



CITY OF KIRKLAND

Department of Public Works

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MEMORANDUM

To: Transportation Commission

From: Kim Scrivner, Transportation Planner
Joel Pfundt, Transportation Manager

Date: January 21, 2021

Subject: ACTIVE TRANSPORTATION PLAN UPDATE

Staff Recommendation:

It is recommended that Transportation Commission receive a briefing and provide input on the Active Transportation Draft Plan.

Background:

The update to the Active Transportation Plan (ATP) began in 2019 and the timeline for this update was extended due to COVID-19 related delays. The updated Draft ATP is now available for the Transportation Commission review. It will be posted the city's website on January 24th and the public will be notified it is available for review via social media posts, neighborhood association contacts and through This Week in Kirkland publication.

The Draft Plan includes:

- Updated goals and objectives
- Public engagement report and summary
- Summary of existing conditions
- Analysis of walk and bike networks
- Project prioritization process and prioritized project lists
- Implementation strategy

The Transportation Commission has received many briefings and provided feedback throughout this process:

- March 2019 – introduction to the project and review of proposed vision – safety, high quality networks, designing for all-ages and abilities and access to transit emphasis
- October 2019 – discussed data renovation project, scope of work and engagement plan
- February 2020 – reviewed crash data analysis, results from public survey and an introduction to the level of stress analysis from consultant
- March 2021 – status of plan update and next steps, more detail regarding analysis conducted to identify bike and pedestrian networks, implementation strategy

- October 2021 – briefing on the second round of community engagement and more detail from the survey, detailed the prioritization framework for identifying projects
- December 2021 – final public engagement results, updated goals and objectives

January Transportation Commission Objectives:

Staff will provide a brief overview of the walk and bike network analysis and prioritization process. This information has already been shared with the Transportation Commission so this will be a high-level summary as a reminder. Then, staff will share the prioritization results in terms of the prioritized networks and prioritized project lists. These prioritized projects will include sidewalks, locations for crossing improvements and the strategy for improving the bicycle network. Please see Attachment A. Staff will also discuss how projects are funded and review the implementation strategy.

Staff will return to the Transportation Commission at the February 23rd meeting to receive any additional feedback on the draft plan after the Commission has had more time to review the document. No changes will immediately be made to the document after the January or February meetings, but the Transportation Commission comments as well as comments received from the public will be summarized and shared with Council at their March 15th Study Session.

Full Council action is expected to take place sometime between April-June based on Council feedback and potential follow-up briefings.

Attachment A: Draft Active Transportation Plan Network Analysis and Project Prioritization

ATTACHMENT A

DRAFT ACTIVE TRANSPORTATION PLAN

NETWORK ANALYSIS and PROJECT PRIORITIZATION

NETWORK ANALYSIS

Pedestrian Network Analysis

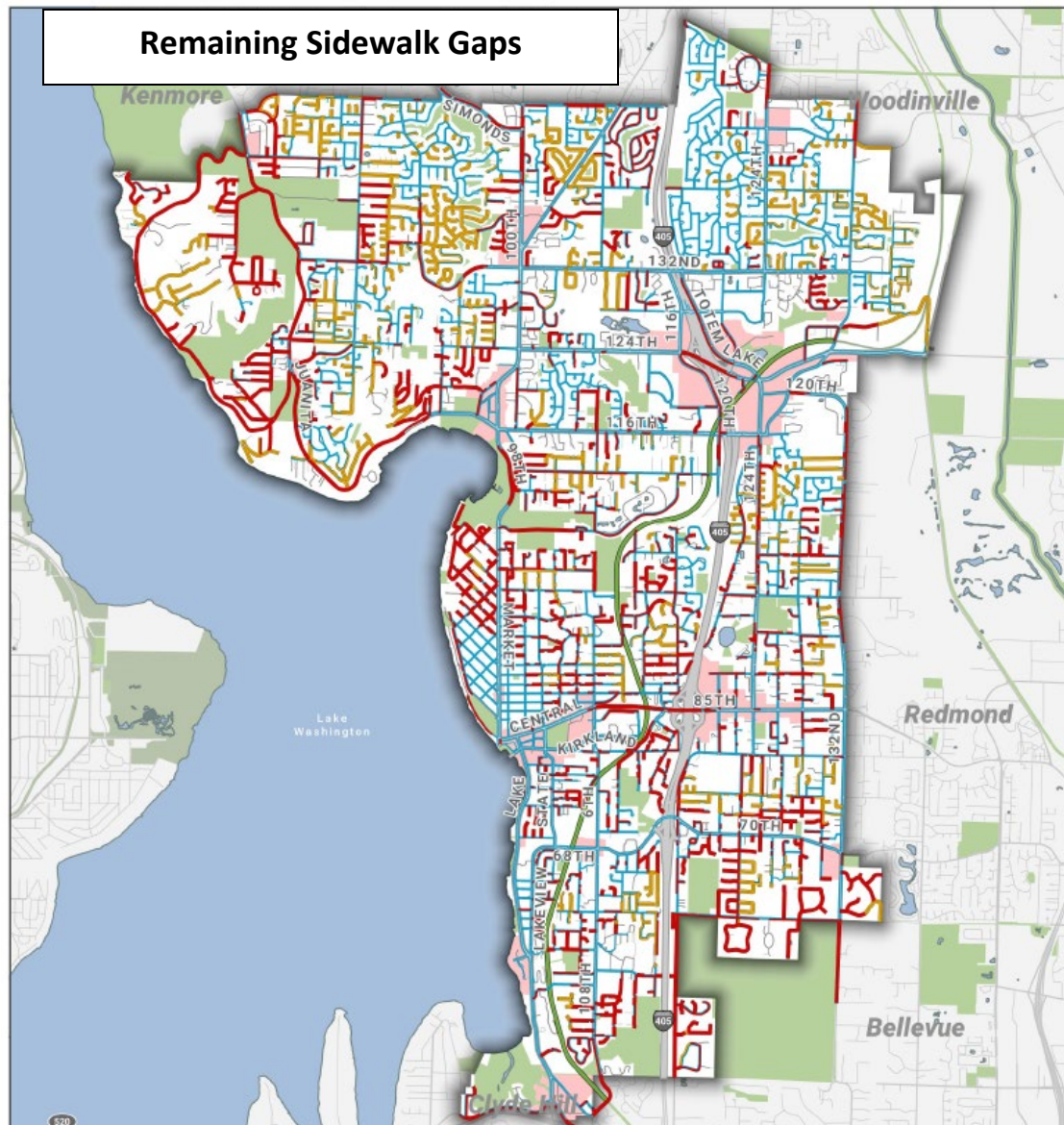
The pedestrian network in Kirkland is comprised of many different parts, including sidewalks, trails, short neighborhood connections, curb ramps and other intersection crossing infrastructure, as well as all the destinations that people access by foot, which is to say, just about everywhere in Kirkland. A key focus of this Plan is to identify improvements to increase safe and convenient access to transit, activity centers, and parks.

