

Seattle Department of Transportation

# 2015 Bicycle Master Plan Progress Report





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# BACKGROUND

Consistent with the legislation adopting the 2014 Bicycle Master Plan (Council Resolution 31515), the Seattle Department of Transportation (SDOT) submits an annual progress report to the City Council and the Seattle Bicycle Advisory Board on work identified in the 5-year implementation plan in the spring of each year, and a status update every six months. The first annual progress report was presented in April 2015, the six-month status update was presented in December 2015. This is the 2015 annual progress report that reflects all 2015 accomplishments.

The Bicycle Master Plan's (BMP) vision is supported by five goals: safety, connectivity, ridership, equity and livability. The projects and programs implemented in 2015 support those goals in many ways, including building protected

bicycle lanes and neighborhood greenways that expand the "all ages and abilities" network, installing wayfinding and bicycle parking to make trips by bike easier and more convenient, maintaining and improving our existing facilities, and providing educational materials and programs that encourage more people to ride, and to ride safely.

Since the adoption of the Bicycle Master Plan in 2014, SDOT launched Vision Zero (February 2015) with a citywide goal of ending traffic deaths and serious injuries by 2030, acknowledging that people walking and biking are the most vulnerable travelers. All projects and programs are designed and implemented with safety as the highest priority.



# OVERVIEW

In 2015, we made significant progress towards the BMP's vision by building 6.1 miles of protected bike lanes and 13.5 miles of neighborhood greenways. However, looking back at last year's implementation plan, we have not completed all of the 2015 deliverables identified in the 2015 – 2019 BMP Implementation Plan. Five protected bicycle lane projects have shifted from the 2015 project list to the 2016-2020 BMP Implementation Plan for implementation (construction end date) in 2016. In addition, four neighborhood greenways projects are expected to finish construction in Q1 2016 (the mileage tracking will still account for the project in 2015). The following protected bicycle lanes projects are those that were not implemented in 2015 and moved to the 2016-2020 Implementation Plan:

- N 34th St
- S Dearborn St
- Westlake Ave N
- Roosevelt Ave NE
- University Bridge

The following neighborhood greenway projects that have been substantially completed in Q1 2016 are:

- 21st Ave NW
- 17th Ave NW
- E Galer St
- 26th Ave S

We will continue to work on implementing strategies and actions that educate and encourage people of all ages and abilities to ride a bicycle. In 2015, we initiated two studies (to be finalized in 2016); the first being a Bicycle and Pedestrian Safety Analysis that analyzes collisions involving people on bikes to identify trends, behaviors, and engineering solutions as well as lists of potential spot-improvements. The second study is a Trails Upgrade Plan to guide future investments in our trail network.

Pages 6 - 9 summarize project and program deliverables, along with the current status of each and corresponding maps for many of the deliverables. Tables on the following pages show each bicycle facility project planned for 2015 and its status, followed by a map of completed 2015 projects. Status updates for strategies and programs begin on page 15. Ridership data from the Fremont Bridge and Spokane Street Swing Bridge permanent bicycle counters will be compared on an annual basis to track ridership trends at these two locations.

BMP performance measure targets and trends are focused on assessing long-term progress towards achieving the goals and vision of the plan. These performance measures were identified through the BMP Update planning process via engagement with the Seattle Bicycle Advisory Board (SBAB) and data that we have available. We will continue to collect data over the twenty-year planning horizon. Within the BMP Annual Progress Report, the BMP performance measure targets and trends will be tracked (where data is available annually) to report on achievement of the BMP plan goals over time.

# DELIVERABLES SUMMARY

The table below summarizes project and program targets from the Bridging the Gap levy deliverables, along with the current status of each item and corresponding maps for many of the deliverables. Tables on the following pages

show each bicycle facility project planned for 2015 and its status, followed by a map of completed 2015 projects. Status updates for strategies and programs begins on page 15.

Deliverable	2015 Planned	Current Status	Notes
Education (schools reached)	12	12	Complete
Bike parking spaces	500	626	Complete
Bike facility maintenance (miles)	50	50	Complete
Wayfinding (miles)	25	26	Complete
Spot improvements	10	11	Complete
Neighborhood greenways (miles complete)	12.6	13.5	Complete
Protected bicycle lanes (miles complete)	7.5	6.1	Not complete (projects shifted to 2016 work plan)
All types of bicycle facility projects (miles complete)	7	7	Complete

2015 Protected Bicycle Lane (PBL) Projects			
Primary Street	Project Limits	Current Status	Total Project Length (miles)
8th Ave S	S Kenyon St to S Portland St	Complete	0.10
Delridge Way SW*	SW Andover St to West Seattle Bridge	Complete	0.14
Dexter Ave N	Mercer St to Denny Way	Complete	0.45
Roosevelt Way NE**	NE 40th St to NE 45th St	Complete	0.30
Mercer St	Dexter Ave N to 5th Ave N	Complete	0.24
5th Ave N	Mercer St to Republican St	Complete	0.09
NE Ravenna Blvd / Cowen Pl NE	E Green Lake Way N to NE 62nd St	Complete	1.44
NE Campus Pkwy / Brooklyn Ave NE	University Way NE to NE 40th St	Complete	0.34
College Way N***	N 92 nd St to N 103rd St	Complete	0.52
Rainier Ave S	Seward Park Ave to city limits	Complete	1.50
Pinehurst Way NE***	Roosevelt Way NE to 15th Ave NE	Complete	1.00
Westlake Ave N****	W Raye St to Valley St	In construction	1.24
Roosevelt Way NE****	NE 45th St to NE 65th St	In construction	1.00

University Bridge****	NE Campus Pkwy to Fuhrman Ave E	Moved to 2016	0.35
N 34th St****	Fremont Ave N to Phinney Ave N	Moved to 2016	0.23
S Dearborn St****	Rainier Ave S to 5th Ave S	Moved to 2016	0.76

