

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

MEETING DATE: September 14, 2015

AGENDA TITLE: Staff briefing and TAB input regarding Phase I Living Laboratory evaluation update and next steps

PRESENTERS: Michael Gardner-Sweeney, Interim Director of Public Works for Transportation
Bill Cowern, Transportation Operations Engineer
Kathleen Bracke, GO Boulder Manager
Marni Ratzel, Senior Transportation Planner
Dave “DK” Kemp, Senior Transportation Planner

EXECUTIVE SUMMARY

This memo provides a status report, check-in and opportunity for the Transportation Advisory Board (TAB) to provide input on the Bicycle Living Laboratory (Living Lab) Phase I evaluation and next steps.

The first phase of Living Lab projects is providing a forum for testing new, innovative facilities and contemporary treatments to improve Boulder’s existing bicycle infrastructure. Phase I projects began in 2013 as part of the community engagement process for the Transportation Master Plan (TMP) update and have been opportunistic and primarily bicycle-related. User feedback is an integral element of the evaluation process coupled with technical transportation data and field “before and after” behavior observations. Living Lab Phase I experiences have informed Phase II.

The Sept. 14 TAB meeting will include an update on the Living Lab Phase I pilot projects underway and additional community engagement proposed in fall 2015 to gather user feedback on the treatments as well as next steps for the location specific pilot projects. Staff is seeking feedback from TAB on the Living Lab projects from Phase I technical data as well as TAB input to help shape the proposed public engagement process this fall.

New material in this memo is highlighted in yellow.

TAB ACTION REQUESTED

Provide feedback on the Living Laboratory Phase I projects and input on the proposed community outreach process and next steps.

BACKGROUND

An action item of the TMP is to install “Complete Street” projects through the Living Lab program. Introduced during the TMP update process, the Living Lab approach installs pilot projects to test new street designs, allow experimentation, and gather community feedback on the user experience.

Achieving an increase in bicycle mode share from 10 to 15 percent by 2020 and ultimately to 30 percent by 2035 is an objective of the TMP. In support of this objective, the city is focusing efforts on attracting and better accommodating “Interested but Concerned Cyclists” and, in particular, increasing trips by older adults, women and families with children - accommodating bicyclists 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.

Phase I of the Living Lab program is providing a forum for testing new, innovative facilities and contemporary treatments to improve Boulder’s existing bicycle infrastructure. Projects installed in Phase I include:

- Buffered bike lanes
 - Spruce Street (15th to Folsom streets)
 - University Avenue (9th Street to Broadway)
- Protected bike lanes (cycle track)
 - Baseline Road (30th to 35th streets)
 - University Avenue (9th Street to Broadway)
- Back-in angle parking adjacent to a bike lane
 - University Avenue (Broadway to 17th Street)
- Dashed (advisory) bike lanes
 - Harvard Lane (Dartmouth Avenue to the Broadway path at Table Mesa Drive)
- Bike Box
 - Folsom Street at Arapahoe Avenue
- Multiway Boulevard
 - Pearl Parkway (30th to the BNSF Railroad tracks)
- Shared Street
 - Pearl Parkway to Goose Creek greenway path
- Electric-assisted bicycle use on off-street, multi-use paths, not including paths on lands managed by Open Space and Mountain Parks (OSMP)

To-date, the Phase I projects have been primarily opportunistic and bicycle focused. With the exception of a City Council adopted ordinance (Nov. 2014) allowing electric-assist bicycle use

on multi-use paths, all projects are considered experimental at this time. Prior to Phase I installations, staff hosted an initial public meeting to garner community feedback regarding the types of proposed facilities to test and then notified affected property owners and stakeholders within the Phase I project installation areas. The first wave of projects was installed in August 2013. An evaluation process was conducted, including community feedback, technical evaluation, and field “before and after” behavior observations. A summary of this evaluation was presented to the Transportation Advisory Board (TAB) at its [Sept. 8, 2014 meeting](#).

The second wave of Phase I projects was installed in November 2014 and is currently being evaluated. This wave included the installation of protected bike lanes on University Avenue and advisory (dashed) bike lanes along Harvard Avenue. Technical and observational data was collected in April 2015 to coincide with the start of the peak cycling season and to ensure University of Colorado (CU) Boulder community travel patterns are reflected. The qualitative analysis focuses on public input and informs an iterative review and response process to address community comments and concerns. An example of an identified concern is the need for increased winter maintenance along the University Avenue cycle track. Staff also refined the pilot project by installing flexible bollards to delineate the parking lane from the buffered bike lane and to help guide motorists into parking stalls during snowy conditions.

In July 2015, a bike box was installed at the intersection of Folsom Street and Arapahoe as part of the Folsom corridor project. This treatment and the dashed bike lane pilot project on Harvard are currently not national standard street markings; however, these treatments are being utilized in other U.S. cities. The city of Boulder has been granted a Request to Experiment (RTE) approved by the Federal Highway Administration (FHWA) to evaluate these two treatments.

STAFF ANALYSIS

Living Laboratory Phase I Installed bicycle treatment evaluation

Evaluation of the Living Lab Phase I pilot projects has included community feedback, field observations, and “before” and “after” comparison for both quantitative and qualitative measures. Observational data collection and evaluation included bicycles riding in the intended zones, interactions between bicyclists and pedestrians, interactions between bicyclists and motorists at intersections and mid-block, motor vehicle travel speeds and volume, maintenance/snow plowing, vehicle parking relative to the bike lane, e-bike user speed, volume, and gender on multi-use paths.

The Fox Tuttle Hernandez Transportation Group (FTH) has been assisting city staff with field observations and data analysis for all projects implemented to date. **Attachment A** provides images and a detailed analysis of each of the Phase I facilities. Below is a brief summary of key findings:

The overview explains the treatment, the date of installation and status of the city’s project(s) to test the treatment. The key findings section under each facility provides a snapshot of ongoing

evaluation gathered through technical transportation data, observational surveys and user/community feedback.

Since the installation of the Phase I projects, qualitative feedback from the community has primarily been focused on the University Avenue parking protected bike lanes. Several community members have expressed concern for the narrow street design, snow removal practices and inappropriate use of the bike lane by pedestrians, skateboarders and wrong way cyclists. Feedback in support of the protected bike lanes expresses that the design encourages new and diverse riders, feels more safe and comfortable to ride a cyclist and slows vehicle speed. Visibility of cyclists also has been expressed as a potential safety concern. A summary of these public comments as well as a table of the individual comments received is provided in **Attachment B**.

Buffered bike lanes

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. In August 2013, the City installed buffered bike lanes along Spruce Street from 15th Street to Folsom and along University Avenue from 9th Street to Broadway. The Spruce Street buffered bike lane pilot project is ongoing. In Oct. 2014, the University Avenue buffered bike lanes were removed and replaced with protected bike lanes.

Key Findings:

- (Spruce Street) Only 2 to 3% of the automobiles encroached into the buffer area in the after condition. Prior to the installation of the buffered bike lanes, no bicycle facilities existed on this corridor.
- (Spruce Street) The number of bicycles observed was higher during both August observation periods than during the November observation period and this increase is likely due to seasonal conditions. However, 18% more bicycles were observed using the corridor during August (2015) ‘after installed’ when compared to the August (2013) ‘before installed’ period.
- (University Avenue) Vehicle speeds remained approximately the same in the before and after condition with the buffered bike lanes, which was to be expected as the buffering had limited effect of narrowing the perceived motor vehicle travel lane.

Protected bike lanes

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. In August 2013, the city installed protected bike lanes along Baseline Road from 30th to 35th Street. This treatment tests the use of flexible bollards and concrete blocks to physically separate the bike lanes from the

adjacent travel lane. In Oct. 2014, parking protected bike lanes were installed along University Avenue from 9th Street to Broadway.

Key Findings:

- (Generally) Many cyclists have shared that they feel safer traveling in bike lanes that are physically separated from travel lanes.
- (Baseline Road) Some public concern has been expressed regarding the use of concrete bumper blocks due to aesthetic reasons and the inability for bicyclists to move from the protected bike lane when executing left turns near the intersection.
- (Baseline Road) An average of 42% of vehicles accessing Baseline from side streets roll through the stop bars. The visibility and sight lines at intersections within the study area are generally good, and may contribute to this level of stop bar non-compliance
- (Baseline Road) Speed data was not collected on Baseline prior to implementation. Comparative speed data is being collected in sections of Baseline with and without the protected bike lanes.
- (University Avenue) Bicyclists traveling in the wrong direction in the protected bike lanes accounted for approximately 5.5% of the bike lane users. Skateboarders accounted for another 5.5% of the users in the protected bike lanes.
- (University Avenue) The 85th percentile speed was reduced from 29 (mph) to 26 (mph) with the installation of the protected bike lanes and the narrowing of the travel lanes, which effectively moved parking closer to the moving traffic.
- (University Avenue) Only 22% of the motorists approaching University Avenue on a stop sign controlled side street stopped before entering the protected bike lane. Another 26% of the motorists stopped within the bike lane. 27% of the motorists stopped in the parking lane or vehicular travel lane, and 25% of the side street vehicles rolled through the intersection without stopping at all.
- (University Avenue) Winter maintenance practices were extremely challenging. The slope of the street, drainage, vehicles parked incorrectly, and low angle sun during winter are major factors working against the successful removal of snow and ice from the protected bike lanes.

Back in Angle 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 documented collisions between cyclists or motor vehicles on the street and vehicles backing out blindly into their path. In August 2013,

back-in angle parking was installed along University Avenue between Broadway and Mackey Drive. The pilot project is ongoing.

Key findings:

- Over time, compliance with the back in angled parking has increased from 87% in August 2013 to 91% in August 2014.
- Between 5 and 10% of the parked vehicles continue to park across the stall lines, but the latest after data shows that no parked vehicles encroached into the bike lane.
- Observations during a snow event indicated that some vehicles did not back all the way to the curb, and some were parked encroaching into the bike lane area. □
- Based on observations, vehicles exiting the parking stall yielded to bicyclists before pulling out into traffic on University Avenue. □
- There have been no crashes in this section of University involving vehicles pulling out and hitting bikes and motor vehicles, since the installation two years ago. There has been one crash involving a motor vehicle pulling wrong way into the parking space and being passed on the right by a motorcycle and two reported accidents where vehicles backing into the parking stalls have hit adjacent parked vehicles.

Dashed Bike Lanes

Overview

Used on low volume streets that are too narrow for traditional bike lanes, this treatment is marked with a skip stripe pattern (not a solid stripe) between the travel lane and bike lane. No centerline is striped on the two-way street. The vehicle travel lanes are narrowed to accommodate a standard width of five feet for each bike lane. This bike lane treatment prioritizes space for bicyclists while allowing motorists to encroach into the bike lane if needed to pass oncoming motor vehicles. In Oct. 2014, dashed bike lanes were installed along Harvard Lane between Bates Lane and the Broadway multi-use path north of Table Mesa Drive. The experiment is part of a FHWA “request to experiment” and will be evaluated over one year and reported to FHWA in October, 2015. Evaluation results will be shared with TAB at a later meeting.

Bike Box

Overview

A bike box is a designated area in front of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible place to wait during the red signal phase. Bike boxes help prevent ‘right-hook’ conflicts with turning vehicles at the start of the green signal phase. Bike boxes also group bicyclists together to clear an intersection quickly, minimizing delay other traffic. Motor vehicles are prohibited from making right turns during red signal phase and must yield to bicyclists within the bike box.

The bike box was installed in the southbound lane on Folsom Street at Arapahoe Avenue in July 2015. The experiment is part of a FHWA “request to experiment” and will be evaluated over one year and report to FHWA in 2016 evaluation results will be shared with TAB as part of the future Living Lab Phase II Folsom corridor project updates.

Multi-way Boulevard

Overview

A multi-way boulevard provides center through lanes and parallel local access lanes separated by one another with tree-landscaped medians. The purpose is to provide buffered pedestrian spaces, bicycle access, and parking areas from through traffic and create a more attractive and inviting boulevard environment. As part of the Boulder Junction area, the city completed construction of a multi-way Boulevard along Pearl Parkway from 30th Street to the BNSF railroad tracks in July 2015. The project will begin evaluation efforts fall 2015. Evaluation criteria will include measuring potential conflicts among all road users, vehicle speeds and volume, collisions, snow removal, and parking space utilization.

Shared Street

Overview

A shared street allows pedestrians and bicyclists to utilize roadway space along with motor vehicles, which are required to yield the right of way to these slower street users. Shared street design techniques remove curbs, roadway markings and traffic signs. It is designed with distinctive streetscape features that minimize separation among transportation users. As part of the Boulder Junction area, the city completed construction of a shared street along Junction Place from north of the RTD transit station at Depot Square to Goose Creek. The project will begin evaluation efforts fall 2015. Evaluation criteria will include measuring potential conflicts among all road users, vehicle speeds and volume, and snow removal.

Electric-assisted bicycle use on off-street, multi-use paths

Overview

An e-bike is essentially a bicycle that can be propelled by both human power and electric-assist power. It is designed for people interested in completing trips by bike but concerned about their physical ability to ride longer distances or climb steeper hills. On Feb. 7, 2014 the City began a pilot project to allow and test electric assist bicycle (e-bike) use on hard-surface multi-use paths, not including paths on Open Space and Mountain Park lands. The pilot evaluated behavior of e-bike users to determine whether these vehicles can co-exist with current users on multi-use paths. In Dec. 2014, City Council adopted an ordinance that extended the pilot project allowing e-bike use on certain multi-use paths by removing the expiration date. The new ordinance was effective in Jan. 2015. The Open Space and Mountain Parks Department identified several noncontiguous multi-use path segments for transfer management from OSMP to Transportation. A Memorandum of Understanding authorizing the transfer is under review and anticipated to be executed this fall. The city continues community outreach with the “Way of the Path” campaign

initiated during the e-bike pilot program to encourage safe and courteous behavior by all trail/multiuse path users.

Summary of Key Findings

The evaluation process of Phase I projects has provided staff with valuable information regarding the challenges and opportunities associated with each of these facilities. This information helps inform future projects to enhance bicycle safety while taking into consideration the safety for all road users. Ultimately, the results of Phase I will enable staff to update the City of Boulder's Design and Construction Standards as it relates to bicycle facilities.

Living Lab Phase I - Proposed Community Engagement

To gather additional qualitative feedback from the community, the Transportation Division proposes to host a public Open House meeting this fall. A focus would be to present information on the evaluation of all Phase I pilot projects and gather input on the design treatments. Community input will help inform whether to keep the existing pilot projects in place on these streets as well as to determine if these type(s) of treatments should be considered for future projects in other areas of the community. An online survey and Inspire Boulder social media also will be used to gather feedback. Staff proposes to distribute a post card via direct mail or hand delivered door hanger notifications to property owners in the vicinity of each pilot project. A media release and social media posts also would be sent to publicize the proposed public engagement forums.

Key Questions for TAB:

- 1) Does TAB have feedback regarding the evaluation Phase I Living Lab treatments?
- 2) Does the TAB have input and/or questions on the proposed community engagement process to gather additional qualitative feedback on the Phase I Living Lab pilot projects?

NEXT STEPS

Based on direction from the TAB, the Transportation Division will conduct outreach in the community including adjacent property owners and residents in the area of the existing Phase I pilot projects to seek additional feedback on these facilities. An open house meeting will be scheduled this fall. Staff will return to the TAB for a public hearing to consider the Phase I recommendations at a future meeting in the Fall/Winter 2015.

Attachments:

Attachment A: Phase I - Evaluation Analysis Memo

Attachment B: University Avenue – Public Comment Summary



Date: September 2, 2015

To: Kathleen Bracke
David Kemp

From: Bill Fox
Carlos Hernandez
Jessica Hernandez

RE: Summary of Living Labs Phase I Project Findings – Before and After

As part of the Transportation Master Plan (TMP), the city launched a ‘Living Laboratory’ (LL) to test new transportation facilities and to evaluate their long-term application around the city. A series of LL projects have been active since September 2013. The LL projects provide an opportunity to better understand how pedestrians, bicycles, and drivers interact with these new transportation facilities.

Evaluation of the Living Laboratory demonstration projects has included community feedback, field observations, and in most cases “before” and “after” comparison. The Fox Tuttle Hernandez Transportation Group (FTH) has been assisting city staff with field observations and data analysis for the following LL projects:

- Spruce Street Buffered Bike Lanes
- University Avenue Buffered Bike Lanes
- University Avenue Protected Bike Lanes
- Baseline Road Protected Bike Lanes
- Harvard Lane Dashed Bike Lanes
- University Avenue Back In Angled Parking
- Folsom Street Bicycle Box

In most cases “after” has been collected in 2013 and again in 2015. To date FTH has completed 59 hours of before and after study, during which time approximately 2,600 bicycles, 7,100 motor vehicle interactions, and 840 parked cars have been observed. Using this data, 10 performance measures have been evaluated.

FTH completed a before and after summary memorandum of the LL project status in August of 2014 using the initial set of after data collection. This memorandum builds on those findings, adds new after data, and provides observations and recommendations regarding the on-going use of these new LL project treatments as we look to the future.

