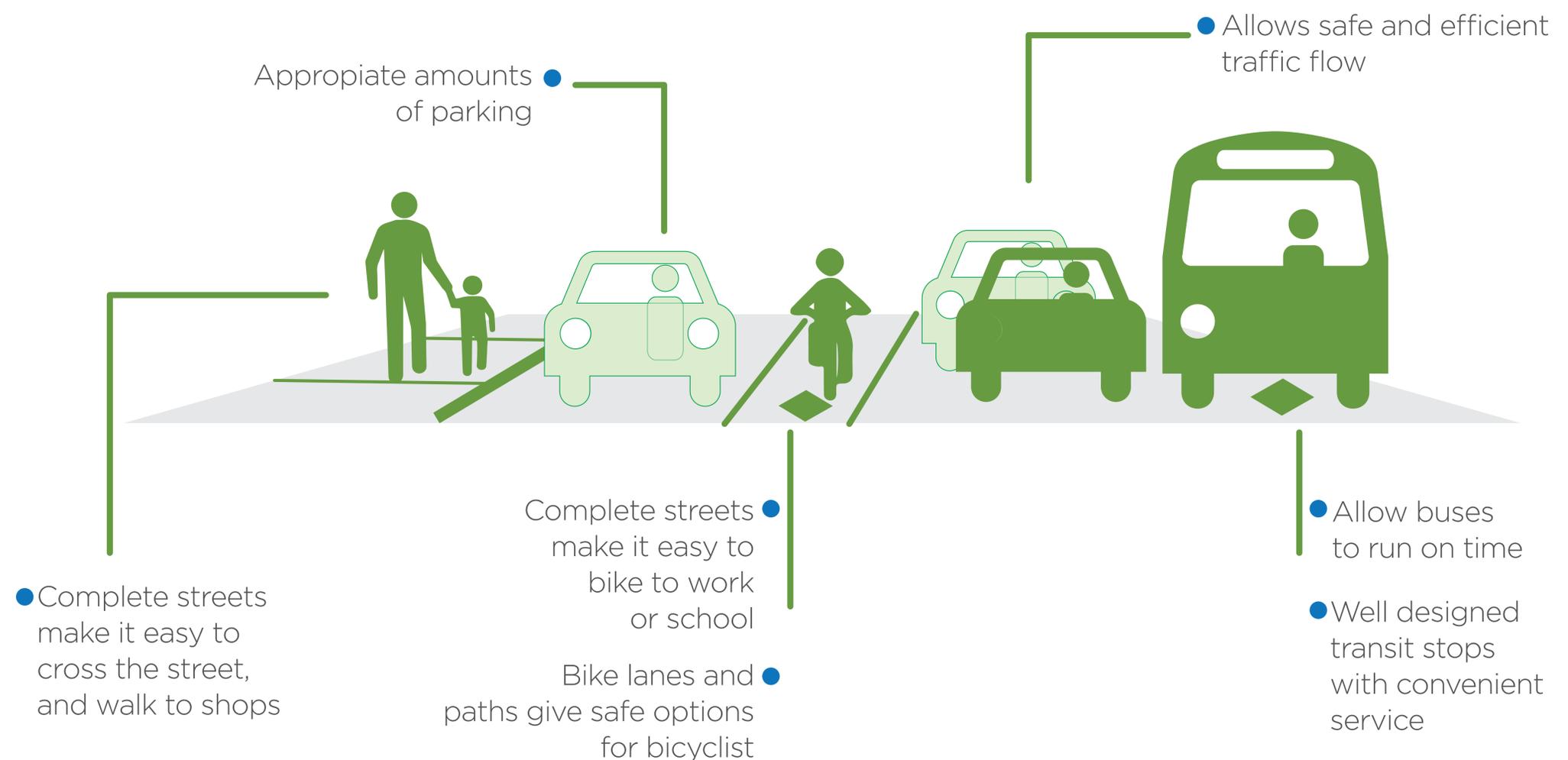
The city is focusing efforts on increasing trips by older adults, women and families with children from 8-80 years old. Engineering improvements coupled with strategies to encourage, educate enforce, and evaluate bicycling are the five "E's" that comprise a comprehensive approach to increasing bike mode share.