\* Design is a widened sidewalk shared by people walking and biking

\*\* Interim installation complete, complete installation coming in 2016 with paving project

\*\*\* Mix of protected bike lanes and buffered bike lanes

\*\*\*\* Not counted in 2015 mileage

2015 Off-Street Projects			
Primary Street	Project Limits	Current Status	Total Project Length (miles)
Beacon Ave S*	14th Ave S to S Holgate St	Complete	0.35
Portside Trail (west side)	S King St to S Atlantic St	Complete	0.54
Duwamish Trail (S Portland St)	W Marginal Way to 8th Ave S	Complete	0.45

\*Design is a widened sidewalk shared by people walking and biking

2015 In-Street Projects			
Primary Street	Project Limits	Current Status	Total Project Length (miles)
Phinney Ave N	N 43rd St to N 50th St	Complete	0.43
N 43rd St	Phinney Ave N to Fremont Ave N	Complete	0.20
Thomas St	5th Ave N to Taylor Ave N	Complete	0.06
SW Admiral Way*	California Ave SW to SW 63rd St	2016	1.39

\*Not counted in 2015 mileage

2015 Neighborhood Greenway Projects			
Primary Street	Project Limits	Current Status	Total Project Length (miles)
S Myrtle St	37th Ave S to Martha Washington Park	Complete	1.61
22nd Ave - Central Area Neighborhood Greenway (CANG) Phase 1	S Jackson St to E John St	Complete	3.28
21st Ave SW	West Seattle Bridge to Delridge Way SW	In construction	3.98
17th Ave NW	NW 90th St to Ballard Ave NW	In construction	2.09
E Galer St (CANG Phase 3)	E John St to E Roanoke St	In construction	2.79
26th Ave S (CANG Phase 2)	S Jackson St to Rainier Ave S	In construction	1.31

## 2015-2019 Catalyst Projects

A status update on all of the catalyst projects identified in the 2015-2019 BMP Implementation Plan is listed below.

Project	Current Status
Chelan Ave SW / W Marginal Way / Alki Trail / SW Marginal Way / Delridge Way SW / SR-99 Intersection - first phase	Complete; ongoing evaluation.
Intersection of Rainier Ave S / Martin Luther King Jr Way S	Accessible Mt. Baker Study identified near-term access and safety improvements and a multimodal long-term plan.
S Holgate St grade separated overpass of I-5	Design is complete (ramp on S Holgate St. sidewalk currently ends in stairs).
Ship Canal Crossing	2015 Ship Canal Crossing Study undergoing internal review.
W Emerson Pl connection (Ship Canal Trail to Gilman Ave W)	Expected implementation in 2016.
Intersection of Eastlake Ave E and E Harvard Ave	To be evaluated as part of Roosevelt High Capacity Transit study.
SR-520 Multi-Use Path (eastside to I-5)	Expected implementation in 2017 (WSDOT).
E-3 Busway extension (S Forest St to S Spokane St)	Trail extension expected implementation in 2016.
Burke-Gilman Trail "missing link"	Project in EIS process.
University Bridge - north leg intersection	Minor improvements implemented in 2015; more being implemented in 2016.
Intersection of Fautleroy Way SW / 35th Ave SW / SW Avalon St	Project designed to 60%.
N 34th St (Fremont Ave N to Burke-Gilman Trail)	Protected bicycle lane expected implementation in 2016.
Northgate Pedestrian / Bicycle Bridge	Did not receive TIGER grant; project likely to move forward in 2020.

## 2015 Upgrade Projects

The 2015 Bicycle Master Plan Annual Progress Report includes a list of completed upgrades to bicycle facilities. Upgrades are defined as either adding something new (for example, cross bikes or bike box) to an existing bicycle facility or finalizing a project where a portion of the infrastructure had not been completed previously (for example, filling in a gap due to adjacent private development activity).

Primary Street	Project Limits	Upgrade Description
E Marginal Way	North of Spokane St	Trail to bike lane connector
Green Lake Way N	N 50th St	Green bike box
NE 65th St	BGT to Sand Point Way NE	Improvements to zipper barrier
NE 41st St	11th Ave NE to Eastlake Ave	Add bicycle lane and restrict parking through street end
SW Andover St	Delridge Way SW	Bike box and stop bar replacement
Pine St	Melrose Ave	Green cross bike
N 34th St	Troll Ave N	Green bike lane

### BEFORE AND AFTER PHOTOS

The photos below show the same location before and after the 2015 improvement.