Summary of Living Labs Phase I Project Findings

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This memorandum is organized as follows for each of the Living Lab Phase I projects:

- Project Description
- Evaluation Measures
- Summary of Before and After data collection
- Summary of analysis
- Key findings

Buffered Bike Lanes: Spruce Street

- **Project Description**

Buffered bike lanes were installed in September of 2013 on a ten block segment of Spruce Street between 15th Street and Folsom Avenue. On-street parallel parking exists along both sides of Spruce Street throughout this project area. A painted buffer was installed between the bike lane and the adjacent vehicle travel lane for the entire project. In the eastern three blocks, between 21st Street and Folsom Avenue where the street is a few feet wider, a narrow painted buffer was also installed between the bike lane and the parked cars along the outside edge of the bike lane.

- **Evaluation Measures**

- Bicycles riding in the intended zones
- Motor vehicle driving position
- Parking space utilization
- Snow plowing and storage

- **Summary of Before and After data collection**

Spruce Buffered Bike Lane

Field Observation of Living Labs Treatment	Before	After	After
Date(s) of Observations	8/28/2013	11/19/2013	8/26/2015
Person Hours of Observation	6	6	6
Cyclist Observations at LL Treatment	478	327	566
Vehicle Observations at LL Treatment	--	2,473	2,710

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 Summary of analysis

Spruce 1: Bicycles riding in intended zones, "before" vs "after"

Cyclist Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Before '13	After '13	After '15	Before '13	After '13	After '15
Outside BL (near parking)	57%	62%	65%	47%	76%	70%
Middle BL						
Inside BL (near buffer)	42%	34%	35%	50%	21%	29%
Buffer						
Travel Lane	1%	4%	0%	3%	1%	0%

Spruce 2: Bicycles riding in intended zones, detailed positions

Cyclist Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Before '13	After '13	After '15	Before '13	After '13	After '15
Outside BL (near parking)	57%	3%	2%	47%	9%	13%
Middle BL		59%	64%		67%	57%
Inside BL (near buffer)	42%	22%	26%	50%	17%	18%
Buffer		12%	9%		4%	11%
Travel Lane	1%	4%	0%	3%	4%	1%
Total	100%	100%	100%	100%	100%	100%

Spruce 3: Parking space utilization

Utilization	Before 2013	After 2013	After 2015
17th-18th	95%	70%	95%
18th-19th	90%	70%	95%
19th-20th	90%	70%	95%
22nd-23rd	90%	90%	95%
23rd-Folsom	90%	85%	95%

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Spruce 4: Motor vehicle position

Vehicle Wheel Position	After 2013	After 2015
Buffer	2%	4%
Travel Lane	98%	94%
Center Line	0%	3%

- **Key findings**

- Automobile travel lanes were reduced to 9.5 to 10 feet in the after condition.
- The number of bicycles observed was higher during both August observation periods than during the November period observed. This appears to be related to seasonal factors, but there were also 18% more bicycles observed during the August after period than the August before period.
- 4% or less of the bicycles observed in the after condition traveled in the automobile lane.
- Between 84% and 92% of the bicyclists observed traveled in the bike lane area after they were installed.
- Between 4% and 12% of the bicyclists were observed traveling in the buffer area in the after condition.
- Only 2 to 3% of the automobiles encroached into the buffer area in the after condition.
- Between 2% and 4% of automobiles were observed crossing the centerline at some point while traveling along Spruce Street.
- No clear cut trend in bicyclist position within the bike lane area was observed in the before or after data.
- Similarly, no clear pattern in vehicle positioning within the travel lane emerged, however it should be noted that vehicles were observed to have no trouble staying within the vehicular lane and avoiding the buffer area, even when considering the trucks observed.
- Parking space utilization was higher during both August observation periods than during the November period. This may be in part related to the Spruce Pool access during the summer and pedestrian activity along Pearl Street.
- During a snowstorm, if snow is windrowed in the center of Spruce Street, it will result in automobiles traveling in the buffer areas. This will necessitate the removal of the windrows as quickly as possible.

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Buffered Bike Lanes: University Avenue**▪ Project Description**

Double buffered bike lanes were installed on University Avenue between 9th Street and Broadway as a first step in the Living Lab implementation on University Avenue. The width of University Avenue allowed the striping of buffers between the bike lane and the automobile travel lane, and between the bike lane and the on-street parallel parking lane. Prior to the Living Lab, University Avenue had wide parking lanes, on-street bike lanes, and wide automobile travel lanes. The double buffered bike lanes were tested between August of 2013 and October of 2014 after which this stretch of University Avenue was then converted to a protected bike lane (see below).

▪ Evaluation Measures

- Bicycles riding in the intended zones
- Motor vehicle and bicycle interactions at intersections
- Motor vehicle stop bar compliance
- Motor vehicle driving position
- Snow plowing and storage

▪ Summary of Before and After data collection

University Buffered Bike Lane

Field Observation of Living Labs Treatment	Before	After	After
Date(s) of Observations	7/24/2013	11/15/2013	10/15 & 10/16/2014
Person Hours of Observation	2	3	2
Cyclist Observations at LL Treatment	26	140	--
Vehicle Observations at LL Treatment	0	586	208

▪ Summary of analysis

University BBL 1: Bicyclists riding in the intended zone

Cyclist Position	Before	After
Outer BL (closest to parking)	23%	21%
Middle BL	50%	58%
Inside BL (closest to travel lane)	27%	19%
Buffer (btwn BL & travel lane)		2%
Vehicle Travel Lane	0%	0%
Total	100%	100%

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University BBL 2: Bicyclists riding in the intended zone

Cyclist Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Outside BL	21%	11%	24%	28%	7%	36%	0%
Middle BL	58%	44%	55%	67%	74%	56%	10%
Inner BL	19%	44%	18%	6%	11%	8%	90%
Buffer	2%	0%	3%	0%	7%	0%	0%
Vehicle Travel Lane	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%

University BBL 3: Motor vehicle position (After Nov 2013)

Vehicle Wheel Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Bike Lane Buffer	6%	0%	7%	3%	10%	3%	11%
Travel Lane	93%	100%	93%	97%	86%	97%	89%
Center Line	1%	0%	0%	0%	3%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%

University BBL 4: Side street stop bar compliance

Vehicle First Stop Position	Nov 2013	Nov 2014
Stop Bar	10%	10%
Parking Lane	26%	33%
Bike Lane	48%	18%
Rolling Stop	16%	39%
Total	100%	100%

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University BBL 5: Motor vehicle speed and volume

Date	October 2012	August 2014	April 2015
Bike Lane	Standard	Buffered	Protected
ADT	5770 vpd	4970 vpd	4570 vpd
Average Speed	26 mph	25 mph	23 mph
85th Percentile Speed	29 mph	29 mph	26 mph

- **Key findings**

- In the before condition all cyclists observed were in the bike lane, but the sample size was small with only 26 bikes tallied by a group of CU students.
- In the after condition, the bicyclists lane position was similar to the before condition, with slightly more bikes centered in the bike lane area and maximizing their separation from both moving and parked automobiles.
- In the after condition, 93% of automobiles traveled within the automobile lane, while 6% encroached into the bike lane buffer, and 1% traveled with a wheel across the centerline.
- Motorists approaching University on a side street are regulated by stop signs. Of these, only 10% actually stopped at the stop bar in both after periods observed.
- In the first after condition another 26% of side street approaching motorists stopped in alignment with the parking lane and nearly half of approaching motorists did not stop until they were encroaching into the bike lane or the bike lane buffer. 16% of the motorists never did stop, and continued rolling into University Avenue.
- During the second after condition, a year later, more vehicles (33%) were observed stopping in the parking lane and significantly less vehicles (18% down from 48%) were observed stopping in the bike lane. Unfortunately, the number of vehicles that didn't stop at all (rolling stop) increased from 16% to 39%.
- 64% of motorists approaching on a side street did not stop before entering the bicycle lane during the first after period, and 57% did not stop before entering the bike lane a year later. This is a significant safety concern because the on-street parking along University Avenue is highly occupied, and the parked vehicles present a sight distance obstruction for approaching motorists.
- Speeds remained approximately the same with the buffered bike lanes, which was to be expected as the buffering had limited effect of narrowing the perceived travel lane.
- Observations during a snow storm indicate that motorists generally stay toward the middle of the street and avoid most of the buffers and bike lanes. It appears that snowplows windrow the snow toward the middle of University Avenue. If windrows are not removed quickly motorists will have no choice but to encroach into the buffered bike lane area.

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Protected Bike Lanes: University Avenue**▪ Project Description**

In November of 2014 the double buffered bike lanes on University Avenue were converted to protected bike lanes where the on-street parking was moved away from the curb lines toward the center of the street and the bike lanes were created against the curb lines, outside of the parking lane. A door zone buffer was created between the bike lanes and the parking lanes, and a row of flexible delineators was installed along the inside edge of each door zone buffer adjacent to the parking lanes. Signs were placed in the street at the beginning of each block to orient automobiles and bicyclists, and areas were striped out adjacent to intersections to make adequate sight distance available.

▪ Evaluation Measures

- Bicycles riding in the intended zones
- Parking space utilization
- Vehicle parking relative to bike lane
- Vehicle volume and speed
- Motor vehicle driving position
- Motor vehicle stop bar compliance
- Snow plowing and storage

▪ Summary of Before and After data collection

University Protected Bike Lane

Field Observation of Living Labs Treatment	After	After	After	After
Date(s) of Observations	2/4/2015	3/5/2015	4/22/2015	8/26/2015
Person Hours of Observation	4	5.5	6	1.5
Cyclist Observations at LL Treatment	26	68	241	157
Vehicle Observations at LL Treatment	85	85	624	401

The February and March after data collection periods were during snow events, specifically intended to monitor the performance of the facility under snow conditions.

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 Summary of analysis

University PBL 1: Bicyclists riding in the intended zone

User Position	Total	Feb 2015	March 2015	April 2015	Aug 2015
Protected Bike Lane	77%	77%	40%	86%	78%
Travel Lane	10%	19%	57%	1%	2%
Wrong Way in PBL	5.5%	4%	0%	4%	11%
Skateboarders in PBL	5.5%	0%	0%	7%	7%
Cyclist on Sidewalk	2%	0%	3%	0%	2%
Total	100%	100%	100%	100%	100%

University PBL 2: Bicyclists riding in the intended zone, snow conditions

User Position	Total	Feb 2015 - before plow	Feb 2015 - after plow	March 2015 - accumulated snow
Protected Bike Lane	50%	64%	100%	40%
Travel Lane	47%	36%	0%	57%
Wrong Way in PBL	1%	0%	8%	0%
Skateboarders in PBL	0%	0%	0%	0%
Cyclist on Sidewalk	2%	0%	0%	3%
Total	100%	100%	100%	100%

University PBL 3: Bicyclists riding in the intended zone, non-snow conditions

User Position	Total	April 2015	August 2015
Protected Bike Lane	83%	99%	95%
Travel Lane	1%	1%	2%
Wrong Way in PBL	7%	4%	11%
Skateboarders in PBL	7%	7%	7%
Cyclist on Sidewalk	1%	0%	2%
Total	100%	100%	100%

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University PBL 4: Bicyclists riding in the intended zone, by direction

User Position	Feb 2015		March 2015		April 2015		August 2015	
	Ebd	Wbd	Ebd	Wbd	Ebd	Wbd	Ebd	Wbd
Protected Bike Lane	75%	100%	23%	58%	87%	86%	83%	54%
Travel Lane	21%	0%	77%	36%	1%	0%	2%	4%
Wrong Way in PBL	4%	0%	0%	0%	2%	8%	8%	25%
Skateboarders in PBL	0%	0%	0%	0%	9%	4%	6%	13%
Cyclist on Sidewalk	0%	0%	0%	6%	1%	2%	2%	4%
Total	100%							

University PBL 5: Demographics of bicyclists riding in the protected bike lane

Demographics	Total	Feb 2015	March 2015	April 2015	Aug 2015
Male	77%	92%	82%	74%	75%
Female	23%	8%	18%	26%	25%
Total	100%	100%	100%	100%	100%

University PBL 6: Motor vehicle position

Vehicle Wheel Position	Total	April 2015	Aug 2015
Travel Lane	92%	94%	90%
Center Line	8%	6%	10%
Total	100%	100%	100%

University PBL 7: Motor vehicle stop bar compliance

Vehicle First Stop Position	April 2015
Stop Bar	5%
Curbline	17%
Protected Bike Lane	26%
Parking Lane	24%
Travel Lane	3%
Rolling Stop	25%
Total	100%

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University PBL 8: Motor vehicle speed and volume

Date	October 2012	August 2014	April 2015
Bike Lane	Standard	Buffered	Protected
ADT	5770 vpd	4970 vpd	4570 vpd
Average Speed	26 mph	25 mph	23 mph
85th Percentile Speed	29 mph	29 mph	26 mph

- **Key findings**

- When snow was not a factor, 98% of bicyclists traveled in the protected bike lanes. 1% used the sidewalk, and 1% used the adjacent vehicle lane.
- Snow events resulted in approximately half of the bicyclists using the travel lane and half using the protected bike lane.
- Bicyclist's decision to travel in the bike lane or the vehicle lane during snow events was influenced by the condition of the pavement in each, and the amount of time since the plow had cleared each.
- Plows that cleared the protected bike lanes sometimes left snow deposits in the lane at the ends of the blocks. This influenced the use of the bike lane by bicyclists.

Snow Plow Operations on University Protected Bike Lanes



- Bicyclists traveling in the wrong direction in the protected bike lanes accounted for approximately 5.5% of the bike lane users. It is our understanding that the City has received a number of complaints and concerns about wrong way bicyclists in the protected bike lanes.
- Skateboarders accounted for another 5.5% of the users in the protected bike lanes.
- Under fair weather conditions, male cyclists accounted for approximately 75% of the bicyclists in the protected bike lane. On snowy days, the male user percentage increased to approximately 80% or 90%.
- Occasionally pedestrians were observed walking in the protected bike lanes.
- 92% of motorists stayed within the automobile lanes on University Avenue, and 8% allowed a wheel to touch but not cross the centerline of the roadway.
- Parking occupancy along the protected bike lanes was high, ranging between 85% and 100% consistently.

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- During fair weather conditions parked vehicles typically stayed within the designated parking areas. However, during snowy conditions when the pavement markings were covered, parked vehicles did not always stay within the parking area, and often were not parked in a straight line.
 - Only 22% of the motorists approaching University Avenue on a stop sign controlled side street stopped before entering the protected bike lane. Another 26% of the motorists stopped within the bike lane. 27% of the motorists stopped in the parking lane or vehicular travel lane, and 25% of the side street vehicles rolled through the intersection without stopping at all.
 - There were not enough observations of bicycle interaction with turning vehicles at intersections to observe if there were conflicts, such as “right hooks” between turning motorists and through bicyclists.
 - Speeds were reduced by 2-3 miles an hour with the installation of the protected bike lanes as a result of parking being moved closer to the moving traffic, which effectively narrowed the travel lane.

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Baseline Road Protected Bike Lanes**▪ Project Description**

Existing buffered bike lanes on Baseline Road were converted to protected bike lanes between 30th Street and 37th Street. The conversion consisted of adding concrete bumper blocks and flexible delineators along the inside edge of the existing painted buffer on each side of Baseline Road. There is an existing multi-use path running along the south side of Baseline in this project area adjacent to the CU Williams Village student housing site. A frontage road exists along the north side of Baseline Road, separated by a wide landscaped median.

▪ Evaluation Measures

- Bicycles riding in the intended zones
- Motor vehicle and bicycle interactions at intersections
- Motor vehicle stop bar compliance
- Motor vehicle travel speeds and volumes
- Snow plowing

▪ Summary of Before and After data collection

The only before data collected for this project was historic traffic volume and speed information. After data was collected as follows:

Baseline Protected Bike Lane

Field Observation of Living Labs Treatment	After Fall 2013	After Summer 2015
Date of Observations	11/13/2013	8/25 & 8/26/2015
Person Hours of Observation	6	6
Cyclist Observations at LL Treatment	168	325
Vehicle Turning Movements Observed	191	89

▪ Summary of analysis

The after analysis focused on which facility was utilized by east-west bicyclists, and automobile stop bar compliance as they approached Baseline Road from a side street. The two periods of after data collection are summarized as follows (with additional detail provided in the Appendix):

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Baseline 1: Bicyclists riding in the intended zone

Cyclist Position	Total (Nov 2013)	Total (Aug 2015)	WB 2013	WB 2015	EB 2013	EB 2015
Southside Multi-Use Path	23%	38%	22%	40%	24%	33%
Protected Bike Lane	77%	62%	78%	60%	76%	67%
Vehicle Travel Lane	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%

Baseline 2: Motor vehicle stop bar compliance from side street

First Stop Location	Nov 2013		Aug 2015	
	SBD	NBD	SBD	NBD
Stop Bar	9%	14%	8%	11%
Just Past Stop Bar	38%	46%	50%	57%
Bike Lane	28%	24%	25%	13%
Rolling Stop	24%	16%	17%	19%
Total	100%	100%	100%	100%

- **Key findings**

- In both after time periods all bicyclists were observed using either the protected bicycle lane or the multi-use path, with no bicyclists occupying the automobile travel lanes.
- Almost twice as many bicyclists were observed in August 2015 than in November 2013. This may have as much to do with the warmer weather conditions as the presence of the protected bike lanes.
- The percentage of bicyclists using the multi-use path increased between November 2013 and August 2015. Again, it is not clear if this related to the presence of the protected bike lane. It may have more to do with the path's location adjacent to the CU site and the easy access to the Bear Creek multi-use path undercrossing of Baseline Road just east of 37th Street.
- A high percentage of automobiles accessing Baseline from side streets roll through the stop bars. Most stop just past the stop bar before reaching the bike lane, but some proceed all the way into the bike lane before stopping. The visibility and sight lines at intersections within the study area are generally good, and may contribute to this level of stop bar non-compliance.
- Only a small number of interactions between bicycles in the bike lanes or on the multi-use path and automobiles entering Baseline Road were observed. In most cases the automobiles yielded

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to bicyclists in the protected bike lanes, but some bikes on the multi-use path had to yield to motorists at the path crossing.

