

Seattle Department of Transportation

# SEATTLE BIKE MASTER PLAN

## 2016-2020 Implementation Plan





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# INTRODUCTION

Seattle's Bicycle Master Plan's (BMP) vision is to create an environment where people of all ages and abilities feel comfortable riding a bicycle for any trip purpose in Seattle. The BMP identifies projects and programs to be implemented over the next 20 years to meet the plan's goals around safety, ridership, equity, connectivity, and livability. As part of this, the BMP calls for a connected network that includes approximately 100 miles of protected bicycle lanes and nearly 250 miles of neighborhood greenways. The BMP also identifies programs such as maintenance of existing facilities, bicycle parking, and programs to encourage more people to ride. This 2016-2020 BMP Implementation Plan identifies projects and programs that, when fully funded and combined with existing facilities, will make significant progress towards implementing the BMP.

Between 2015 and 2016, the Seattle Department of Transportation (SDOT) Bridging the Gap levy fund expired and a new levy, the Levy to Move Seattle, was approved by voters. The new levy contains a targets building 50 miles of protected bicycle lanes and 60 miles of neighborhood greenways over the nine-year levy period. Another change since 2015 was the initiation of the Center City Mobility Plan, which will establish a long-term transportation vision, determine the function of each downtown street, and create an implementation plan. Because of this new planning effort, most downtown bicycle network recommendations were not included in this update to the BMP implementation plan. Thus, a comparison of the 2015-2019 and 2016-2020 BMP Implementation Plan bicycle facility project lists will understandably reflect these major changes. Likewise, next year's Implementation Plan project list may be updated to reflect the downtown bicycle facility recommendations, while other projects may be removed to ensure funding matches implementation.

# PURPOSE

This implementation plan describes the work that the Seattle Department of Transportation (SDOT) and our partners will undertake to implement the BMP over the next five years. We will update the implementation plan each year, with the intent of:

- Serving as an accountability and reporting tool
- Providing predictability for stakeholders by including a multi-year project list
- Guiding future budget requests

# UPDATES AND REPORTING

Consistent with Council Resolution 31515, this implementation plan will be updated annually by March 31 of each year. Adjustments will be made to the project lists and maps to reflect changes in project schedules, project types, and to add or remove projects. For example, as noted below in the BMP's project delivery discussion, after evaluating a protected bicycle lane recommended in the BMP for a particular street, SDOT may determine that a different facility type, such as a parallel neighborhood greenway, would be preferable.

This implementation plan is intended to reflect projects for the next five years, framed around the assumed funding allocated via city budget and grant funding pursued. Projects that are not in the implementation plan may be built to take advantage of leveraging or other opportunities, such as the opportunity to coordinate with a paving, utility or private development project that was not anticipated at the time the implementation plan was updated.

Also consistent with Council Resolution 31515, as part of the annual implementation plan update, SDOT will prepare and submit to the City Council a progress report, reviewed and endorsed by the [Seattle Bicycle Advisory Board](#) (SBAB), covering the prior year's achievements. We will also provide updates to the City Council and SBAB every six months on the status of projects, programs, and actions in the implementation plan. SDOT and the SBAB will also maintain a five minute BMP Implementation check-in agenda item during every SBAB monthly meeting.

# PRIORITIZATION

The project lists in this plan were developed using the prioritization criteria and methodology defined in the BMP. The BMP process includes quantitative scoring based on the plan's five themes and related weighting factors:

- Safety – 40 points
- Connectivity – 25 points
- Equity – 20 points
- Ridership – 10 points
- Livability – 5 points

Based on these scoring criteria, the prioritization process assigns a point value to each project segment. Projects are then grouped into priority tiers: Tier 1 is made up of the highest scoring 20%, Tier 2 is the next 20%, and so on. The priority tier for each project is shown on the project lists.

The BMP also provides criteria for qualitative evaluation, including:

- Potential to leverage other projects
- Policy directives
- Community interest
- Geographic balance

In addition to the quantitative and qualitative criteria, the BMP also identifies as a near-term priority:

- Neighborhood greenways in all neighborhoods

Other priorities reflected in this implementation plan are:

- Coordinating with other modal plans and resurfacing projects
- Building network connectivity
- Implementing programs

All of these factors were considered in developing the project lists for this implementation plan update. The project lists are organized by year and facility type, including protected bicycle lanes, neighborhood greenways, other on-street projects, off-street (trails) projects, and catalyst projects. The project lists will evolve as some projects accelerate or decelerate based on changing conditions or opportunities. Project types may change within a corridor or shift to a parallel street – due to grades or modal overlap, for example.

The prioritization criteria and methodology as defined in the BMP will only be modified and updated when SDOT updates the BMP again (five to seven years after adoption occurred in 2014).

# PROJECT DELIVERY, PROGRAM DELIVERY AND PUBLIC ENGAGEMENT

The project delivery process will follow the steps outlined in the BMP, which include evaluating alternatives, conducting a [Complete Streets](#) review, applying the [Race and Social Justice Initiative](#) equity toolkit, and engaging the public. The BMP established where bicycle facilities are needed and what type of facility is appropriate. Public outreach and engagement going forward shares additional technical analysis with community members, with a strong focus on soliciting input to ensure that projects balance community interests.

SDOT has developed an effective public engagement process for neighborhood greenways and will adapt this process for other types of projects implemented as part of this plan. As in the past we'll continue working with the SBAB to identify opportunities to strengthen our public engagement processes.

The greenways process is built around two public outreach phases.

During the first outreach phase, we:

- Describe Seattle's safety goals
- Define the features of a typical greenway
- Share traffic data about local streets
- Identify general greenway route possibilities
- Gather input from community members

During the second outreach phase, we:

- Review project goals and objectives
- Share the most promising route and the proposed safety improvements
- Gather community input
- Describe next steps

Following the second public outreach phase, we design and build the project. During the design phase, some additional smaller meetings may be held to address location-specific issues. Prior to construction, SDOT notifies adjacent properties of potential construction impacts.

This process has worked well for neighborhood greenways and we will adapt it for protected bicycle lanes and other projects. Particularly complex projects may require additional work with stakeholders. Our goal is to be able to take full advantage of the useful insights and perspectives that result from inclusive public engagement, while also meeting our ambitious implementation goals.

The strategies and programs in Appendix 5, including bicycle parking, education and encouragement programs, maintenance, and others, will include public engagement as appropriate.

# FUNDING

The Levy to Move Seattle provided for a nine-year programmatic and project spending plan across three categories: Safe Routes, Maintenance & Repair, and Congestion Relief. Within the Safe Routes Category, which aims to provide safe and accessible routes connection schools, transit hubs, and other destinations, the Bicycle Safety sub-category provides \$65M of levy funding to build approximately 50 miles of protected bike lanes and 60 miles of neighborhood greenways over nine years. In addition, within the Congestion Relief category the Pedestrian and Bicycle Improvements sub-category provides \$7M of levy funding to install 1,500 new bike parking spots and to maintain existing bike facilities.

This plan leverages the funding provided by the Levy to Move Seattle against other local funds, anticipated and existing grant funding, and requires some of our large capital projects, such as the multimodal corridors, to deliver bicycle improvements where appropriate. This multi-layered funding approach allows us to deliver maximum benefit per tax dollar spent.

In addition, implementation of the plan within the available funding will require flexible design parameters. For example, some protected bicycle lane projects will be implemented with paint and delineator posts and some will involve more permanent infrastructure. These decisions will be based primarily on funding availability and leveraging opportunities and will be decided by SDOT management.

