

# 108th Avenue Northeast Demonstration Bikeway Assessment Framework



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Transportation Department  
City of Bellevue*

*Presentation to:  
Bellevue Transportation Commission  
April 12, 2018*

# Meeting Purpose & Agenda

## Purpose:

**Staff seeks Commission endorsement of the 108<sup>th</sup> Avenue Northeast Demonstration Bikeway Assessment Framework.**

## Agenda:

- 1. Evaluation framework inputs**
- 2. Outcomes, indicators, and count methods**
- 3. Project update**
- 4. Commission endorsement**

# Background | Project Selection



**Draft Concept for 108th Ave NE**  
at the Bellevue Transit Center, looking north

Information  
425-452-6800

Available in Other Languages

정보, సమాచారం, Información  
ଆବଶ୍ୟକୀୟ, معلومات, 資料, Информација  
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For more information contact Franz Loewenherz at 425-452-4077 or [floewenherz@bellevuewa.gov](mailto:floewenherz@bellevuewa.gov)

## We want to hear from you!

The Transportation Department is working to make Downtown Bellevue a safe, comfortable, attractive place for people to bike.

We could install Downtown's first high-comfort bikeway as a pilot project in 2018. Help pick the street and design that balances the community's priorities.

Learn about the benefits and trade-offs of concepts along four candidate streets:  
108th Ave NE, 106th Ave NE, Main St, NE 2nd St.

### Attend the Open House:

Thursday / November 30 / 5-7 PM  
Bellevue City Hall / 450 110th Ave NE

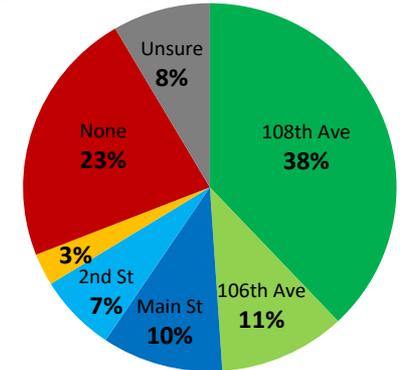
### Take the Survey:

<http://www.surveymonkey.com/r/BvueBikeDemo>  
Available through December 31



Pop-Up Events

## Preferred street for demo bikeway in 2018?



Online Questionnaire

Postcard Mailer

Category	Criteria	108th Ave	Main St	NE 2nd St	106th Ave
Safety	Collisions (2010-2016)	Green	Orange	Orange	Green
	Wikimap Safety Issues	Green	Green	Red	Green
Bicycle Environment	Bike Network Connectivity	Green	Green	Orange	Green
	Bike Facility Comfort	Green	Orange	Yellow	Green
	Construction Activity	Orange	Orange	Red	Green
Auto Environment	Travel Lanes Repurposed	Orange	Red	Yellow	Yellow
	Turn Lanes Repurposed	Orange	Green	Yellow	Red
Curbside Environment	Changes to On-Street Parking	Yellow	Green	Yellow	Yellow
	Loading/Unloading Access	Yellow	Yellow	Yellow	Yellow
Transit Environment	Bus Operations	Red	Orange	Green	Green
	Transit Access	Green	Green	Red	Orange

BDA Bike Series



Open House



Stakeholder Letters

***“BDA members share a significant stake in the rollout and outcome of a demonstration project. Details, data and effective outreach will matter greatly before and during the implementation. You’ll note our positions are conditioned around safety in our growing city core, traffic movements, right-of-way impacts, real-time evaluation and response, and funding considerations.”***



## Demonstration Bikeway Position Statement, Conditions, and Recommendations

The Bellevue Downtown Association has endorsed a position supporting the installation of a Demonstration Bikeway on 108th Ave NE (between Main St to NE 12th St) for a period of one year. The project will test and evaluate impacts of a potential new bike corridor in Downtown Bellevue.

In conjunction with this position, the BDA forwards the following conditions and recommendations:

### Conditions

1. **The project should operate for a year.** A year-long demonstration will accurately measure ridership and impacts during all seasons of use.
2. **Ensure the Demonstration Bikeway is completely budgeted.** The project should have funding for implementation, maintenance, and a final step (either refinement or removal).
3. **Assess performance.** The Demonstration Bikeway should be measured objectively through a systematic method of collecting data. Community feedback should also be routinely collected throughout the operation. The two approaches will be used for making necessary adjustments and ultimately for assessing performance.
4. **City Council will be the determining body.** The City Council should be the authority to determine the implementation of the Demonstration Bikeway and ultimately whether it's refined or removed.