- In 2013 three cars were observed using the westbound bus lane at 35th Street as an acceleration lane. No vehicles were observed doing this in 2015.
- It is our observation, and our understanding that City staff has received comments from bicyclists using the protected bike lanes, that the bumper blocks can be restrictive to bicyclists trying to access the automobile lanes on Baseline in order to turn left.
- Observations during a snow storm in 2013 indicated that large tandem axle snowplows are able to effectively remove snow from the protected bike lanes, and the project had minimal impact on effective snow removal.

Snow Plow Operations on the Baseline Protected Bike Lane

- In summary, this protected bike lane treatment on Baseline Road is effective in allowing bicyclists to travel outside of the automobile travel lanes. No significant negative operational issues were observed.

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Dashed Bike Lane: Harvard Lane**▪ Project Description**

Dashed bike lanes were installed on 0.3 miles of Harvard Lane between Dartmouth Avenue and the Bear Creek Greenway multi-use path at Table Mesa Drive. Dashed bike lanes are an experimental treatment that provide bike lanes (dashed) on a roadway that is not wide enough to provide conventional bike lanes and two-directional automobile lanes between them. One or both of two on-coming motorists that approach each other on Harvard will need to move laterally to bypass each other, and in doing so will need to move partially into the dashed bike lane area.

The Federal Highway Administration (FHWA) has issued permission to experiment with dashed bike lanes on Harvard to the City of Boulder. As part of that process, the City is compiling before and after data to comply with the requirements of FHWA. A progress report is currently being prepared for submittal to FHWA. When completed, that report will also serve as a detailed before and after summary as part of the Living Lab process in the City of Boulder.

▪ Evaluation Measures

- Bicycles riding in the intended zones
- Motor vehicle-motor vehicle interactions and driving position
- Motor vehicle-bicycle interactions and positions
- Motor vehicle travel speeds and volumes

▪ Summary of Before and After data collection

Harvard Dashed Bike Lane

Field Observation of Living Labs Treatment	Before	After	After
Date(s) of Observations	10/14/2014	4/28/2015	Fall 2015
Person Hours of Observation	6	6	
Cyclist Observations at LL Treatment	275	240	
Vehicle Observations at LL Treatment	50	75	

- Summary of analysis – *see FHWA Progress Report when available*
- Key findings – *see FHWA Progress Report when available*

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Back In Angle Parking: University Avenue**▪ Project Description**

On-street head-in diagonal parking has existed historically along the south side of University Avenue between Broadway and the entrance to the CU campus on 17th Street. There are also on-street bicycle lanes along University in this area, which have raised concerns about the visibility between motorists backing out of diagonal or angled parking spaces and approaching bicyclists in the bike lane located behind the parked cars. Back in angled parking allows motorists to access the parking stalls from a position of good visibility, and also provides significantly better visibility between drivers and bicyclists as vehicles exit the parking stalls in the forward direction. As part of the Living Lab, the head in angled parking stalls were converted to back in angled stalls.

▪ Evaluation Measures

- Bicycles riding in the intended zones
- Parking space utilization
- Back in parking compliance
- Parked vehicle position
- Parking motor vehicle and bicycle interactions

▪ Summary of Before and After data collection

University Back In Angled Parking

Field Observation of Living Labs Treatment	Before	After	After
Date(s) of Observations	7/23 & 7/24/2013	11/15 & 11/20/2013	8/26/2015
Person Hours of Observation	3	4	3
Cyclist Observations at LL Treatment	27	92	55
Observations of Parked Vehicles	0	307	209

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- **Summary of analysis**

Univ. Back In Parking 1: Bicyclists riding in the intended zones

Cyclist Position	Before - July 2013	After - Nov 2013	After - Aug 2015
Outer BL	22%	13%	9%
Middle BL	41%	60%	55%
Inside BL	37%	16%	25%
Vehicle Travel Lane	0%	11%	11%

Univ. Back In Parking 2: Average Parking Space Utilization (Percent Occupied)

Time of Day	After - Nov 2013	After - Aug 2015
AM	9%	--
Noon	64%	73%
Afternoon	--	78%
PM	66%	--

Univ. Back In Parking 3: Back in parking compliance and position

Time of Day	After - Nov 2013	After - Aug 2015
Parked Correctly	77%	81%
Parked in BL	3%	0%
Parked On or Across Line	7%	9%
Parked Head In	13%	9%
Total	100%	100%

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▪ Key findings

- No clear trend in bicycle positioning within the bike lane emerged with the data that was collected, in part because the before data was collected by CU students and there is some question as to the described orientation of riders within the lane. This evaluation measure had been included to help determine if bicyclist would rider closer to the parked cars (and farther away from moving traffic) if there was better visibility between bicyclists and parked motorists about to exit the parking spaces.
- It was observed that eastbound bicyclists tend to stay within the bike lane between Broadway and 15th Street where the roadway grade is relatively flat. The downhill grade steepens east of 15th toward the steep hill and curve onto 17th Street. In this area some bicyclists were observed taking the automobile lane on the approach to the steep downhill. It is not clear which block the before data was collected in.
- When the back in parking was first implemented many motorists continued to park head in despite the signs that were posted illustrating the correct parking orientation. Police issued warnings for a period of time and eventually started writing tickets to influence correct parking behavior. Tickets were being issued during November of 2013 when the original before data was collected.
- It was observed that many motorists were not comfortable backing their vehicle into the angled parking stalls.
- All of the vehicles that we actually observed entering the parking stalls in the head in direction during the after studies were traveling westbound before cutting across eastbound traffic to enter an angle stall.
- Over time the amount of head in parking has decreased from 13% in 2013 to 9% in August of this year.
- The issuance of back in parking tickets has decreased by approx. 48% (see appendix) from 2,049/year to 1,072/year over the past two years, while the percentage of vehicles that park correctly has increased from 77% to 81% since the original after study.
- Between 5 and 10% of the parked vehicles continue to park across the stall lines, but the latest after data shows that no parked vehicles encroached into the bike lane.
- Observations during a snow event indicated that some vehicles did not back all the way to the curb, and some were parked encroaching into the bike lane area.
- The few vehicles that we observed exiting a parking stall while a bicycle was approaching actually yielded to the bicycle before pulling out into traffic on University Avenue.

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Bicycle Box: Southbound Folsom at Arapahoe**▪ Project Description**

A bicycle box was installed in July of 2015 in the southbound lane of Folsom Street at the intersection of Arapahoe Road. The bicycle box is an experimental treatment that provides additional reserved space between the pedestrian crosswalk and the motor vehicle stop line for bicyclists to queue during a red signal phase. The bicycle box is marked by green colored pavement treatment and extends from the bike lane across the adjacent through lane, preceded by an advanced stop line for motor vehicles. Motor vehicles are not permitted to “turn on red” at the improved intersection. Bicyclists waiting for the signal will have the choice to queue in the bicycle lane or the bicycle box. The bicycle box provides additional space for bicyclists to move to the front of the vehicle queue, increasing visibility and priority for the high volume of through cyclists at this intersection.

The Federal Highway Administration (FHWA) has issued permission to experiment with the bicycle box on Folsom to the City of Boulder. As part of that process, the City is compiling before and after data to comply with the requirements of FHWA. Progress reports will be prepared for submittal to FHWA in early and mid-2016. When completed, the reports will also serve as a detailed before and after summary as part of the Living Lab process in the City of Boulder.

▪ Evaluation Measures

- Bicycle volume
- Bicycle location at intersection on red signal
- Bicycle riding position south of intersection
- Motor vehicle turning movements at intersection
- Motor vehicle-bicycle interactions at intersection
- Motor vehicle right turn compliance to traffic control

▪ Summary of Before and After data collection

Before data collection includes daily bicycle volumes from a permanent 24-hour bicycle counter south of the intersection, video of vehicles and bicycles traveling through the intersection, and vehicle turning movement counts. After data collection is in process and will continue through the summer of 2016.

- **Summary of analysis – see *FHWA Progress Report when available***
- **Key findings – see *FHWA Progress Report when available***

**Summary of Living Labs Phase 1 Project Findings
Appendix**

Buffered Bike Lane -- Spruce (15th to Folsom)

Field Observation of Living Labs Treatment	Before	After	After
Date(s) of Observations	8/28/2013	11/19/2013	8/26/2015
Person Hours of Observation	6	6	6
Cyclist Observations at LL Treatment	478	327	566
Vehicle Observations at LL Treatment	--	2,473	2,710

Spruce 1: Bicycles riding in intended zones, "before" vs "after"

Cyclist Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Before '13	After '13	After '15	Before '13	After '13	After '15
Outside BL (near parking)	57%	62%	65%	47%	76%	70%
Middle BL						
Inside BL (near buffer)	42%	34%	35%	50%	21%	29%
Buffer						
Travel Lane	1%	4%	0%	3%	1%	0%

Spruce 2: Bicycles riding in intended zones, detailed positions

Cyclist Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Before '13	After '13	After '15	Before '13	After '13	After '15
Outside BL (near parking)	57%	3%	2%	47%	9%	13%
Middle BL		59%	64%		67%	57%
Inside BL (near buffer)	42%	22%	26%	50%	17%	18%
Buffer		12%	9%		4%	11%
Travel Lane	1%	4%	0%	3%	4%	1%
Total	100%	100%	100%	100%	100%	100%

Spruce 3: Parking space utilization

Utilization	Before 2013	After 2013	After 2015
17th-18th	95%	70%	95%
18th-19th	90%	70%	95%
19th-20th	90%	70%	95%
22nd-23rd	90%	90%	95%
23rd-Folsom	90%	85%	95%

Spruce 4: Motor vehicle position

Vehicle Wheel Position	After 2013	After 2015
Buffer	2%	4%
Travel Lane	98%	94%
Center Line	0%	3%

Spruce 5: Bicycles riding in intended zones (Before Aug 2013)

Cyclist Position	15th to 21st			21st to Folsom		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Outside/Middle Bike Lane	57%	77%	37%	47%	53%	41%
Inside BL/Buffer	42%	23%	60%	50%	45%	55%
Travel Lane	1%	0%	2%	3%	2%	4%
Total	100%	100%	100%	100%	100%	100%

Spruce 5A: Bicycles riding in intended zones (Before Aug 2013)

Cyclist Position	15th to 21st			21st to Folsom		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Bike Lane	151	99	52	99	56	43
Buffer	113	29	84	106	48	58
Travel Lane	3	0	3	6	2	4
Total	267	128	139	211	106	105

Spruce 6: Bicycles riding in intended zones (After Nov 2013)

Cyclist Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Outside BL (near parking)	3%	1%	4%	9%	0%	16%
Middle BL	59%	63%	55%	67%	77%	58%
Inside BL (near buffer)	22%	16%	29%	17%	18%	16%
Buffer	12%	19%	4%	4%	2%	5%
Travel Lane	4%	2%	7%	4%	3%	4%
Total	100%	100%	100%	100%	100%	100%

Spruce 7: Bicycles riding in intended zones (After Aug 2015)

Cyclist Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Outside BL (near parking)	2%	0%	3%	13%	17%	9%
Middle BL	64%	65%	63%	57%	55%	59%
Inside BL (near buffer)	26%	26%	27%	18%	18%	19%
Buffer	9%	9%	8%	11%	9%	12%
Travel Lane	0%	0%	0%	1%	0%	1%
Total	100%	100%	100%	100%	100%	100%

Spruce 8: Motor vehicle driving position (After Nov 2013)

Vehicle Wheel Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Buffer	2%	3%	1%	2%	2%	2%
Travel Lane	97%	97%	98%	98%	98%	98%
Center Line	1%	1%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%

Spruce 9: Motor vehicle driving position (After Aug 2015)

Vehicle Wheel Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Buffer	2%	2%	2%	5%	5%	4%
Travel Lane	97%	96%	97%	90%	91%	89%
Center Line	1%	1%	1%	5%	3%	6%
Total	100%	100%	100%	100%	100%	100%

Spruce 6A: Bicycles riding in intended zones (After Nov 2013)

Cyclist Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Outside BL (near parking)	5	1	4	12	0	12
Middle BL	113	64	49	91	48	43
Inside BL (near buffer)	42	16	26	23	11	12
Buffer	23	19	4	5	1	4
Travel Lane	8	2	6	5	2	3
Total	191	102	89	136	62	74

Spruce 7A: Bicycles riding in intended zones (After Aug 2015)

Cyclist Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Outside BL (near parking)	5	0	5	32	20	12
Middle BL	201	86	115	143	64	79
Inside BL (near buffer)	83	34	49	46	21	25
Buffer	27	12	15	27	11	16
Travel Lane	0	0	0	2	0	2
Total	316	132	184	250	116	134

Spruce 8A: Motor vehicle driving position (After Nov 2013)

Wheel Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Buffer	25	17	8	26	10	16
Travel Lane	1,160	567	593	1,257	627	630
Center Line	5	3	2	0	0	0
Total	1,190	587	603	1,283	637	646

Spruce 9A: Motor vehicle driving position (After Aug 2015)

Wheel Position	Single Buffer (15th to 21st)			Double Buffer (21st to Folsom)		
	Total	Wbd	Ebd	Total	Wbd	Ebd
Buffer	33	16	17	64	37	27
Travel Lane	1,355	631	724	1,181	614	567
Center Line	14	7	7	63	23	40
Total	1,402	654	748	1,308	674	634

Buffered Bike Lane -- University Avenue (9th to Broadway)

Field Observation of Living Labs Treatment	Before	After	After
Date(s) of Observations	7/24/2013	11/15/2013	10/15 & 10/16/2014
Person Hours of Observation	2	3	2
Cyclist Observations at LL Treatment	26	140	--
Vehicle Observations at LL Treatment	0	586	208

University BBL 1: Bicyclists riding in the intended zone

Cyclist Position	Before	After
Outer BL (closest to parking)	23%	21%
Middle BL	50%	58%
Inside BL (closest to travel lane)	27%	19%
Buffer (btwn BL & travel lane)		2%
Vehicle Travel Lane	0%	0%
Total	100%	100%

University BBL 2: Bicyclists riding in the intended zone

Cyclist Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Outside BL	21%	11%	24%	28%	7%	36%	0%
Middle BL	58%	44%	55%	67%	74%	56%	10%
Inner BL	19%	44%	18%	6%	11%	8%	90%
Buffer	2%	0%	3%	0%	7%	0%	0%
Vehicle Travel Lane	0%	0%	0%	0%	0%	0%	0%
Total	100%						

University BBL 3: Motor vehicle position (After Nov 2013)

Vehicle Wheel Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Bike Lane Buffer	6%	0%	7%	3%	10%	3%	11%
Travel Lane	93%	100%	93%	97%	86%	97%	89%
Center Line	1%	0%	0%	0%	3%	0%	0%
Total	100%						

University BBL 4: Side street stop bar compliance

Vehicle First Stop Position	Nov 2013	Nov 2014
Stop Bar	10%	10%
Parking Lane	26%	33%
Bike Lane	48%	18%
Rolling Stop	16%	39%
Total	100%	100%

University BBL 5: Motor vehicle speed and volume

Date	October 2012	August 2014	April 2015
Bike Lane	Standard	Buffered	Protected
ADT	5770 vpd	4970 vpd	4570 vpd
Average Speed	26 mph	25 mph	23 mph
85th Percentile Speed	29 mph	29 mph	26 mph

University BBL 2A: Bicyclists riding in the intended zone

Cyclist Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Outside BL	30	1	8	10	2	9	0
Middle BL	81	4	18	24	20	14	1
Inner BL	26	4	6	2	3	2	9
Buffer	3	0	1	0	2	0	0
Vehicle Travel Lane	0	0	0	0	0	0	0
Total	140	9	33	36	27	25	10

University BBL 3A: Motor vehicle position (After Nov 2013)

Vehicle Wheel Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Bike Lane Buffer	34	0	10	2	13	4	5
Travel Lane	498	45	131	64	107	111	40
Center Line	4	0	0	0	4	0	0
Total	536	45	141	66	124	115	45

University BBL 4A: Side street stop bar compliance

Vehicle First Stop Position	Nov 2013	Nov 2014
Stop Bar	5	21
Parking Lane	13	68
Bike Lane	24	37
Rolling Stop	8	82
Total	50	208

