

RapidRide Roosevelt

Seattle Bicycle Advisory Board

Sept. 5, 2018

Seattle Department of
Transportation



City of Seattle

Our mission, vision, and core values

Mission: deliver a high-quality transportation system for Seattle

Vision: connected people, places, and products

Committed to **5 core values** to create a city that is:

- Safe
- Interconnected
- Affordable
- Vibrant
- Innovative

For all



Presentation overview

1. RapidRide Roosevelt purpose and need
2. Project background and status
3. Bicycle facilities evaluation
4. Next steps



Your feedback requested

Provide feedback on the criteria and methodology used to evaluate bicycle facilities on Eastlake Ave E



Project purpose

The **purpose** of the RapidRide Roosevelt project is to improve transit travel times, reliability, and capacity to increase high-frequency, all-day transit service and enhance transit connections between Downtown Seattle and the Belltown, South Lake Union, Eastlake, University District, and Roosevelt neighborhoods, in order to:

- Address current and future mobility needs for residents, workers, and students
- Address capacity constraints in the transportation network along this north-south corridor
- Provide equitable transportation access to major institutions, employers, and neighborhoods
- **Improve pedestrian and bicycle connections and access to RapidRide stops and improve safety along the corridor.**

Project needs

The Roosevelt corridor has been identified as a high-priority corridor for meeting the following transportation and community **needs**:

- Provide transit service to support housing and employment growth
- Provide neighborhood connections to future Link light rail stations
- Improve transit travel time and reliability throughout the corridor
- Reduce overcrowding of existing bus capacity
- **Improve pedestrian and bicycle safety and connections to transit**



Project overview

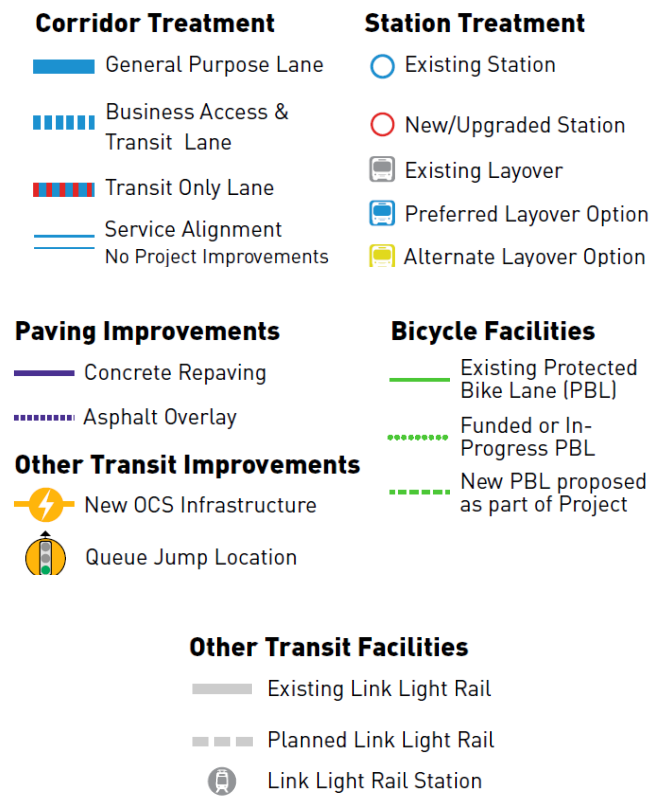
Project highlights:

- 26 new RapidRide stations
- 30 intersections with upgraded traffic signals and TSP
- 4 transit queue jumps
- 1.9 miles of new transit lanes
- 3.4 miles of new OCS infrastructure
- 2.9 miles of new paving
- **5.2 miles of new protected bicycle lanes**
- 200+ new ADA-compliant curb ramps and other pedestrian improvements



Zooming in: Fairview; Eastlake

- Improved transit stations along corridor
- Transit-only lane for buses and the streetcar on Fairview Ave to Aloha St
- Widened corridor
- Protected bike lanes on Eastlake Ave E to the University Bridge