Appendix 1 provides a detailed breakdown of funding, cost, and mileage delivered by the Bike Master Plan Implementation capital project, other SDOT capital projects, and by partner agencies.

# PERFORMANCE MEASURES

The 2014 Bicycle Master Plan developed performance measure targets to assess whether the plan is meeting its goals over time. The measures are focused on assessing progress over the long-term, yet data should be collected and analyzed each year (when possible) to help track interim progress. The baseline metrics stated in the following table serve as the starting point for measuring progress towards the BMP goals in future years.

The performance measures as defined in the BMP may only be modified and updated when SDOT updates the BMP again. Progress towards meeting the goals of the plan will be tracked in the BMP Annual Progress Report.

Performance Measures - Targets				
Goal	Performance Measure	Baseline Measurement	Baseline Number	Performance Target
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
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
	Number of serious injuries and fatalities	2013 number	29 in 2014 (1F) 27 in 2013 (2F)	Zero by 2030
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
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
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

Within the 2014 Bicycle Master Plan, performance measure trends were also identified to track progress. Many of the trends are from the 2007 Bicycle Master Plan performance measures.

Performance Measures - Trends				
Goal	Performance Measure	Baseline Measurement	Baseline Number	Desired Trend
Ridership	Commute mode share	2012 Census data (American Community Survey)	3.4%	Increase
Safety	Percentage of Seattle residents who identify safety as a major impediment to bicycling	2013 SDOT phone survey percentage	27%	Decrease
Connectivity	Key Travel Sheds Completed	2013 percentage of key travel sheds completed	30%	Increase
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
Livability	Number of bike racks and on-street bike corrals	2013 number	6,831 bicycle parking spaces	Increase
	Self-reported physical activity	2006 King County Public Health report	85.5%	Increase

# DESIGN INITIATIVES

Bicycle facility designs are constantly evolving to influence more predictable movement of people riding bicycles. Since the adoption of the BMP in 2014, new bicycle facility design concepts have been recommended, such as protected intersections, either by the national bicycling community or resulting from local needs. In recognizing new design initiatives within the Implementation Plan, SDOT is committed to assessing the possibility of incorporating these ideas into project designs. There are four initiatives that SDOT will focus on within the 2016-2020 BMP Implementation Plan:

## **PROTECTED INTERSECTIONS**

Building curbs further into the intersection to promote slower turning movement by drivers, create better sightlines for all users, shorter crossing distances for people walking and biking, and provide predictability for all ages and abilities riders. Design could be implemented as a low-cost pilot project to determine feasibility of permanent infrastructure.

## **GREENWAY GATEWAYS**

Design elements that invite people walking and biking to understand that they have entered into a neighborhood greenway as well as to highlight both pedestrian and bicycle presence on residential streets. Gateway greenways could also be effective at alerting people driving that they have entered on to a prioritized pedestrian and bicycle route. Design could be achieved with art installations, raised crosswalks to slow down vehicular traffic when entering a neighborhood greenway, and other context-sensitive ideas.

## **NEIGHBORHOOD GREENWAYS SPURS**

Assessment of planned neighborhood greenways that could be extended to provide all ages and abilities connections to schools, parks, community centers, libraries, or other destinations creating an inviting environment for people accessing community destinations by walking or biking.

## **ADAPTIVE STREETS**

Safety and mobility projects that enhance the function of the street and are built in existing street right-of-way using low-cost, temporary materials. These projects are short-term and intended to last one to three years before transitioning to permanent infrastructure or decommissioned, if deemed unsuccessful, returning the street to its previous configuration.

# MAJOR PROJECTS UPDATE

There are many projects in various planning and design stages that will greatly contribute to filling in large segments of gaps in the all ages and abilities bicycle network. Some of these major projects also contribute to the differences between the 2015-2019 and the 2016-2020 BMP Implementation Plans. Review the major projects below for additional information:

## **SR-520**

The world's longest floating bridge will have a regional, cross-lake 14-foot wide bicycle and pedestrian path along the highway. The 2015 Washington State Legislature fully funded the remaining improvements to SR-520 between I-5 and the new floating bridge. The Legislature authorized \$1.64 billion in funding to complete SR-520 "Rest of the West" improvements from Lake Washington to I-5. The new bridge, bicycle and pedestrian facility is expected to open in the summer of 2017. The 2014 Bicycle Master Plan recommends that the trail extend to I-5 and the Eastlake neighborhood.

## **ACCESSIBLE MT. BAKER PROJECT**

The intersection of Rainier Ave S and Martin Luther King Jr Way S is a catalyst project in the Bicycle Master Plan, which means that it is a significant chokepoint in the network that poses a challenge to implement due to infrastructure constraints. The [Accessible Mt. Baker](#) project identified near-term access and safety improvements. The project also developed a long-term multimodal transportation plan, consistent with the [Mt. Baker Urban Design Framework](#) and the [North Rainier Neighborhood Plan](#), to enhance the transportation environment for all travelers.

## **BURKE-GILMAN TRAIL "MISSING LINK"**

The Draft Environmental Impact Statement (DEIS) for the [Burke-Gilman Trail](#) expansion (Missing Link) is due to be released in the spring of 2016. The DEIS will evaluate Build Alternatives and compare them to the No Build Alternative while describing the potential adverse impacts, if the impacts are significant, and mitigation measures proposed to reduce the impacts. There is no timeline for construction until a preferred alternative and funding are identified.

## **CENTER CITY MOBILITY PLAN AND CENTER CITY BIKE NETWORK**

The Center City Mobility Plan's purpose is to meet the changing needs of a growing downtown and region by connecting people, places, and products with a reliable transportation system and an inviting public realm. This effort will establish a long-term transportation vision for 2035 and create an implementation plan. Center City Bike Network projects will await the recommendations of the Center City Mobility Plan to determine which bicycle facilities will be built and where to create all ages and abilities continuous connections. The Center City Mobility Plan will holistically analyze the recommended bicycle facilities from the 2014 Bicycle Master Plan to determine best locations for safe and predictable bicycle movement, while creating downtown bicycle spines.

As mentioned earlier, the 2015-2019 and the 2016-2020 BMP Implementation Plan project lists differ in the number of downtown bicycle facilities due to the desire to develop a cohesive long-term multimodal transportation plan prior to building bicycle facilities that may not comply with overlapping modal needs.

## **WATERFRONT**

[Waterfront Seattle](#) is a multi-year program to rebuild Seattle's waterfront following the removal of the Alaskan Way Viaduct. The Program spans the waterfront from Pioneer Square to Belltown and includes a rebuilt Elliott Bay Seawall, a new surface street providing access to and from downtown, and new parks, paths, and access to Elliott Bay. Waterfront Seattle is led by the City of Seattle's Office of the Waterfront, working closely with civic leaders, stakeholders and the broader Seattle public to create a "Waterfront for All." Protected bicycle lanes from S King St to Pine St will be constructed as a part of this project. The schedule for construction is dependent on Alaskan Way Viaduct demolition. There is a need to ensure the extension of the protected bicycle lanes to the Elliott Bay Trail, and this extension will be in the work plan once more clarity is provided in the timeline for the demolition of the viaduct.