Planned Pedestrian Network

The planned pedestrian network aims to fill critical sidewalk gaps and strategically enhance street crossings that currently impede access to transit, activity centers, and parks and impact safe and comfortable pedestrian travel. As stated above, there are many other features that comprise the pedestrian network, which are also a focus for the City. For example, curb ramps and other infrastructure that improves access for persons with disabilities are acknowledged in the City's [Pathway to Transition](#), a step towards developing a Transition Plan for improvements that need to be made to bring the City into full compliance with Title II of the Americans with Disabilities Act. The [Safer Routes to School Action Plans](#) identify improvements specifically for increasing access to schools, many of which also improve access to other destinations in Kirkland. The City has also developed a [Citywide Transportation Connections Map](#) that identifies pathways to improve network connectivity. The [Cross Kirkland Corridor](#) is another facility that contributes significantly to Kirkland's pedestrian network. More work is being done by the City and its partners to improve connectivity to the trail such as the [Totem Lake Connector](#) and more localized neighborhood connections.

Sidewalk Gaps

Kirkland has made significant progress in meeting its policy goals focused on building out the sidewalk network along major streets, but there are still some important gaps to be filled. This plan identifies remaining sidewalk gaps, which are shown in the map below. Many remaining sidewalk gaps are on neighborhood streets that don't provide through connections or access to community destinations. Still others are along major streets with transit, within activity centers, or along other streets that provide direct access to these destinations, as well as parks. Sidewalk gaps were analyzed to determine which gaps, if filled, would provide the greatest benefits in terms of providing access to transit, activity centers, and parks. These high benefit sidewalks were then grouped into logical extents.



Sidewalk Gaps

- Included in Prioritization
- Excluded from Prioritization

- Existing Sidewalks
- Cross Kirkland Corridor
- Activity Centers

Sidewalk gaps that are included in the prioritization analysis must meet the following criteria:

- o Not located along a private street.
- o Located along any street type within ¼ mile of a park, activity center, or high frequency transit stop.
- o If sidewalk gap is not within ¼ mile of the above destination types, the gap must be along a collector or arterial roadway.



Street Crossings

Being able to cross major streets without having to go too far out of direction and with confidence that drivers will stop or yield are two important factors that support walking. Kirkland has been a model for making street crossings safer and more convenient for people walking with its pedestrian flag program and widespread deployment of safety treatments such as crossing islands and rapid flashing beacons. There is still work to do. This plan identifies where additional street crossing enhancements are needed

to improve access to high frequency transit, activity centers, and parks. Similar to sidewalk gaps, there are street crossing enhancements identified in the *Safer Routes to School Action Plans* which also provide broader pedestrian network benefits and improve community access and safety.

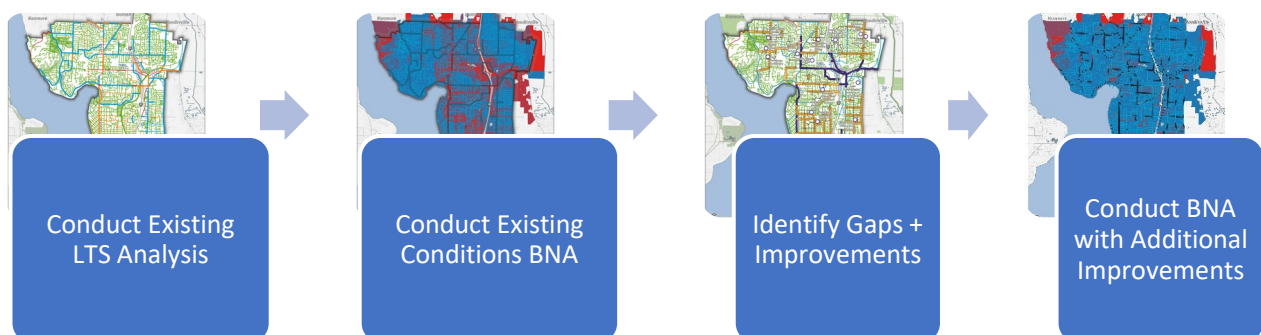
Bicycle Connectivity Analysis and Low-Stress Network

In addition to addressing access to destinations, this process also considered the bike level of traffic stress and network analysis.