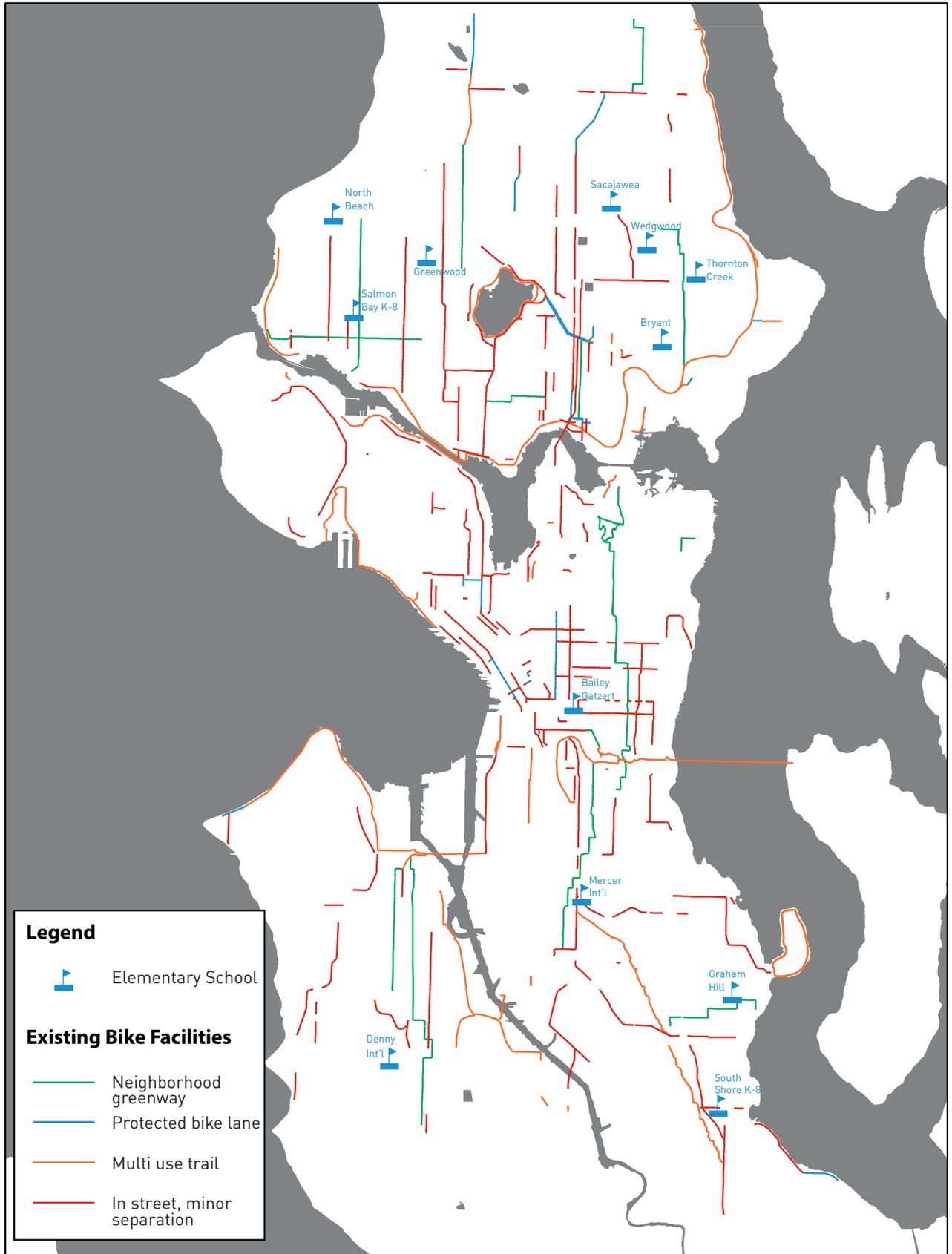
#### NE Campus Parkway ramp to University Bridge - 2015 protected bicycle lane project



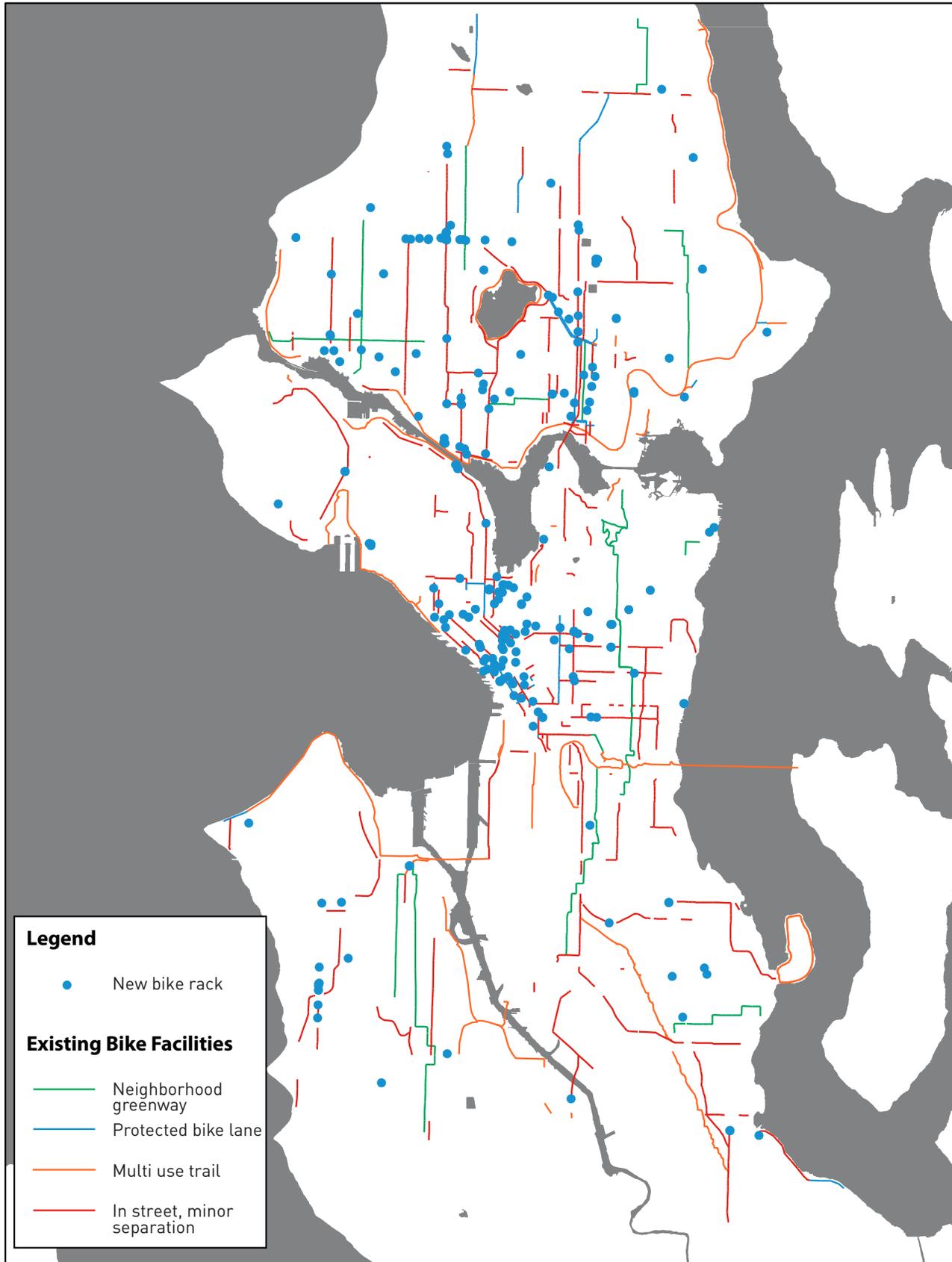
#### E Marginal Way north of Spokane St - 2015 spot improvement