### Recommendations

1. **Ensure safety for all.** Consistent with the City of Bellevue's Vision Zero initiative, the Demonstration Bikeway corridor needs to be designed as a safe and comfortable place for people walking, bicycling, taking transit, and driving motor vehicles. An educational outreach program should be incorporated to promote safe bicycling practices and information about the new corridor.
2. **Acknowledge change will occur to the right-of-way.** Minimize impacts to travel times, on street parking, and access to property.
3. **Coordinate with transit and ride share services.** The Demonstration Bikeway should not disrupt regular bus operations and rider experience. The City must have cooperation from transit agencies and ride share programs.
4. **Network connectivity is a high priority.** The Demonstration Bike Lanes should connect to the existing network of bike lanes.
5. **Support existing initiatives, plans, and projects.** The Demonstration Bike Lanes should support the [Pedestrian and Bike Implementation Initiative](#) and the [2009 Pedestrian Bicycle Transportation Plan](#) by maximizing the return on investment of existing and anticipated near-term projects.
6. **Performance should inform next steps.** The examined results and evaluated community feedback will determine whether to refine or remove the Demonstration Bike Lanes.

# Transportation Commission | January 11, 2018



- **Collect data to make necessary adjustments and ultimately for assessing performance and next steps.**
- **Develop a scope of work to assess outcomes for all street users, including people bicycling, walking, driving, using transit, and transporting goods, based on data and community engagement.**
- **Staff will share the results of the evaluation with the Transportation Commission in early 2019 to inform our consideration of next steps.**

# Vic Bishop and Todd Woosley | January 31, 2018

**“Further evaluate the issues, impacts and trade-offs of taking scarce street capacity for a dedicated bicycle facility and create a comprehensive understanding of the competing uses for the precious Downtown street space, and have a robust Council and community-wide discussion about transportation in Downtown.”**

Criteria might include:

- a. Changes in travel delay in Downtown, on a wide range of streets.
- b. Changes in traffic volume on a range of streets.
- c. Changes in the Vehicle LOS at specific intersections and Arterial Corridors
- d. The number of bicycle trips attracted to 108<sup>th</sup> Ave. NE.
- e. Changes in the number of bicycle trips attracted to Downtown.
- f. The traffic safety experience in Downtown in terms of reported collisions.
- g. The impacts on on-street parking.
- h. The impacts on current and projected bus stops along 108<sup>th</sup> Ave. NE.
- i. The potential for managed curb space for bus stops and passenger and freight load zones for increased ACES (e.g. Microsoft Connector, Uber/Lyft type services) demand for passenger load zones.
- j. Impacts on ingress and egress at adjacent buildings.
- k. Impacts on the benefit/cost of the future N.E. 10<sup>th</sup> Street off ramp from I-405.

# Bellevue City Council | February 5, 2018



**“I’m really happy that this is happening....”**

**- Mayor Chelminiak**

- **“We want to know what users think about this project.” – Chelminiak**
- **“Looking forward to the assessment.” – Robinson**
- **“Demonstration is better than simulation to evaluate the project.” – Lee**
- **“Would like to understand the key metrics that we will be tracking to determine what is working and not working with the project.” – Nieuwenhuis**
- **“A demonstration project allows us to collect real data to see if we are getting more bicycle riders & if they feel safer.” – Zahn**
- **“Let’s avoid analysis paralysis. We need to be smart and ensure that we collect the right data moving forward.” – Stokes**

# Evaluation Framework Inputs | Best Practices & Guidance Documents

Attachment 1

## Downtown Protected Bike Lane Demonstration Project

Project Summary | November 2017

1

DISTRICT DEPARTMENT OF TRANSPORTATION  
**POST-CONSTRUCTION ANALYSIS EXECUTIVE SUMMARY**  
WASHINGTON, D.C.

SEPTEMBER 2016

Seattle Department of Transportation

## 2nd Ave Protected Bike Lane Demonstration Project

Before and After Study

SDOT  
Seattle Department of Transportation

Initial Findings: Kinzie Street Protected Bike Lane June - September 2011

The Chicago Department of Transportation completed construction for the Kinzie Street Protected Bike Lane in July 2011. Since its opening, the 1/2 mile protected bike lane has provided a safe route for cyclists, acted as a traffic-calming device and has encouraged riders of all ages and skill levels to enjoy bicycling the Kinzie Corridor.

- Cyclists feel safe on Kinzie**...
  - According to a CDOT field survey, 96% of respondents feel safe or very safe riding on Kinzie.
  - 48% of respondents felt motorist behavior improved on Kinzie post-installation.
- Bicycle ridership is up**...
  - Counts during morning rush hour observed bicycle ridership up 55% post construction.
  - According to a CDOT field survey, 41% of respondents changed their usual route to take advantage of the new protected bike lane.
  - A CDOT count indicated during the morning rush hour motorists account for 53% of eastbound traffic and 34% of all traffic.
- A travel time study found little to no effect on automobile traffic**...
  - Eastbound morning rush hour travel time from Milwaukee to Wells increased by less than 1 minute.
  - Westbound morning rush hour travel time from Wells to Milwaukee slightly decreased.
  - Evening rush hour travel time in both directions slightly decreased.
- Kinzie is a work in progress**...
  - Red flashing beacons and new signage bollards, bollards removed to increase access.
  - CDOT will continue to monitor traffic operations and citizen concerns.

CDOT welcomes your comments on this project.  
Email: [cdot@workwithchicago.org](mailto:cdot@workwithchicago.org) Facebook: CDOTnews Twitter: @CDOTnews  
[www.cdott.org/transportation](http://www.cdott.org/transportation)

CDOT

NITC  
NATIONAL INSTITUTE FOR TRANSPORTATION AND COMMUNITIES  
FINAL REPORT

## Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the U.S.