A network analysis was conducted to determine how well the existing and planned network from the 2015 Transportation Master Plan (TMP). This network was carried over to the 2015 TMP from the 2009 Active Transportation Plan but added the previously unincorporated districts north of the city, Finn Hill, North Juanita, and Kingsgate that were annexed after the 2009 ATP was adopted.

This connectivity analysis assessed connections to community destinations using “low-stress” bikeways, i.e., bikeways that less confident/more cautious bicyclists would feel comfortable using. An example of a low-stress bikeway would be a buffered bike lane on a street with a 25 MPH speed limit with low traffic volumes.

This analysis begins by assessing the level of stress (LTS) that takes into account the speed and volume of the roadway as well as existing bicycle facilities. Then, connectivity is assessed to see how well the existing network connects to destinations through unbroken low-stress routes. This is called the Bicycle Network Analysis (BNA). This process identified areas of Kirkland that are not well-served by low-stress bicycle connections. Areas with a low BNA score were assessed to determine what bicycle facility improvements are needed to create a low-stress connection, which informed the network recommendations of the ATP update presented in the next chapter.



Kirkland’s Existing Bicycle Network is Mostly for Confident Bicyclists

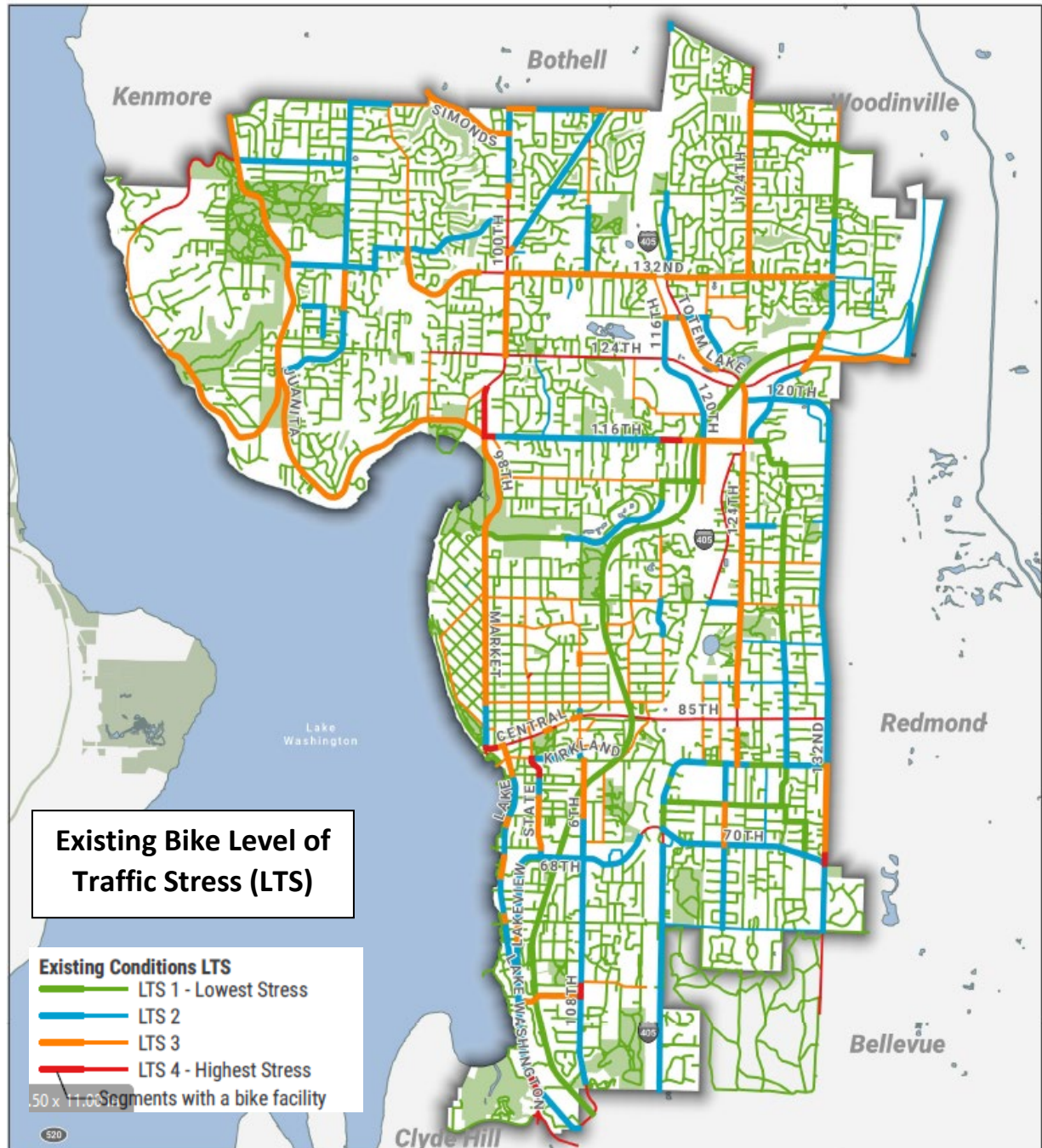
Currently, the majority of Kirkland’s neighborhood street network provides low-stress conditions; meaning they are streets that either don’t have high vehicle speeds or volumes (mostly neighborhood streets). However, many of these streets are discontinuous and do not offer direct connections for bicyclists or have grades that present challenges for the casual bicyclists or families. Many of Kirkland’s existing bike lanes do not offer a low-stress riding experience primarily because they do not provide sufficient separation given the speed and volume of adjacent motor vehicle traffic. These “higher stress” bikeways are displayed as orange and red. There are existing bike lanes (blue lines) that offer sufficient comfort for many adults, but these mostly occur as isolated segments, which can