COMPLETE STREETS

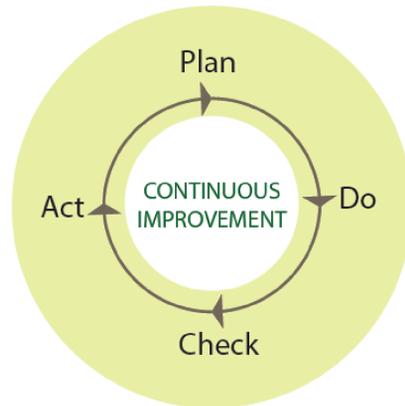
WHAT ARE COMPLETE STREETS?

Complete streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.





LIVING LAB EVALUATION CRITERIA



TECHNICAL DATA

SPEED
VOLUME
TRAVEL TIME
INTERSECTION DELAY



OBSERVATION SURVEY

DEMOGRAPHICS
BEHAVIOR
CONFLICTS

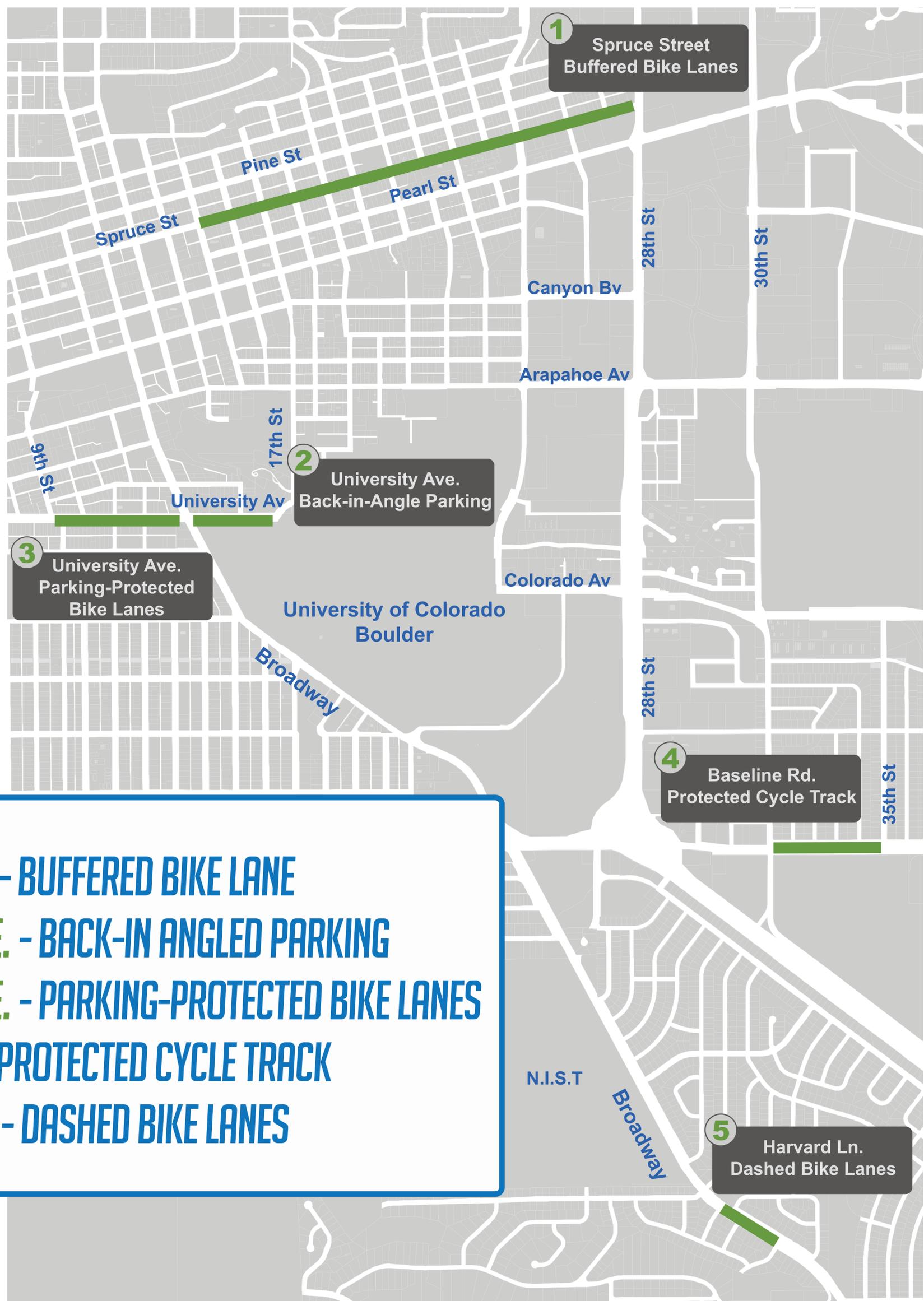


COMMUNITY INPUT

INQUIRE BOULDER
BIKE/WALK AUDIT
POP-UP EVENTS
SURVEYS
STAKEHOLDER MEETINGS



LIVING LAB PHASE 1 PILOT PROJECTS



- 1. SPRUCE STREET - BUFFERED BIKE LANE
- 2. UNIVERSITY AVE. - BACK-IN ANGLED PARKING
- 3. UNIVERSITY AVE. - PARKING-PROTECTED BIKE LANES
- 4. BASELINE RD. - PROTECTED CYCLE TRACK
- 5. HARVARD LANE - DASHED BIKE LANES



SPRUCE ST. - BUFFERED BIKE LANE

OVERVIEW

Buffered bike lanes are conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane

BEFORE



INSTALLED:
AUGUST 2013

AFTER



ON-GOING
PROJECT

KEY FINDINGS

- Only 2% to 3% of the automobiles encroached into the buffer area
- 18% more bicycles were observed using the corridor during Aug. 2015 'after installed' compared to the Aug. 2013 'before installed' period
- Over 90% of cyclists were observed traveling in the bike lane and did not encroach into the buffer area

WHAT WOULD YOU LIKE TO DO:

CONTINUE IT?

REFINE IT?

REMOVE IT?



UNIVERSITY AVE - BACK-IN ANGLED PARKING

OVERVIEW

This treatment changes front-in angled parking to back-in angled parking adjacent to a bike lane in an effort to reduce the potential for conflict and collision between cyclists and vehicles backing out blindly into their path.

BEFORE



INSTALLED:
AUGUST 2013

AFTER



ON-GOING
PROJECT

KEY FINDINGS

- Compliance increased from 87% in Aug. 2013 to 91% in Aug. 2014
- During winter, some parked vehicles encroach into the bike lane
- There have been no crashes in this section of University Ave involving motor vehicles pulling out and hitting bikes since installation 2 years ago