NITC-RR-583  
June 2014

A University Transportation Center sponsored by the U.S. Department of Transportation

Federal Highway Administration Traffic Monitoring Guide

## Traffic Monitoring Guide

September 2013

U.S. Department of Transportation  
Federal Highway Administration  
Office of Highway Policy Information

Federal Highway Administration

## SEPARATED BIKE LANE PLANNING AND DESIGN GUIDE

U.S. Department of Transportation  
Federal Highway Administration

MAY 2015

NCHRP  
REPORT 797

## Guidebook on Pedestrian and Bicycle Volume Data Collection

TRANSPORTATION RESEARCH BOARD  
OF THE NATIONAL ACADEMIES

# Evaluation Framework

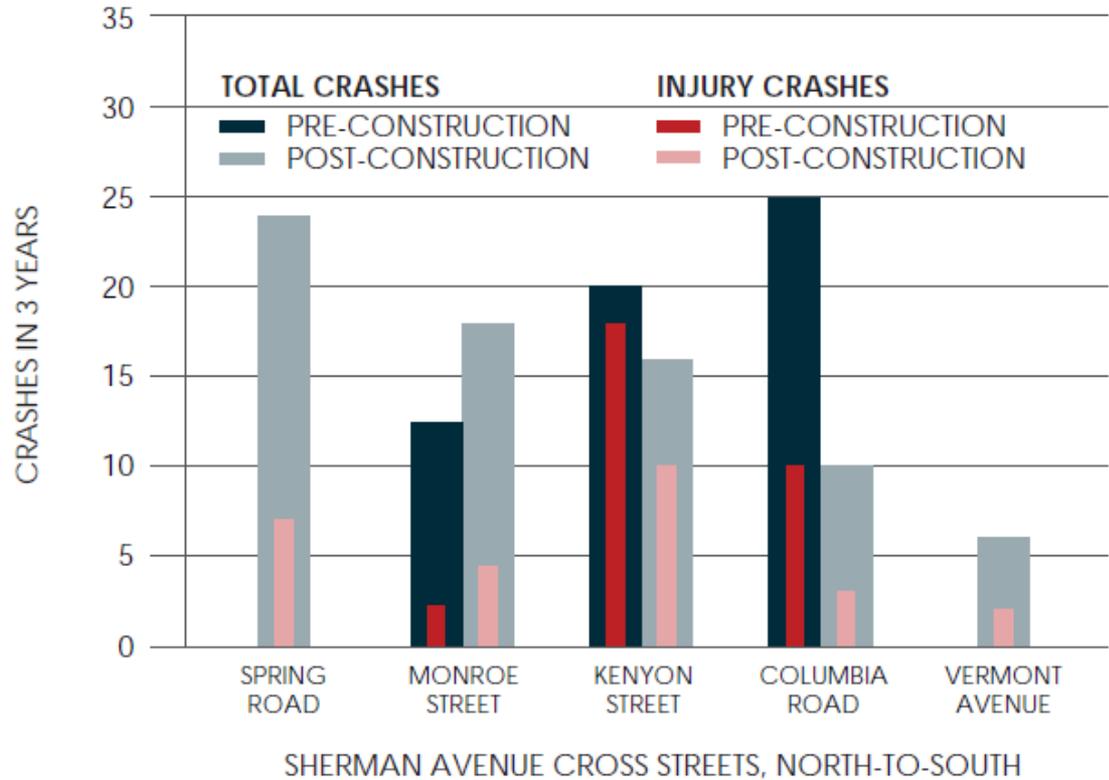


# Safety | Collisions

**DISTRICT DEPARTMENT OF TRANSPORTATION  
POST-CONSTRUCTION ANALYSIS  
EXECUTIVE SUMMARY**  
WASHINGTON, D.C.

SEPTEMBER 2016

## SHERMAN AVENUE CRASH HISTORY



# Safety | Perceptions of Safety

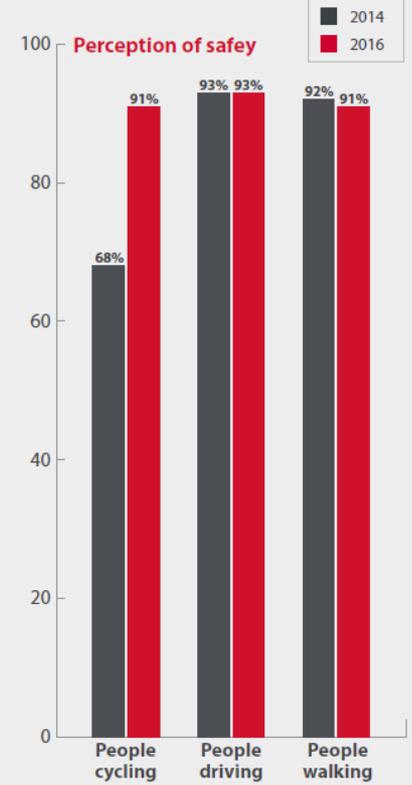
Calgary



## Centre City Cycle Track Pilot SUMMARY REPORT



People cycling report the greatest change in perceived safety:



# Safety | Traffic Conflicts



FINAL REPORT

## Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the U.S.