Protected Bike Lane -- University Avenue (9th to Broadway)

Field Observation of Living Labs Treatment	After	After	After	After
Date(s) of Observations	2/4/2015	3/5/2015	4/22/2015	8/26/2015
Person Hours of Observation	4	5.5	6	1.5
Cyclist Observations at LL Treatment	26	68	241	157
Vehicle Observations at LL Treatment	85	85	624	401

University PBL 1: Bicyclists riding in the intended zone

User Position	Total	Feb 2015	March 2015	April 2015	Aug 2015
Protected Bike Lane	77.0%	77%	40%	86%	78%
Travel Lane	10.0%	19%	57%	1%	2%
Wrong Way in PBL	5.5%	4%	0%	4%	11%
Skateboarders in PBL	5.5%	0%	0%	7%	7%
Cyclist on Sidewalk	2.0%	0%	3%	2%	2%
Total	100%	100%	100%	100%	100%

University PBL 2: Bicyclists riding position in snow conditions

User Position	Total	Feb 2015 before plow	Feb 2015 after plow	March 2015 - accumulated snow
Protected Bike Lane	50%	64%	92%	40%
Travel Lane	47%	36%	0%	57%
Wrong Way in PBL	1%	0%	8%	0%
Skateboarders in PBL	0%	0%	0%	0%
Cyclist on Sidewalk	2%	0%	0%	3%
Total	100%	100%	100%	100%

University PBL 3: Bicyclists riding position in non-snow conditions

User Position	Total	April 2015	August 2015
Protected Bike Lane	83%	86%	78%
Travel Lane	1%	1%	2%
Wrong Way in PBL	7%	4%	11%
Skateboarders in PBL	7%	7%	7%
Cyclist on Sidewalk	2%	2%	2%
Total	100%	100%	100%

University PBL 4: Bicyclists riding in the intended zone, by direction

User Position	Feb 2015		March 2015		April 2015		August 2015	
	Ebd	Wbd	Ebd	Wbd	Ebd	Wbd	Ebd	Wbd
Protected Bike Lane	75%	100%	23%	58%	87%	86%	83%	54%
Travel Lane	21%	0%	77%	36%	1%	0%	2%	4%
Wrong Way in PBL	4%	0%	0%	0%	2%	8%	8%	25%
Skateboarders in PBL	0%	0%	0%	0%	9%	4%	6%	13%
Cyclist on Sidewalk	0%	0%	0%	6%	1%	2%	2%	4%
Total	100%							

University PBL 5: Demographics of bicyclists riding in the cycletrack

Demographics	Total	Feb 2015	March 2015	April 2015	Aug 2015
Male	77%	92%	82%	74%	75%
Female	23%	8%	18%	26%	25%
Total	100%	100%	100%	100%	100%

University PBL 1A: Bicyclists riding in the intended zone

User Position	Total	Feb 2015	March 2015	April 2015	Aug 2015
Protected Bike Lane	378	20	27	208	123
Travel Lane	49	5	39	2	3
Wrong Way in PBL	28	1	0	10	17
Skateboarders in PBL	28	0	0	17	11
Cyclist on Sidewalk	9	0	2	4	3
Total	492	26	68	241	157

University PBL 2A: Bicyclists riding position in snow conditions

User Position	Total	Feb 2015 - before plow	Feb 2015 - after plow	March 2015 - accumulated snow
Protected Bike Lane	47	9	11	27
Travel Lane	44	5	0	39
Wrong Way in PBL	1	0	1	0
Skateboarders in PBL	0	0	0	0
Cyclist on Sidewalk	2	0	0	2
Total	94	14	12	68

University PBL 3A: Bicyclists riding position in non-snow conditions

User Position	Total	April 2015	August 2015
Protected Bike Lane	331	208	123
Travel Lane	5	2	3
Wrong Way in PBL	27	10	17
Skateboarders in PBL	28	17	11
Cyclist on Sidewalk	7	4	3
Total	398	241	157

University PBL 4A: Bicyclists riding in the intended zone, by direction

User Position	Feb 2015		March 2015		April 2015		August 2015	
	Ebd	Wbd	Ebd	Wbd	Ebd	Wbd	Ebd	Wbd
Protected Bike Lane	18	2	8	19	137	71	110	13
Travel Lane	5	0	27	12	2	0	2	1
Wrong Way in PBL	1	0	0	0	3	7	11	6
Skateboarders in PBL	0	0	0	0	14	3	8	3
Cyclist on Sidewalk	0	0	0	2	2	2	2	1
Total	24	2	35	33	158	83	133	24
Pedestrians in PBL				7			3	

University PBL 5A: Demographics of bicyclists riding in the cycletrack

Demographics	Total	Feb 2015	March 2015	April 2015	Aug 2015
Male	333	23	54	159	97
Female	101	2	12	55	32
Total	434	25	66	214	129

University PBL 6: Motor vehicle position

Vehicle Wheel Position	Total	April 2015	Aug 2015
Travel Lane	92%	94%	90%
Center Line	8%	6%	10%
Total	100%	100%	100%

University PBL 7: Motor vehicle stop bar compliance

Vehicle First Stop Position	April 2015
Stop Bar	5%
Curbline	17%
Protected Bike Lane	26%
Parking Lane	24%
Travel Lane	3%
Rolling Stop	25%
Total	100%

University PBL 8: Motor vehicle speed and volume

Date	Oct-12	Aug-14	Apr-15
Bike Lane	Standard	Buffered	Protected
ADT	5770 vpd	4970 vpd	4570 vpd
Average Speed	26 mph	25 mph	23 mph
85th Percentile Speed	29 mph	29 mph	26 mph

University PBL 6A: Motor vehicle position

Vehicle Wheel Position	Total	April 2015	Aug 2015
Travel Lane	585	301	284
Center Line	52	20	32
Total	637	321	316

University PBL 7A: Motor vehicle stop bar compliance

Vehicle First Stop Position	April 2015
Stop Bar	11
Curbline	36
Protected Bike Lane	57
Parking Lane	53
Travel Lane	6
Rolling Stop	55
Total	218

Protected Bike Lane -- Baseline

Field Observation of Living Labs Treatment	After Fall 2013	After Summer 2015
Date of Observations	11/13/2013	8/25 & 8/26/2015
Person Hours of Observation	6	6
Cyclist Observations at LL Treatment	168	325
Vehicle Turning Movements Observed	191	89

Baseline 1: Bicyclists riding in the intended zone

Cyclist Position	Total (Nov 2013)	Total (Aug 2015)	WB 2013	WB 2015	EB 2013	EB 2015
Southside Multi-Use Path	23%	38%	22%	40%	24%	33%
Protected Bike Lane	77%	62%	78%	60%	76%	67%
Vehicle Travel Lane	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%

Baseline 2: Motor vehicle stop bar compliance from side street

First Stop Location	Nov 2013		Aug 2015	
	SBD	NBD	SBD	NBD
Stop Bar	9%	14%	8%	11%
Just Past Stop Bar	38%	46%	50%	57%
Bike Lane	28%	24%	25%	13%
Rolling Stop	24%	16%	17%	19%
Total	100%	100%	100%	100%

Baseline 3: Bicyclists riding in the intended zone (After Nov 2013)

Cyclist Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Southside Multi-Use Path	23%	15%	25%	35%	22%	22%	26%
Protected Bike Lane	77%	85%	75%	65%	78%	78%	74%
Vehicle Travel Lane	0%	0%	0%	0%	0%	0%	0%
Total	100%						

Baseline 4: Bicyclists riding in the intended zone (After Aug 2015)

Cyclist Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Southside Multi-Use Path	38%	36%	40%	50%	33%	38%	31%
Protected Bike Lane	62%	64%	60%	50%	67%	63%	69%
Vehicle Travel Lane	0%	0%	0%	0%	0%	0%	0%
Total	100%						

Baseline 5: Vehicle Stop Bar Compliance (Nov 2013, Southbound 35th Street)

First Stop Location	Total	Right Turn			Left Turn		
		AM	Noon	PM	AM	Noon	PM
Stop Bar	9%	16%	20%	5%	8%	33%	0%
Just Past Stop Bar	38%	40%	80%	50%	50%	67%	40%
Bike Lane	28%	44%	0%	45%	42%	0%	60%
Rolling Stop	24%	--	--	--	--	--	--
Total	100%						

Baseline 3A: Bicyclists riding in the intended zone (After Nov 2013)

Cyclist Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Southside Multi-Use Path	38	8	7	7	2	6	8
Protected Bike Lane	130	45	21	13	7	21	23
Vehicle Travel Lane	0	0	0	0	0	0	0
Total	168	53	28	20	9	27	31

Baseline 4A: Bicyclists riding in the intended zone (After Aug 2015)

Cyclist Position	Total	Westbound			Eastbound		
		AM	Noon	PM	AM	Noon	PM
Southside Multi-Use Path	122	39	18	25	11	9	20
Protected Bike Lane	203	70	27	25	22	15	44
Vehicle Travel Lane	0	0	0	0	0	0	0
Total	325	109	45	50	33	24	64

Baseline 5A: Vehicle Stop Bar Compliance (Nov 2013, Southbound 35th Street)

First Stop Location	Total	Right Turn			Left Turn		
		AM	Noon	PM	AM	Noon	PM
Stop Bar	9	4	2	1	1	1	0
Just Past Stop Bar	38	10	8	10	6	2	2
Bike Lane	28	11	0	9	5	0	3
Rolling Stop	24	--	--	--	--	--	--
Total	99	25	10	20	12	3	5

Baseline 6: Vehicle Stop Bar Compliance (Nov 2013, Northbound 35th Street)

First Stop Location	Total	Right Turn			Left Turn		
		AM	Noon	PM	AM	Noon	PM
Stop Bar	14%	25%	0%	14%	8%	45%	15%
Just Past Stop Bar (MUP)	46%	75%	36%	43%	58%	36%	48%
Bike Lane	24%	0%	90%	10%	33%	0%	140%
Rolling Stop	16%	0%	28%	14%	0%	18%	15%
Total	100%						

Baseline 6A: Vehicle Stop Bar Compliance (Nov 2013, Northbound 35th Street)

First Stop Location	Total	Right Turn			Left Turn		
		AM	Noon	PM	AM	Noon	PM
Stop Bar	13	1	0	1	1	5	5
Just Past Stop Bar	42	3	9	3	7	4	16
Bike Lane	22	0	9	2	4	0	7
Rolling Stop	15	0	7	1	0	2	5
Total	92	4	25	7	12	11	33

Baseline 7: Vehicle Stop Bar Compliance (Aug 2015, Southbound 35th Street)

First Stop Location	Total	Right Turn			Left Turn		
		AM	Noon	PM	AM	Noon	PM
Stop Bar	9%	10%	0%	13%	33%	0%	0%
Just Past Stop Bar	53%	70%	50%	50%	33%	25%	33%
Bike Lane	24%	10%	13%	13%	33%	75%	67%
Rolling Stop	13%	10%	38%	25%	0%	0%	0%
Total	100%						

Baseline 7A: Vehicle Stop Bar Compliance (Aug 2015, Southbound 35th Street)

First Stop Location	Total	Right Turn			Left Turn		
		AM	Noon	PM	AM	Noon	PM
Stop Bar	4	1	0	1	1	0	0
Just Past Stop Bar	24	7	4	4	1	1	1
Bike Lane	11	1	1	1	1	3	2
Rolling Stop	6	1	3	2	0	0	0
Total	45	10	8	8	3	4	3

Baseline 8: Vehicle Stop Bar Compliance (Aug 2015, Northbound 35th Street)

First Stop Location	Total	Right Turn			Left Turn		
		AM	Noon	PM	AM	Noon	PM
Stop Bar	11%	0%	0%	33%	18%	18%	5%
Just Past Stop Bar (MUP)	57%	0%	67%	0%	55%	55%	64%
Bike Lane	13%	0%	0%	33%	18%	9%	14%
Rolling Stop	19%	0%	33%	33%	9%	18%	18%
Total	100%	0%	100%	100%	100%	100%	100%

Baseline 8A: Vehicle Stop Bar Compliance (Aug 2015, Northbound 35th Street)

First Stop Location	Total	Right Turn			Left Turn		
		AM	Noon	PM	AM	Noon	PM
Stop Bar	6	0	0	1	2	2	1
Just Past Stop Bar	30	0	4	0	6	6	14
Bike Lane	7	0	0	1	2	1	3
Rolling Stop	10	0	2	1	1	2	4
Total	53	0	6	3	11	11	22

Baseline 9: Motor vehicle stop bar compliance from side street, by turning direction

First Stop Location	SBD Nov 2013		SBD Aug 2015		NBD Nov 2013		NBD Aug 2015	
	Right Turn	Left Turn						
Stop Bar	13%	10%	8%	10%	6%	20%	11%	11%
Just Past Stop Bar	51%	50%	58%	30%	42%	48%	44%	59%
Bike Lane	36%	40%	12%	60%	31%	20%	11%	14%
Rolling Stop	--	--	23%	0%	22%	13%	33%	16%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Back In Angle Parking -- University Avenue (Broadway to 17th)

Field Observation of Living Labs Treatment	Before	After	After
Date(s) of Observations	7/23 & 7/24/2013	11/15 & 11/20/2013	8/26/2015
Person Hours of Observation	3	4	3
Cyclist Observations at LL Treatment	27	92	55
Observations of Parked Vehicles	0	307	209

Univ. Back In Parking 1: Bicyclists riding in the intended zones

Cyclist Position	Before - July 2013	After - Nov 2013	After - Aug 2015
Outer BL	22%	13%	9%
Middle BL	41%	60%	55%
Inside BL	37%	16%	25%
Vehicle Travel Lane	0%	11%	11%
Total	100%	100%	100%

Univ. Back In Parking 1A: Bicyclists riding in the intended zones

Cyclist Position	Before - July 2013	After - Nov 2013	After - Aug 2015
Outer BL	6	12	5
Middle BL	11	55	30
Inside BL	10	15	14
Vehicle Travel Lane	0	10	6
Total	27	92	55

Univ. Back In Parking 2: Average parking space utilization (percent occupied)

Time of Day	After - Nov 2013	After - Aug 2015
AM	9%	--
Noon	64%	73%
Afternoon	--	78%
PM	66%	--

Univ. Back In Parking 2A: Average parking space utilization

Time of Day	Avg. Occupied	Avg. Unoccupied	Avg. Occupied Aug	Avg. Unoccupied
AM	5	50	--	--
Noon	35	20	40	15
Afternoon	--	--	43	12
PM	36	19	--	--

Total Parking Supply = 55 spaces

Univ. Back In Parking 3: Back in parking compliance and position

Time of Day	After - Nov 2013	After - Aug 2015
Parked Correctly	77%	81%
Parked in BL	3%	0%
Parked On or Across Line	7%	9%
Parked Head In	13%	9%
Total	100%	100%

Univ. Back In Parking 4: University back in parking vs. city violations

Parking Tickets	8/1/13 to 8/1/14	8/1/14 to 8/24/15	Change
1300 University-All Tickets	1,499	946	-36.90%
1300 University-Angled Parking	706	328	-53.50%
1500 University-All Tickets	2,309	1,662	-28.00%
1500 University-Angled Parking	1,343	744	-44.60%
Whole City-All Tickets	92,652	91,973	-0.70%
Total University Back In Parking	2,049	1,072	-47.70%
Percent of All City Tickets	2.20%	1.20%	

Univ. Back In Parking 5: Back in parking compliance and position (Nov 2013)

Time of Day	Parked Correctly	Parked in BL	Parked On or Across	Parked Head In	Total
AM	95%	0%	5%	0%	100%
Noon	78%	0%	5%	17%	100%
Afternoon	--	--	--	--	--
PM	72%	6%	10%	12%	100%
Total	77%	3%	7%	13%	100%

Univ. Back In Parking 5A: Back in parking compliance and position (Nov 2013)

Time of Day	Parked Correctly	Parked in BL	Parked On or Across Line	Parked Head In	Total
AM	19	0	1	0	20
Noon	111	0	7	24	142
Afternoon	--	--	--	--	--
PM	105	8	15	17	145
Total	235	8	23	41	307

Univ. Back In Parking 6: Back in parking compliance and position (Aug 2015)

Time of Day	Parked Correctly	Parked in BL	Parked On or Across	Parked Head In	Total
AM	--	--	--	--	--
Noon	74%	1%	11%	14%	100%
Afternoon	86%	0%	8%	6%	100%
PM	--	--	--	--	--
Total	81%	0%	9%	9%	100%

Univ. Back In Parking 6A: Back in parking compliance and position (Aug 2015)

Time of Day	Parked Correctly	Parked in BL	Parked On or Across Line	Parked Head In	Total
AM	--	--	--	--	--
Noon	59	1	9	11	80
Afternoon	111	0	10	8	129
PM	--	--	--	--	--
Total	170	1	19	19	209



UNIVERSITY AVENUE

9TH - BROADWAY

Support for protected bike lanes

Physical separation

- Many cyclists expressed that they feel more safe and comfortable riding with a barrier between them and motor vehicle traffic
- More families and older adults seen riding along the corridor
- Reduces potential for parked car door opening into path of cyclists
- Reduces the potential for bicycling on the sidewalk