- Based on observations, vehicles exiting the parking stall yield to bicyclists before pulling out into traffic on University Ave
- Some community feedback has expressed concern for delay due to vehicles maneuvering into parking space

WHAT WOULD YOU LIKE TO DO:

CONTINUE IT?

REFINE IT?

REMOVE IT?





UNIVERSITY AVE - PARKING PROTECTED BIKE LANE

OVERVIEW

A protected bike lane is an on-street buffered bicycle lane that is physically separated from vehicle traffic by flexible posts, parked vehicles, planters, or a curb.

BEFORE



INSTALLED:
OCTOBER 2014

AFTER



ON-GOING
PROJECT

KEY FINDINGS

- Speed was reduced from 29 mph to 26 mph with the installation of the protected bike lanes and the narrowing of the travel lanes
- Winter maintenance practices were extremely challenging
- Observations found that 6% of cyclists were riding in the wrong direction
- Skateboarders accounted for 6% of the bike lane users

WHAT WOULD YOU LIKE TO DO:

CONTINUE IT?

REFINE IT?

REMOVE IT?





BASELINE RD. - BARRIER PROTECTED BIKE LANE

OVERVIEW

A protected bike lane is an on-street buffered bicycle lane that is physically separated from traffic by flexible posts, parked vehicles, planters, or a curb.

BEFORE



INSTALLED:
AUGUST 2013

AFTER



ON-GOING
PROJECT

KEY FINDINGS

- Many cyclists have shared that they feel safer traveling in bike lanes that are physically separated from travel lanes
- An average of 42% of vehicles accessing Baseline from side streets roll through the stop bar
- Some public concern has been expressed regarding the use of concrete bumper blocks due to aesthetic reasons and the inability for bicyclist to move from the protected bike lane when executing left turns near the intersection
- Snow plowing worked well

WHAT WOULD YOU LIKE TO DO:

CONTINUE IT?

REFINE IT?

REMOVE IT?