NITC-RR-583

June 2014

A University Transportation Center sponsored by the  
U.S. Department of Transportation

NATIONAL  
INSTITUTE FOR  
TRANSPORTATION AND  
COMMUNITIES



Figure 4-2. Example Video Screenshots (2 views) from San Francisco at Oak and Broderick

### 4.1.1 Video Review Objectives

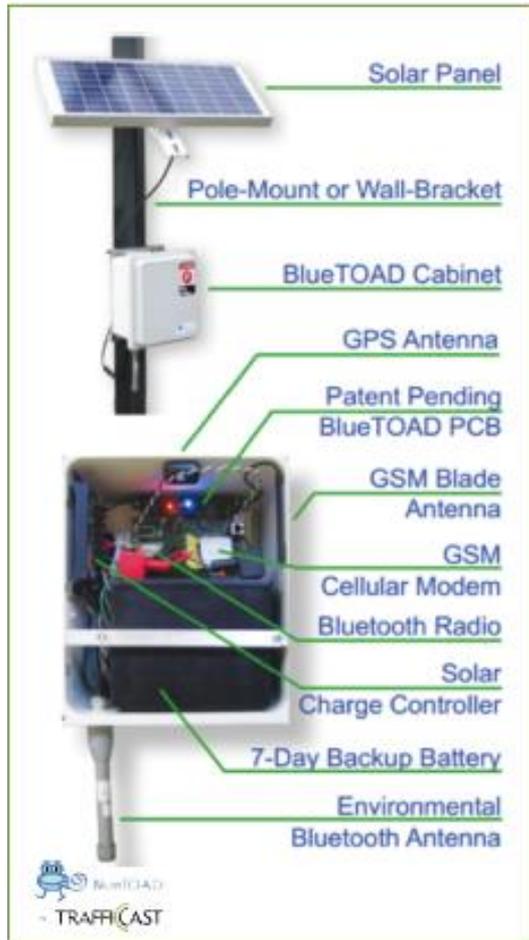
The purpose of the video review was to analyze the actual behavior of bicyclists and motor vehicle drivers in order to determine how well each user type understands the design intent of the facility and how potential conflicts arise. In contrast, the surveys collect data on *stated* behavior and perceptions. In instances where the two analyses overlap, the video review and survey results can be contrasted to compare how individuals behave to how they say they do, or should, act. Finally, the video data were also used to supplement the bicyclist counts provided by the cities for the after-construction period.

### 4.1.2 Location Selection

Video was recorded at 12 locations along six study roadways in four cities in the spring and fall of 2013. Camera locations and mounting positions at each study site were selected that would best capture potential turning conflicts with motorists and pedestrians and allow us to identify which mixing zone treatments or other crossing treatments were most effective. The selected locations and a brief description of each are provided in Table 4-2.

Cameras were mounted for at least 48 hours with the goal of capturing two midweek days between the hours of 7 a.m. and 7 p.m. Because the Oak Street and Fell Street facilities are popular weekend routes for accessing Golden Gate Park, video was collected on a Saturday at those locations. Generally the collection days were consecutive, though in a few cases equipment failure necessitated redeployment (Dearborn at Randolph and Oak at Broderick).