Project history - public involvement

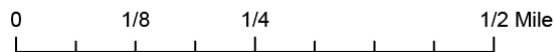
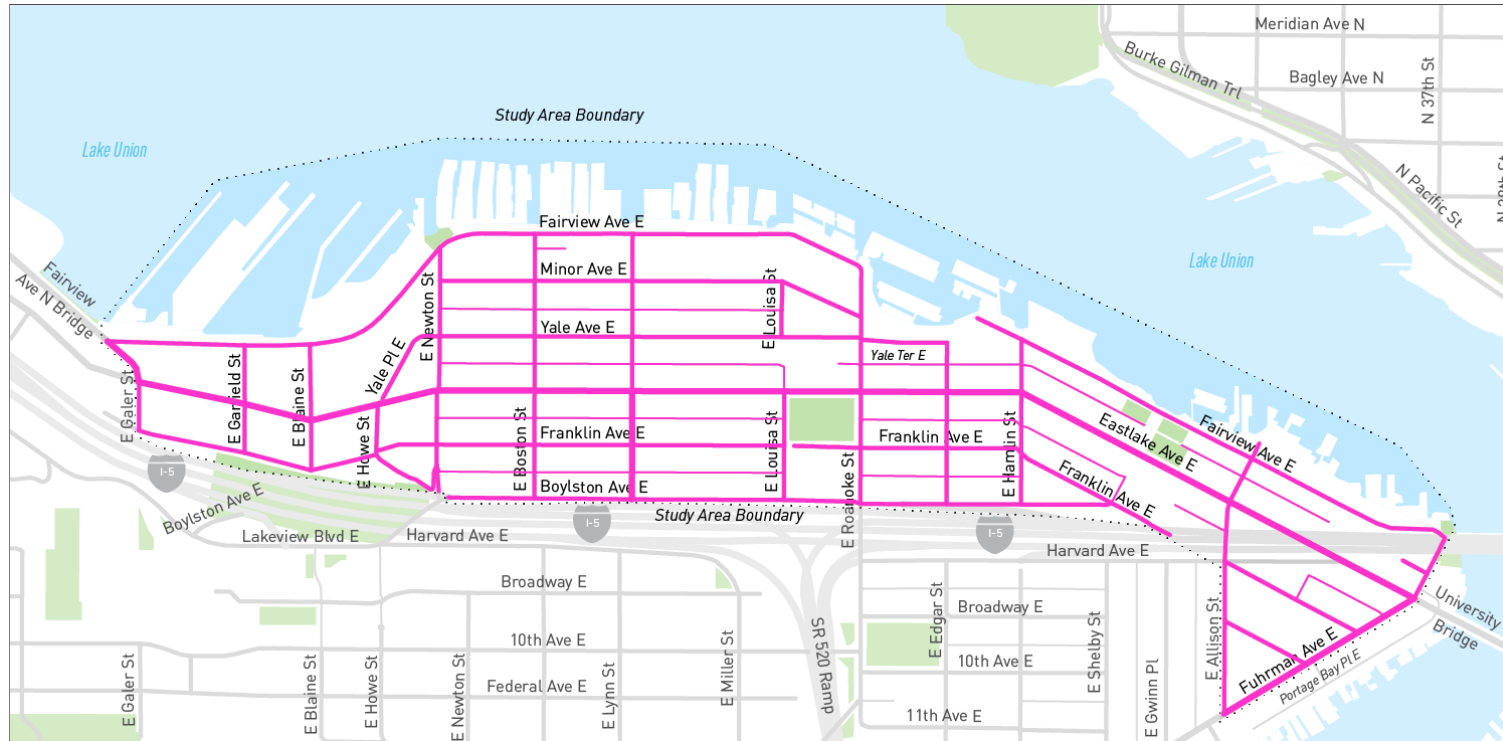
- **Phase 1: Mode Analysis and Existing Conditions**
(November 2014 - June 2015)
- **Phase 2: Characteristics of BRT and Multimodal Components**
(June 2015 - March 2016)
- **Phase 3: Recommended Corridor Concept**
(May 2016 – Present)
 - Completed conceptual engineering and submitted a Locally Preferred Alternative for Council approval in summer 2017
 - Began preliminary engineering and prepared submittal for FTA Small Starts grant
 - Completed NEPA scoping in January 2018

Bicycle facility analysis

- During the public scoping period, SDOT received several comments about PBLs on Eastlake, including support for and against and concern about parking loss
- We decided to complete a more detailed evaluation of bicycle facility options in the Eastlake neighborhood as part of the RapidRide Roosevelt preliminary engineering effort
- Our analysis evaluates bicycle facility options in the Eastlake neighborhood as part of the SDOT RapidRide Roosevelt project related to the purpose and needs of the project