## **NORTHGATE PEDESTRIAN AND BICYCLE BRIDGE**

The [Northgate Pedestrian and Bicycle Bridge](#) was not a recipient of the US Department of Transportation Investment Generating Economic Recovery (TIGER) grant. The Levy to Move Seattle allocated \$15M to Northgate bicycle and pedestrian improvements, which include the bridge among other improvements desired in conjunction with the Link Light Rail station area access. Preliminary (30%) design was completed last fall and prior to advancing to 60% design, SDOT will perform cost validation over the next several months during which the schedule and budget will be established. Other bicycle facility projects from the 2015-2019 BMP Implementation Plan in the Northgate area, such as the N/NE 100th St neighborhood greenway, have shifted implementation years to coincide with the opening of the Link Light Rail Northgate Station and the Northgate Pedestrian and Bicycle Bridge.

## **MOVE SEATTLE TRANSIT+ MULTIMODAL CORRIDORS**

The [Levy to Move Seattle](#) identified various corridor projects to transform Seattle streets; transit plus multimodal corridors (corridors that are targeted for RapidRide Expansion as well as multimodal network connectivity), freight mobility corridors, a gateway corridor and safety corridors. The seven Transit+ Multimodal corridors invest in Seattle's future with improvements to move more people safely and predictably. These corridors will redesign streets to accommodate more frequent and reliable buses, consider multimodal street functions that improve safety and comfort for people taking transit, walking, and biking, and ensure goods delivery. The seven corridors are: Delridge Way SW, Roosevelt to downtown, Madison, 23rd Ave, Rainier/Jackson, Route #40, Market/45th St. The implementation order of these projects is being determined and bicycle facilities will be assessed through each corridor study during the project definition phase for each project.

As many of the corridor projects have not yet begun project definition, mileage assumptions were made using the BMP recommended network map for potential bicycle facilities that may be implemented along, or parallel, and connecting to the corridor. The 2016-2020 BMP Implementation Plan reflects these high level assumptions about what each corridor will study and thus implement for bicycle facilities. These assumptions are reflected in the mileage assumptions and are not within the project lists or maps yet due to the order of implementation still being determined. As the corridor implementation order evolves and studies are completed, the annual implementation plan update will reflect all new information.

# GUIDE TO APPENDICES

## **APPENDIX 1: COSTS AND FUNDING SUMMARY**

### **APPENDIX 2: IMPLEMENTATION MAPS**

These maps show the projects planned for implementation in 2016 through 2020. A map of the existing all ages and abilities routes and the routes in this 5-year implementation plan is included as well.

### **APPENDIX 3: PROJECT LISTS**

The project lists are sorted by implementation year with information about project type, location, length, priority tier, and Council District.

## **APPENDIX 4: STRATEGIES AND PROGRAMS**

This appendix shows the programmatic actions SDOT will undertake starting in 2016 and continuing into future years, and the status of each.

### **APPENDIX 5: PROJECT CHANGES IN THIS UPDATE**

This appendix shows the changes made to the project lists and maps, relative to the March 2015 Implementation Plan.

# APPENDIX 1: COSTS AND FUNDING SUMMARY

<b>Bike Master Plan Implementation Project</b>						
<b>Cost</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>5 Year Plan</b>
Maintenance & Spot Improvements*	\$1.0 M	\$1.0 M	\$1.0 M	\$1.0 M	\$1.0 M	\$5.0 M
Programatic Costs**	\$870 K	\$820 K	\$820 K	\$820 K	\$820 K	\$4.2 M
New Facility Investment	\$7.0 M	\$16.3 M	\$10.5 M	\$11.4 M	\$9.7 M	\$54.9 M
<b>Total BMP Cost</b>	<b>\$8.9 M</b>	<b>\$18.1 M</b>	<b>\$12.3 M</b>	<b>\$13.2 M</b>	<b>\$11.5 M</b>	<b>\$64.1 M</b>
<b>Funding</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>5 Year Plan</b>
Secured Local Funding***	\$12.2 M	\$9.0 M	\$9.0 M	\$9.0 M	\$9.0 M	\$48.1 M
Secured Grant Utilization***		\$6.3 M				\$6.3 M
Future Grant Funding Assumption		\$2.5 M	\$2.5 M	\$2.5 M	\$2.5 M	\$10.0 M
Assumed Available Funding	\$12.2 M	\$17.7 M	\$11.5 M	\$11.5 M	\$11.5 M	\$64.4 M
Cumulative (Over)/Under	\$3.3 M	\$2.8 M	\$2.0 M	\$287 K	\$319 K	\$319 K

Other SDOT Projects - Cost						
Cost	2016	2017	2018	2019	2020	5 Year Plan
Corridor Projects ****		\$0 K	\$336 K	\$8.6 M	\$3.9 M	\$12.8 M
Cheshiahud Lake Union Trail (Westlake)	\$6.1 M					\$6.1 M
Northgate Bridge & Ped/ Bike	\$122 K			\$325 K	\$38.0 M	\$38.4 M
Waterfront				\$1.1 M		\$1.1 M
Mercer	\$780 K		\$481 K			\$1.3 M
Streetcar		\$741 K				\$741 K
Burke Gilman Trail Extension			\$2.0 M			\$2.0 M
Total Other Projects Cost	\$7.0 M	\$741 K	\$2.8 M	\$10.0 M	\$41.9 M	62.5 M

\* Funds set aside for trail maintenance and spot improvements

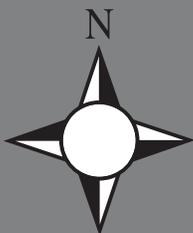
\*\* Includes Bike Map, Bike Parking, Program Planning, Wayfinding, and Bike Safety Spot Improvements on Bridges

\*\*\* Includes funds carrying forward from prior years

\*\*\*\* Many of the corridor projects have not begun project definition, thus mileage assumptions were made using the BMP recommended map and may not ultimately reflect the miles built.