Slower vehicle speeds

- The narrowed travel lanes reduce vehicle speed along the residential street
- Cars tended to go too fast in the past. Now they are slower

Considerations for protected bike lanes

Visibility

- Some community members expressed that cyclists are hidden behind parked cars, which increases conflict between cyclists and drivers turning onto side streets
- Cars turning onto University can check for bikes traveling along University first and then move out to check for oncoming traffic when making their turn onto the street
- Some drivers entering from side streets cannot see traffic traveling along the corridor due to parked cars. This causes drivers to pull out past the stop sign to see whether it is clear, obstructing the bike lane

Concern for protected bike lanes

Narrow street design

- Parallel parking has become more difficult. Community members have expressed that the narrow design forces people to wait or move into the other lane to pass, when vehicles are parking
- Drivers have expressed that they feel unsafe getting in and out of their car because of the proximity of moving vehicles. This concern is heightened during winter months because the road becomes even more narrow when snow is stored in the middle of the road

Snow removal in protected bike lanes

- Cyclists have expressed concerns with the lack of plowing
- The slope of the road within the protected bike lane has caused snow runoff to build up in the bike lane. When the snow freezes the bike lane becomes too icy
- Drivers and cyclists have stated that the icy conditions forces cyclists into the road and the narrow design makes both cyclists and drivers uncomfortable

Inappropriate use of the bike lanes

- Some community members have seen bicyclists riding the wrong way and as well as skateboard and pedestrian users in the protected bike lanes

Parking-Protected Cycle Track- University Ave. (9th to Broadway)

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	9/4/2015	negative			Peter	<p>I hope you have seen the Letter to the Editor from Jean Dubofsky, which the Daily Camera published on Weds. 2 Sept. 2015, concerning the 'Cycle Track' on University Ave. Here is the link: http://cp.mcafee.com/d/5fHCNEg4xEqEic8IK6zBYs-rKruKMUCMCruKMUCCrjKOMOMqekQkqtS6m3hOUyMUrzINjPRgkgGSuxYrIfH7kaYhGpdAaJDEv6RjWNR2L4qCjoXQ7zhPXX_nV4sZtdZ4tRXBQnSkupohKCqekNTkhjmKCHtdfBgY-F6IK1FJ4SCrLQqbaab0VZx4TsS02gShVqSG_7unM_VPdcJ8ju7cCzCX1EVMh_o5_bEdAaKQaBy_MgbP9OEnYfm-cBvxcTGQpm9X52wa4mUIVsSM-O-r48-q82RmPh17Zgb6y2tjh17RqCvd41EwCjYQg6ysibmfYQg0CeSaCysQglwq80D2hDUQBclq810P_6T4jrNnk3xGp As you may or may not know, Jean Dubofsky is a long time resident of the West University Ave. neighborhood, and has had a notable legal career. http://cp.mcafee.com/d/k-Kr3zqb32bbxEVv7fCXCTHie9I9CTHie9LFCQXIic6zBd54SDtxBwQsK8le6UXckYZk54aJDEv6RjWNR2L4qCjp2HpW7NJK-ItgHN6FASeZ1UQs--_Rh78Tjvh7tuVt5ZB7Cm4rFCzBctR4kRHFGTjjVkfGhBrwqrjFCXYCyOyyMevohdTdAVPmEBC7Wo05RGDRzG5uZ1L5ERtAvZcmzIsh_Y009igeo73zuHhBoDika0EhrxnBPr3XbVlgzVEwblrd44vR0lq89Rd44vGpYQg6y2pfPh0q9N8Jo_Ph02oXoGq9Ph1m1Ew2s96vzikONEw43fYrshdYdan She is a former justice, of the Colorado Supreme Court. Jean has a simple request; remove the 'Cycle Track' on University Ave. between Broadway and 9th St., that the City of Boulder placed there in early November, 2014. Return the street to the way it was before. I see the next Transportation Advisory Board meeting is on Monday, 14 Sept. 2015, in the City Council chambers, at 6 pm. What is the process for a final decision on the 'Cycle Track' ? Can you place this question on your agenda at this meeting. ? Where can the neighborhood see all the comments that have been made on this project. ? Regards, Peter Richards</p>
email	9/2/2015	negative	safety		Sarabeth	<p>Today, 9/2/15 at 1:40 pm I was proceeding west on University through the Broadway intersection. A pro-gear style cyclist was in the straight through lane ahead of me and used it to turn left onto Broadway even though there are 2 left turn lanes at that portion of the intersection. Immediately after crossing Broadway, I saw a westbound skateboarder enter the protected bike lane for eastbound traffic and was still heading west when I passed him at about 11th St. Just an fyi. SARA MITTON</p>
email	8/30/2015	positive			Ken	<p>As a 20 year resident of the Hill, I tend to favor the change on University. It is a wide street (probably too wide). It isn't congested. And cars have tended to go too fast in the past. Now they are slower. Hopefully that speed change has been monitored. I live a number of blocks from University (Euclid and 11th) and I use University several times per week. The changes have not hindered my use. I think it looks more interesting than before and it is no doubt safer. Ken Wilson</p>
email	8/26/2015	negative	safety		Sarabeth	<p>This morning I saw what I presume is a city data collector (man/red shirt/sitting in chair at edge of bike lane at 11th and University, with writing materials) at around 9:30am, give or take 30 minutes. This, by the way, is not the intersection I was referring to with the northbound cyclist one way violators in my previous email, that is 10th St. But it is the location of the recent auto accident, the first I have passed on that section of University in 41 years. Today, I was heading west on University from Broadway and just before I saw the data collector I did see a cyclist come out of the shopping center (Doozy Duds/Bova's) and head west in the eastbound bike lane in front of the sorority. It would be interesting to know if that rider was recorded in the tally by the data collector, if he left the lane before the data collector saw him, or if that was not the sort of data that was being collected.SARA MITTON</p>

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	8/24/2015	negative	safety		Sarabeth	<p>Ms. Ratzel, Since I did not get the chance to talk to you today after my voicemail to you, I will put this into written format for the collection of experiences regarding the living lab experimental bike lanes on University between Broadway and 9th St. I continue to see riding violations regularly by cyclists mostly in the vicinity of 10th St and University but I also see cyclist errors causing unsafe conditions both at Broadway and at 9th as I have mentioned in the past. Twice in the last 16 days I have had near miss experiences where cyclists were riding the wrong way. Being as wary and careful as I am given this reconfiguration, I have avoided any impacts, though it was the cyclist both times riding the wrong way. I certainly do not want to be the cause of any injury to anyone, no matter how careless they are. And they are riding faster than I am driving and without any helmet. But I will simply not take a longer inefficient route to my home because I would probably just find more of them on any other street on the Hill. And I will not let the city legislate me out of my home of 40 years, no matter how hard they keep trying.</p> <p>Cyclists must be held accountable for following the rules of the road. That means, NOT riding north on 10th to University against the One Way sign and flying out unexpectedly onto University. NOT riding west in the eastbound protected lane, behind a line of parked cars, where they are not visible to the cars turning onto 10th from University who are expecting to look for cyclists coming from the west. We adult locals will do that but how about the CU students? Please, beef up the signage, ticket the cyclists, and revert University to its original configuration.</p> <p>In addition, today while waiting at the intersection of University and Broadway, to head west and home, I saw 3 cyclists across the intersection, also waiting for the light, heading to campus. One was in the car "straight ahead" lane, one was in the "dedicated" bike lane and one was in the car "right turn lane" with all intending to and indeed did proceed straight ahead. Until I saw the cyclist going the wrong way at 10th, they were the only cyclists on the road though there were many pedestrians crossing for class. This is normal. This is an intersection that the majority of students do on foot, not bike. So where are the hordes of cyclists needing this as a transportation route and who might actually follow the rules of the road?</p> <p>I hear from other neighbors and friends that I am not the only one experiencing incidents such as these. Please, not another winter of this, for when it is dark and wet or icy, it is even more dangerous for all. Thanks, SARA MITTON</p>
email	8/14/2015	negative	safety	visibility	JP	<p>As a very close neighbor and daily user of University Avenue (multiple times/day), I thought to offer my feedback on the Parking protected bike lanes. After a year of using the new arrangement on University as a pedestrian, cyclist and driver (in nearly equal proportions), I fear that the concept actually has increased the hazards to all three users. I have had numerous near collisions since the field of view of cross traffic is so dramatically diminished by moving parked cars into what used to be a rather broad avenue. This idea seems beneficial for through traffic but the vast majority of traffic from Broadway to 9th street is actually cross traffic and visibility at nearly every intersection is far worse, both when entering traffic or entering side streets. Forcing side parking back 100' or so from each intersection is an excellent idea but having all bicycle and pedestrian traffic in an area where they are visible is much safer, hiding them behind cars is useful during the block long stretches but can be disastrous at intersections. University avenue is crossed by bikes and pedestrians hundreds of times an hour and many students choose to cross in the middle of a block anyway (especially at night when visibility is even more impeded. On the other hand, the winter snow clearance issues were not nearly as bad as I thought they would be. Overall, the parking protected lanes are more hazardous than the old lanes. Thanks.</p> <p>J P Osnes</p>
email	8/14/2015	negative	safety	accessing parked cars	Joseph	<p>I agree with Jean Dubofsky's comments, and I would add that opening car doors and passengers coming out between cars are now a hazard to both bikes and cars as well as themselves. If this is truly an experiment, look to the stretch of University east of Broadway, where the back-in diagonal parking seems much more successful and protects bikes and cars from both of these hazards and increases parking in an underserved area with an insatiable parking demand. Thanks for listening, joe</p>

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	7/31/2015	negative	safety		Steve	<p>I was riding my bike there about 2 weeks ago, and going east on University a bit east of 9th. As I came to 10th, a big black SUV was coming west on University and turned left to go south up 10th. There were no cars coming east, so he had a clear shot at seeing me (because the parking is ended some distance to the west of the actual intersection), and I had on the typical bright bike outfit. He turned and finally became aware of me and slammed on the brakes when he was completely across the east bound car lane. I was watching him, and slammed on my brakes also, so there was no accident. Had I not been expecting him to not see me, and had he not had quick reactions, I would have been dog meat. My observation is that although there is possibly some marginal additional protection riding behind the parked cars (though it's unnecessary in my experience), that slight extra benefit is more than offset by the simple fact that the drivers are not expecting a bike to come out from behind parked cars, even though there is a long clear space from the end of the cars to the corner. I would much prefer to go back to the way it was. At least the expectation is clear to everyone, so everyone acts accordingly. It's similar to the reversing of the right of way rules at roundabouts/traffic circles. Everyone knows that the vehicle coming from the right has the right of way. EXCEPT that at a circle, it's reversed. But the brain doesn't operate so well when the normal expectation is all of a sudden a mirror image.</p> <p>Regards, Steve Pomerance</p>
email	7/29/2015	negative	safety		Julie	<p>Dear Council, Marni w/ Liv Lab and I just spoke. The accident was 7/28/15 not 7/29. She explained the evaluation process, the fall schedule for review. She said Liv Lab proceeding according to engineering standard, public comment, and Liv Lab's observers comments. Traffic counts and accident reports will be objective. Public comment iffy because who speaks up and why is different than the entire population using University. Liv Lab's observers, one doesn't know if they are there often enough to be statistically relevant and are their observations biased.</p> <p>Marni and I did agree that the main concern is whether University as now configured is safer, overall, than it was before right sizing. I appreciate the people supporting right sizing are well intended, this isn't the point. Common sense should dictate over engineered standards which themselves are subject to rationalizations. (The real world isn't linear but chaotic and probabilistic.) I think (hope) what you and staff will discover is that broad streets, separation of moving cars from each other and pedestrians, bikes, and parked cars is better than narrow lanes where peopleturning cars, moving cars, and parked cars all share the same space. Marni said University experiment was one year old and would proceed through review process through the fall with Council decision in 2016 (?). This is a long time and a lot of expense to decide if substantially reducing the width of University reduced the safety of using the street, ALL users considered.</p> <p>thank you, Julie McCabe</p>
email	7/16/2015	negative	safety	visibility	Tracy	<p>I want to comment on some of the Living Lab bike lanes. I commute 4 days a week by bicycle and one day by vehicle from Table Mesa to the west side of downtown. Additionally, I use the bike lanes and paths extensively for transit and recreation. I feel I am qualified to offer reasonable input. I don't like the protected bike lanes between Broadway and 9th street on University. While driving it has taken away a wide lane and now placed your vehicle very close to oncoming traffic. during the winter an ice ridge formed next to the parked cars making parking extremely difficult and vehicle travel much more difficult and less safe. I don't like the bike lane when biking because the cars cannot see my bike due to the parked cars. When entering an intersection I feel like I need to look over my shoulder to see if a car is coming up behind me. And it has not done anything to protect my bike from opening doors as the parked cars can still have a passenger side door swing open. Additionally, for a car entering University from a side street, they must creep forward into the bike lane to see past the parked cars. I have had several close encounters with cars because of their movement out to see, blocking the bike lane. I felt it was much better as a painted protected bike lane outside of the parked cars, just like it currently is between 9th and 6th on University. The protected bike lane on Baseline is unnecessary. A painted protected lane is quite sufficient, and it allows space for snow plowing. And should a vehicle hit one of the concrete blocks I think that potentially would be far more disastrous. Painted line protected bike lanes are the best way to go. Thanks, Tracy Vinson</p>

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
phone	Jun-15	negative	parking		Anonymous	University Avenue bike lanes. Poorly designed. Endangers people driving and traveling. See many close calls. Putting the bikers inside isn't a good idea.
email	5/21/2015	negative	safety	narrow	Dick	<p>Thanks for giving me the opportunity to record my opinions about the University Street parking and bike lane revision.</p> <p>I have lived at University and 7th for 12 years, and both bike and drive on University frequently.</p> <p>I believe that the old, open bike lanes and curb parking were both safer and more convenient. The narrowing of the driving lanes has made it much more likely that accidents might occur, with doors opening into driving lanes and cars parallel parking through the driving lanes. The openness of the space in the former configuration allowed both bikes and cars to make use of more space in maneuvering through traffic. I also believe that placing parking along the curb allows more efficient use of the street space, since the bike lanes are in use for fewer minutes per day than the car lanes, allowing for use by autos in an emergency. As a biker and a mororist, I strongly prefer the former configuration.</p>
phone	5/20/2015	negative	safety		Molly	I hate it. Parking and travel lanes too close to one aonther. Parking ability of drivers is impacted - people aren't good at parking. Feeling as a bicyclist of needing to protected from drivers wasn't an issue for me. In the cycletrack I don't feel any more secure or safe. Concern for passenger door opening in my path. College students are less visible - they enter roadway between cars often and the old roadway configuration was much wider allowing drivers to see and react. Now the corridor is congested and unsightly. A couple blocks of protection isn't addresssing issues bewteen cars and bikes or protecting their safety. Mainteance also is an issue. Glad to hear it is a pilot program.
email	5/18/2015	negative	safety	maintenance	Keith	<p>In my opinion, the Uni Ave parking project is not a worthy solution. I prefer the conventional solution that is exemplified on the same street just west of 9th.</p> <p>Reasons:</p> <ul style="list-style-type: none"> • too much sand, leaves and glass in the bike lane. • feels dangerous when in the bike line — turning cars, parking cars can't see you. • entering and exiting the bike lane is inefficient thus speedy cyclist just use the car lane avoiding the bike lane all together. <p>Thanks for your efforts and keep experimenting.</p>