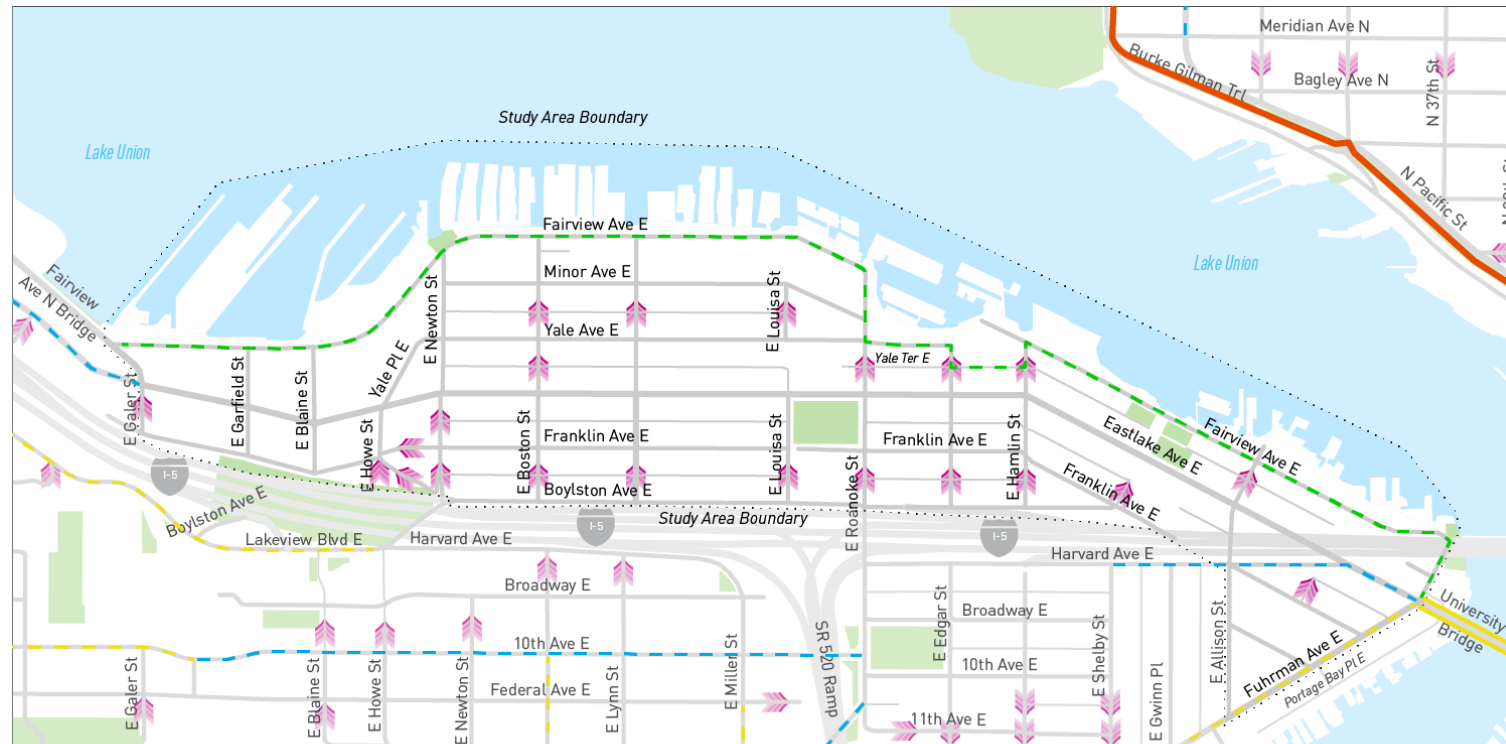
Bicycle facility analysis - study area



- Study Area Boundary
- Street Segment Included in Study Area
- Street Segment Not Included in Study Area



Bicycle facility analysis - existing conditions



Safety data

- From 2012-2017, 40 reported bicycle collisions in study area
- 39 of those incidents were on Eastlake Ave E
- Most were front-end angle collisions between cars and bicycles

Bicycle facility analysis - daily volumes

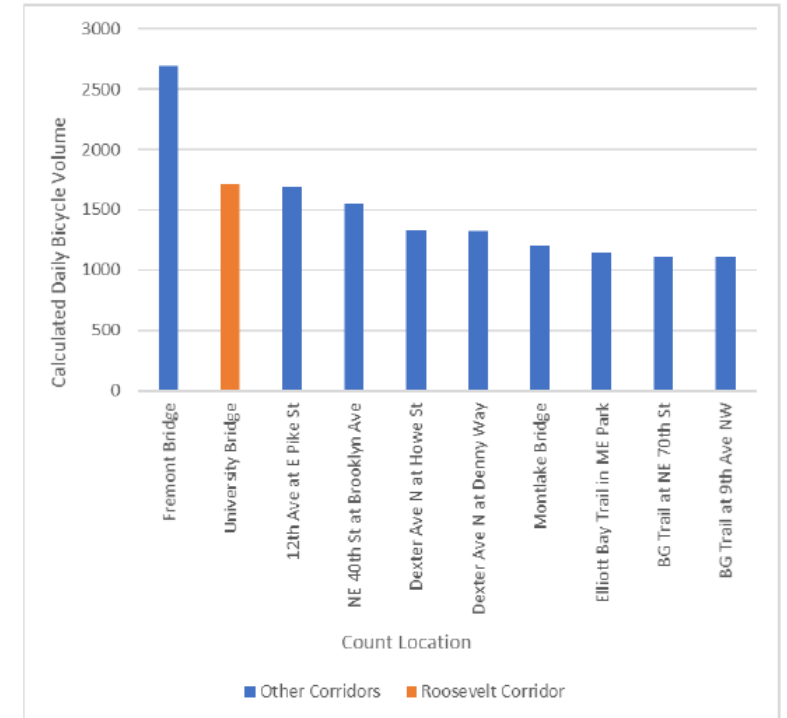
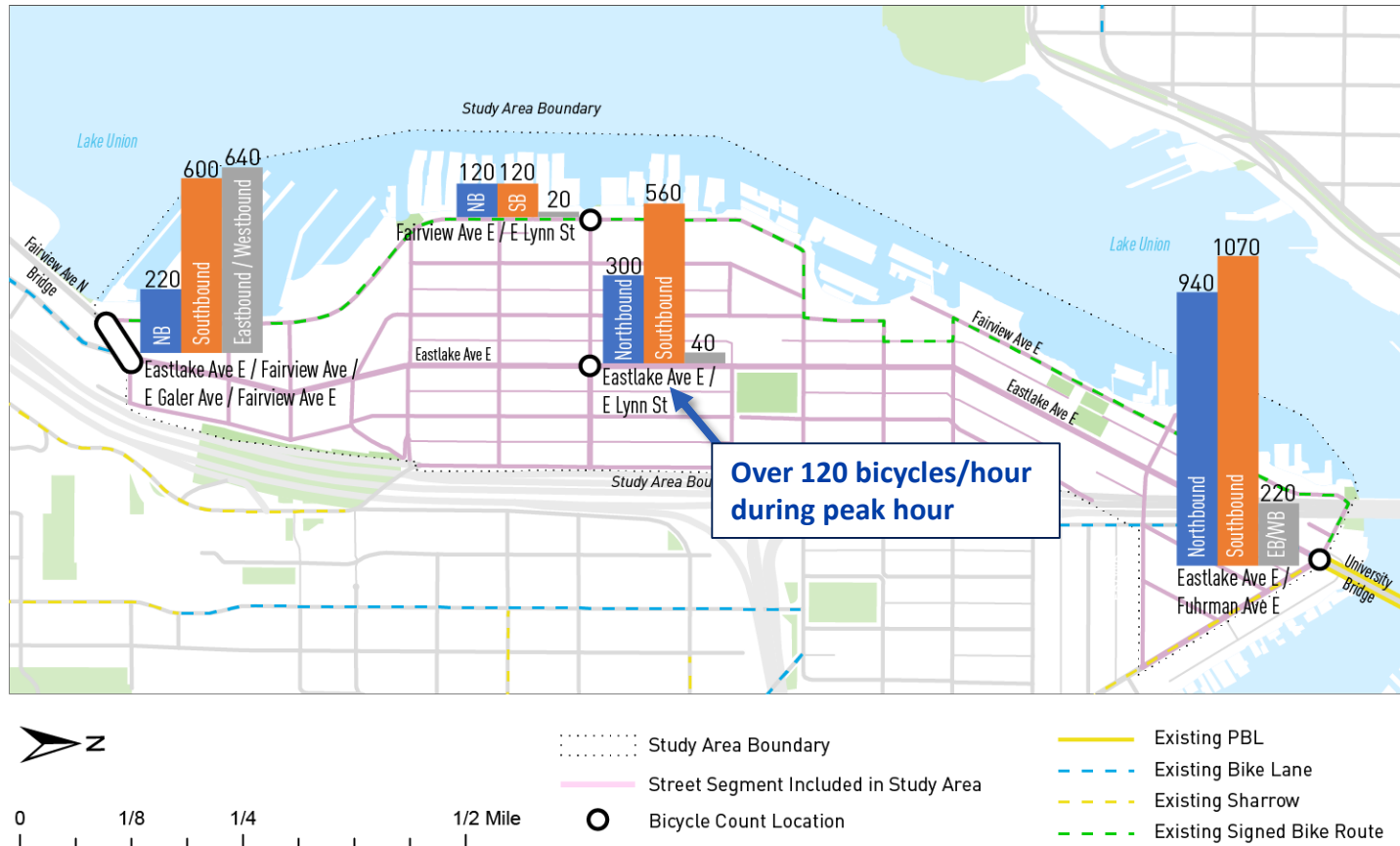