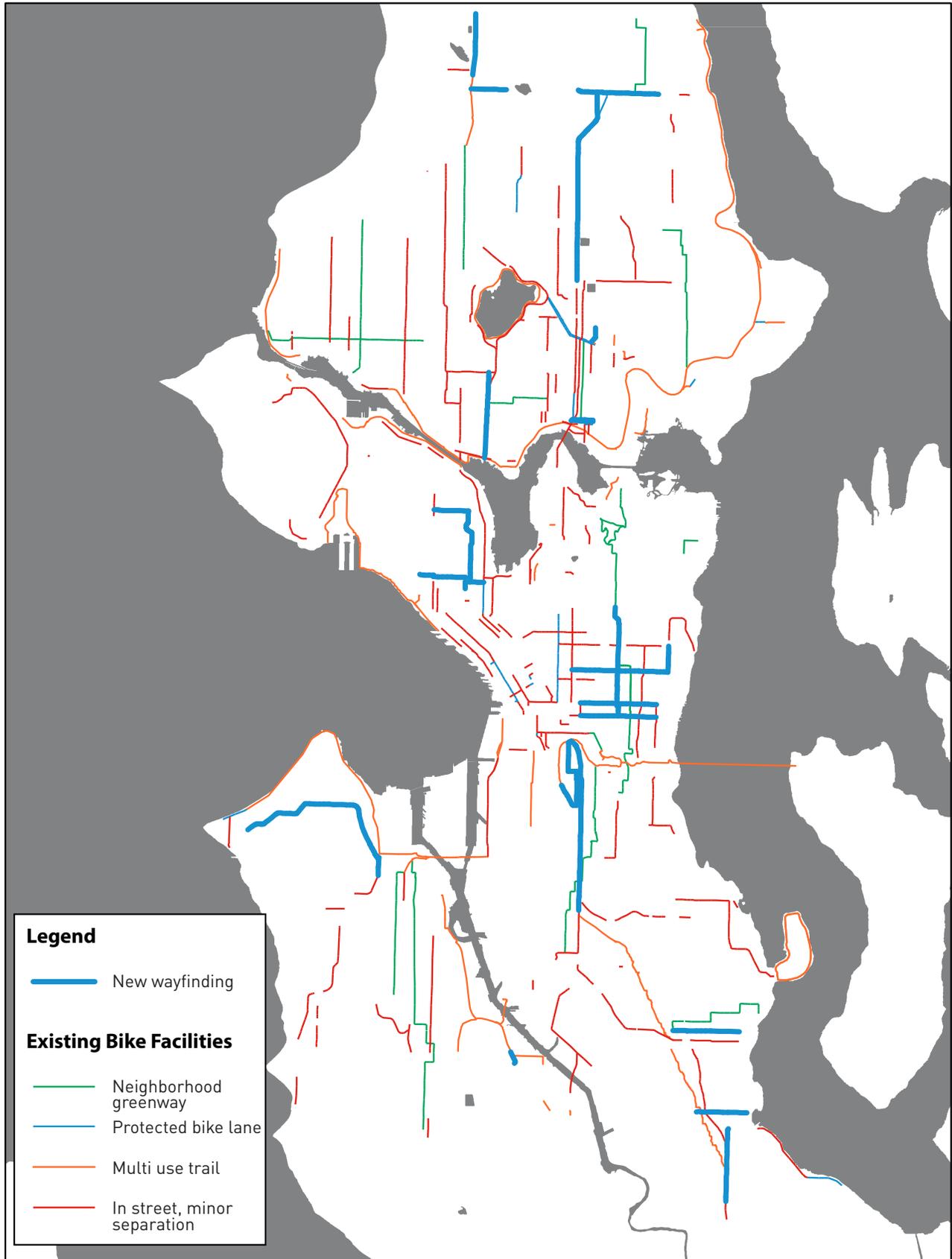
# EDUCATION - SCHOOLS REACHED IN 2015



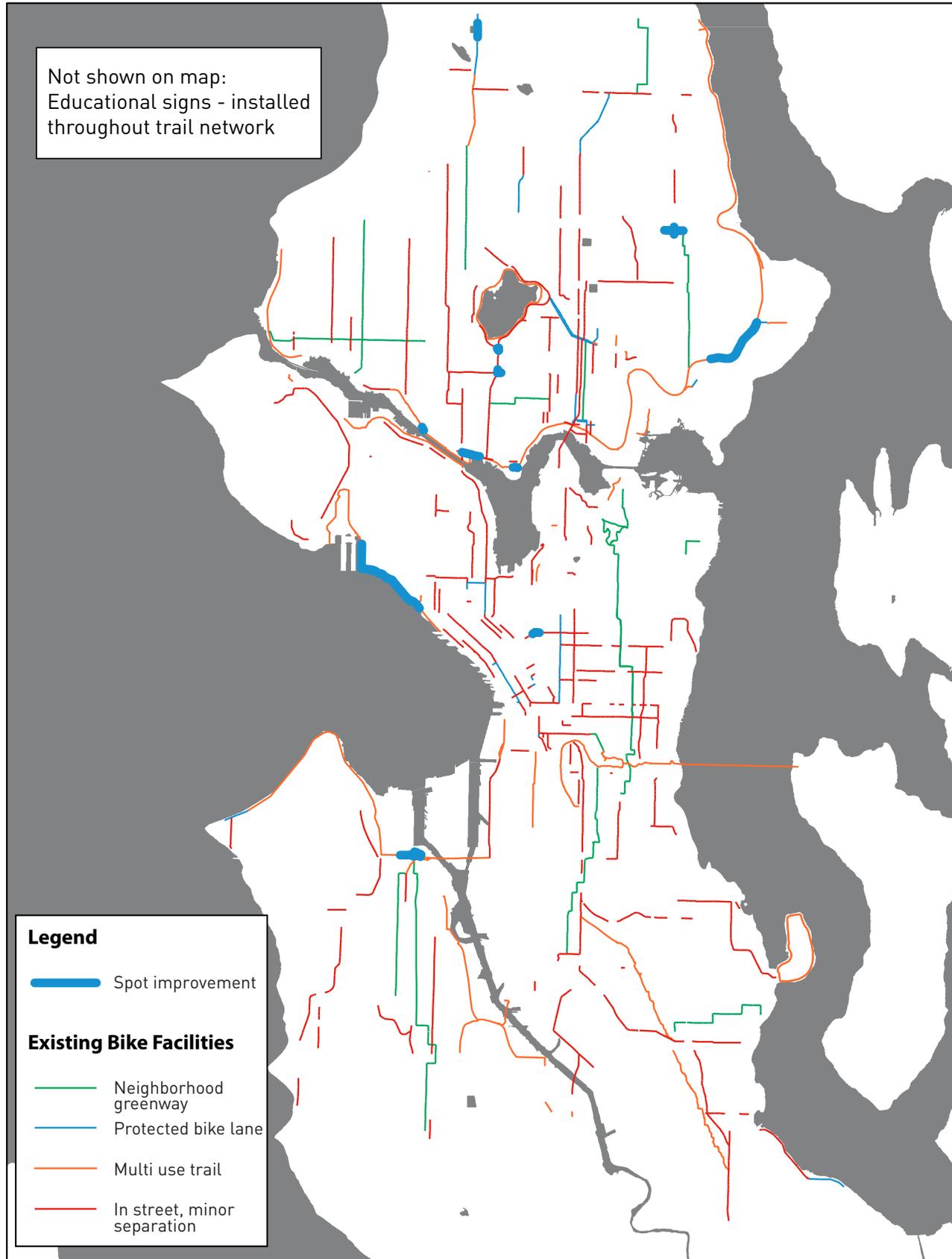