Existing Bike Level of Traffic Stress (LTS)

Existing Conditions LTS

- LTS 1 - Lowest Stress
- LTS 2
- LTS 3
- LTS 4 - Highest Stress

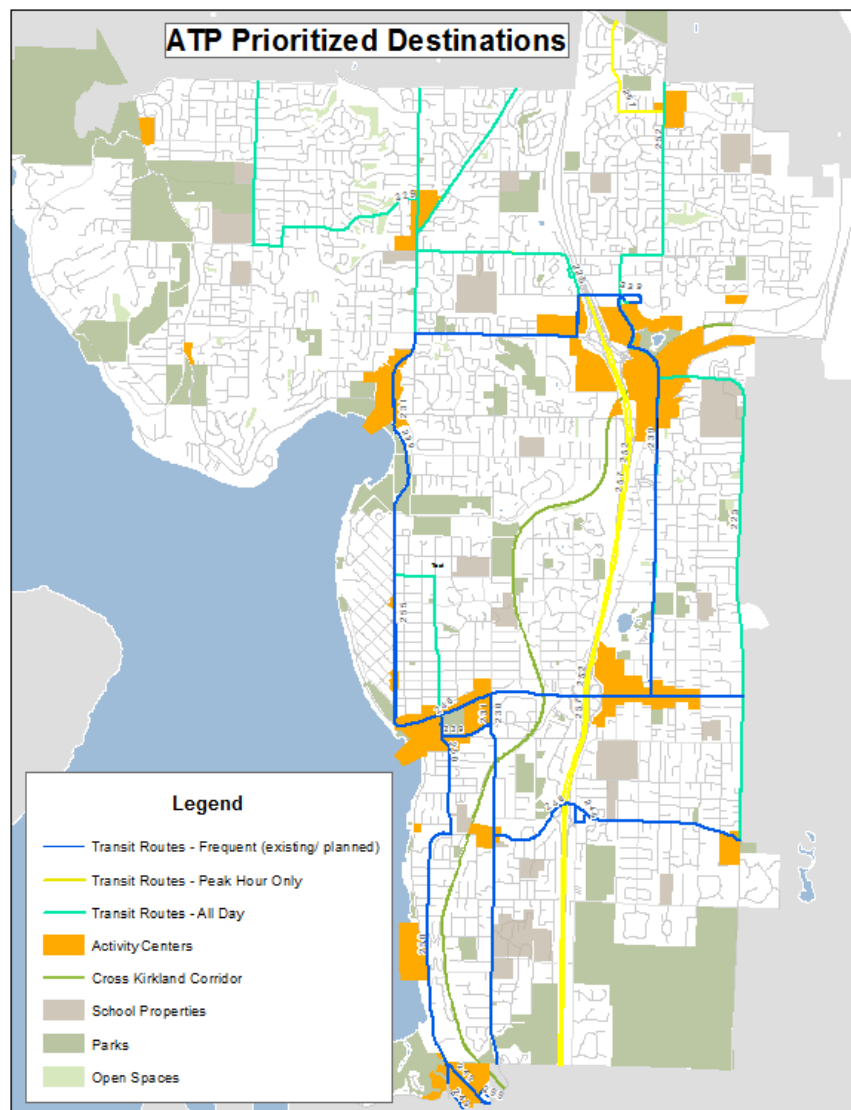
50 x 11.6 Segments with a bike facility