# Efficiency | Motor Vehicle Travel Time



# Efficiency | Bus Travel Time

Seattle Department of Transportation

## 2nd Ave Protected Bike Lane Demonstration Project



Before and After Study

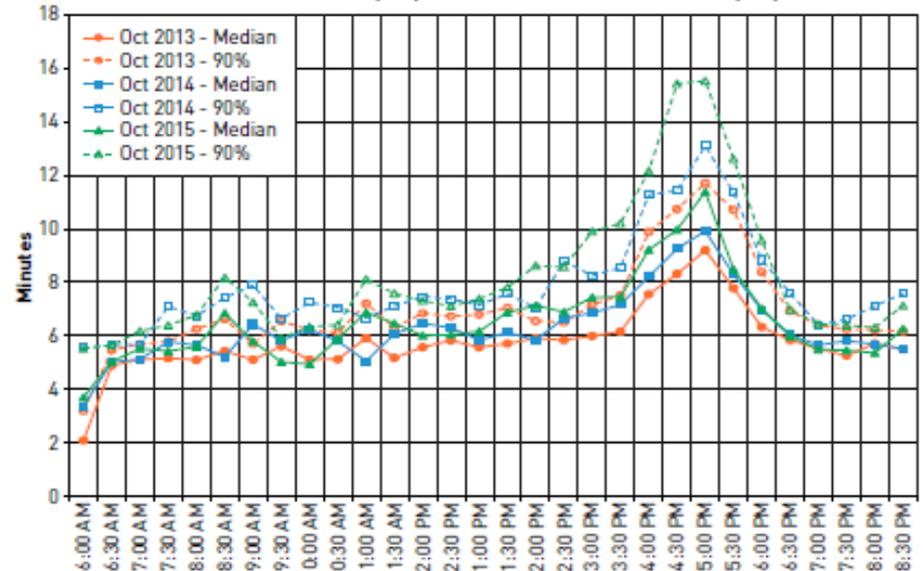


### KING COUNTY METRO TRANSIT TRAVEL TIMES

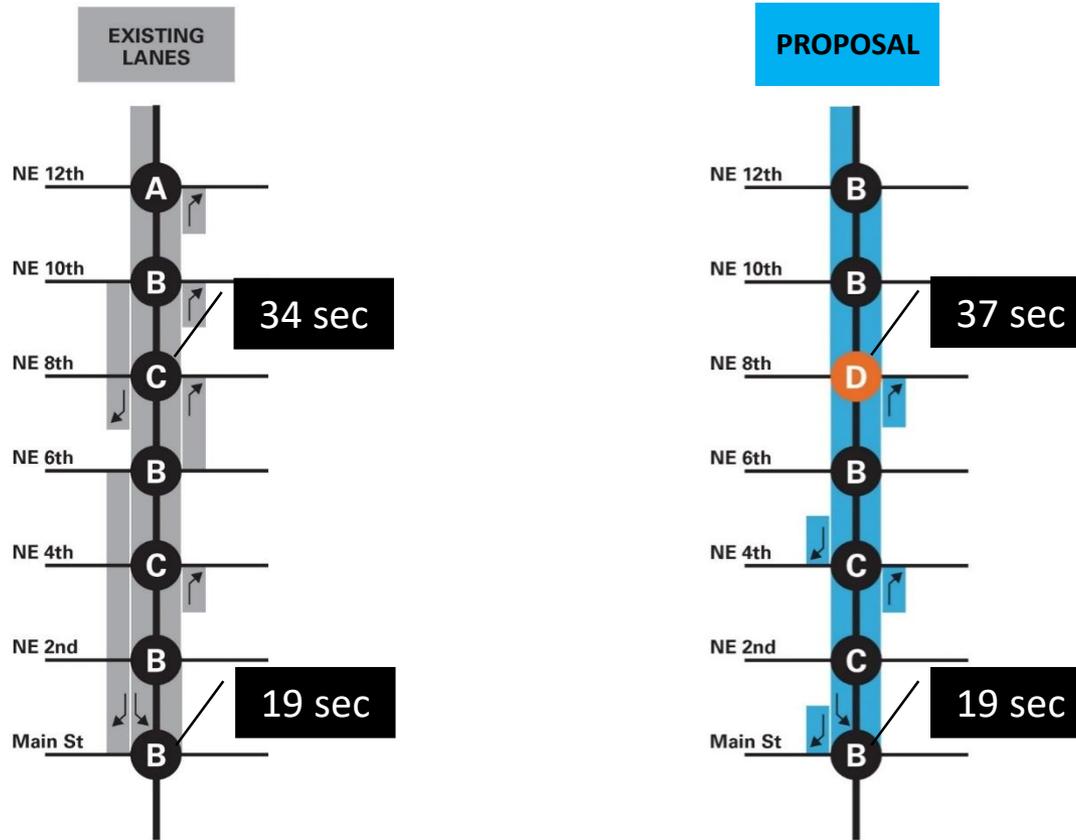
King County Metro staff compared data from July and August 2014 (before) and post September 8, 2014 (after). The result is that the September 2014 period has slight higher median and 90th percentile travel times at most times during the day compared to the before period. In most cases, the difference is less than one minute.

Their analysis also compared 2nd Ave travel times with southbound travel times for 3rd and 5th avenues between October 2013 and September 2014 to see if the slight increase in travel times on 2nd Ave were part of an overall increase in transit travel times in the center city. The results were mixed, with 3rd Ave showing very similar travel times, but 5th Ave showing similar increase in travel times to what 2nd Ave experienced.

2ND AVE & STEWART ST (280) to S WASHINGTON ST & 4TH AVE S (625)