# APPENDIX 2: IMPLEMENTATION MAPS

# BICYCLE MASTER PLAN IMPLEMENTATION 2016

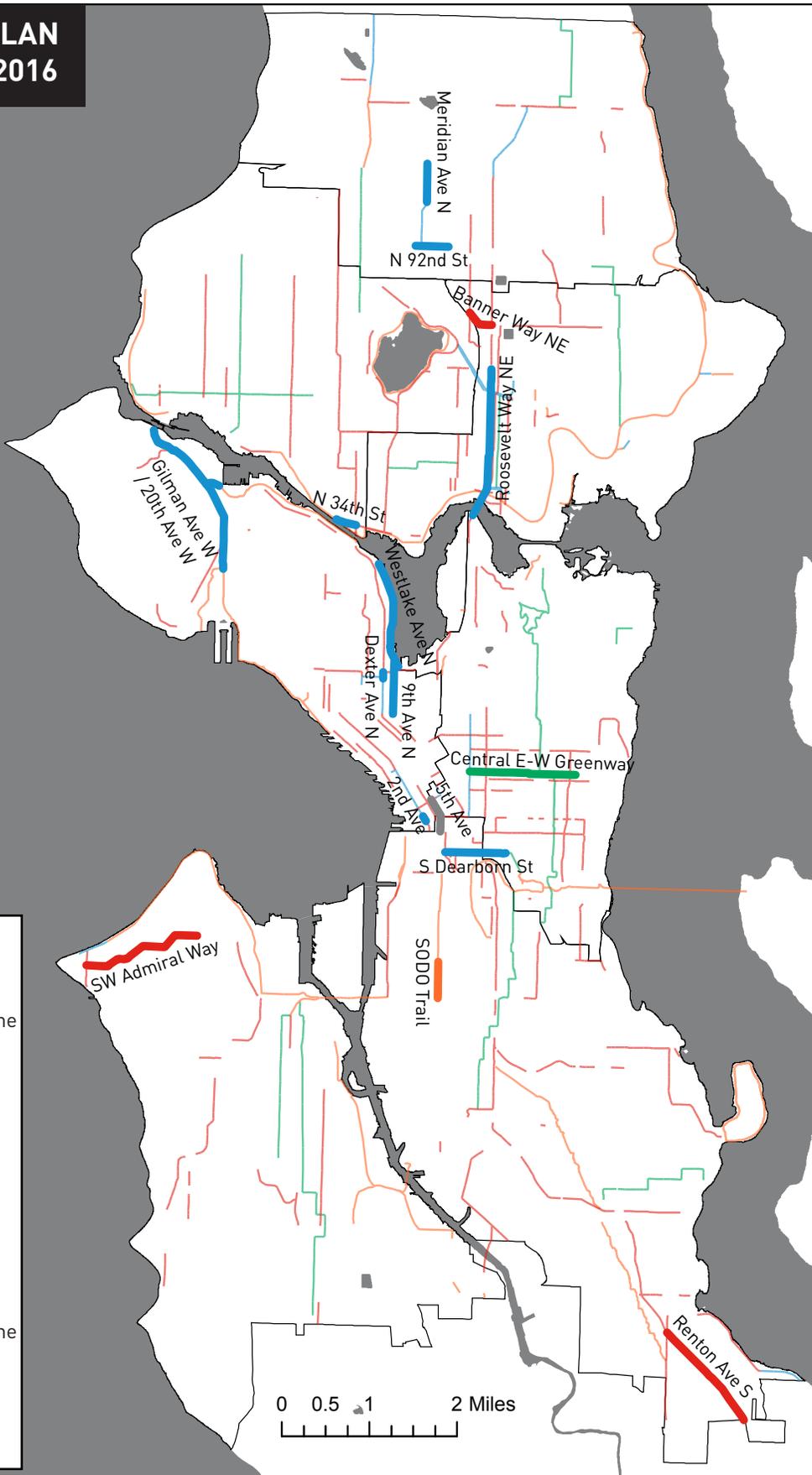


## 2016 Projects

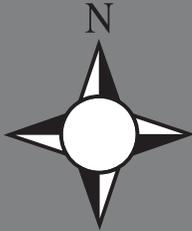
- █ Neighborhood greenway
- █ Protected bike lane
- █ Multi use trail
- █ In street, minor separation
- █ Shared-use lane

## Existing Bike Facilities

- Neighborhood greenway
- Protected bike lane
- Multi use trail
- In street, minor separation



# BICYCLE MASTER PLAN IMPLEMENTATION 2017

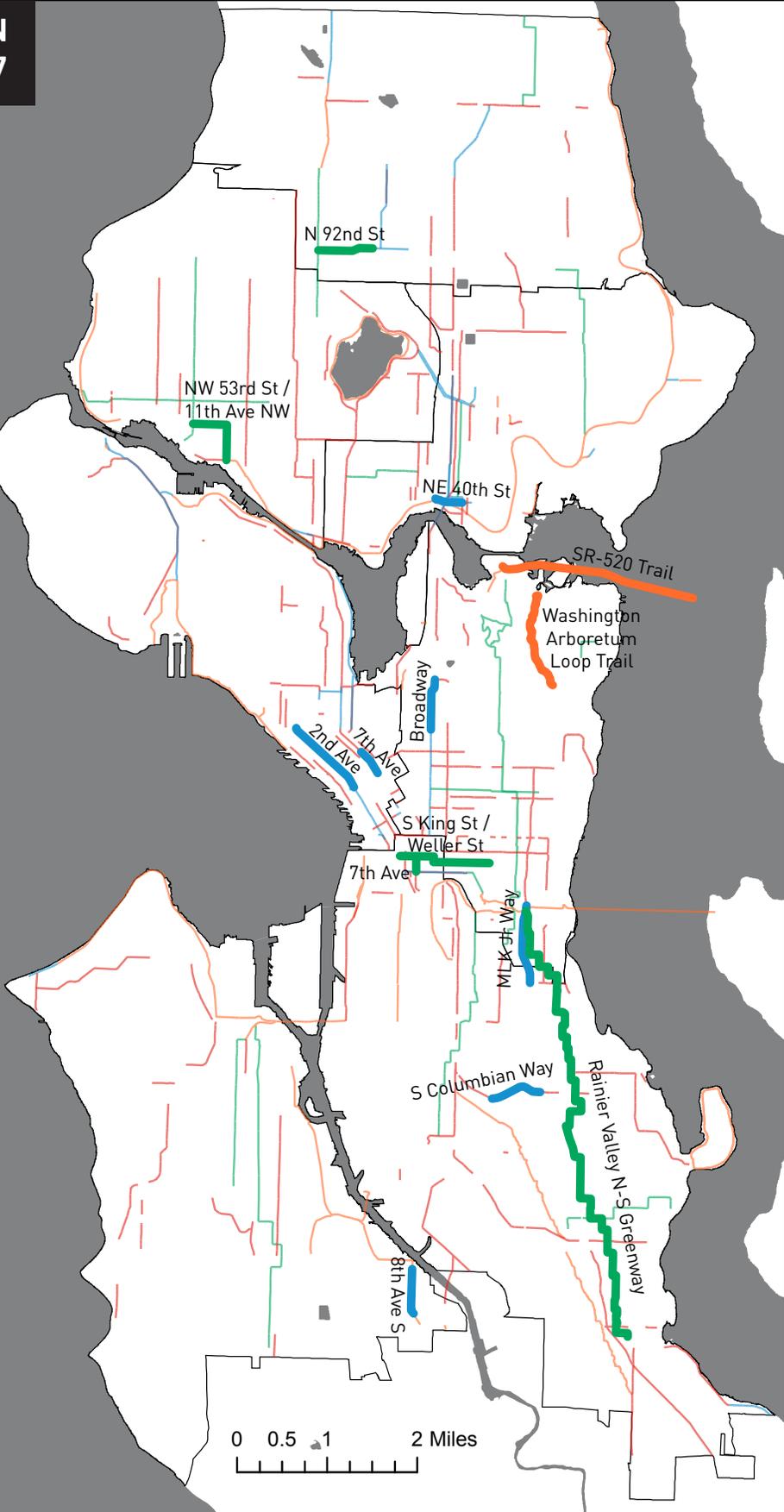


**2017 Projects**

- █ Neighborhood greenway
- █ Protected bike lane
- █ Multi use trail
- █ In street, minor separation

**Existing Bike Facilities**

- Neighborhood greenway
- Protected bike lane
- Multi use trail
- In street, minor separation



# BICYCLE MASTER PLAN IMPLEMENTATION 2018



Precise alignment  
subject to outcome  
of EIS



Burke-Gilman  
Trail (Missing  
Link)

N 92nd St

33rd Ave NE

Ravenna Pl NE

N 34th St

Fairview Ave E

Roy St / Broad  
St / Valley St

E Republican St

University St

Terry Ave

Yesler Way

6th Ave S

S Royal

Brougham Way

6th Ave S

S Industrial Way

S Shogualmie St

S Swift Ave S /

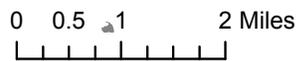
S Myrtle St

## 2018 Projects

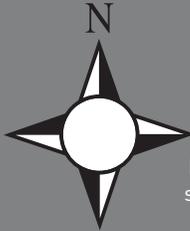
- █ Neighborhood greenway
- █ Protected bike lane
- █ Multi use trail
- █ In street, minor separation