PROJECT PRIORITIZATION PROCESS

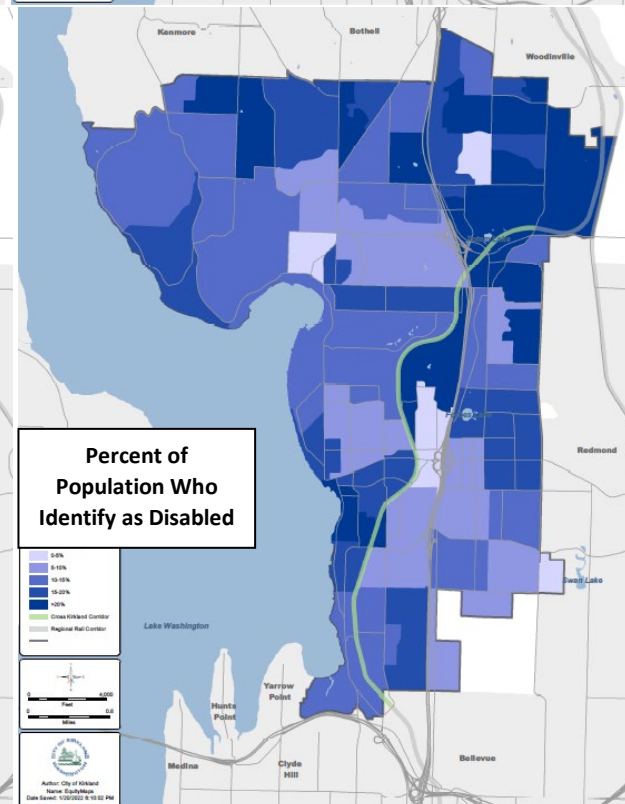
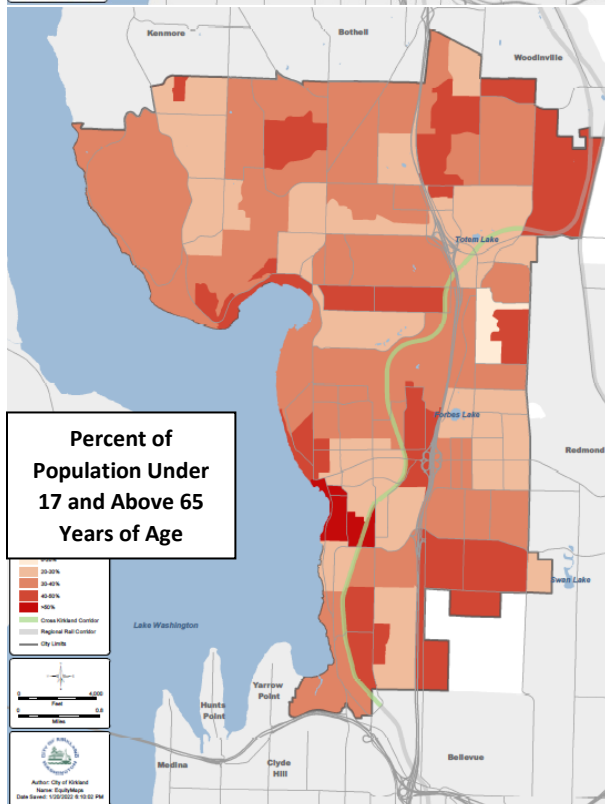
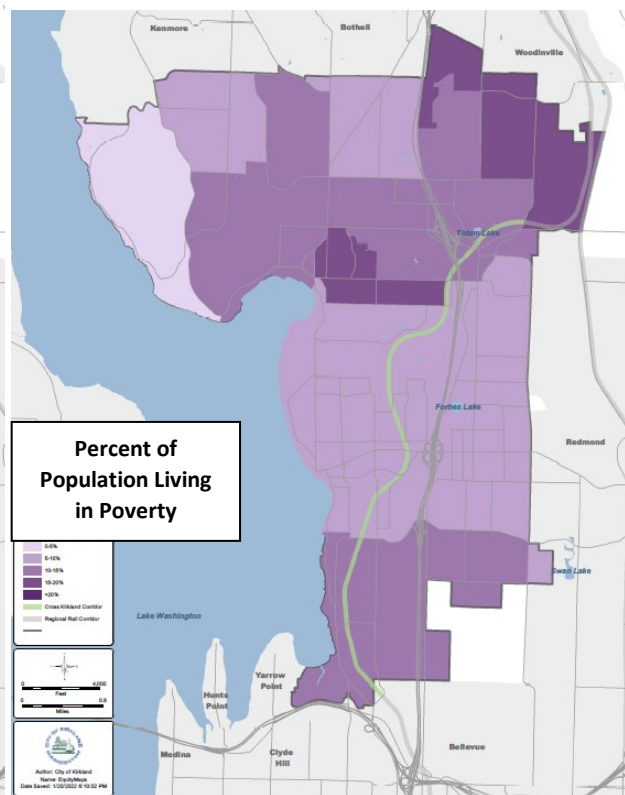
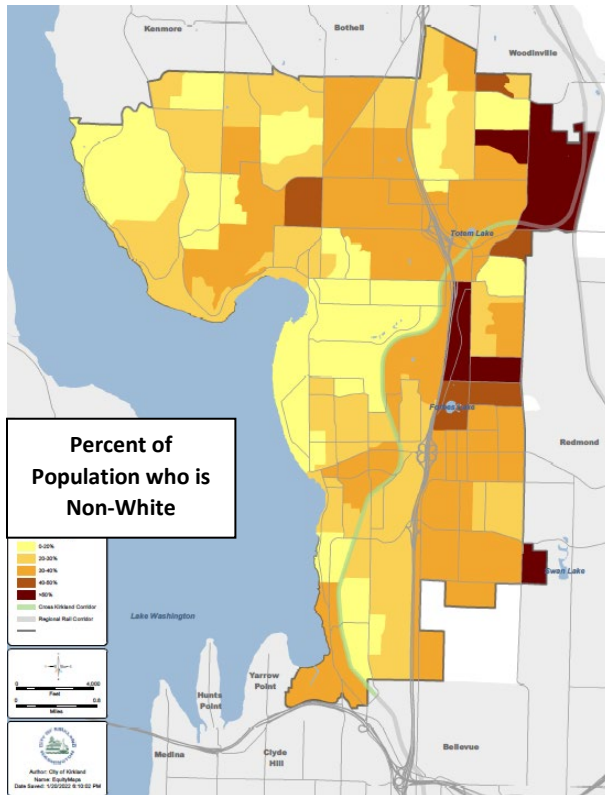
Access to Destinations