## BIKE PARKING - RACKS INSTALLED IN 2015



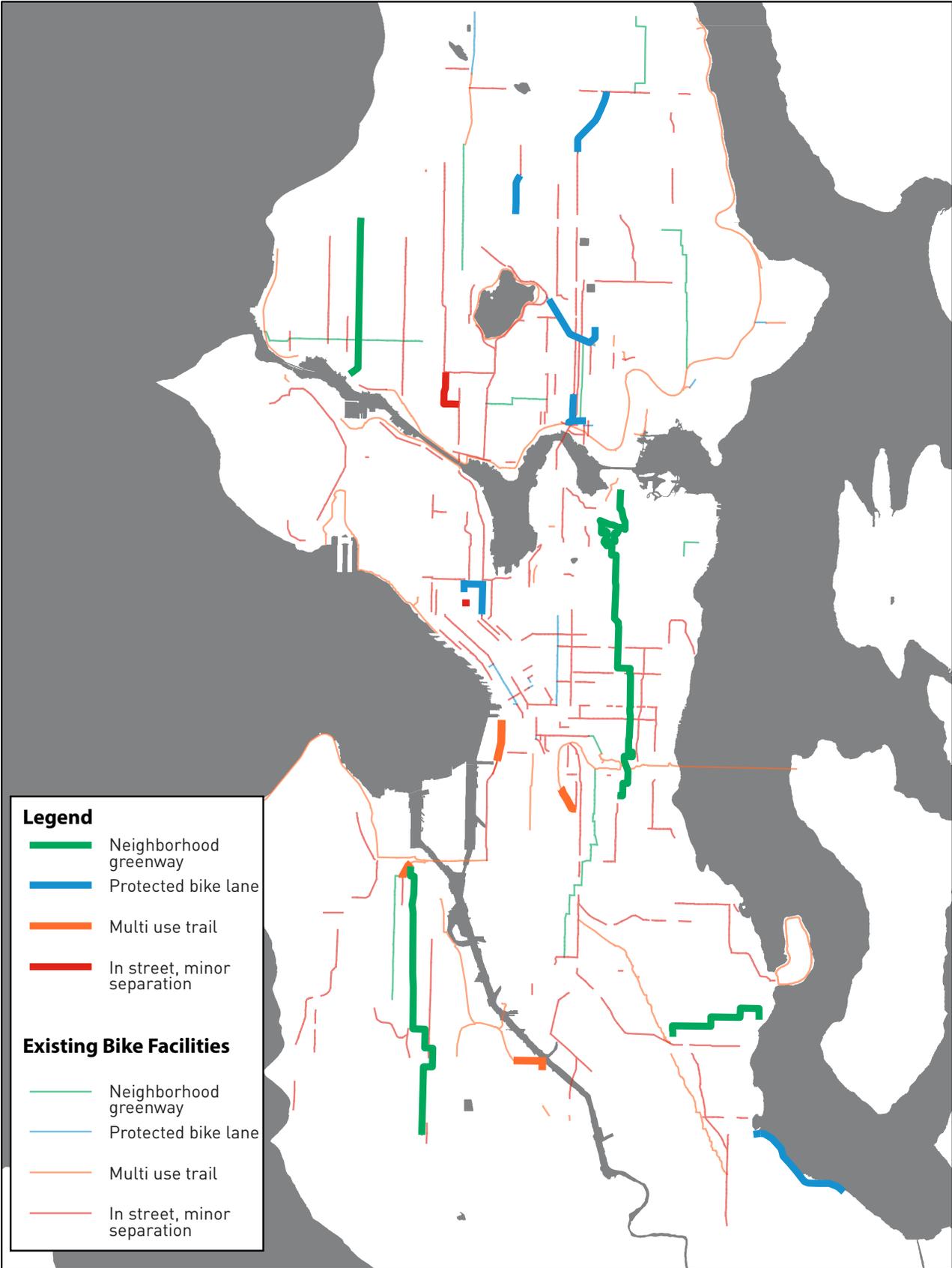
## WAYFINDING - ROUTES INSTALLED IN 2015