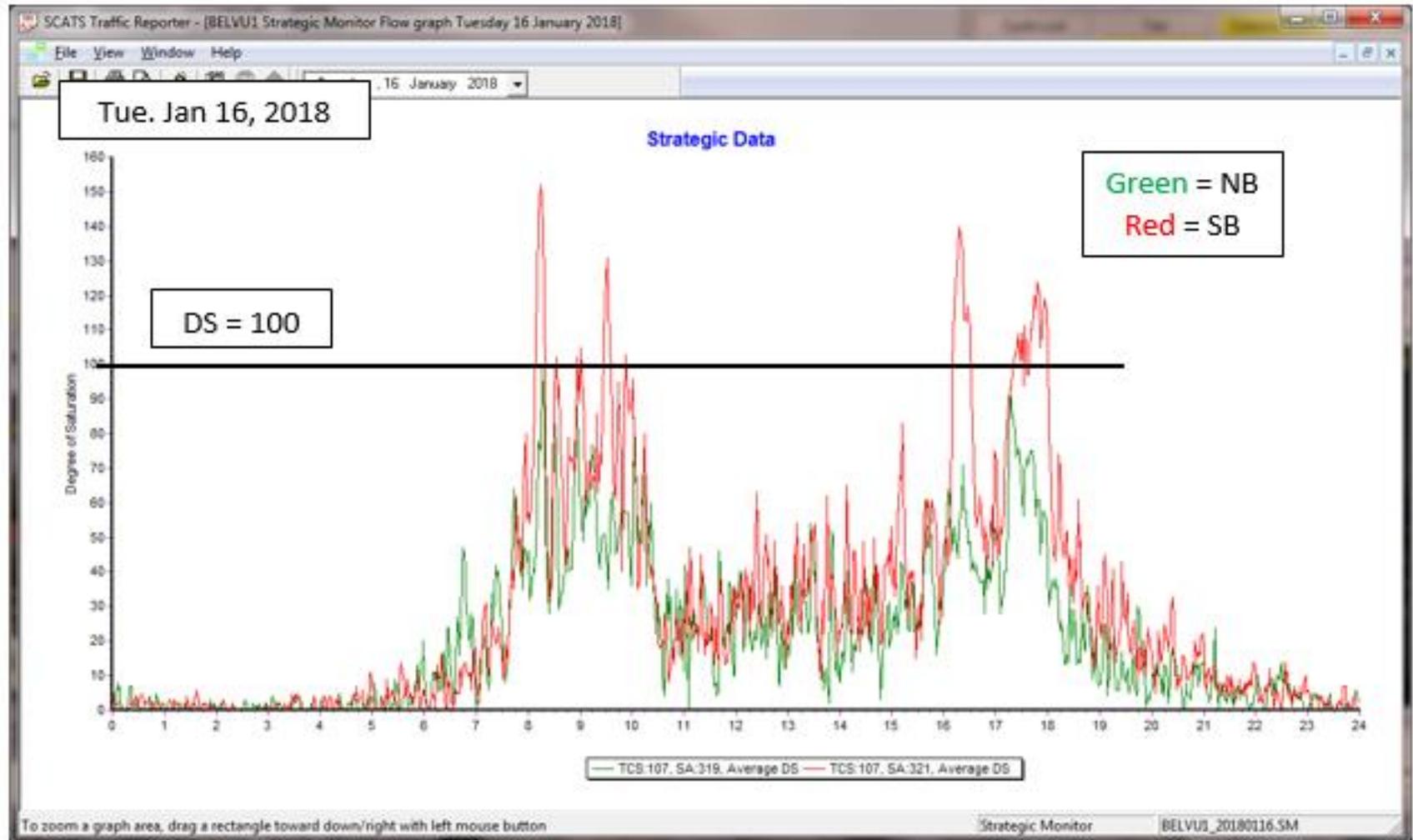
# Efficiency | Automobile Delay



**Note:** PM peak hour intersection level of service (seconds/vehicle).

**Source:** Synchro Simulation Model

# Efficiency | Network Assessment



# Livability | Facility Use

PREPARED FOR:



**DRAFT**

## ROLAND AVENUE CYCLE TRACK EVALUATION



SEPTEMBER 22, 2017

PREPARED BY:



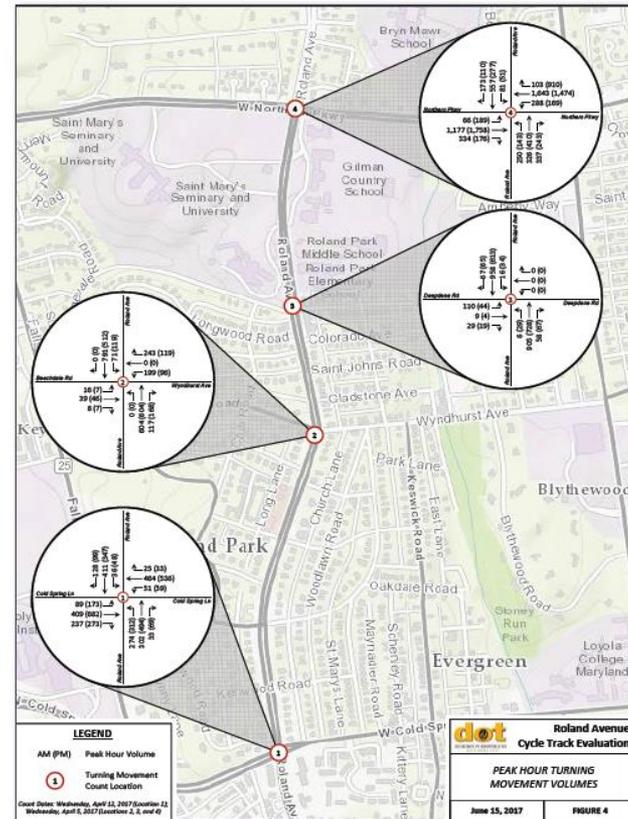
with:  
Connor Support Services, LLC  
Daniel Consultants, Inc.