Prioritizing projects helps guide investments toward projects that provide the greatest benefits. In addition, the prioritization process can help identify projects and their applicability to different grant and funding opportunities. Both bicycle network and pedestrian network recommendations were prioritized by access to activity centers, parks, transit and to the Cross Kirkland Corridor. Schools were included as access points for the bike network prioritization and pedestrian projects received a higher score when overlapping the Safer Routes to School Action Plan recommended projects. Access to transit routes that are more frequent were prioritized higher than other transit routes. Activity Centers are those places that are zoned for commercial and mixed-use land uses. Crash rates were also used to evaluate safety as an additional measure.



Equity Analysis

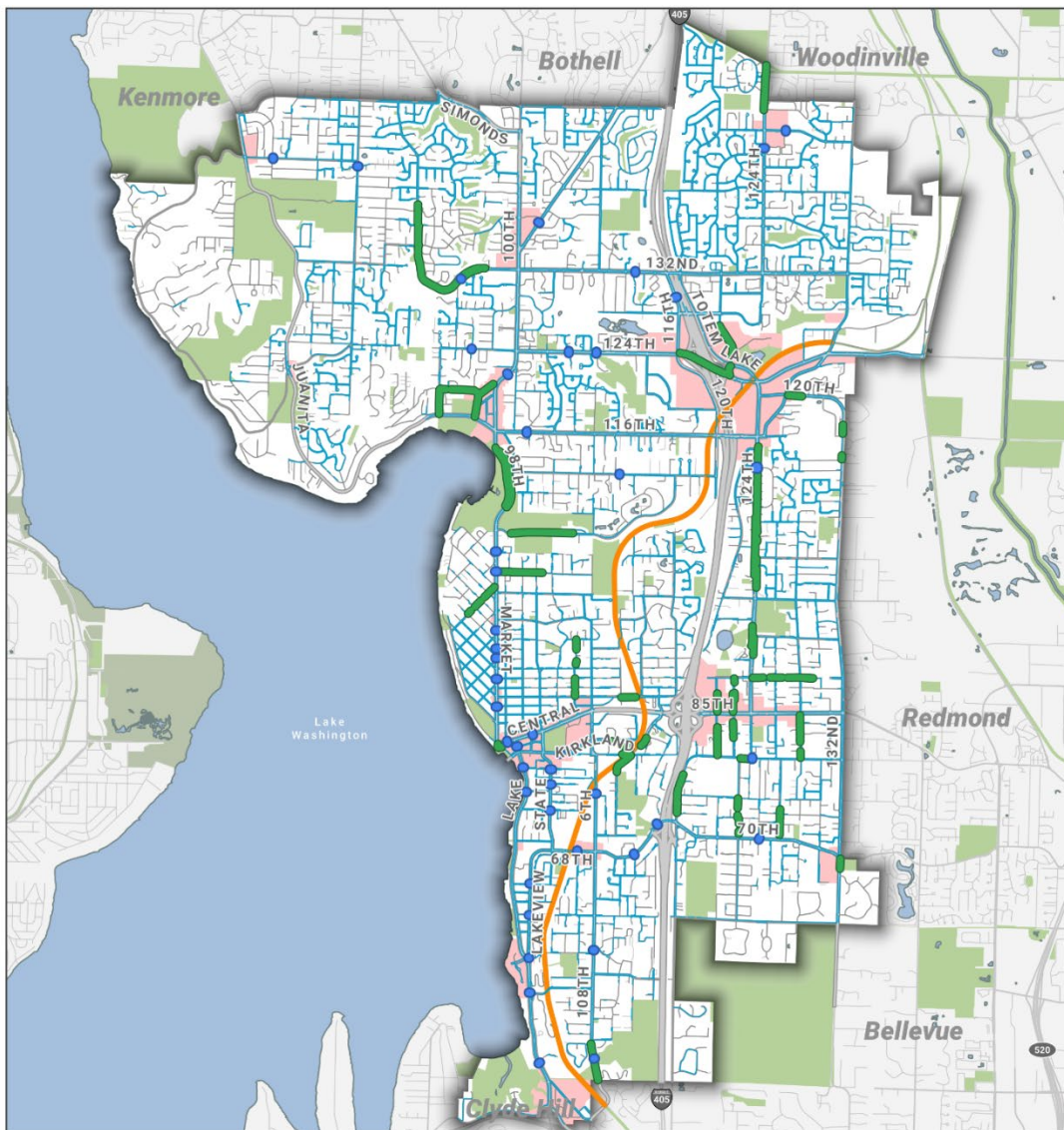
For both the bike and pedestrian prioritization, equity was also a key component. Areas with higher concentration of people of color, people with low-incomes, people with disabilities were prioritized.



PEDESTRIAN PROJECT PRIORITIZATION AND IMPLEMENTATION

The prioritization process identified both a set of prioritized sidewalk gaps and investments needed but also a set of crossings that help to complete pedestrian networks. The map and tables below show the results of the network analysis and prioritization process. The city will also continue to address repair of the existing sidewalk system.