## SPOT IMPROVEMENTS - COMPLETED IN 2015



# BICYCLE FACILITIES - COMPLETED IN 2015



## Strategies and Programs

### Chapter 4: The Bicycle Network

BMP Strategy	Activity	Status
4.1 – 4.6 Implement the bicycle facilities	See project lists for projects to be studied, designed, and implemented in 2015-2019. SDOT will continue to research and incorporate best practices, leverage other capital project investments, and develop educational tools.	SDOT shifted implementation of five protected bicycle lane projects to the 2016 work plan (construction end date).
4.7 Implement upgrades of existing bicycle facilities	Bicycle facilities upgrade projects will be identified through BMP project prioritization and through safety corridor projects. See strategy 7.3 and 7.13 for related work.	SDOT has completed the 2015 work plan.
4.8 Install bicycle detection at traffic signals in every new bicycle facility, and in all street replacement projects	SDOT will develop consistent bicycle detection standards by bicycle facility type, inventory existing detection on high priority bike facilities to determine upgrade needs, and develop a prioritized work plan for implementation.	SDOT has been installing appropriate bicycle detection and will continue to do so.
4.10 Design all bicycle facilities to meet or exceed the latest federal, state, and local guidelines	This is SDOT's standard practice. In addition, the update of the Seattle Right-of-Way Improvements Manual will include bicycle facility design guidelines.	SDOT is currently updating the Right-of-Way Improvement Manual (ROWIM), which will include bicycle design guidelines. Director's Rule expected by end of 2016.
4.11 Improve bicycle safety and access at railroad and rail transit crossings and parallel facilities	SDOT will inventory all locations where bicycle facilities cross railroad and rail transit (streetcar and Link light rail) lines in 2015, and create a prioritized list of spot improvement projects.	Through the Trails Upgrade Plan, trail and railroad crossings were identified and assessed for spot improvements. No funding has been identified to assess all bicycle and rail facility crossings at this time.

4.13 – 4.15 Multimodal corridor development	SDOT's Multimodal Corridor Development Program will begin assessment of ten corridors in 2014-2015.	SDOT's Multimodal Corridor Development Program has transitioned into the Levy to Move Seattle Corridors - Transit Plus Multimodal Corridors, Safety Corridors, and Freight Corridors. All corridor studies will assess feasibility of the recommended bicycle facility and either implement bicycle facilities within the street or on parallel streets, as applicable.
4.16 Update the curb space allocation priorities in the Comprehensive Plan update	SDOT will work with the Department of Planning and Development, now known as the Office of Planning and Community Development, as the Comprehensive Plan is updated.	SDOT is finalizing a curbspace management and right-of-way (ROW) allocation framework study of which recommendations have been included in the Comprehensive Plan update.
<b>Chapter 5: End-of-trip facilities</b>		
<b>BMP Strategy</b>	<b>Activity</b>	<b>Status</b>
5.1 Update the Seattle Municipal Code (SMC) bicycle parking requirements	SDOT will work with DPD to review the existing language and identify proposed changes.	SDOT has provided comment to DPD/SDCI on land use code changes for bicycle parking. SDCI is leading, with SDOT support, an update to the land use parking policies, which includes aligning end-of-trip bicycle facilities with the BMP's vision.
5.2 Develop a bicycle parking implementation program	SDOT will develop a methodology to identify and prioritize high-demand locations for bicycle parking in 2015, and will complete a Client Assistance Memo (CAM) for installation of private bicycle racks in the public right-of-way.	University of Washington Evans School Capstone Project assessed opportunities to improve long-term bicycle parking, quantity, quality, and accessibility for Center City. Internal guidelines for private bicycle rack installation in the public right-of-way are being developed for a 2016 CAM.
5.5 Provide short- and long-term secure bicycle parking at high-capacity transit stations, transit hubs, and heavily-used bus stops	SDOT will partner with other agencies to coordinate the development of long-term secure bicycle parking.	Secured bike parking is incorporated in the Northgate and Judkins Park station designs. SDOT will continue to monitor needs at existing stations, stations in the proposed ST3 package, and the RapidRide expansion program.

## Chapter 6: Programs

6.1 and 7.9 Develop a bicycle safety education program	SDOT will continue to build upon existing safety educational and encouragement programs, and create new programs. As part of this, SDOT will:	Completed bicycle safety education to 12 schools (see map).
	<ul style="list-style-type: none"> <li>Expand school bicycle safety education to two more schools per year</li> </ul>	12 total in 2015 - complete.
	<ul style="list-style-type: none"> <li>Assess feasibility and cost of including middle school and high school roadway safety education (as part of the School Road Safety plan)</li> </ul>	In process.
	<ul style="list-style-type: none"> <li>Research and assess the feasibility of laws requiring that all driver training and driver's license renewal processes cover bicycle facilities and safety</li> </ul>	No action.
	<ul style="list-style-type: none"> <li>Develop and distribute bicycle education materials to encourage a wide range of current and new riders throughout the city</li> </ul>	In 2015, SDOT piloted two editions of BikeLife magazine and did a kids bicycle rodeo in the International District that provided free helmets and bikes to practice riding.
	<ul style="list-style-type: none"> <li>Engage with Seattle Public Schools to continue Safe Routes to School partnerships for traffic safety education and encouragement of walking and biking to school</li> </ul>	SDOT will continue to participate in the School Traffic Safety Committee, engage with advocacy groups, and the Seattle Public Schools to promote walking and biking to school.