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	5/18/2015				Anonymous	<p>I recently saw on the City's website that you are soliciting citizen feedback on the parking protected bike lanes. From my home at 6th and University, I commute down down this corridor every day on bike and have developed some thoughts during my commute. While I very much appreciate the city's efforts to segregate bikes from vehicle traffic, I think the lanes have created some unintended headaches for myself and other bike commuters. Please don't take this as an angry resident on a tirade, but as constructive criticism. And to be sure, I have seen some positive outcomes. Namely the significant narrowing of the vehicle lanes which has dramatically reduced car speeds and increased safety--long a concern for those of us who live in the neighborhood and have grown sick of the speeding that was occurring. Nevertheless, I feel as though perhaps there are other designs that are more bike-friendly and still reduce speeds. With that said, I'd like to share few observations I've made over the past several months:--On the City website, it mentions that snow removal was a concern. In my opinion, that's only partly accurate. Snow removal was a problem and got better later in the winter. But the problem of a dangerous and icy lane persisted because of Boulder's daily freeze-thaw cycles. Snow would melt on curbs or underneath cars water would coat the lanes during the day. Then it would freeze at night. During my morning commutes for stretches of weeks at a time, I was forced to ride in the traffic lane because the bike lane was too icy to safely ride. Without some sort of nightly salt treatment, I don't know how this could be resolved given Boulder's climate and the setup of the bike lanes.--It only takes one person in the middle of the bike lane to fully hinder traffic. Numerous times, I've been stuck behind slow-moving bikes, skateboarders and even pedestrians in the middle of the lane. Because there's a risk of getting 'doored' by passing on one side and clipping the curb on the other, it is often impossible to pass. Sometimes a friendly hello will get them to the side, but often they are wearing earbuds or otherwise won't respond, creating backups--sometimes of numerous commuters--where people are unable to safely pass. Obviously, with a more traditional bike lane this isn't an issue, as faster-moving bikes could swing into the traffic lane to pass (provided no cars are present). -Related problem: I have had one collision and a couple near-misses when pedestrians walked into the bike lane without looking from the row of parked cars. I don't know why exactly, but I feel as though pedestrians are a lot less likely to check this lane than a traffic lane before entering. And because there's not much space space to maneuver a bike in the lane, it can be difficult to avoid an collision when somebody steps into the lane without looking.</p> <p>--Visibility: At all turns--and particularly eastbound as the bike lane ends at Broadway--there's not a lot of time cars can see you before they make turns, since cyclists are obscured by the parked vehicles. Like I said, it's particularly dangerous at Broadway, where I have nearly been struck by cars crossing the bike lane to enter the right-turn lane, but I get nervous at all the intersections.</p> <p>--Parking: numerous times, I have encountered drivers who have parked their cars in the bike lane and have completely blocked all bike traffic. This has happened with food delivery cars, as well as local residents who are loading or unloading and evidently couldn't find a parking space close enough, so decided to drive down and park in the bike lane, which is just large enough for a car to squeeze through. Again, I hope this comes across as respectful constructive criticism. I appreciate the city's effort to protect cyclists, slow traffic, and try innovative approaches. And I know this approach has been implemented elsewhere. But I feel as though some of the unique features of University related to the high number of intersections, variety of traffic in the bike lane, snowmelt patterns, and others make it more unsafe for cyclists than other possible approaches. I thank you for your efforts to improve our community and for taking the time to read my thoughts. --Spencer Sator</p>
phone	5/15/2015	negative	seperation	parking/snow removal	Andrew	I really don't like it at all. You're pushing the cars closer together. Risking a head on collision. People are just learning to parrallel park (new drivers) can's park orderly. Concern for snow removal are a few of my long list of reasons why I don't like it. It's a bad deal. If we all ust pay attention
phone	May-15	negative	parking		Anonymous	Parking on university 1055 University. Snow is awful. Worst design ever. When it snows its awful. Can't see bikers when your driving.
email	4/13/2015	neutral	public process		Peter	So I assume you are collecting online, email, comments on the 'Cycle Track', on University, somewhere ? Maybe someone even wrote you a letter about it. ? What is the 'feedback loop' for those comments ? Can the public see those comments ? If so, where ?? Cheers. Peter Richards
Inquire Boulder	2/24/2015	negative	narrow		Michael	Barely wide enough for two cars to pass in different directions. Between 9th and Broadway.
Inquire Boulder	2/18/2015	negative	maintenance		Bruce	The new bike lane configuration on University is worse than the old configuration. Snow melts, the water runs across the bike lane and freezes. This makes it extremely hazardous biking in the evening hours when the ice cannot be seen. Additionally, the bike lane is poorly plowed after snow events
Inquire Boulder	2/13/2015	negative	maintenance	visibility	Kristopher	Kristopher called with concerns about markings of the bike lane on the street bike lane now on the outside of the curb, which moved the cars out, by 7 feet, with a space between curb and cars When it snows, it can not be plowed, because the lane is now on the inside edges. People have to edge out so far to see if other cars are coming, which is almost causing accidents. The redesign is not conducive for safety for drivers or bicyclists. He would like to speak to someone about this design and to express his concerns. Thank you.

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	2/9/2015		maintenance		Zane	<p>There have definitely been issues with the snow removal. Part of it has been the fact that cars are parking too far into the buffer area for the truck mounted plow to get through, so they've had to use the small plow that's often deployed on the bike paths. We've received some feedback at TAB that a physical indicator (beyond just paint) as to where cars should park would be helpful in this regard. (see e.g. this LTE, from someone who also write a long and detailed email to TAB w/ photos: Jordan Mann: Improve cycletracks, don't eliminate)</p> <p>Another issue has been that the plows sometimes leave a dam of snow and ice at the intersections -- the lane is clear, but then you get to a wall, where a complete passage has not been created. This seems like a really basic necessity, and it's frustrating that the snow removal folks don't seem to understand (or care?) what is required for the facility to be functional. Sadly, my understanding is that zero of them actually live in Boulder (with the exception of my co-op housemate Kevin Phan, who does snow removal in the winter for Parks & Rec on the multi-use paths, etc.) and so zero of them are likely to actually bike on these facilities. Which is sad. It's also maybe not ideal that the facility went in just as snow was starting to fall in the autumn, since now everyone's first impression is "Wow, these things suck with snow!" That said, maintenance has been improving, and hopefully we can get it right before spring rolls around. Though it felt like spring was already here the last few days... Anyway, it definitely makes it very clear that this type of facility is ONLY going to be useful when we back it up with appropriate maintenance and enforcement (there are routinely 4-6 vehicles parked illegally along the corridor at any given time now, blocking sight lines at the intersections) Of course the same criticism can be leveled at the on-street bike lanes, which are *routinely* completely filled with chunks of snow and ice after the plows pass by, forcing cyclists to share the often icy lane with high speed motor vehicles (see e.g. this LTE: Cha Cha Spinrad: Educate the Police About Bikes). But for some reason we're apparently inured to that also unacceptable maintenance failure. Personally, if I'm going to bike on snow and ice, I'd much rather do it in a lane of my own, rather than with a massive SUV barreling down behind me... also on snow and ice. Former GOBoulder manager Martha Roskowski has been in charge of the People for Bikes "Green Lane Project" a campaign for more protected bike lanes across the US. They have 2 substantial data backing up the claim that this type of facility broadens the demographics of cyclists, and makes streets safer for all users. You can browse their library of statistics and other resources here: http://www.peopleforbikes.org/statistics/category/protected-bike-lane-statistics Hopefully this is helpful. I'm happy to talk more or reach out to neighbors if that would be useful. Cheers, Zane</p>
Inquire Boulder	2/7/2015	negative	maintenance		Michael	During the latest snow cars were parked outside of the designated parking areas and made for tough driving conditions both east and west bound. When a car opened a car door it required a full stop for the car in front of me. Might I suggest reverting back to the way University Blvd. was before the new configuration
email	2/3/2015		parking	seperation	Zane	I just rode University to CU and back for a talk in a class (about housing stuff) and there were 4 vehicles parked illegally in the hatched parts of the street, making it difficult for drivers to see cyclists at intersections. In addition, there were two vehicles on the S. side of the street parked so as to partially obstruct both the sidewalk and the bike lane. I think some additional physical indication of what people are and are not allowed to do here (e.g. flexible bollards) is likely not a bad idea... And of course there's always enforcement. Photos attached. Cheers, Zane
email	2/2/2015	mixed	maintenance		Christina	<p>Hi TAB,I wanted to reach to give a few thoughts on the University protected bike lane. I'm a 95% bike commuter/5% bus commuter and I bike on University almost every day. I was super excited to see the city make an effort to try to protect bikers. I strongly agree with these types of efforts - they go a long way at making it feel safe and convenient to bike around town. Nonetheless, there are some clear problems with the set-up of the protected bike lane, mostly the snow, ice and steep slant. After the last snow storm, I was biking along University from Broadway and slipped right as I entered the bike lane. Most of the snow had cleared along the path, but the snow that was directly adjacent to the cars had melted and re-frozen, creating a slick of ice right. The ice with the combination of the steep slant cause my bike to slip from under me, which quickly sent my head slamming to the pavement. Previously this winter I nearly fell exiting the lane when the lane itself had been plowed but the snow from the road had been pushed right into the bike lane as it approached a cross-street.Snow and ice are obviously something that the city cannot control entirely, but making bike lanes that you cannot quickly exit and get onto the street with no substantive effort made to keep them cleared is a problem. Generally, when it is snowy and icy I ride in the road because they are maintained much more extensively and quickly. So entering the bike lane on University this winter has felt like roulette - if it's icy you are stuck in a slanty snowy gantlet with a wall of cars in between you and cleared pavement. Having the protected bike lanes without being able to plow them actually feels less safe. If the parked cars parking poorly is a problem, then install more ballards so that the cars can't obstruct the path of a plow.I'm happy to see the effort for more protected bike lanes and I fear that without quickly addressing these key (solvable!) issues, many folks in the community will not be supportive of expanding this pilot elsewhere. Thanks,Christina</p>
Inspire Boulder	Feb-15	positive	seperation		Gary	I feel more safe with the physical separation from cars.

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	1/23/2015	positive	maintenance	physical marker	Jordan	Hello,I wanted to write in about a few of the projects I have seen around town and a few areas where I would love to see improvement. I will preface this with letting all of you know that I am not fully aware of all the projects that are happening around town and I am writing about my personal experience in the part of Boulder that I live, 30th and baseline, and the the routes that I typically take to work or social events. The University Hill "cycle track" The area west of Broadway that has switched where cars park with the bicycle lane effectively using cars as shields against cars for bikes. This was a fantastic idea and after riding on it I can't figure out why we wouldn't want to do this more places in Boulder. It feels a whole lot safer and generally more pleasant. It also has a narrowing effect on the street which I would hope would disincentivize cars from speeding through this residential street. A few things I noticed that I would like to see improved are: A better solution for when it snows. These lanes are at a slant and they get icy and sketchy when it snows. Maybe more frequent plowing would help. Some sort of light physical marker that separates the cars from the bike lane. This doesn't need to be anything to extreme just something to signal to cars that the bike lane isn't a parking spot. Again, this is more problematic with snow when some drivers, unfamiliar with the parking placement switch, end up halfway into the biking lane. Some sort of corner post forcing cars to slow down, look and make 90 degree turns. When I was a younger driver I would often lament anything that made my commute slower. Stop signs, crosswalks, speed-bumps or school zone speed limits. The reality is that these types of limitations make the road safer for everyone, including the drivers. We don't need to encourage cars to speed through streets making sharp turns, endangering pedestrians, cyclists and other cars. Below is a photo from Chicago that shows what I am talking about.
Inquire Boulder	1/23/2015	negative	maintenance		Thomas	Without active snow removal, the protected bike lane on University actually degrades the biking experience. There is permanent snow and ice on the protected lane and the parked cars make it impossible to avoid, so very hazardous. Previously when the lane was on the other side of the parked cars, on snowy days bikes could move into the travel lane where cars have compacted and pushed away the snow. So although I am hopeful that protected bike facilities will be useful to Boulder, riding it right now is worse than the streets with no bike facilities at all. Good intentions I know, but actual function is degraded...
Inquire Boulder	1/22/2015	negative	safety		DB	The present system on this stretch of road is EXTREMELY dangerous and needs to be dropped as soon as possible. This is now a very narrow 2 lane road with lots of traffic. Additionally, many cyclists do not use the designated bike lane and are now in amongst the cars. Interestingly, the skate boarders, of which there are many, also like to use the car lane as opposed to the bike lane. All of this is made worse this time of year with the snow. Apparently, the cyclists find the car lane safer or more desirable so more of them use it, the cars parking in the designated area are sometimes closer to the car lane than the bike lane and it is very dangerous when they open their car door as it juts out into the car thoroughfare. Additionally, cars coming off the perpendicular streets have to come out beyond the stop sign to visually see if they can safely turn on to University, thereby blocking the bike lane. This whole idea is terrible and, I believe, very unsafe for everyone using this stretch of road. Another point that I just thought of is the pedestrians that now cross the street midblock and come out from between the parked cars are right on you when driving down the street. I nearly hit one a couple of weeks ago. Please do not allow this experiment to go on 1 day more.
Inquire Boulder	1/15/2015	mixed	maintenance	safety	Melissa	I am happy that Boulder is thinking creatively about bikes but the buffered bike lanes on University ave. are a disaster and more hazardous for cyclists. When it snows parking is horrible, the bike lanes are not plowed or they are so slippery and icy that the cyclists use the now very narrow roadway, which is twice as dangerous. On top of it, in a vehicle, because the parked cars are SOOO far into the road, to turn left onto University from a side street, I must get my car very far onto the road and put myself and others at risk. Please, change this buffered bike lane asap before someone get seriously hurt.

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	1/8/2015	negative	visibility	maintenance	Chris	I am a daily commuter on University avenue, and also a professional cyclist living in Boulder. I have some concerns regarding the recent changes to the lay out of the bike lane on University Avenue, as part of the living lab project in Boulder. I was given your email addresses by Community Cycles. If there is a more appropriate contact for these comments, I would very much appreciate it if you could either forward this email, or respond with better contact information. I understand the aim of the new layout was to separate bike traffic from vehicular traffic, but I think it has had some unintended consequences: - Cyclist have become hidden behind parked cars. Drivers turning onto side streets off of University can no longer see cyclists travelling in the bike path, and have often turned across the path of cyclists. This is a particular problem when cyclists are travelling eastbound at the Broadway intersection, and drivers are turning south onto Broadway, as the bike lane puts cyclists directly in line to be hit by cars. - Drivers entering University Avenue from side streets cannot see traffic on University Avenue, due to parked cars being further towards the centre of the road. This has caused drivers to pull out past the stop signs, obscuring the bike lane in the process, in order for them to see whether it is clear. - The University Hill area is a party zone. There is always glass on the road, and this has increased since the bike lane was moved closer to the curb, as many students seem to use the bike lane as an extension of the sidewalk. - Snow removal on the segregated bike lane is inadequate. The small plow which clears the bike lane is not equipped with mag chloride, thus the bike lane remains icy. This is greatly exacerbated by snow that collects under parked cars gradually melting and running across the bike lane. Refreezing of this runoff has caused the bike lane to be covered in black ice on many mornings, when the roadway is already completely dry. I have chosen to use the roadway for this very reason on a number of occasions, which defies the point of the new layout. Comparing the section of road between Broadway and 9th, to the section between 9th and 6th shows how much longer the bike path has been staying unrideable due to ice. - Entering and exiting the bike lane between intersections has become treacherous during snow due to ruts being formed by crossing pedestrians. These make it almost impossible to ride the bike lane at times. - During snowy conditions, parking lines are obscured, and drivers have been parking across the bike lane. Due to the fact that many students park their cars for extended periods on this stretch of road, this means cars are sometimes obscuring the bike lane for a week or more. - The buffer zones near intersections have become 'waiting zones' for a number of cars, that park adjacent to the curb, particularly taxis that use University as a pick up point for students. There seems to be no enforcement of this, and it's causing cyclist to merge into traffic near the intersections to avoid waiting cars. I support the Living Labs project, as I think it has the potential to create better solutions for how bikes and traffic can co-exist. In this case, I think the current format needs to be reevaluated in order to be a working solution for cyclists. Thank you for your time, Chris Baddick
Inspire Boulder	Jan-15	positive	maintenance		Liz	This new track is fantastic although it has been a bit too icy recently. I would be very happy if it continued east of Broadway to replace the most dangerous (in my experience) bike lane around.
Inspire Boulder	Jan-15		maintenance		F	I have not cycled here recently. How is snow removal working?
email	12/15/2014	negative	maintenance	confined	John	Hi,I hope you don't mind getting feedback on the new initiative on University Ave to put the bike lanes between the parked cars and the curb. I've been bike commuting that route since 1987 and initially I was very enthusiastic to the idea. Theoretically it seemed great. Unfortunately, in the last month my thoughts have changed 180°. 1. I've had two flats in a month versus 0 in the previous 37 years. The space between parked cars and the curb accumulates broken bottles from young adults exiting the passenger side of automobiles. Riding in that hemmed-in space provides no room to go around the broken glass and broken glass does not get swept away.2. Skateboarders feel that they can choose any side of the street to go in any direction...problematic.3. Big trucks hang off their driveways, and cars overhang the hash marks...problematic. Taken as a whole, the new bike lanes have limited the degrees of navigational freedom that previously existed to avoid obstacles and hazards. My critical thinking suggests sharing the main road with cars is my better choice, but now it's narrower. Regards, John Pellegrino
Inquire Boulder	12/14/2014	negative	safety		Bruce	Please return to old parking/bike path configuration along University Ave. To whom it may concern: This is a letter in regard to the recent changes made to parking and bike path along University Ave. between 9th Street and Broadway. I am writing to voice my opposition to these changes. I have lived at 908 University for more than 20 years and ridden and driven this stretch of road nearly every day. I find the changes to be more dangerous for both bicyclist and drivers. I have seen the aftermath of several accidents (far more frequent than in the previous 20 years) and find the riding to be only marginally safer if at all. This is a failed experiment, please return to the previous parking and bike path configuration. Regards, Bruce Kindel
Inquire Boulder	12/14/2014	negative	safety		Sara	Please return to old parking/bike path configuration along University Ave. To whom it may concern: This is a letter in regard to the recent changes made to parking and bike path along University Ave. between 9th Street and Broadway. I am writing to voice my opposition to these changes. I have lived at 908 University for almost 20 years and driven this stretch of road frequently. I find the changes to be more dangerous for both bicyclist and drivers. I have seen the aftermath of several accidents (far more frequent than in the previous ~20 years). This is a failed experiment, please return to the previous parking and bike path configuration. Regards,