### ROLAND AVENUE CYCLE TRACK EVALUATION

SEPTEMBER 22, 2017

Prepared for The Baltimore City Department of Transportation by McCormick Taylor

**DRAFT**



# Livability | User Satisfaction



## The Plaza Separated Bicycle Lane Demonstration Project FINDINGS REPORT



City of Charlotte  
Department of Transportation  
August 10, 2017



## PUBLIC INPUT

In order to gauge the public's satisfaction with the temporary modifications as well as the interest in making the modifications permanent, CDOT collected feedback from local residents. In addition to distributing a survey, CDOT staff reviewed emails and phone calls for feedback. Summaries of the findings are provided below.

### Survey Monkey Analysis

Post-project, a survey was distributed to residents and interested stakeholders. The survey was distributed through a number of channels, including:

- Online through the Plaza-Midwood Neighborhood Association (PMNA), NextDoor, the City of Charlotte's Facebook page, and Charlotte DOT's Twitter account
- Physical copies of the survey were mailed to Plaza-Midwood neighborhoods in a boundary approximating within a few blocks of The Plaza demonstration project.



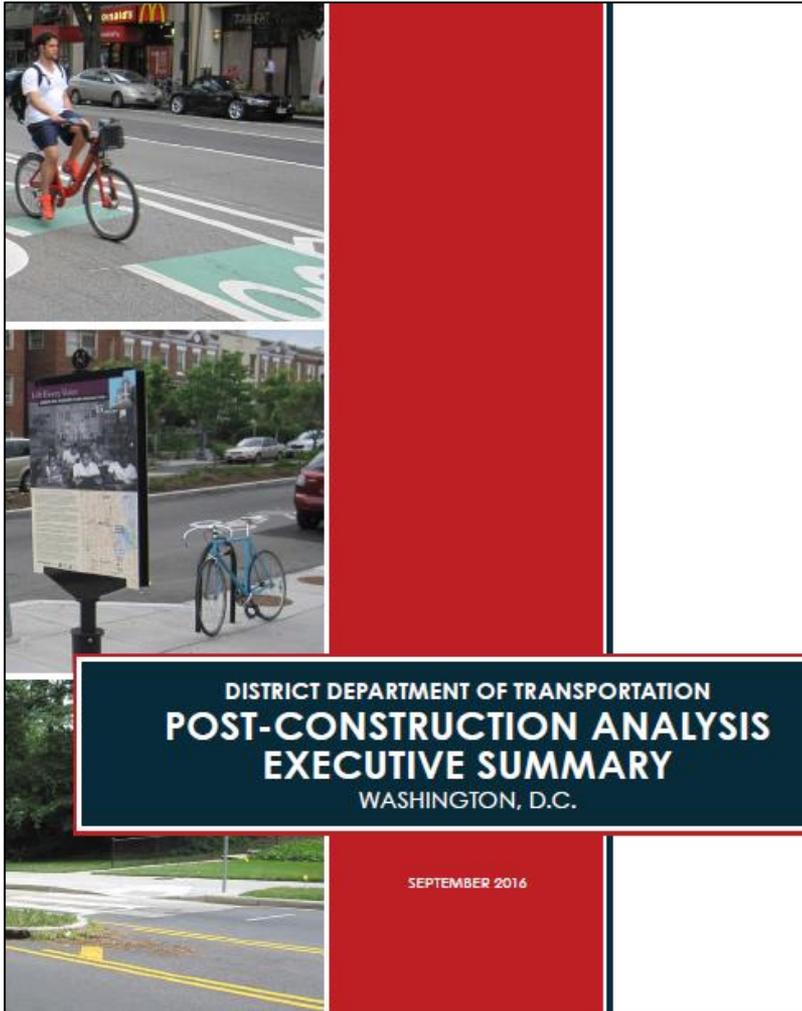
Map 5: 77% of survey respondents lived within a few blocks of The Plaza

The survey asked residents to provide feedback about different parts of the project, and help CDOT staff understand how residents use different modes of transportation. Residents were asked to rate their satisfaction with the reduction of travel lanes, the protected bicycle lane, and the intersection modifications at The Plaza and Central Avenue, on a scale from "Extremely Satisfied" to "Extremely Dissatisfied."

Between May 22 and June 5, a total of 841 surveys had been completed - 632 were completed online and 209 were submitted by mail.