## Chapter 7: Implementation Approach

7.1 and 7.2 Develop and strengthen procedures and processes for bicycle project delivery	SDOT has a well-developed evaluation, design, and public engagement process for neighborhood greenways. In 2016, we will continue to use and refine this process, and will adapt it for other projects types such as protected bicycle lanes. In addition, SDOT will:	SDOT will continue to conduct data-driven planning processes and work to refine the protected bicycle lanes outreach and engagement.
	<ul style="list-style-type: none"> <li>Developing guidelines for "pop-up" bicycle facilities</li> </ul>	Complete.

	<ul style="list-style-type: none"> <li>Enhance data collection program by incorporating new technology</li> </ul>	SDOT has many permanent counters using micro-radar technology.
7.3 and 7.13 Review bicycle-related collisions, collision rates and frequencies over time and identify and implement safety strategies. Improve bicycle facilities as needed, based on performance criteria.	SDOT will build on the existing collision review program and will:	
	<ul style="list-style-type: none"> <li>Analyze bicycle-involved collisions per facility type to identify trends, behaviors, and engineering solutions</li> </ul>	SDOT is developing a Bicycle and Pedestrian Safety Analysis to address these concerns. The draft report is expected by the end of April 2016 and will help prioritize spot improvements for 2016 work program and beyond.
	<ul style="list-style-type: none"> <li>Create a data-driven process to identify spot and/or corridor improvement projects</li> </ul>	
	<ul style="list-style-type: none"> <li>Develop a prioritized list of spot improvement projects</li> </ul>	
7.5 and 7.14 Create a multi-use trails upgrade and maintenance plan. Negotiate maintenance agreements with partners.	SDOT will develop a Trails Upgrade Plan in 2015, which will guide future upgrades to the multi-use trails.	SDOT is developing a Trails Upgrade Plan to guide future investments. The draft report is expected by the end of April 2016. Updated maintenance agreements with partners will be worked on following the Trails Upgrade Plan efforts (timeline TBD).
7.10 – 7.12 Maintain on-street and off-street bicycle facilities. Consider maintenance costs, procedures, and long-term funding mechanisms are a part of all new bicycle facility projects. Encourage people to report improvement requests to SDOT.	To address maintenance, SDOT will:	
	<ul style="list-style-type: none"> <li>Create life-cycle costs per bicycle facility to better understand and gauge current and future maintenance needs</li> </ul>	As we continue to build protected bike lanes, tracking maintenance costs will be important. SDOT is currently researching best practices from peer cities.
	<ul style="list-style-type: none"> <li>Coordinate projects with Street Maintenance Paving plan</li> </ul>	As part of the 2016-2020 BMP Implementation Plan, we are coordinating upcoming paving projects and proposed bicycle facilities for alignment.

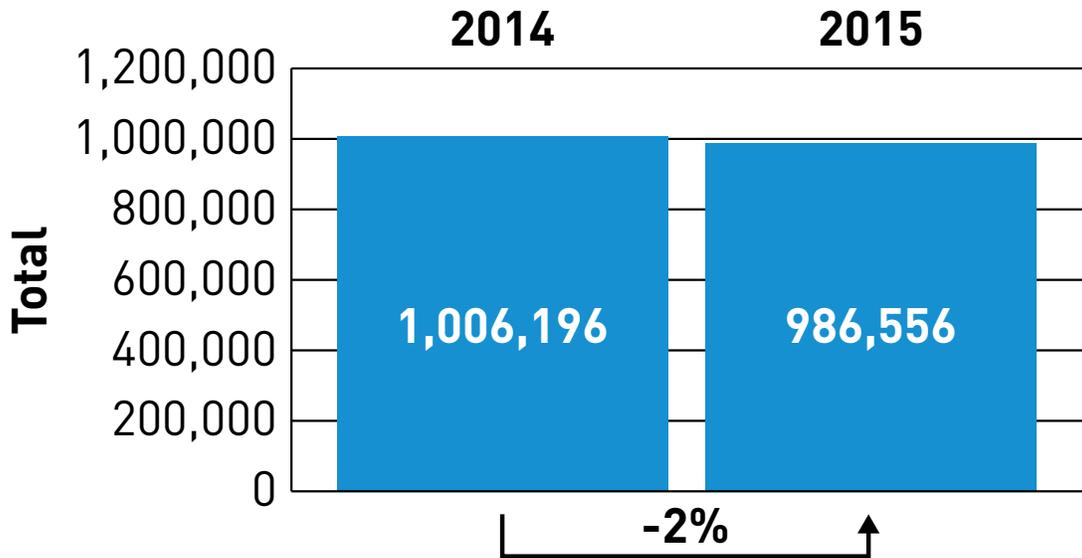
	<ul style="list-style-type: none"> <li>Evaluate additional bike facility sweeping as part of the SPU/SDOT street sweeping program</li> </ul>	SDOT will identify the most cost effective way to sweep bicycle facilities as the network develops and expands.
	<ul style="list-style-type: none"> <li>Complete 10 bike spot improvements in 2015</li> </ul>	SDOT completed 11 bike spot improvements in 2015. The Trails Upgrade Plan and Bicycle and Pedestrian Safety Analysis will help prioritize bike spot improvements in 2016.
	<ul style="list-style-type: none"> <li>Continue to promote existing ways for people to report maintenance and improvements requests</li> </ul>	SDOT and the Mayor's Office are continuing to promote the web-based Find It, Fix It application to improve reporting of maintenance requests.
7.17 Establish a broad-based funding approach	SDOT will continue to research and pursue grants, and other funding opportunities.	The Transportation Levy to Move Seattle was approved by voters in 2015. There is \$64M for bicycle improvements over the nine-year levy timeframe as well as leveraging assumptions (to be discussed in the 2016-2020 BMP Implementation Plan).