Figure 4-13. The 10 Highest-Volume Bicycle Locations in Seattle, 2016
Source: Adapted from SDOT, 2017c

Bicycle facility analysis - options development

Attributes considered:

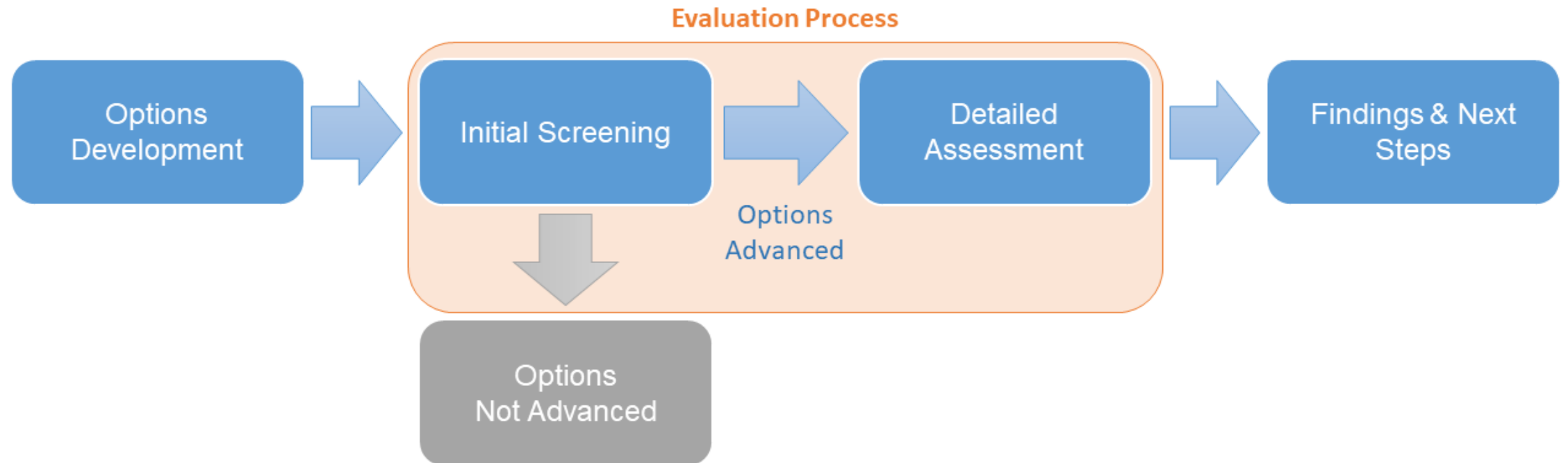
- Must provide a continuous connection between the University Bridge and Fairview Ave N bridge bicycle facilities
- Should attempt to connect to the existing bicycle lanes on Eastlake Ave E south of Fairview Ave
- Should be composed of the AAA bicycle facility types outlined in the BMP:
 - PBLs
 - Off-street/multi-use trails
 - Neighborhood greenways
- Should attempt to balance the needs of other modes, including maintaining on-street parking where possible.