OBJECTIVE: Prioritize **sidewalk gaps** that connect people to activity centers, transit, parks and the Cross Kirkland Corridor



Pedestrian Recommendations

- Crossing
- Sidewalk
- Cross Kirkland Corridor
- Existing Sidewalks



Crossings of the Cross Kirkland Corridor (CKC) were not included in this analysis. There are two crossings of the CKC that the city will be working on which is the crossing at 132nd Ave NE/ Slater and the crossing at Willows Road coinciding with the completion of the interim trail between 132nd Ave NE and Willows Road by King County expected to be complete in 2022.

The plan identified 44 high priority **crossings** in rank order. The list below highlights the top 20.

Crossing Name

Lake St - 2nd Ave S
 Lake St - 5th Ave S
 Central Way - Main St (funded)
 Lake Wash Blvd - North of NE 52nd St
 NE131st Way - 94th Ave NE
 Kirkland Ave - KPC
 2nd Ave S - State St
 NE 124th St - 105th Pl NE (funded)
 NE 124th St - 108th Ct NE
 Central Way - 1st St (funded)
 State St S - 7th Ave S
 NE 68th St - 106th Ave NE
 Lake Washington - NE 43rd St
 NE 144th St - 126th Ave NE
 108th Ave NE - 107th Ave NE
 124th Ave NE - NE 143rd St
 124th Ave NE - NE 112th Pl
 124th Ave NE - NE 112th Pl
 Slate St - 4th Ave S
 NE 116th St - 101st Pl NE

The plan also identified 46 **sidewalk segments** that are prioritized in rank order. The top 20 are listed below:

On	From	To
124th Ave NE	NE 145th St	City Limits
NE 124th St	116th Ave NE	120th Ave NE
120th Ave NE	Totem Lake Blvd NE	NE 124th St
116th Ave NE	NE 73rd St	NE 75th St
116th Ave ne	NE 75th St	NE 75th Pl
Kirkland Way	East of CKC Bridge	W/O 2nd Ave
NE 90th St	124th Ave NE	128th Way NE
6th St W	13th Ave W	Market St
Railroad St	8th St S	Kirkland Ave
116th Ave NE	South of NE 75th Pl	North of 75th Pl
Forbes Creek Dr	NE 107th Pl	Market
98th Ave NE	Forbes Creek Dr	Old Market St Trail