# Livability | Bicycle Level of Service

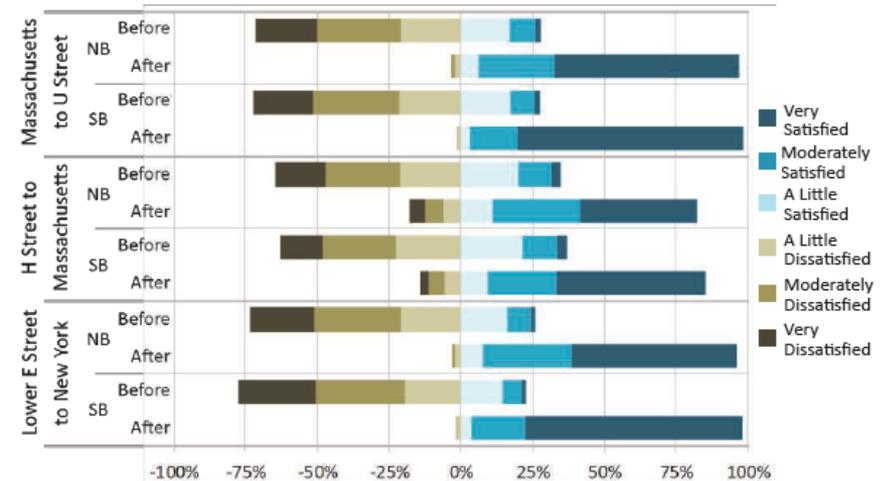


**DISTRICT DEPARTMENT OF TRANSPORTATION**  
**POST-CONSTRUCTION ANALYSIS**  
**EXECUTIVE SUMMARY**  
 WASHINGTON, D.C.

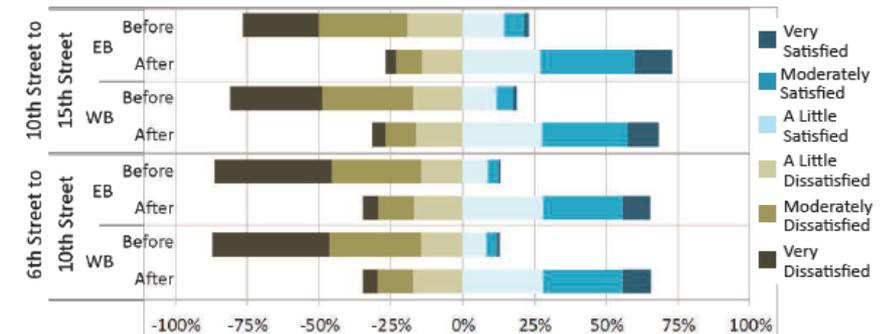
SEPTEMBER 2016

**Bicycle LOS improved substantially** when using the Danish Bicycle LOS and BEQI measures, which better capture the innovative facility types.

15th Street Danish Bicycle LOS Scores



Pennsylvania Avenue Danish Bicycle LOS Scores



# Livability | TNC & Freight Delivery

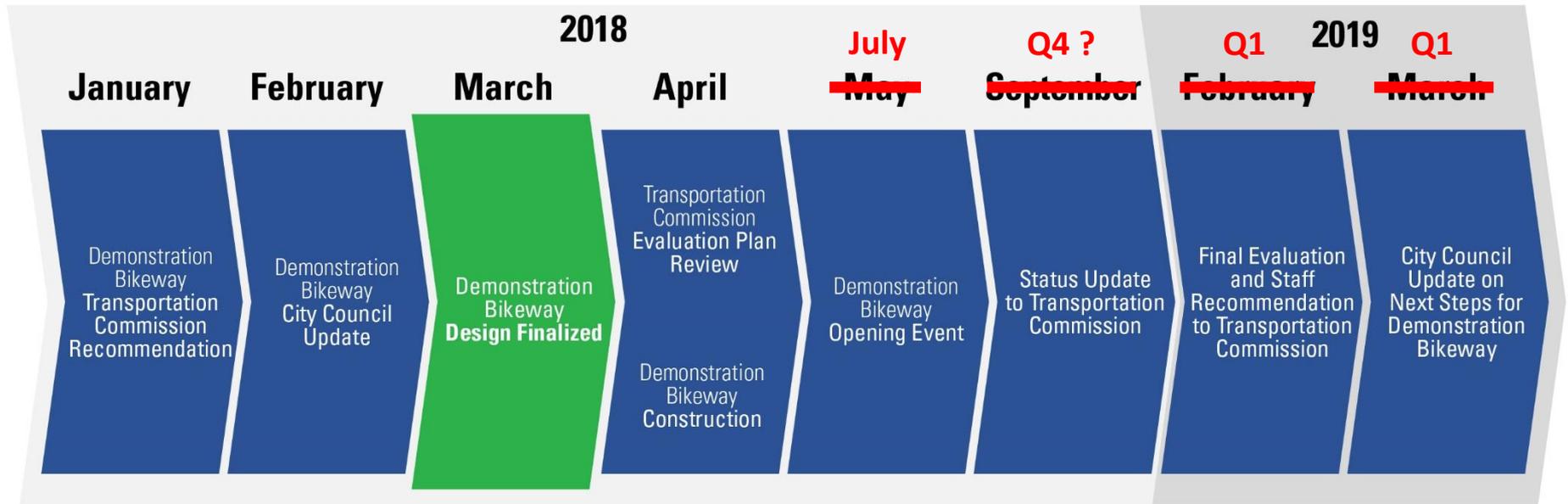


# Project Update | Preliminary Construction Timeline



- **100% PS&E Review: Done**
- **Traffic Control Plan Preparation: Done**
- **Respond to 100% PS&E Comments and Finalize Plans: Done**
- **ROW Use Permitting Approval: Done**
- **Advertise for Construction: Apr 3 – Apr 17**
- **Council Award: May 7**
- **Execute Contracts, Pre Construction: May 8 – May 19**
- **Notice to Proceed: May 21**
- **Construction: June 11 – July 8 (assumes no weather delays)**

# Project Timeline



# For More Information



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