HARVARD LANE - DASHED BIKE LANE

OVERVIEW

Used on low volume streets that are too narrow for traditional bike lanes, this treatment is marked with a skip stripe pattern between the travel lane and bike lane. This treatment accommodates a five foot bike lane that prioritizes space for cyclists while still allowing drivers to encroach into the bike lane if needed to pass an oncoming vehicle.

BEFORE



INSTALLED:
OCTOBER 2014

AFTER



ON-GOING
PROJECT

KEY FINDINGS

- Observations found that bicyclists account for 75% of all traffic on Harvard Lane in the AM and PM peak hours
- Before installation, about one-third of cyclists rode in the travel lane as compared to less than 5% after

WHAT WOULD YOU LIKE TO DO:

CONTINUE IT?

REFINE IT?

REMOVE IT?





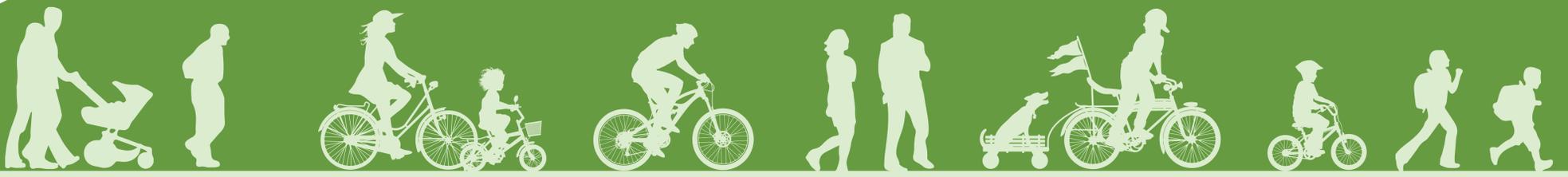
2.0 BICYCLE NETWORK AND BIKEWAY DESIGN GUIDE

An action item of the Transportation Master Plan implementation is to develop a 2.0 Bicycle Network that provides a connected system of low-stress bicycle routes and increased access for all ages and abilities. It is envisioned that the results of the Living Lab pilot projects will help the city develop Bicycle Facility Installation Guidelines to create a “2.0 Bicycle Network” of a complete and connected low-stress network.

Please share your feedback on the Phase I treatments and whether each should be included in the Bikeway Design Guidelines

TREATMENT	I LIKE IT BECAUSE	I DONT LIKE IT BECAUSE	OTHER FEEDBACK
BUFFERED BIKE LANES			
BARRIER PROTECTED BIKE LANES			
PARKING PROTECTED BIKE LANES			
DASHED BIKE LANES			
BACK-IN ANGLED PARKING			



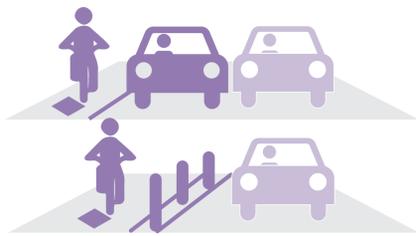


LIVING LAB PHASE II: OVERVIEW

FOLSOM STREET PILOT PROJECT

The Folsom Street pilot project is part of the Living Lab Phase II program. It supports implementation of the Transportation Master Plan, which is guided by the Boulder community's vision to create a more complete transportation system that provides a variety of travel options for everyone.

One of the priorities in the plan is to develop Complete Streets that offer safe travel for everyone, whether walking, biking, along Folsom Street. The pilot includes street designs that enhance facilities for bicycling such as protected bike lanes.