#### Other Related Strategies and Actions

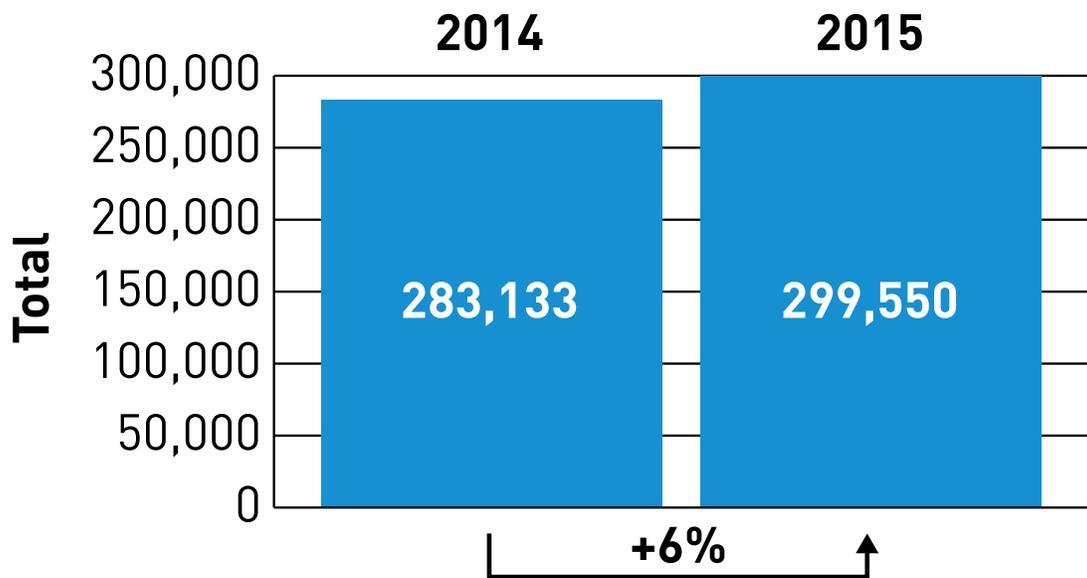
Strategy	Activity	Status
Develop and implement a process to evaluate turn on red restrictions, dual turns, and speed limit changes.	This is addressed as part of Seattle's Vision Zero efforts to end traffic deaths and serious injuries by 2030. Among other things, Vision Zero identifies data-driven pedestrian and bicycle safety enhancements including lower speed limits, leading or lagging pedestrian intervals, protected turn phases, elimination of dual turn lanes, signal improvements and no turns on red.	In 2015, SDOT implemented No Turn on Red at the following locations: 4th Ave & Spring St (NB right), 5th Ave & Union St (WB left), 5th Ave & University (EB right), 6th Ave & Pike St (NB right), 6th Ave & University St (EB left), 7th Ave & Olive Way (NB right and SB left), 9th Ave & James St (NB right).

# RIDERSHIP TRENDS

The number of individual bicycle trips over the Fremont Bridge decreased 2% from 2014 to 2015.



The number of individual bicycle trips over the Spokane Street Swing Bridge increased 6% from 2014 to 2015.



# PERFORMANCE MEASURES

The Bicycle Master Plan performance measures progress made towards achieving the plan's five goals. Some data may not be available on an annual basis and is noted as such in the table.

Performance Measures - Targets					
Goal	Performance Measure	Baseline Measurement	Baseline Number	Performance Target	2015 Actual
Ridership	Number of bicyclists counted at locations throughout Seattle	2014 citywide quarterly counts and daily counts at counter locations	5,684,272 annual trips	Quadruple ridership between 2014 and 2030	6,093,200 annual trips  (7.2% increase from 2014)
Safety	Bicycle collision rate	2014 rate (based on updated 2014 counts)	0.823 collisions per 10,000 bicyclists counted	Reduce bicycle collision rate by half (50%) between 2013 and 2030	0.793 collisions per 10,000 bicyclists counted (4% reduction)
	Number of serious injuries and fatalities	2013 number	29 in 2014 (1 Fatality) 27 in 2013 (2 Fatalities)	Zero by 2030	25 (1 Fatality)
Connectivity	Percentage of bicycle facility network completed	2013 percentage (calculate number based on final network map)	22% build out of the network	100 percent of bicycle system constructed by 2035	26% build out of the network
Equity	Areas lacking bicycle facilities	2012 Existing Conditions report	7 census tracts identified as areas lacking all ages and abilities bicycle facilities	Zero areas of City lacking bicycle facilities by 2030	3 census tracts to build facilities (4 census tracts had AAA bicycle facility built in 2015)
Livability	Percentage of households within ¼ mile of an all ages and abilities bicycle facility	2013 percentage (calculate based on latest built network)	34%	100% of households in Seattle within ¼ mile of an all ages and abilities bicycle facility by 2035	48%

### Performance Measures - Trends

Goal	Performance Measure	Baseline Measurement	Baseline Number	Desired Trend	2015 Actual
Ridership	Commute mode share	2012 Census data (American Community Survey)	3.4%	Increase	3.5% - 2013 3.7% - 2014 TBA - 2015
Safety	Percentage of Seattle residents who identify safety as a major impediment to bicycling	2013 SDOT phone survey percentage	27%	Decrease	No data – phone survey not conducted in 2014 or 2015
Connectivity	Key Travel Sheds Completed	2013 percentage of key travel sheds completed	30%	Increase	Analysis not yet complete
Equity	Percentage of females and non-whites who ride regularly (a few times a month or more)	2013 SDOT phone survey percentage	10% of females 13% of non-whites	Increase	No data – phone survey not conducted in 2014 or 2015
Livability	Number of bike racks and on-street bike corrals	2013 number	6,831 bicycle parking spaces	Increase	626 bicycle parking spaces added in 2015
	Self-reported physical activity	2006 King County Public Health report	85.5%	Increase	86.4% (2014 data)