Bicycle facility analysis - options considered

Option 1: No Build	Option 6: Multi-Use Trail on Fairview Ave E
Option 2: Protected Bicycle Lanes on Eastlake Ave E	Option 7: Greenway on Fairview Ave E (following the Cheshiahud Lake Union Loop)
Option 3: Two-Way Protected Bicycle Lanes on Eastlake Ave E	Option 8: Greenway on Minor Ave E and Fairview Ave E
Option 4: Northbound PBL on Eastlake Ave E and Southbound Greenway on Yale Ave E	Option 9: Greenway on Franklin Ave E
Option 5: Northbound PBL on Eastlake Ave E and Southbound PBL on Yale Ave E	



Bicycle facility analysis - Evaluation process



Bicycle facility analysis

Initial screening criteria

- Meets project purpose and need
- Provides a level bicycle route
- Meets SDOT's bicycle facility design standards
- Able to be constructed within existing right-of-way



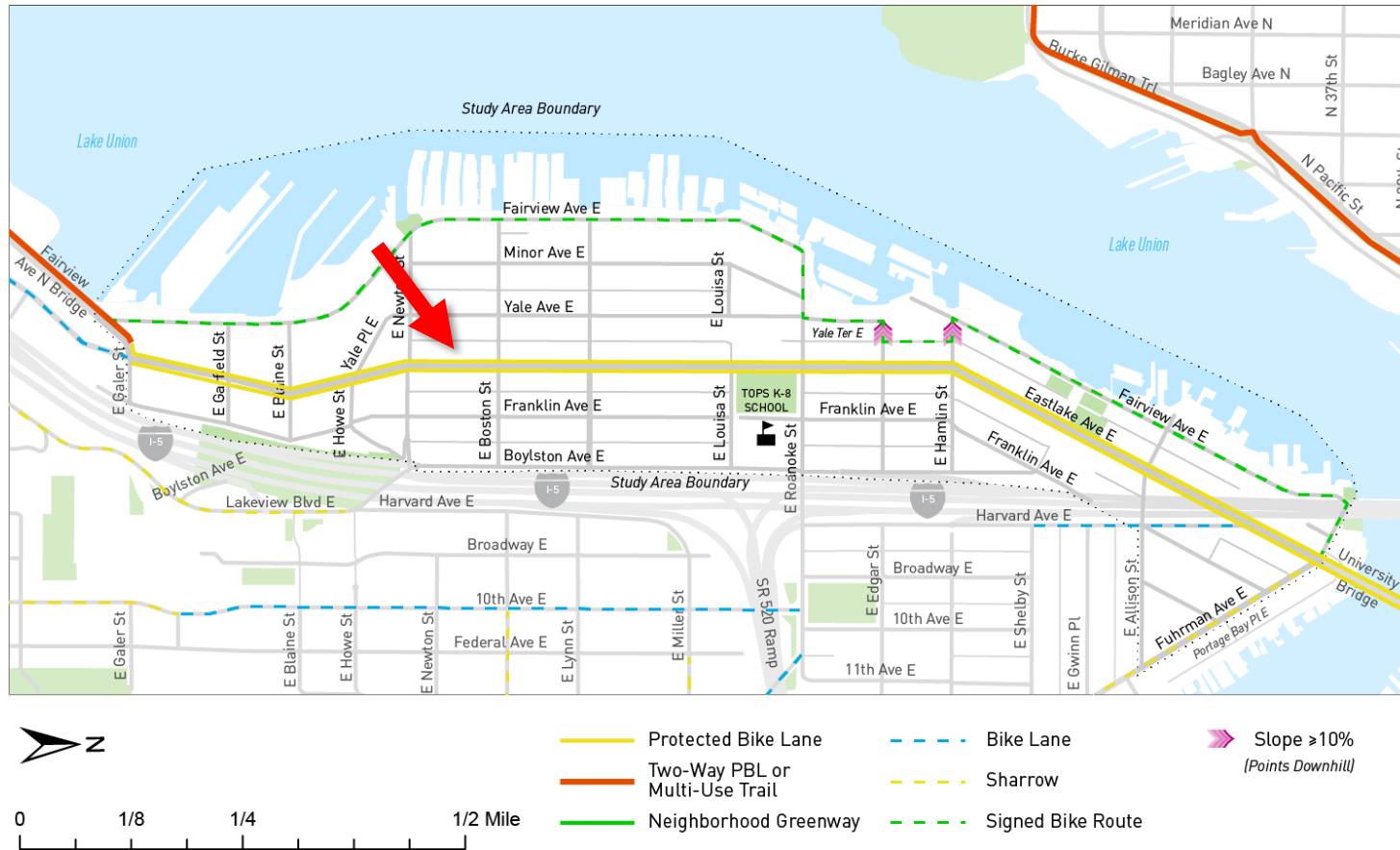
Bicycle facility analysis

Initial screening results

Criterion	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
Meets the project purpose and need	Fail	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Pass
Provides a level bicycle route	Not applicable	Pass	Pass	Pass	Pass	Pass	Fail	Fail	Fail
Meets SDOT's bicycle facility design standards	Not applicable	Pass	Pass	Pass	Pass	Pass	Fail	Fail	Pass
Able to be constructed within available existing right-of-way	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass
Result	Advanced for comparison	Advanced	Advanced	Advanced	Advanced	Not advanced	Not advanced	Not advanced	Not advanced