## Existing Bike Facilities

- Neighborhood greenway
- Protected bike lane
- Multi use trail
- In street, minor separation



# BICYCLE MASTER PLAN IMPLEMENTATION 2019



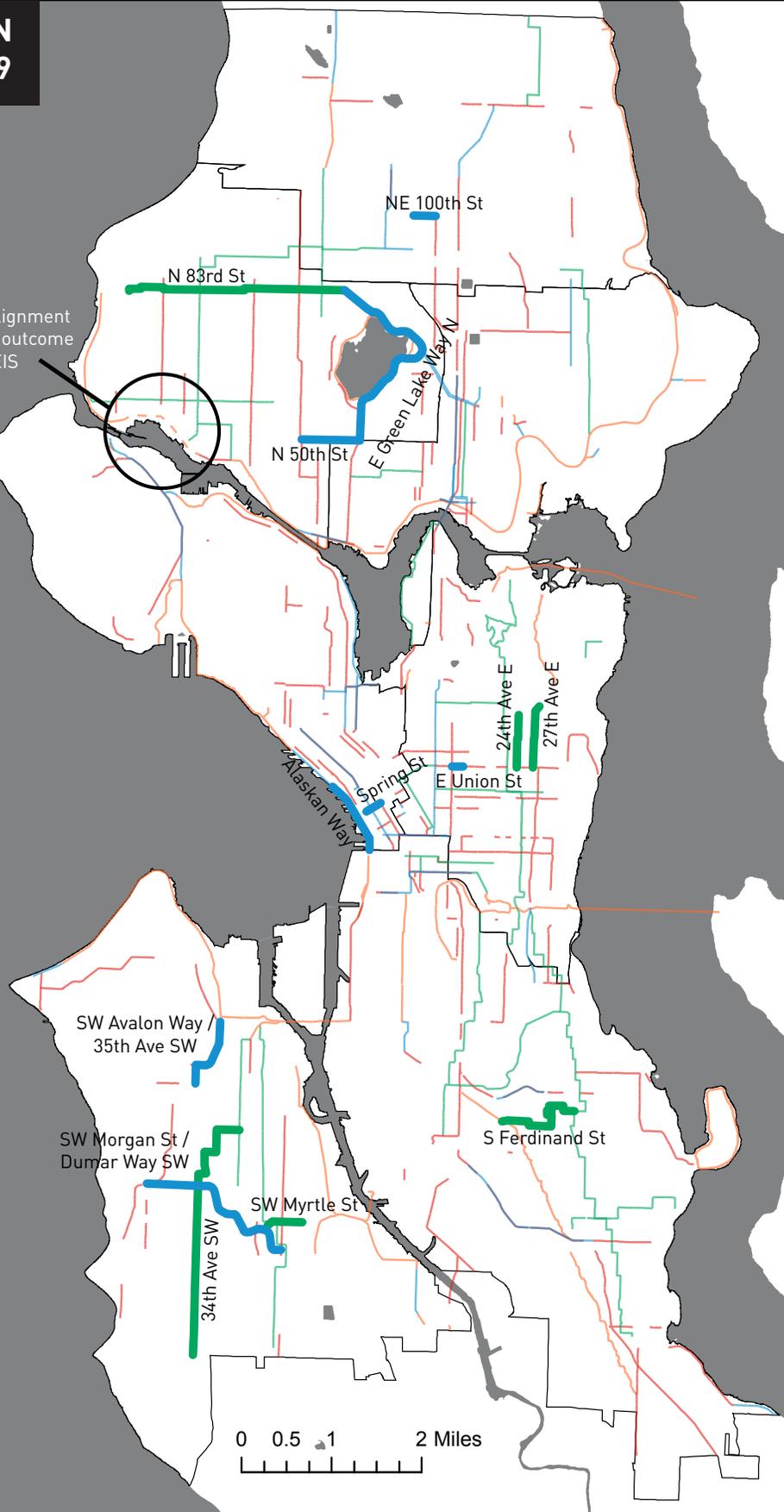
Precise alignment subject to outcome of EIS

**2019 Projects**

- Neighborhood greenway
- Protected bike lane
- Multi use trail
- In street, minor separation

**Existing Bike Facilities**

- Neighborhood greenway
- Protected bike lane
- Multi use trail
- In street, minor separation



# BICYCLE MASTER PLAN IMPLEMENTATION 2020



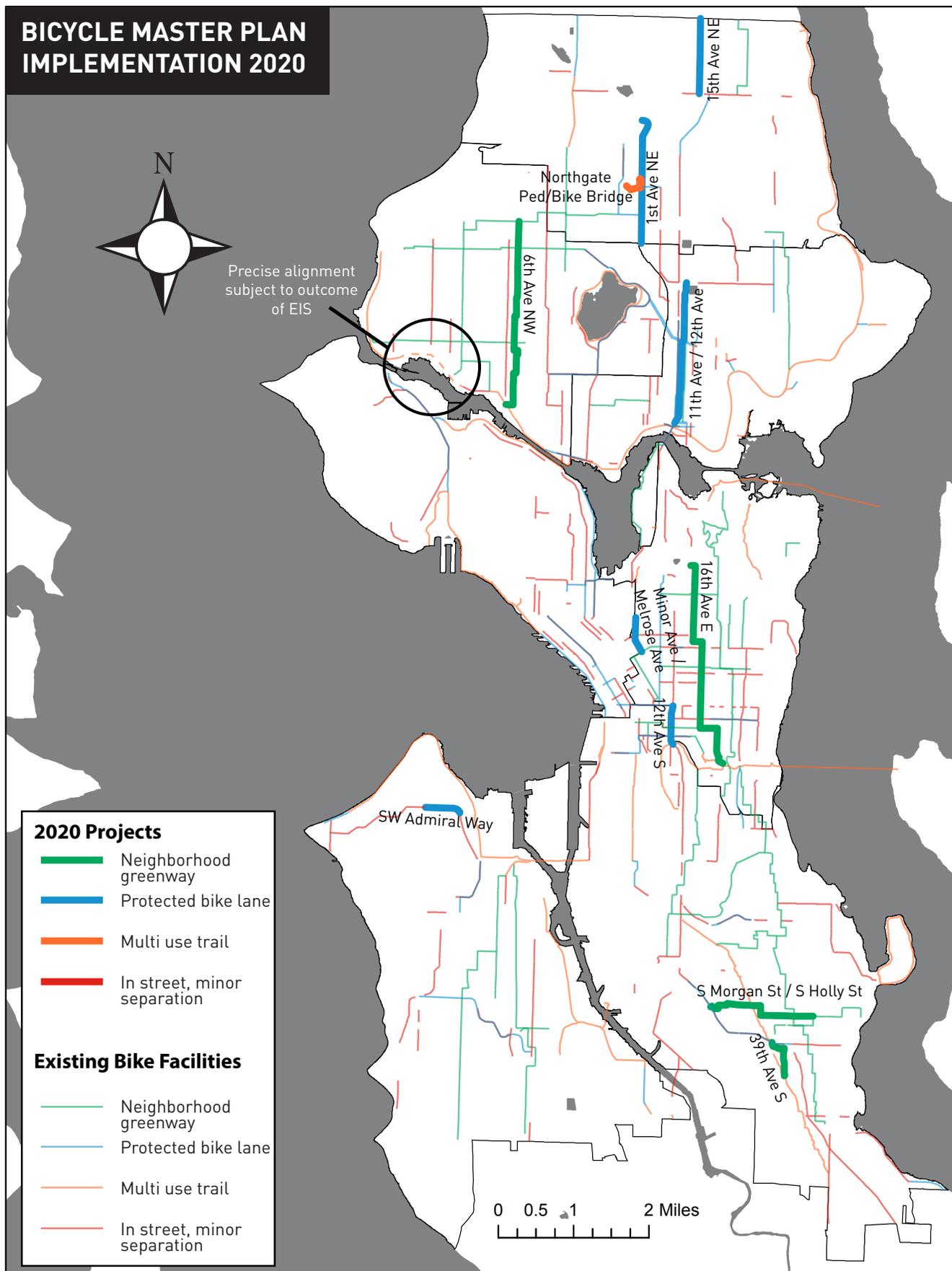
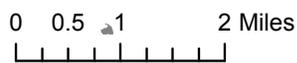
Precise alignment  
subject to outcome  
of EIS