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
Inquire Boulder	12/11/2014	negative	safety		Cindy	Other Parking and bike lane on University from Broadway to 9th More Details: Would like to address safety issues with the recent change in the lanes for both parking and bikes. First issue is that the lane for the cars is now very narrow. Car doors can be opened into traffic and pedestrians now come from between the cars. Second the bikes don't always use the bike lane. When they do use the bike lane you can't see them on the other side of the cars that are parked especially when turning right onto Broadway. Third, when it snowed the plow took up more than one lane and the bike lanes weren't plowed in a timely fashion. This is a very busy block. I drive it at least 2 times everyday. Before the changes you could see all the dangers easily. Very open area to drive though. Now it's an accident waiting to happen. Please change it back!!
Inspire Boulder	Dec-14	positive			Beth	love em
Inspire Boulder	Dec-14	positive	seperation	safer for cyclists	Ted	I think these lanes are great! Turning onto University from the neighborhood used to be much more dangerous, because the parked cars in their former configuration blocked sight-lines of oncoming traffic (which was often going way too fast because of the wide lanes). In order to see the oncoming traffic, a car would have to pull into the bike lane and stop. Under this new configuration, the car can check for bikes first, and then move out to check for oncoming traffic. There are clearly details left to be worked out; intersection design may need to be rethought, permanent streetscape elements like planters used instead of temporary bollards, snow plowing strategies, etc.; but that's why this is a "living laboratory" right? Lanes such as these work brilliantly elsewhere in this country and in the world, and Boulder has the perfect kind of bike culture and existing bike network to implement them too. We don't have to reinvent the wheel either, simply look to places like Amsterdam where solutions to all of the conflicts mentioned here were worked out a long time ago.
Inspire Boulder	Dec-14	positive	slower cars	feeling safer for cyclist	Kevin	The positives of the parking-protected bike lane are: 1) A narrower road means that cars will slow down.2) Creating an obvious and physical barrier between cars and cyclists. 3) Making cyclists feel safer, hence encouraging more cycling trips. I think we can retain the positives of a buffered lane without the negatives. For example a partially protected bike lane with plastic reflectors and occasional concrete bollards or parking curbs would allow for this. Something similar to that on Baseline between 30th and 35th but with gaps to allow for parking and cyclists to merge into the lane if needed (for turning). This would create a sharp visual barrier and partial physical barrier while retaining visibility between cars and cyclists, and gets cyclists "off the sidewalk," away from pedestrians and curb use. To allow for plowing, the reflectors and bollards could be set-in 4-6 feet from the edge of the car lane, with reflective paint marking the edge of that lane. Then in snowy weather, cyclists who would otherwise be riding in the road can ride in this buffer-zone, which, while not ideal, is much better than riding in the narrow car lane. This solution requires considerable road width, but not more than the parking-protected lane already needs. For an example of this proposal see this link: http://www.streetmix.net/-/188593
Inspire Boulder	Dec-14	negative	visibility	accessing parked cars	Kevin	While inexperienced cyclists may like this style of protection at first, it has many of the same problems as cycling on the sidewalk. 1) Even with the no-parking zones, the parked cars greatly reduce visibility between cyclists and cars. This presents major opportunities for collisions when a turning or crossing car does not see a fast-moving cyclist. 2) Having the parked cars across the bike lane from the curb turns the bike-lane into more of a side-walk, where pedestrians will be walking to/from their cars. This presents more opportunities for collisions between peds and bikes. 3) Despite the buffer, many cars park too close to the bike lane. Parked cars are a false protection, since proximity to parked cars presents hazards to cyclists: namely doors and pedestrians coming unexpectedly out from between cars toward the curb. 4) Cyclists who wish to turn left from the protected lane have no way to merge into the lane. Instead they would likely have to cross the street, then turn and wait and to cross the street they were already on. 5) Plowing the bike lane is difficult. The result in snowy weather is that cyclists ride in the now-narrower lane in the worst weather conditions. This is obviously not a positive result since the narrower lane is actually much less safe than it was before for bikes. 6) When multiple cyclists of different speeds use the lane one cyclist has to pass. The lane is too narrow to safely allow this. The passing cyclists will be forced too close to the parked cars, and the passed cyclist may also be scared or react unpredictably. Adding pedestrians and doors to this equation from the parked cars only makes matters worse. While treating cyclists more like pedestrians may seem safer to non cyclists and inexperienced cyclists, the result is more dangerous and hampers cycling in the long run.
Inspire Boulder	Dec-14	mixed	seperation	maintenance	Terry	On the positive side, it slows traffic on University and creates separation from traffic when the lane is useable (most of the time). I have found it full of glass and ice/snow making it unusable at times.

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
Inquire Boulder	11/28/2014	negative	safety		Kristen	I'm unsure of who to direct complaints to regarding recent bike and parking lane changes to W. University Avenue in Boulder, CO. I have witnessed more hazards and near accidents/accidents in the past week than I have in my entire 6 years of parking on University Ave for work. I've seen bikers nearly hit by cars, pedestrians nearly hit by bikers, a woman operating a Rascal in the new bike lane almost hit by a car coming off of a side street, etc. I have so many concerns and complaints about this new, and unbelievably dangerous street setup and would like to know who I should direct them to. Visibility when pulling out onto University is ZERO. Bikers do not ride in the bike lane because it doesn't get snow plowed and instead ride in the car lane. This new setup is dangerous for ANYONE traveling down this road whether it's by foot, bike, car, etc. I'm interested to know 1. If this is merely a temporary change or if there are plans in place to change it back, 2. If there have been other complaints, and 3. If there is a petition in place to have it changed back due to major safety concerns. Thank you for your time.
Inquire Boulder	11/21/2014	negative	maintenance	safety	Keenan	The changes to the parking on University Ave, are AWFUL!! They don't plow the bike lanes, so now when i ride i have to ride in the street anyways that's now WAY too narrow. You park so close to the street that when you need to get out of your car, you're getting out right into traffic. If you're trying to do anything such as put snowboards on top of your car, get groceries out of the back seat, or anything, your standing in traffic while you're doing it. Trying to turn onto university, you can't see ANYTHING! In order to see anything, you have to pull really far out, and then your blocking this new bike lane! I am a cyclist and ride this road every other day to class and I have had way more incidents almost getting hit. Then it's also a nightmare from the cars standpoint to! Now when you want to park, the road is so narrow all the traffic behind you must stop while you struggle to parallel park, the old way you could easily and safely go around. This new set up is worse in every way and literally has no advantage. Especially the fact that the city didn't even plow the new bike lanes! Switch it back soon!!
email	11/20/2014	positive	maintenance		Celeste	Dear Ms. Ratzel, Here is another update on the University Ave Protected Cycle Track. I noticed that the bike lane was plowed after the last snowfall. Thank you for that. However, there are still 2 weather-related problems. 1) The road is sloped with the high point in the center of the road. As snow from the car park lane melts, it flows downhill toward the curb. As the temperatures fall, the water turns to ice making the bike lane very treacherous during a morning commute. 2) The bike lane was plowed, but at each intersection, bikers encounter mounds of snow that haven't been plowed. It makes more sense for bikers to ride in the main street where big snowplows and more traffic ensure that the roads are clear. Once again, I'm biking on the main, but now much narrower, road rather than in the bike lane. It seems as if the Protected Cycle Track was not designed for snowy areas whose roads are not completely plowed. Thanks for your consideration. Celeste Landry..Dear Ms Ratzel, In case you are not regularly checking on the status of the new University Ave Protected Cycle Track, I wanted to let you know my recent experience. Several days after the last snowfall, the eastbound bike lane still is icy and dangerous, not yet having been plowed. The last 3 days, I've biked to work and had to ride in the main street with the cars on a now much narrower street. The Protected Cycle Track would be much more successful and safer, I believe, if the bicycle lane were plowed after it snows. Sincerely, Celeste Landry
email	11/20/2014	negative	unsafe	parking	Sharon	To Whom It May Concern, I would like to express my serious concern with the project recently completed on University Avenue between Broadway and 9th Street. Creating the "inner" bike path and "outer" vehicle parking has created a much more dangerous situation for both bikes and vehicles, than having bikes ride with the flow of traffic as they have done in the past. As a CU faculty member whose office resides at the I.B.S. building, I have now parked on University a couple of times since the change and have found it dangerous to stop my vehicle in the lane of traffic to parallel park, with traffic having to stop behind me and wait for me to successfully park, if they can't get around me in the other lane of traffic. Even more dangerous is the fact that people are pretty much forced to stand in the lane of traffic while exiting and entering their vehicles. This is especially dangerous on snow days, when you must be stand in traffic to clear snow from your vehicle, which in the last couple of days has not been a fast process as windshields have had to be scraped which takes some time. It also seems more dangerous for bikes, as vehicles are now forced at cross streets to move up into the bike lane in order to see past the parked vehicles for oncoming traffic before turning out or crossing the road. It seems you have created greater problems unintentionally by your re-engineering of bike lanes and parking. I've talked to others I've seen parking on University, and they are also extremely displeased with the new engineering of this road. If you can't go back to the old method of parking, I would at a minimum suggest that you put the "blank lane" which you have created next to the bike path on the outside of vehicle parking (rather than inside) to allow people who are parking some safety as they enter, exit, and remove snow from their vehicles. Thank you for your attention. Sharon Mihalic CU Institute of Behavioral Science

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	11/20/2014	negative	maintenance	unsafe	Sarabeth	You comment blog will not take my comments. I am well aware of the Learning Lab Projects, goals and procedures. 1. I do not care about the reduced parking spaces. 2. This street is a valuable and necessary connector between the 9th St residential corridor and as such was part of the traffic mitigation program instituted for the traffic through our neighborhood and is signed as such (arrow to Broadway) since Broadway needs to carry more of the through traffic. Making this connector less safe and slower hurts the greater neighborhood. The mitigation designed in the 90's was working well. If it is partially your intent to force cars off this connector, I strongly object. 3. Snow and winter exists in Boulder for many months every year, with snow on the streets occurring in 7 months, on average. Though this winter has started especially severe, in my 40 years in this neighborhood, the current condition of the streets is not really that unusual. 4. I travel that stretch 2-4 times per day and have witnessed from day one of this project, many dangerous situations. I fear that before winter is over, there will be a crisis of some sort. a. Inability of the city to plow as efficiently as in the past. b. Pedestrians in the dark, standing in the traffic lane trying to clean and access their parked cars, backing up traffic flow and putting themselves in great risk for getting hit. c. Unplowed or poorly plowed bike lanes leading to bikes traveling in the now narrowed car lane, in the dark, on slippery surface. (None I saw had lights or reflective clothing. d. Cars unable to park evenly in bad weather, encroaching on both the bike lane and the car lane, especially oversized SUV's. e. Truck and large vehicle passage very tight while additional watching for pedestrians in the lane makes this no better than other Hill side streets. This is a truck route, delivery trucks use this stretch all the time for the high density student residences. I believe school buses to Flatirons Elementary use it too. f. Because of reduced sunlight so close to the foothill shadow, snow lingers unusually long here. The eastbound bike lane is in shadow of the residences on that side and is currently especially bad immediately east of 9th. I appreciate bike safety and flow, I know and value the many regular cycle commuters locally and a member of my family is one in a different city, but the risk to all participants on this street needs to be considered equally. In fact, cyclists are now more at risk as they dodge ice and snow in the bike lane at the curb where driveway access to residences continually redeposits from car tires and people are loading and unloading their cars without the former safe access to the right of way strip. The former freedom for cyclists to travel in the sunny part of the street, while still being out of the center of the car lane (which is efficiently cleared by city crews while plowing the car lanes) was so much safer. Based on my long term familiarity with this location, it is my opinion that you need to seriously reconsider this project. Thanks, SARA MITTON
phone	11/19/2014	mixed	maintenance		Eric	The pilot project design has created two narrow travel lanes between parked cars. People parking block the travel lane adding to congestion. There is no place to push/store snow. Those parked are impacted and unable to traverse across the wind row of snow. Much more dangerous during winter weather and season. The design is workable. Bike lanes have snow on them and can't be plowed. Bike lane on north side is shaded by parked cars so will not melt with sun, especially this time of year.
email	11/18/2014	positive			Nora	...are awesome. I wish every street were like this so that I could bike with my 4-year-old, on the road, and not be scared that a wayward car was going to run him down. As it is, we stay on bike paths. Also, I just love the feeling of not worrying about a driver's side door opening into my face. The amount of space makes it feel safe; it is great! Thank you for all you do. Cheers, Nora Connor
email	11/18/2014	positive	reduced parking (positive)		Lincoln	University Bike Lanes Rule! Yes we want these, we use them, protected bike lanes, are great for cyclists, the environment and the city as a whole! These have been in Europe for years and they work, we know they work! There is not one positive thing in this city that can happen without reducing the number of parking spaces.
email	11/17/2014	positive	safer for cyclists	encourage biking	Kat	Hi there, I just wanted to let you know how much I appreciate and love the protected bike lanes on University. It means a lot to me that my safety is much safer now! It makes total sense to have the bike lane on the inside. It also encourages biking and then that means we are lowering our energy consumption! Thank you! Kat Bartell Women's Coach & Photographer www.eyeofthekat.com
email	11/17/2014	positive	safer for cyclists		Elane	Dear City Council: As a semi avid cyclist, I was excited to pass by University today and see the latest protected bike lane. I think these lanes are a great addition to the city and help people feel safer on bikes. I dislike seeing cyclists resort to sidewalks because they feel too exposed on the street. But when I talk to people about it, they express they just feel safer, even though statistics don't support that view. As a bike educator, I'm all about seeing more people riding their bikes for fun, fitness, and commuting. I think we need to have more facilities that extend further and prioritize cyclists to increase our mode share. I'm excited that Boulder continues to push bicycle innovation. We may be better than many places in the country, but I think we fall behind many communities in the world for bicycle infrastructure. I would love to see Boulder be a place where people from around the world can come to see what it takes to increase biking rather than the trip to Copenhagen most communities are doing. Thanks for your continued support of Boulder as a bike friendly community. Elaine C. Erb, LCI

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	11/17/2014	positive	visibility		Timothy	To whomever is responsible for installing protected bike lanes on University Ave and Baseline Rd, I'm writing to express my satisfaction with the protected bike lanes on University Ave and Baseline Road. I commute to CU exclusively by bicycle from Lower Arapaho and cannot be happier to see that the city has installed bike lanes protected by parked cars. I feel much safer on my commute and everybody I've talked to who commutes on University says the same! Cycling in Boulder would be much safer if all bike lanes were protected, either by parked cars, curbs, or (ideally) raised sidewalks. My one criticism of the implementation on University Ave is that the parked-car protection extends too far towards the intersection (with Broadway), because it reduces mutual visibility of cyclists and motorists as their paths cross. Specifically, when travelling east, cyclists continuing east on University (their only option) must cross the path of motorists turning right, from east to south. The parked cars reduce visibility too far towards this intersection, such that there is increased risk of collision. See attached figure, left-hand panel. One solution would be to merge the car and bike lanes back together for a short distance offering time for motorists and cyclists to acknowledge one another. See attached figure, right-hand panel. This would require removing no more than 2 cars worth of parking. Ideally, the boundary between the car and bike lanes would be reinforced with a curb and markers, as on Baseline, to prevent early merging of enthusiastic commuters. Thanks again, and I hope to see more improvements to Boulder cycle commuting! Cheers, Tim
Inquire Boulder	11/17/2014	negative	safety	visibility	Anonymous	Riding my bike east towards school I almost got hit at the intersection by a car turning. Luckily I have good brakes. This new design is not safe as I can't see moving cars past all the parked cars.
Inquire Boulder	11/17/2014	negative	safety	maintenance	Diane	To Whom It May Concern, I would like to express my concern with the project recently completed on University Avenue between Broadway and 9th Street. Moving the bike path and vehicle parking has created a much more dangerous situation for both bikes and vehicles, than having bikes ride with the flow of traffic as they have done in the past. As a CU faculty member whose office is in the Institute of Behavioral Science building, I park daily in the University/Grandview area. I find it dangerous to stop my vehicle in the lane of traffic to parallel park, with traffic having to stop behind and wait for me to finish parking due to limited space in the middle lanes. Even more dangerous is the fact that people are forced to stand in the lane of traffic while exiting and entering their vehicles. This is especially dangerous on snow days, when one must stand in traffic to clear snow and ice from one's vehicle (in conditions where cars are passing very close and more likely to slide), which can take some time. It also seems more dangerous for bikes, as vehicles are now forced at cross streets to move up into the bike lane in order to see past the parked vehicles for oncoming traffic before turning out or crossing the road. I can only imagine how confusing this unusual driving/biking situation must seem to anyone who doesn't drive often on University, increasing the chances of accidents due to confusion. In addition, this new parking design includes much larger areas adjacent to intersections that have painted lines drawn on the road to indicate that parking is not allowed, lines which are not visible when the roads are covered with snow. Previously, signs along the side of the road clearly demarked where one could not park. This has resulted in a significant reduction of available parking spots in an area where parking is needed and highly competitive as well as difficulty identifying exactly where one can park on snowy days. It seems greater problems, including reduced parking, and confusion have been created by the reengineering of bike lanes and parking areas. I have spoken with others who I have seen parking on University, and they are also extremely displeased with the new engineering of this road. If it absolutely cannot be returned to the old method of parking, at a minimum could the buffer space next to the bike lane be moved to the other side of vehicles (toward center of road) to allow people who are parking some safety as they enter, exit, and remove snow/ice from their vehicles. Thank you for your attention to this issue.
email	11/17/2014	negative	safety	not enough outreach	Kirsten	Good afternoon, I hope this email finds you all well. I sent in a message to the Government Outreach website with my concerns associated with the new bike lane set up on University. In the reply back, it mentioned that outreach to the neighborhood was conducted last year regarding this. I'm wondering how this was done? Most of the people in this neighborhood are students, therefore transient and live there for only a year or two. My husband and I live there full-time and did not receive any "outreach" about this project. I'm all for innovation, but this set up has already proven to be dangerous. Making U-turns to get into a parking spot is a huge pain, the reduced parking in one of the most highly dense parking areas in town is a nightmare, and it the cyclists are not in view now at all when driving down the street, especially in the intersections. It makes it very hard to park when you fear a cyclist is hurling down the street in my passenger side blind spot. There were 4 accidents involving vehicles and bikes in the past several years, all of which occurred in intersections. It seems unnecessary to spend tax dollars on this project. Thank you for your time, Kirsten Christ University Ave Resident
Inquire Boulder	11/17/2014	negative	safety	maintenance	Maureen	The new bike lanes & street parking on University are AWFUL and DANGEROUS! When I was leaving a close friends house attempting to get into my parked car I was almost hit by a jeep sliding down the icy street. I smashed my head and have a huge goose egg trying to avoid getting hit. I fear someone is going to be seriously injured with this new set up.