Bicycle facility analysis

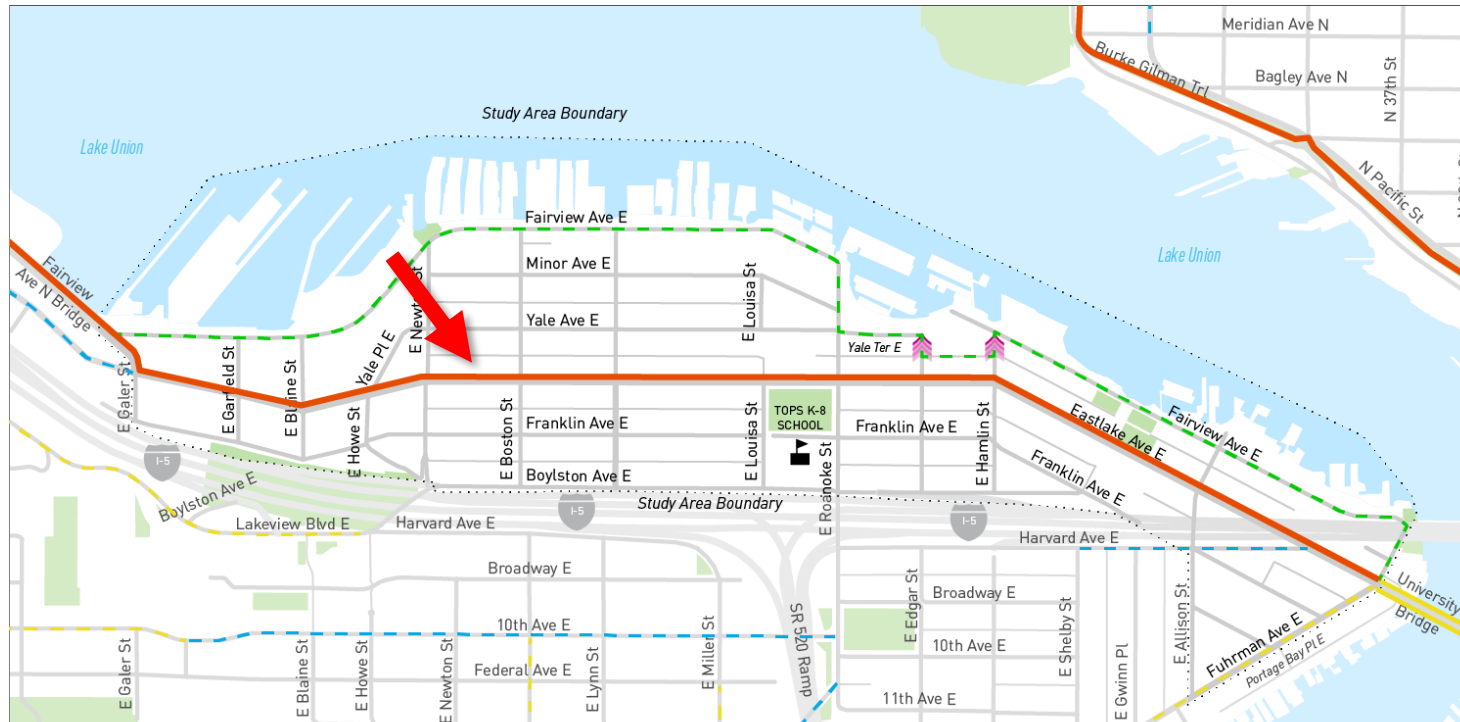
Option 2: PBL on Eastlake Ave E



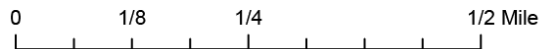
- Adds PBLs on each side of Eastlake Ave E within the study area
- Matches the LPA and one of the Seattle BMP's recommendations for bicycle facilities in the study area to complete the citywide bicycle network
- On-street parking would be removed from both sides of Eastlake Ave E between Harvard Ave E and E Blaine St

Bicycle facility analysis

Option 3: Two-way PBL on Eastlake Ave E



- Adds a two-way PBL facility on the west side of Eastlake Ave E within the study area
- On-street parking would be removed from both sides of Eastlake Ave E between Harvard Ave E and E Blaine St