## 2020 Projects

- █ Neighborhood greenway
- █ Protected bike lane
- █ Multi use trail
- █ In street, minor separation

## Existing Bike Facilities

- Neighborhood greenway
- Protected bike lane
- Multi use trail
- In street, minor separation



# BICYCLE MASTER PLAN IMPLEMENTATION PLAN AAA NETWORK

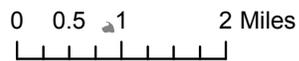


Precise alignment  
subject to outcome  
of EIS



## Legend

-  Neighborhood greenway
-  Protected bike lane
-  Multi use trail



# APPENDIX 3: PROJECT LISTS

Primary Street	Project Limits	Facility Type	Total Project Length	Year	Tier	Council District
Roosevelt Way NE	NE 65th St to University Bridge	PBL	1.37	2016	n/a	4
University Bridge	Roosevelt Way NE to Fuhrman Ave E	PBL	0.34	2016	n/a	4
N 34th St	Fremont Ave N to Phinney Ave N	PBL	0.24	2016	3	6
SW Admiral Way	California Ave SW to 63rd Ave SW	BL	1.39	2016	4	1
SODO Trail	S Forest St to S Spokane St	Trail	0.42	2016	3	2
20th Ave W / Gilman Ave W	Elliott Bay Trail to Ballard Locks	PBL	1.92	2016	2	7
W Emerson Pl	S Ship Canal Trl to Gilman Ave W	PBL	0.16	2016	3	7
Meridian Ave N	N 103rd St to N 112th St	PBL	0.44	2016	n/a	5
N 92nd St	Wallingford Ave N to 1st Ave NE	PBL	0.38	2016	4	5
Dexter Ave N	Mercer St to Roy St	PBL	0.06	2016	n/a	7
S Dearborn St	6th Ave S to Rainier Ave S	PBL	0.69	2016	n/a	2
Westlake Ave N	W Raye St to Valley St	PBL	1.23	2016	n/a	7
2nd Ave	Yesler Way to S Washington St	PBL	0.07	2016	1	7
9th Ave N	Westlake Ave N to Denny Way	PBL	0.6	2016	3	7
Central E-W Greenway	Broadway to 29th Ave E	NGW	1.21	2016	1	3
Renton Ave S	51st Ave S to city limits	BL	1.34	2016	4	2
Banner Way NE	Roosevelt Way NE to 5th Ave NE	BL	0.31	2016	2	4
5th Ave	S Jackson St to Cherry St	Sharrow	0.39	2016	n/a	2
MLK Jr Way	I-90 Trail to S McClellan St	PBL	0.84	2017	1	3
8th Ave S	S Kenyon St to S Trenton St	PBL	0.5	2017	3	1
NE 40th St	Brooklyn Ave NE to 7th Ave NE	PBL	0.31	2017	3	4
S Columbian Way	Beacon Ave S to MLK Jr Way S	PBL	0.58	2017	1	2
2nd Ave	Pike St to Denny Way	PBL	0.92	2017	1	7
Broadway	E Denny Way to Aloha St	PBL	0.57	2017	1	3
7th Ave	Westlake Ave to Pike St	PBL	0.33	2017	1	7
SR-520 Bridge Trail	Montlake Blvd E to city limits	Trail	2.18	2017	5	3

Washington Arboretum Loop Trail	Graham Visitors Center to E Madison St	Trail	1.2	2017	5	3
N 92nd St	Fremont Ave N to Wallingford Ave N	NGW	0.63	2017	n/a	5
NW 53rd St / 11th Ave NW	17th Ave NW to Burke-Gilman Trail	NGW	0.77	2017	1	6
S King St / Weller St	5th Ave S to 20th Ave S and S Dearborn St	NGW	1.05	2017	1	2
7th Ave S	S King St to S Dearborn St	NGW	0.17	2017	1	2
Rainier Valley N-S Greenway	I-90 Trail to Rainier Beach	NGW	6.21	2017	n/a	2
S Royal Brougham Way	S Occidental St to 6th Ave S	PBL	0.34	2018	4	2
Roy St / Broad St / Valley St	Dexter Ave N to Fairview Ave N	PBL	0.37	2018	1	7
Swift Ave S / S Myrtle St	S Albro Pl to MLK Jr Way S	PBL	1.76	2018	1	2
Alaskan Way	Broad St to Virginia St	PBL	0.61	2018	2	7
N 34th St	Fremont Ave N to Stone Way N	PBL	0.33	2018	1	4
35th Ave NE	NE 68th St to NE 87th St	PBL	0.97	2018	2	4
6th Ave S	S Dearborn St to S Royal Brougham St	PBL	0.25	2018	1	2
Yesler Way	2nd Ave to Broadway	PBL	0.53	2018	1	3
E Yesler Way	10th Ave to 12th Ave	PBL	0.13	2018	1	3
6th Ave S	S Spokane St to S Industrial Way	PBL	0.41	2018	n/a	2
S Industrial Way	6th Ave S to Airport Way S	BL	0.22	2018	3	2
Ravenna Pl NE	NE 55th St to Burke-Gilman Trail	PBL	0.15	2018	3	4
Burke-Gilman Trail (Missing Link)	11th Ave NW to Chittenden Locks	Trail	1.36	2018	2	6
University St	Seneca St to Broadway	NGW	0.51	2018	1	3
Terry Ave	University St to 9th Ave	NGW	0.7	2018	1	3
Fairview Ave E	University Bridge to Fairview Bridge	NGW	1.7	2018	1	4
N 92nd St	17th Ave NW to Fremont Ave N	NGW	2.26	2018	1	5
S Snoqualmie St	13th Ave S to 34th Ave S	NGW	1.85	2018	1	2
E Republican St	Broadway to E 21st St	NGW	0.77	2018	1	3
Alaskan Way	Virginia St to S Jackson St	PBL	0.84	2019	1	7
East Green Lake Way N	N 50th St to N 83rd St	PBL	2.55	2019	2	6
NE 100th St	1st Ave NE to 5th Ave NE	PBL	0.25	2019	3	5
SW Avalon Way and 35th Ave SW	SW Admiral Way to SW Alaska St	PBL	0.86	2019	1	1