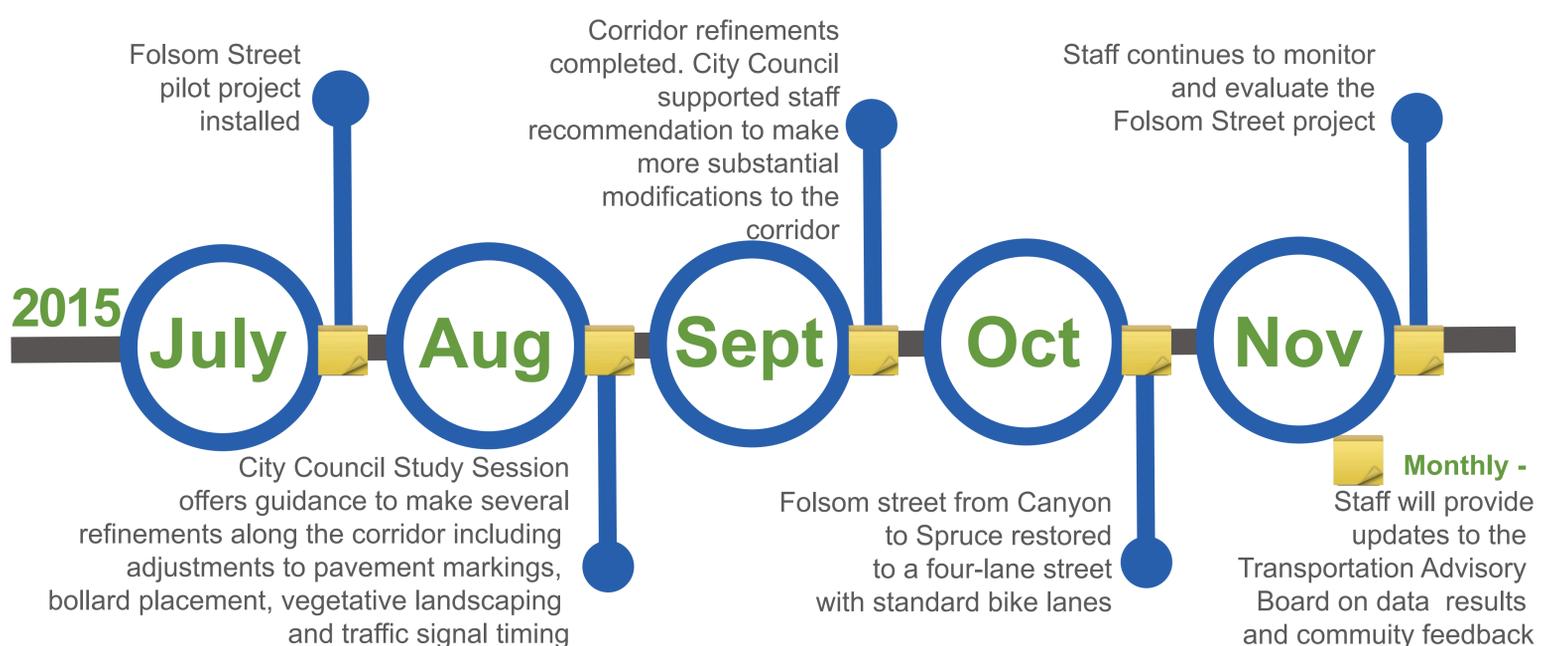


Traffic Lane Repurposing

FOLSOM STREET BIKE LANE MODIFICATIONS



FOLSOM STREET TIMELINE



MOVING FORWARD

-  Evaluation of pilot project treatments continue through spring 2016
-  Monthly Transportation Advisory Board updates on pilot project evaluation data and user feedback
-  2nd Quarter 2016 update to City Council

Share your experience, tell us how the Folsom Street pilot project affects your ability to get around, what is working or not working, and how you would like to stay engaged throughout the ongoing pilot project evaluation

For more information please visit:
BoulderLivingLab.net



NEXT STEPS & STAY ENGAGED

NEXT STEPS

- Following the meeting, staff will incorporate community feedback received in fall 2015 into the on-going evaluation of Phase I pilot projects
- On December 14, the Transportation Advisory Board will convene a public hearing to consider a staff recommendation regarding next steps on Phase I pilot projects
- On January 19, 2016, City Council will receive an update on Living Lab Phase I pilot projects
- TAB and Council direction will guide actions on Living Lab Phase I pilot project recommendations in early 2016

STAY ENGAGED! STAY UPDATED ON THE LIVING LAB IN MULTIPLE WAYS:

VISIT GoBoulder.net

- Sign up for the Living Lab stakeholder e-newsletter
- Read more on the background of the Living Lab, the Transportation Master Plan, and how to plan your trip around Boulder

VISIT InquireBoulder.net

- Virtual city information desk

VISIT InspireBoulder.com

- Add your feedback to the Living Laboratory Program: Transportation Innovations

VISIT Boulder.CommonPlace.is

- Share your experience on-the-go using this geographically-based tool and Twitter to post a comment on the commonplace map

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