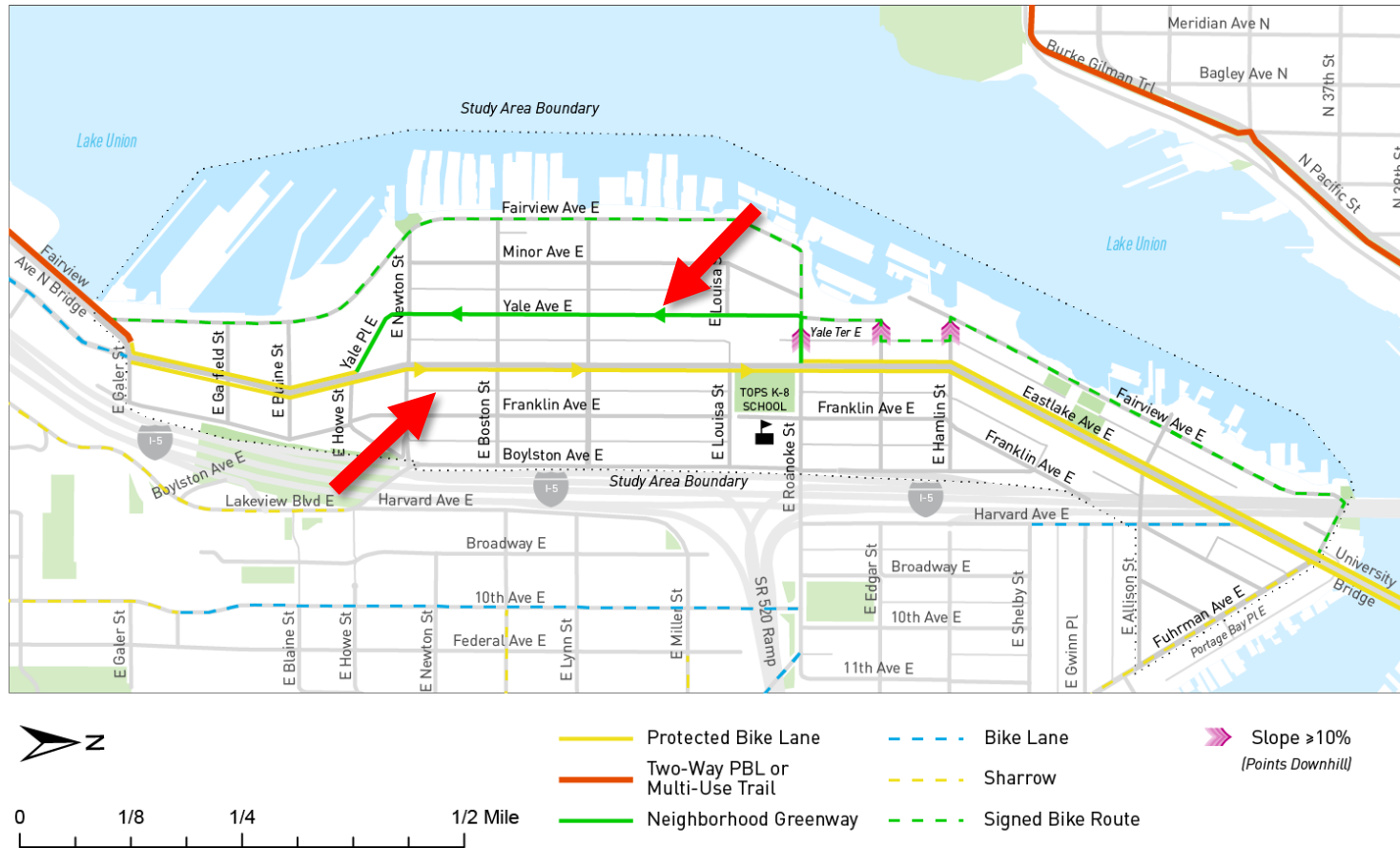


- | | | |
|--------------------------------|-------------------|---------------------------------|
| Protected Bike Lane | Bike Lane | Slope ≥10%
(Points Downhill) |
| Two-Way PBL or Multi-Use Trail | Sharrow | |
| Neighborhood Greenway | Signed Bike Route | |



Bicycle facility analysis

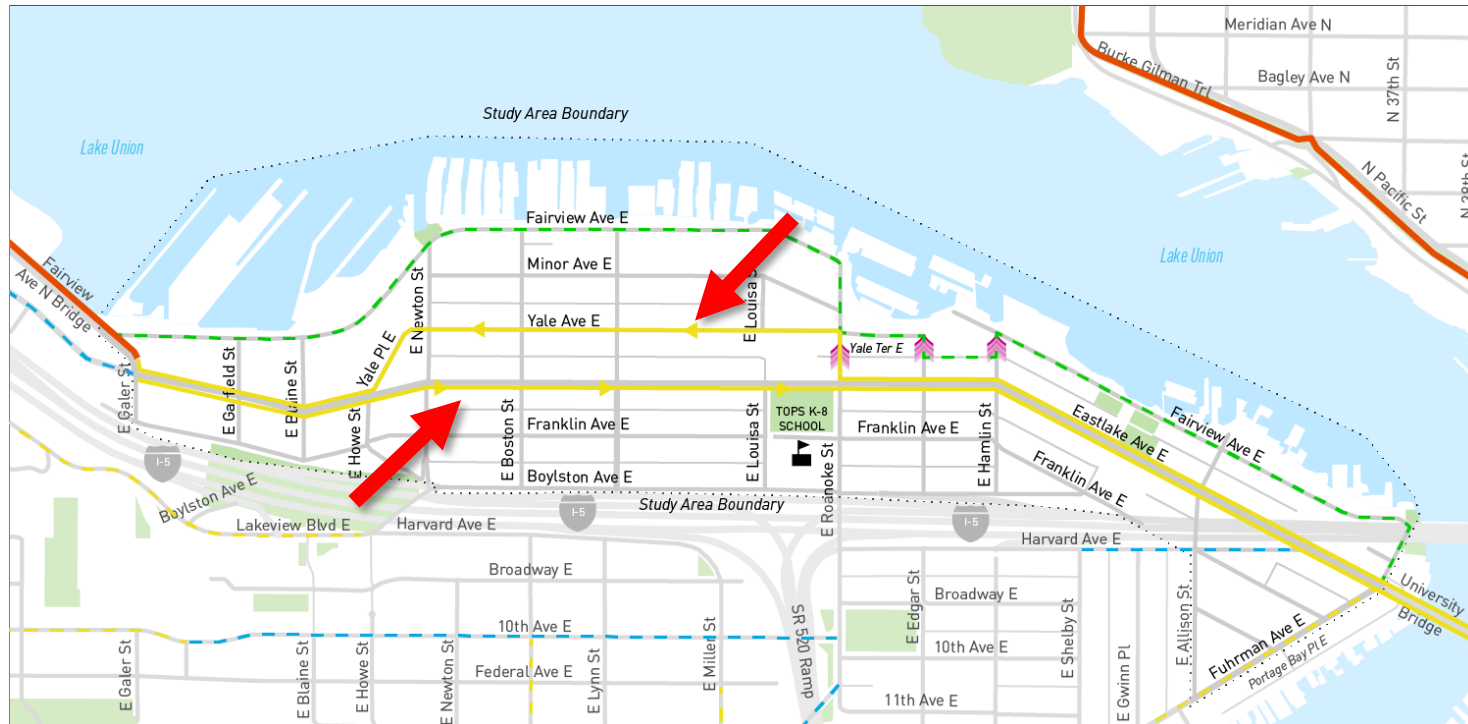
Option 4: NB PBL on Eastlake; NGW on Yale