Spring St	1st Ave to 4th Ave	PBL	0.18	2019	1	7
E Union St	12th Ave to 14th Ave	PBL	0.12	2019	1	3
N 50th St	Phinney Ave N to Green Lake Way N	PBL	0.64	2019	2	6
SW Morgan St / Dumar Way SW	California Ave SW to 16th Ave SW	PBL	1.98	2019	1	1
SW Myrtle St	SW Orchard St to 12th Ave SW	NGW	0.39	2019	1	1
24th Ave E	E Thomas St to E Union St	NGW	0.59	2019	n/a	3
27th Ave E	E Union St to MLK Jr Way E	NGW	0.7	2019	2	3
34th Ave SW	SW Roxbury St to 26th Ave SW	NGW	2.97	2019	1	1
S Ferdinand St	Beacon Ave S to 37th Ave S	NGW	1.26	2019	1	2
N 83rd St	Loyal Ave NW to Aurora Ave N	NGW	2.48	2019	1	6
15th Ave NE	NE 125th St to city limits	PBL	1	2020	1	5
12th Ave S	E Yesler Way to Golf Dr S	PBL	0.53	2020	1	2
SW Admiral Way	California Ave SW to SW Olga St	PBL	0.49	2020	2	1
Minor Ave / Melrose Ave	University St to Denny Way	PBL	0.48	2020	1	3
11th Ave / 12th Ave	University Bridge to NE 75th St	PBL	1.9	2020	2	4
1st Ave NE	N 92nd St to N 117th St	PBL	1.71	2020	1	5
Northgate Ped/ Bike Bridge	NE 100th St to Northgate Transit Station	Trail	0.34	2020	4	5
S Morgan St / S Holly St	Swift Ave S to 46th Ave S	NGW	1.57	2020	1	2
16th Ave E	Volunteer Park to Judkins Park	NGW	3.08	2020	1	3
39th Ave S	S Myrtle Pl to S Kenyon St	NGW	0.57	2020	1	2
6th Ave NW	Burke-Gilman Trail to N 90th St	NGW	2.66	2020	2	6

As noted above, adjustments will be made to the projects lists and maps as part of the annual update process to reflect changes in project schedules, project types, and to add or remove projects. Project schedules can be affected by coordination with other projects, environmental review, and myriad other factors. Project types may change based on the initial evaluation and outreach for a particular corridor, and some projects may begin one year and continue into the next.

## Mileage

BMP Implementation Project						
	2016	2017	2018	2019	2020	5 Year Plan
NGW	1.2	8.2	7.3	7.1	7.9	31.7
PBL	5.3	5.2	3.7	6.0	4.4	24.7
Trail	0.4	0.0	0.0	0.0	0.0	0.4
Bike Lane	3.0	0.0	0.2	0.0	0.0	3.3
Other SDOT Projects						
	2016	2017	2018	2019	2020	5 Year Plan
NGW	0.0	0.0	0.5	2.9	0.8	4.2
PBL	2.2	0.6	0.4	5.4	3.9	12.5
Trail	0.0	0.0	1.4	0.0	0.3	1.7
Bike Lane	0.0	0.0	0.0	0.0	0.0	0.0
Total SDOT						
	2016	2017	2018	2019	2020	5 Year Plan
NGW	1.2	8.2	7.8	10.0	8.7	35.9
PBL	7.5	5.8	4.1	11.4	8.3	37.1
Trail	0.4	0.0	1.4	0.0	0.3	2.1
Bike Lane	3.0	0.0	0.2	0.0	0.0	3.3

Partner Agencies/Departments							
		2016	2017	2018	2019	2020	5 Year Plan
PARKS	Trail		1.2				1.2
WSDOT	Trail		2.2				2.2

# APPENDIX 4: STRATEGIES AND PROGRAMS

Appendix 5: 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 will work to meet targets.
4.7 Implement upgrades of existing bicycle facilities	Bicycle facilities upgrade projects will be identified through BMP project prioritization and through safety corridor projects. Refer to strategy 7.3 and 7.13 for related work.	SDOT will work to meet targets.
4.8 Install bicycle detection at traffic signals in every new bicycle facility, as well as with 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 recommending appropriate bicycle detection on a case-by-case basis, and may start developing guidelines based on facility type and intersection geometry in 2016. Inventory will begin in 2016, if staffing allows for this effort.
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 the year.
4.12 Integrate a multimodal decision-making process into the update of the Comprehensive Plan	SDOT has developed a right-of-way (ROW) allocation framework, a comprehensive methodology, to determine the uses and functions of corridors.	The ROW allocation framework is within the draft Comprehensive Plan Update for consideration of adoption.

## Chapter 5: End-of-trip facilities

BMP Strategy	Activity	Status
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.
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.	Internal guidelines for private bicycle rack installation in the public right-of-way are being developed and a CAM will be developed later in 2016.
5.4 Develop a process for abandoned bicycle removal with re-purposing options	Abandoned bicycles that are tagged and removed by SDOT personnel are donated to BikeWorks.	SDOT will continue to donate abandoned bicycles to BikeWorks. No timeline exists for a partnership with SPD to create a policy to donate abandoned bikes.
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 bicycle parking is incorporated in the Northgate and Judkins Park station designs. SDOT will continue to monitor needs at existing stations, future stations in ST3, and the Seattle RapidRide expansion program.

**Chapter 6: Programs**

BMP Strategy	Activity	Status
<p>6.1 and 7.9 Develop a bicycle safety education program</p>	<p>SDOT will continue to build upon existing safety educational and encouragement programs, and create new programs. As part of this SDOT will:</p>	<p>SDOT is collaborating with Seattle Public Schools and Cascade Bicycle Club to develop a new pedestrian and bicycle safety curriculum that will be implemented in all public elementary schools. The curriculum program will be implemented in all 72 public K-5 and K-8 schools in September 2016.</p>
	<ul style="list-style-type: none"> <li>• Expand school bicycle safety education to two more schools per year (12 total in 2015).</li> </ul>	
	<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>	<p>Pending the success of the elementary school program and funding availability, SDOT will expand the education program to middle and high school students in 2019.</p>
	<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>	<p>In 2016, SDOT will continue to publish an updated bike map; a magazine similar to the 2015 pilot BikeLife; and education and encouragement materials when projects such as the Westlake and Roosevelt Protected Bicycle Lanes are complete.</p>
<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>		<p>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.</p>
<p>6.2 Improve wayfinding and trip-planning opportunities for people on bicycles</p>	<p>SDOT will update the printed bicycle map annually.</p>	<p>On track.</p>
<p>6.3 Support improved access to bicycles and encouragement of bicycling opportunities</p>	<p>SDOT will support access, education and encouragement programs by working with existing partners, including Cascade Bicycle Club, schools, PTSAs, Pronto, Neighborhood Greenways, West Seattle Bike Connections, Puget Sound Bike Share, and others. SDOT will also support Summer Streets and other events that promote and encourage bicycling and will provide funding and marketing to support bike share access.</p>	<p>SDOT will continue a dynamic marketing program with Pronto which includes enhanced user communications, promotion/ updating of online safety and education videos, hill minimization routes, neighborhood events, Women’s Bike Month, Pronto Week, Free Ride Day, Pride Parade, 2nd Birthday Celebration, and Data Challenge. SDOT will continue to partner with neighborhood groups to the extent possible at those groups’ request.</p>