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
Inquire Boulder	11/12/2014	negative	safety	narrow	Sarabeth	University between 9th and Broadway has been made too narrow. This is a busy street and this is a safety hazard when people are on foot and getting in and out of cars, especially in bad weather. She would like to speak to whomever is responsible for making the decision to narrow this lane and if this is a permanent change.
Inquire Boulder	11/11/2014	negative	parking	maintenance	Beth	The new design of bike lanes makes no sense at all. there are parking spots floating out in the middle of the road with no curb. It is very difficult to figure out how to park safely without going in the bike lane. What happens when it snows??? How will anyone possibly park without a curb. This is a terrible design. Add a curb or move the lanes back.
Inquire Boulder	11/11/2014	negative	safety	visibility	Mackenzie	I would like to know who to contact about the change that was implemented on university Ave with the bike lanes. Now that the parking is in the middle and the bike lanes are on the outside has made it very dangerous. Now when you parallel park everyone has wait in the street as well as taking away at least 30 parking spots on the street. It is also very dangerous to pull out of the side streets into university because you have absolutely ZERO visibility of oncoming cars. I have almost gotten in multiple accidents from the changes you made. Who Can I contact about this issue. Thanks.
Inquire Boulder	11/11/2014	mixed	safety	visibility	Kirsten	I live on 9th and University, and here are a couple of things I've noticed so far with the new land changes. It seems less safe for skateboarders and bicyclists, as they are hidden behind parked cars, so they are harder to see at intersections as they don't slow down and have a false sense of safety with the new lane. Driving along university has become a problem as cars stop more frequently looking for parking spots and one can easily rear-end a parking car.
Inquire Boulder	11/10/2014	negative	safety		Anonymous	the new bike lanes are less safe for bikers, skateboarders and drivers. I live along university avenue and I have had three close calls in a week going to and from a car to my house. I have also almost hit a biker turning onto 10th street from university as the biker was traveling at a much faster speed and popped out from behind a car, probably 20 mph. This new design is an accident waiting to happen.
Inquire Boulder	11/10/2014	negative	safety	visibility	Michelle	The new unsafe parking/biking arrangement along University is absolutely horrible for mainly HUGE safety reasons. 1) At intersections, it is almost impossible to see if traffic from the opposite side, and your own side is coming because you are continually blocked by the cars, when that was never a problem before. 2) The road is more narrow, making it easier for people to get into accident. If someone were to get into an accident, it is possible that they would involve more than one car, because they could also hit the cars parked directly next to them. This will happen more and more with the snow, and worsening winter conditions. 3) Bikers can easily hit people going to and from their cars, when that never happened before. 4) If you park, on one side you have cars flying by you and on the other side, you have bikers, and skateboarders. It is very unsafe to get out of the car.5) As a biker, how do you plan to plow the bike lane now. 6) Besides the safety issues, 14 spots have been lost in an extremely high density area. Please return the parking back to its original wayon the curb. It is better for everyones' safety.
email	11/10/2014	negative	narrow	unsafe	Ann	I visited friends on University at night who live on the block of the reconfigured bike/parking lane. It was about 7pm, dark and snowing. It was difficult to see, and I got very nervous driving on that block. I honestly don't know how the bikers can see where the bike lane is. On top of the driving lanes feeling VERY narrow, it was hard to see the bike lane between the curb and the cars. When I parked, I was nervous to get out of my car because I was afraid a car was going to hit my door. I feel this is an extremely poor decision by the city. I'm even more confused as to why Boulder decided to implement this when winter is approaching.I feel the safety of both drivers and bikers is more compromised with this configuration,and hope you will reconsider this initiative. I fear you will hear more about accidents and injuries in the near future.Thank you, Ann Winslow
Inquire Boulder	11/9/2014	negative	safety	visibility	Kinsey	The changing of location of the bike lane on University Ave has been quite concerning to me. As a biker and a driver these new lanes have been extremely inconvenient and dangerous. As a driver it is extremely difficult to turn onto the street because I cannot see around the parked cars in their new location and on top of that as I inch out to turn I am blocking the bike lane for a much longer period then before. There are also much less places to park my car and I often end up having to park multiple blocks away from my house which can be scary when I get home late from work and have to walk by myself. It is also very difficult and scary to park and pull out of the parking spot without being hit by moving cars. As a biker It is extremely difficult now to cross the street smoothly because cars have a harder time seeing me when I pop out from behind the cars. I was also almost hit by a truck pulling a Uturn who could not see me in the bike lane because it was blocked by the cars. Overall this new bike lane arrangement has been extremely inconvenient and unsafe for me as a taxpaying resident of Boulder and it is why I am taking the time to make this complaint.

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	11/8/2014	positive	safer for cyclists		Chuck	Hi:I rode the University Avenue parking-protected bike lanes this morning. All I can say is, "more, please"! The lanes are beautifully implemented and provide a very safe-feeling and pleasant environment. The passenger-side buffer zone is a nice touch. While there I saw a father with his young (7 year-old-ish) daughter riding eastward on the lane enjoying the protection from cars and car doors. I can assure you that the father would not have been biking with his somewhat wobbly daughter if the lane were in its earlier configuration. I look forward to seeing how the snow removal in the lanes works and what sort of feedback you get from other users of the street.One possible tweak would be to put concrete buffers along the lane. When the painted lines are obscured by snow drivers might have a hard time parking their vehicles in the right position. A concrete curb would limit how far they could drift into the bike lane.Thanks for making this change to University; I hope you can find other streets appropriate for similar treatments!Chuck Brock 4057 St. Petersburg Street Boulder, CO 80301
Inquire Boulder	11/8/2014	negative	safety	parking	Madeline	The new parking situation on University Ave is absolutely ridiculous. It is such a hazard to cars, pedestrians, and bikers. This did not make it safer for bikers in any way. It is much more difficult to see them coming and it is nearly impossible to park or exit a parking space without entering the new bike lane without a good view. It is also making parking much more difficult and it is absurd to expect people to parallel park decently in the middle of the street with a bike lane on one side and traffic on the other. I can't believe you would waste money and resources on this ridiculous arrangement. Not to mention it took away 18 spots in an area where it is already difficult to find parking. This needs to be put back to the way it was before.
Inquire Boulder	11/8/2014	negative	safety	visibility	Erin	I am writing to voice my extreme disapproval of the city's recent restructuring of parking and bike lands on University Ave., starting at Broadway and going W towards 9th. As both a driver and a dedicated cyclist, this new arrangement is dangerous from both perspectives. It does nothing to improve safety nor traffic flow, and in fact makes both worse. Parking is now extremely challenging as there is no space for cars to pull around you, while you are backing into a slot. And pedestrians and cyclists still move inside of these car parking lanes. The visibility is extremely poor, from the cyclist perspective, and it's also harder for cars to see cyclists. I absolutely loathe the new layout as do so many other people that use this route daily. I ask you to please consider your actions, and return University to the way it used to be. Funny enough, this new arrangement is in total conflict with the way that CU recently redid the parking on University Ave EAST of Broadway (the backin style).... not that i like that either, but it is better than what just happened WEST of Broadway. The best of all worlds is how WEST of Broadway was before the change.
Inquire Boulder	11/7/2014	positive			Jon	I am pleased that the city is trying new ways to make biking safer by putting the bike lanes inside of the parking on university ave. there were fliers arguing this is unsafe but not everyone shares this opinion. Hopefully this study will show this is an improvement.
email	11/7/2014	negative	narrow	creates more collisions opportunities	Rebecca	Dear Boulder parking and transportation,I have lived on University Ave since 1992 and bike, walk or drive its length most days. I am very concerned about the most recent changes to the parking. Moving the bike lane adjacent to the curb and the parking between the bike lane and the traffic lane has created dangers for several reasons:* The narrower traffic lane means cars must swing into the opposite lane of oncoming traffic when parked cars open their left doors.* Passengers exiting the right side of cars must look for bikes.* Often people need to leave the right side doors open for a long time while they load and unload groceries, ski stuff etc. This creates difficulties for both bikers and those (un)loading.* Because this is a neighborhood of many rentals, moving vans must frequently park along University Ave. Now there is no room for them.* It is dangerous for bikes as vehicles turning left or right into the north-south streets have difficulty seeing bikes whizzing along behind the line of parked cars.* This parking configuration provides fewer parking spaces to an area of high population and proximity to the university where parking is in high demand.*Aesthetically, the lovely broad expanse of University Ave has lost its appeal by narrowing.* While it hasn't snowed yet, I imagine it will be very difficult for plows to plow the bike lane, forcing bikes into the very narrow traffic lane. Also, the traffic lane will become extremely narrow if plows either pile snow in the middle or adjacent to the lines of parked cars.Thank you for your consideration.
Inquire Boulder	11/7/2014	negative	safety	parking	Evan	I am appalled at the new parking and bike path lanes on University. Not only have I almost been hit while biking in my proper lane by a car trying to park, but parallel parking blocks traffic and makes it so every car behind you has to suddenly stop. EXTREMELY UNSAFE. This new design is the WORST design I have ever seen. Honestly did the City of Boulder think this would help? It has made University Ave a nightmare! Cars cannot see bikers and a biker WILL BE HIT if you do not change it back to the original parking and bike lanes. Not that there was anything wrong with it in the first place! SOMETHING MUST BE DONE TO CHANGE IT BACK.

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
Inquire Boulder	11/7/2014	negative	parking	safety	Melanie	Complaining about unsafe parking and driving situation now on University Ave due to changes in parking zones. Several parking spots were eliminated (18) in a zone where it is already impossible to find parking. Additionally, visibility from sidestreets onto university is very bad. Also high risk of hitting bikes or pedestrians
Inquire Boulder	11/7/2014	negative	safety	parking	Morgan	I am filing a complaint due to the new unsafe parking/biking arrangement along University Ave. This new lane change has made it very unsafe for bikers and pedestrian visibility along with cars trying to cross traffic. Due to this new arrangement, it has also eliminated 18 parking spots in the area which is ridiculous due to the fact that it is already a high density area. Also, it is very confusing and unsafe because cars are flying by on one side of you while bikers and skateboarders are flying on the other creating many opportunities for accidents to occur. Another point is that when snow starts to fall, because they have made the lanes so narrow, there is a high chance that cars will slide into the already parked cars along the side. This new unsafe arrangement is causing many issues in our safe community. Please fix this issue because many people who live in this area and drive along it feel unsafe.
Inquire Boulder	11/7/2014	negative	safety		Ashley	As a resident on University Ave, the new parking/bike lane arrangement is very inconvenient and most of all extremely unsafe. Parking in designated parking lane is difficult due to oncoming traffic on both sides of the parking lane (cars and bikes). Biking is unsafe due to the lack of visibility for moving vehicles. Getting into a parked car is unsafe for the individual due to the narrow traffic lanes. At intersections, visibility is impaired for those pulling onto University Avenue. In addition, 18 parkings spots have been lost in a high density area and as a resident this is inconvenient. In terms of potential issues during the winter months, the icy roads will intensify all of these issues.
Inquire Boulder	11/6/2014	negative	safety	visibility	Jacqueline	Location: 10th and University Bike Lane Caller is concerned with the way that the bike lane has been repainted and she is concerned about her safety biking right here, due to lack of visibility and would like to speak to someone to express these concerns.
email	11/3/2014	negative	narrow	visability	Nicole	Please do NOT implement phase 2 of the "Innovative Bike Treatments" along University Avenue. It will create an unsafe situation for drivers trying to make U-turns. And what about the customary snow storage in the middle of the street? This will be making it all too narrow. Sincerely, Nicole deLorimier
Inspire Boulder	Nov-14	positive	safer for cyclists		Charles	These lanes are great, and I'd love to see more installed elsewhere. I feel safer and calmer without having to look for cars and doors (thanks for the passenger-side door zone!). I saw a father and his young (7-ish) daughter riding on these lanes and imagine that never would have happened with the previous configuration. So I think this type of protected lane can do a good job at bringing out new riders who want a safe-feeling biking experience. I can think of three improvements for these lanes as they exist now. 1) Install cement curbs so that cars have a hard edge to park against. 2) Make the sign shown in the photo above more durable. 3) Make some changes to discourage cars from intruding into the lane at intersections.
Inspire Boulder	Nov-14	positive	safer for cyclists	maintenance	Waylon	I love it! I bike everyday, live on University. It's much safer (away from cars and car doors), encouraging children and families and old timers to bike. One note: It hasn't been plowed promptly, which makes it impossible to bike through, so I bike in the lane. But that can be fixed. Other advantages: it slows the traffic on University, which is an autobahn in the past (folks love to speed, I've seen a dog hit). It shifts parked cars away from houses, which is good for fresh air for the locals (cars offgas when parked). It needs to be longer to be helpful--should extend two or three blocks west. It's a no brainer. Thanks for doing it! I've talked with lots of folks and they're 90% positive. Some folks who don't bike hate them, but haven't offered specifics other than a concern about plowing, which I share
Inspire Boulder	Nov-14	negative			Lesley	I'm not neutral. I am negative on this idea, and that's not a choice!
Inspire Boulder	Nov-14	negative	maintenance	too narrow	Lesley	I agree. My husband complained bitterly when it snowed the other week. The bike lane was icy and he had to ride in the road which is much narrower now. I used to work on main campus and road my bike. I had no problem with University - it was wide and quiet. The only problem was broken glass the day after recycling pick-up. Please put it back the way it was.
Inspire Boulder	Nov-14	mixed	maintenance		E P	This was great before it snowed but now is awful!!! The snow and ice remaining in the bike lane force cyclists into the middle of the auto lane.

Method of Contact	Date	Reaction	Primary	Secondary	Name	Full comment
email	10/24/2014	negative	parking	too narrow	Kirsten	Good morning, Please don't implement phase 2 of the "innovative Bike Treatments" along University Avenue. Being a resident along University Avenue, the plan will negatively affect me and will be unsafe for any drivers trying to do U-turns along University Ave. Parking is already a complete nightmare, and this will just make it worse. 1. Upwards of 12 parking spots will be taken away along University Avenue from Broadway to 9th when this goes into effect 2. There will not be enough room for cars to do U-turns safely and quickly on University Avenue 3. During Heavy snowfall, there will be no place to shovel the snow in the street Thank you for your time, Kirsten Christ University Ave Resident
email	10/23/2014	negative	parking		Marc	I have concerns with the approach being taken with the installation of the "Innovative" Bike Treatments along University Avenue. Most of the residents whom live on University Avenue are temporary and not about to speak up regarding this plan so I think someone should. I received a pamphlet today about the implementation of Phase II taking place in just over two weeks. The pamphlet mentions that one to two on-street parking spaces will be taken away for every intersection and driveway along University avenue; this is completely unreasonable to the residents of parking spots being affected. I am requesting that Phase II be put on hold so that there can be further discussion with the residents of the affected area as the area is already high density and parking is very difficult for just the residents alone. As one of the only owner occupied residents on University Avenue between 9th and Broadway, I am in contact with all of the other property owners/ voters along University. Having Voted for Mary, Sam, Matt and Macon in the last election, I would appreciate a response. Please contact me at your earliest convenience, Marc
Inquire Boulder	10/23/2014	negative	parking		Marc	I have concerns about the innovative bike treatments. Parking for home owners and renters along university is already hard enough before taking away more parking spots. Any investment should be put into angled parking not taking away parking. People live here and own cars and this is a high density area already.