- Adds a NB PBL on Eastlake Ave E and a SB greenway on Yale Ave E between E Roanoke St and E Howe St
- Adds PBLs on both sides of Eastlake Ave E north of E Roanoke St and south of E Howe St
- On-street parking would be removed from both sides of Eastlake Ave E from Harvard Ave E to E Roanoke St and from E Howe St to E Blaine St
- On-street parking would be removed from the east side of Eastlake Ave E from E Roanoke St to E Howe St

Bicycle facility analysis

Option 5: NB PBL on Eastlake; SB PBL on Yale



- Adds a NB PBL on Eastlake Ave E and a SB PBL on Yale Ave E between E Roanoke St and E Howe St
- Adds PBLs on both sides of Eastlake Ave E north of E Roanoke St and south of E Howe St
- On-street parking would be removed from both sides of Eastlake Ave E from Harvard Ave E to E Roanoke St and from E Howe St to E Blaine St
- On-street parking would be removed from the west side of Yale Ave E/Yale Place E and the east side of Eastlake Ave E from E Roanoke St to E Howe St

Bicycle facility analysis

Detailed assessment

- Degree to which each option improves bicycle safety and bicycle connections to transit
- Degree to which each option is consistent with City of Seattle policy guidance
- Bicycle route conditions
- Impacts to other transportation modes and elements
- Degree to which each option provides neighborhood access





















Bicycle facility analysis

Detailed assessment results

Criterion	Option 2 PBLs on Eastlake Ave E	Option 3 Two-Way PBL on Eastlake Ave E	Option 4 NB PBL on Eastlake; NGW on Yale	Option 5 NB PBL on Eastlake; SB PBL on Yale
<i>Bicycle safety and connection to transit</i>				
Route safety	High	Medium	Low	Medium
Bicycle connection to transit	High	High	High	High
<i>City of Seattle policy guidance</i>				
Consistency with Bicycle Master Plan	High	High	Medium	Medium

Bicycle facility analysis

Detailed assessment results

Criterion	Option 2 PBLs on Eastlake Ave E	Option 3 Two-Way PBL on Eastlake Ave E	Option 4 NB PBL on Eastlake; NGW on Yale	Option 5 NB PBL on Eastlake; SB PBL on Yale
<i>Route conditions</i>				
Route distance	 1.42 miles NB/SB	 1.42 miles NB/SB	 1.42 miles NB 1.51 miles SB	 1.42 miles NB 1.51 miles SB
Elevation gain	 +49 feet NB +36 feet SB	 +49 feet NB +36 feet SB	 +49 feet NB +33 feet SB	 +49 feet NB +33 feet SB
Maximum uphill slope	 5% max uphill	 5% max uphill	 6% max uphill	 6% max uphill
Route legibility and directness	 1 turn NB 1 turn SB	 1 turn NB 1 turn SB	 1 turn NB 4 turns SB	 1 turn NB 4 turns SB
Number of arterial crossings required	 1 crossing NB	 1 crossing NB	 1 crossing NB	 1 crossing NB












Bicycle facility analysis

Detailed assessment results

Criterion	Option 2 PBLs on Eastlake Ave E	Option 3 Two-Way PBL on Eastlake Ave E	Option 4 NB PBL on Eastlake; NGW on Yale	Option 5 NB PBL on Eastlake; SB PBL on Yale
<i>Impacts to other transportation modes and elements</i>				
Transit performance	● Minimizes interactions over full corridor	● Minimizes interactions over full corridor	◐ Minimizes interactions over partial corridor	◐ Minimizes interactions over partial corridor
Auto traffic performance	● Minimizes interactions over full corridor	● Minimizes interactions over full corridor	◐ Minimizes interactions over partial corridor	◐ Minimizes interactions over partial corridor
On-street parking	○ 325 spaces removed on Eastlake Ave E	○ 325 spaces removed on Eastlake Ave E	◐ 250 spaces removed on Eastlake Ave E	○ 375 total spaces removed (250 on Eastlake)
Planted medians	● Does not require removal of medians	○ Requires removal of all medians	● Does not require removal of medians	● Does not require removal of medians

Bicycle facility analysis

Detailed assessment results

Criterion	Option 2 PBLs on Eastlake Ave E	Option 3 Two-Way PBL on Eastlake Ave E	Option 4 NB PBL on Eastlake; NGW on Yale	Option 5 NB PBL on Eastlake; SB PBL on Yale
<i>Neighborhood Access</i>				
Access to businesses	 Direct bicycle access in both directions	 Direct bicycle access in both directions	 Direct bicycle access in NB direction	 Direct bicycle access in NB direction
Access to schools	 Direct access to TOPS in both directions	 Direct access to TOPS in both directions	 Direct access to TOPS in both directions	 Direct access to TOPS in both directions
<i>TOTAL SCORES</i>				
High 	11	9	5	5
Medium 	2	3	8	8
Low 	1	2	1	1

Next steps

- Fall 2018: Continued coordination with Levy Oversight Committee
- Fall 2018: Outreach in Eastlake community on bicycle facility option development and curbspace management in the corridor
- 2019: Draft Environmental Assessment

Discussion

- As a bicycle advocate, did we identify the right criteria to evaluate bicycle facilities in the Eastlake corridor?
- Do you have other comments on the results of the analysis?



Questions?

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www.seattle.gov/transportation/RapidRideRoosevelt