6.4 Support economic and community development through bicycle related activities	<ul style="list-style-type: none"> <li>• SDOT will attend and support events with similar mission and focus that encourage neighborhood-level active transportation.</li> </ul>	SDOT will continue to attend and support events such as Summer Parkways, Bicycle Sundays, Kidical Mass, and the SR-520 bicycle ride.
	<ul style="list-style-type: none"> <li>• SDOT will also partner with and support Pronto.</li> </ul>	SDOT is hoping to purchase bike share assets from Pronto and assume City ownership of the system. Program expansion and procurement for equipment and operators may occur for a 2017 summer launch.
	<ul style="list-style-type: none"> <li>• SDOT will continue to work with CTR employers and TMP plans to provide bicycle workshops, co-sponsor the second Annual Employer Bike Summit, and promote the 2016 Bike Commute Challenge.</li> </ul>	In 2016 and 2017, 97 bike racks will be installed at locations outside Center City adjacent to CTR employer locations or buildings with Transportation Management Program requirements. This will program will result in public bike racks outside all CTR and TMP locations. Ten more bicycle commuter workshops will be conducted in 2016 and then again in 2017 (by Commute Seattle).
	<ul style="list-style-type: none"> <li>• SDOT will consider strategies to support Bicycle-Friendly Business Districts with the launch of the Active Transportation Program.</li> </ul>	

### Chapter 7: Implementation Approach

BMP Strategy	Activity	Status
7.1 and 7.2 Develop and strengthen procedures and processes for bicycle project delivery	<p>SDOT has a well-developed evaluation, design and public engagement process for neighborhood greenways. In 2016, SDOT 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:</p> <ul style="list-style-type: none"> <li>• Allow temporary implementation of bicycle facilities</li> </ul>	<p>SDOT will continue to conduct data-driven planning processes, collecting quantitative “before” data and administering perception surveys as funding allows.</p> <p>SDOT will continue to support PARKing day type of temporary installation of bicycle facilities.</p>

<p>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.</p>	<p>SDOT will build on the existing collision review program and will:</p> <ul style="list-style-type: none"> <li>Analyze bicycle-involved collisions per facility type to identify trends, behaviors, and engineering solutions</li> <li>Create a data-driven process to identify spot and/or corridor improvement projects</li> <li>Develop a prioritized list of spot improvement projects</li> </ul>	<p>SDOT is developing a Bicycle and Pedestrian Safety Analysis to address these concerns. The draft report is expected by the end of April and will help prioritize spot improvements for 2016 work program and beyond.</p>
<p>7.5 and 7.14 Create a multi-use trails upgrade and maintenance plan. Negotiate maintenance agreements with partners.</p>	<p>SDOT will develop a trails upgrade plan in 2015, which will guide future upgrades to the multi-use trails.</p>	<p>SDOT is developing a Trails Upgrade Plan to guide future investments. The draft report is expected by the end of April. Updated maintenance agreements with partners will be worked on following the Trails Upgrade Plan efforts (timeline unknown).</p>
<p>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 improvements requests to SDOT.</p>	<p>To address maintenance, SDOT will:</p> <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> <li>Coordinate projects with Street Maintenance Paving plan</li> <li>Evaluate additional bike facility sweeping as part of the SPU/SDOT street sweeping program</li> <li>Continue to promote existing ways for people to report maintenance and improvements requests</li> </ul>	<p>As we continue to build protected bike lanes, tracking maintenance costs is important. SDOT is currently researching best practices from peer cities.</p> <p>As part of the 2016-2020 BMP IMP Plan, SDOT is coordinating upcoming paving projects and proposed bicycle facilities for better alignment.</p> <p>As the city builds a critical mass of protected bike lanes, SDOT will identify the most cost effective way to sweep bicycle facilities.</p> <p>SDOT and the Mayor’s Office are continuing to promote the web-based, Find It, Fix It, application to improve reporting of maintenance requests.</p>
<p>7.17 Establish a broad-based funding approach</p>	<p>SDOT will continue to research and pursue grants, and other funding opportunities.</p>	<p>The Transportation Levy to Move Seattle was approved by voters in 2015. There is \$64M for bicycle improvements over the nine year levy timeframe.</p>

# APPENDIX 5:

## PROJECT CHANGES IN THIS UPDATE

1. Projects added to the Implementation Plan as part of the March 2016 update:
    2. A PBL on S Columbian Way (0.58 miles) was added to 2017 to reflect coordination with planned repaving work on that corridor.
    3. The Washington Arboretum Loop Trail was added to 2017 to reflect the work already being done by Seattle Parks & Recreation.
    4. A greenway on NW 53rd St and 11th Ave NW was added to create an all ages and abilities connection from the 17th Ave NW greenway to the Burke-Gilman Trail.
    5. Yesler Way was added to create an all ages and abilities connection east and west of the Broadway PBL.
    6. A continuation of the SODO Trail was added on 6th Ave S and S Industrial Way.
    7. East Green Lake Way N and N 50th St were added to leverage the planned paving project.
    8. The PBL on E Union St and the greenways on 24th Ave E and 27th Ave E were identified as parallel routes for the Madison BRT project.
    9. The PBL on SW Morgan St / Dumar Way SW and the greenway spur on SW Myrtle St were added to balance planned mileage in each district of the city.
    10. Most of the 2020 projects are new as this year was not within the 5-year outlook of last year's Implementation Plan.
  2. Projects previously in the Implementation Plan that have been modified to create more logical project limits or remedy inconsistencies:
    1. A continuation of the Dexter Ave N PBL was added to 2016 to connect to the 2018 project on Roy St, Broad St, and Valley St.
    2. The greenway previously planned for N 100th St is now shown on N 92nd St; however, the route is still be determined and all alternatives between N 90th St and N 100th St are being considered.
  3. The Swift Ave S project was extended to reflect the extents of the planned paving project.
  4. The PBL on 6th Ave S is now planned to be an extension of the SODO Trail.
  5. The greenway previously planned for Spruce St is now shown on Fairview Ave E.
  6. The E Denny Way greenway has been moved to E Republican St.
  7. The greenway on S Ferdinand St was shortened and now reflects the planned project limits.
3. Projects previously in the Implementation Plan that were removed due to constraints, prioritization, or geographical balancing:
    1. A majority of the downtown bicycle facility projects were removed from this version of the Implementation Plan. The Center City Mobility Plan will provide guidance for our multimodal transportation network downtown and will create an implementation plan including the work of the Center City Bike Network.
    2. The greenway connection on 17th Ave NW at the south end near the Burke-Gilman Trail was replaced with the NW 53rd St / 11th Ave NW greenway.
    3. The PBL on N 130th St has been delayed until SDOT can confirm with partner agencies the plans for light rail in the area.
    4. The greenway on SW Juneau St was removed, and that connection will be studied along with the SW Morgan St / Dumar Way SW PBL.
    5. The following projects were removed due

to geographical balancing and/or budget constraints:

1. PBL on 12th Ave S and S Massachusetts St.
2. PBL on Airport Way S.
3. PBLs on MLK Jr Way S.
4. PBL on S Jackson St.
5. Greenway on S Marion St.
6. Greenway on 1st Ave NE.
7. Greenway on S Hill St.
8. Greenway on S Dearborn St and 29th Ave.
9. Greenway on NE 68th St / NE 66th St.
10. Greenway on E Pine St.
11. Greenway on N 36th St.

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