120th Ave NE

96th Ave NE

126th Ave NE

124th Ave NE

90th Ave NE

NE 120th St

122nd Ave NE

90th Ave NE/131st Way/NE 132nd St

N 85th St

Old Market Street Trail

NE 70th St

Slater Ave NE

NE 134th St

93rd Pl NE

NE 73rd St

9600 Block

NE 90th St

Forbes Creek Dr

North of NE 73rd St

NE 110th Pl

North of NE 137th Pl

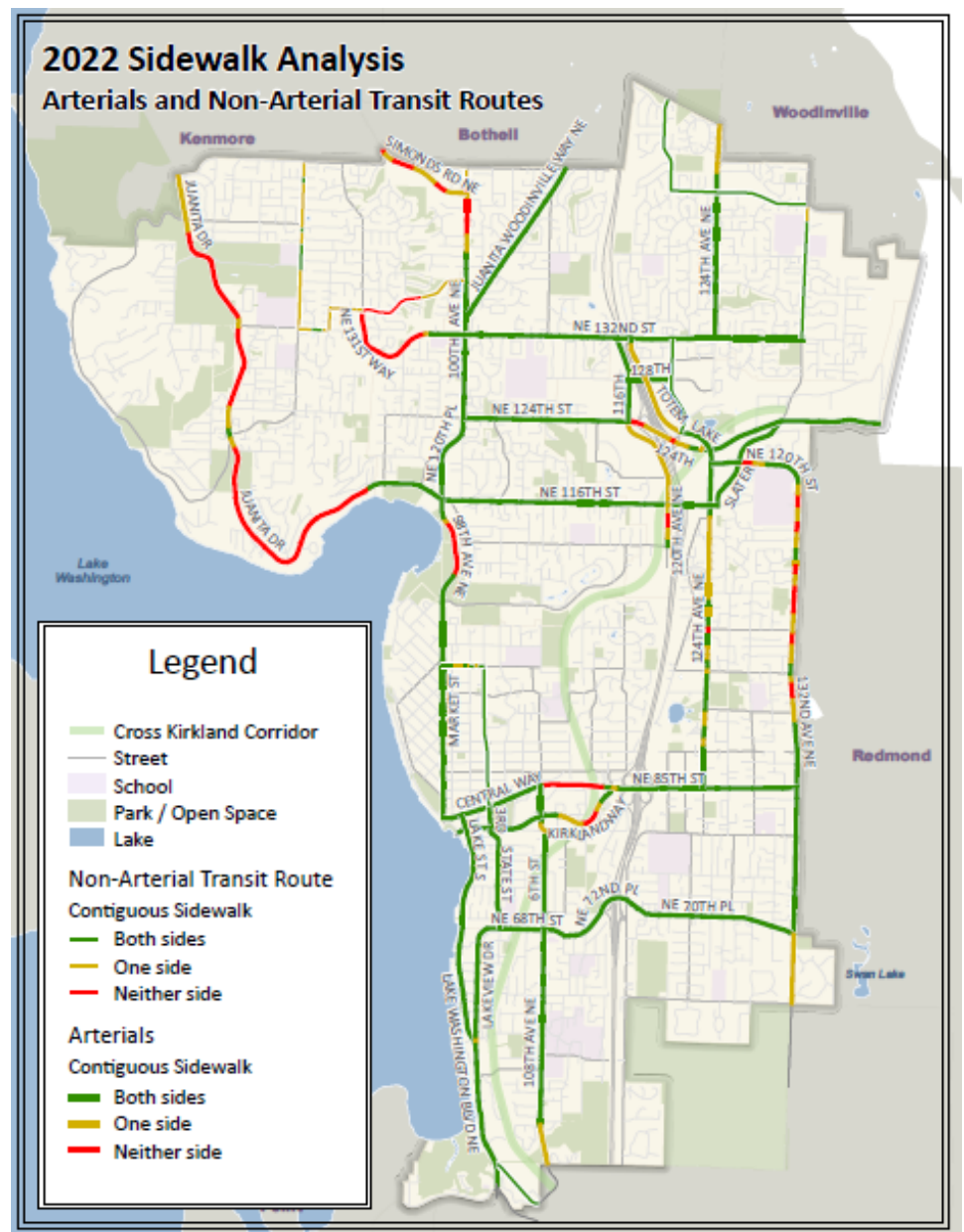
NE 120th Pl

NE 70th St

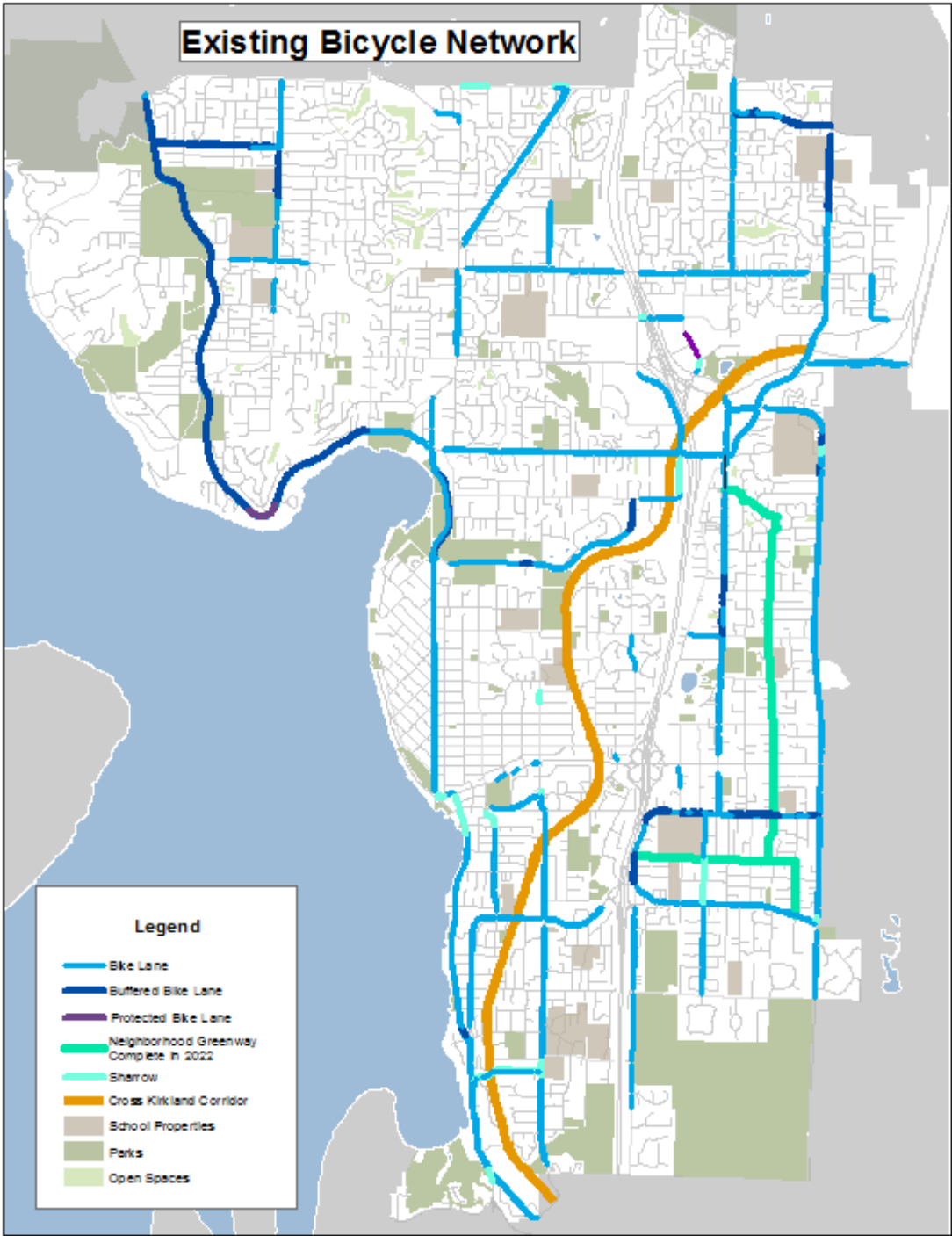
NE 134th Street

Some additional considerations for the sidewalk network include meeting the stated goal in the 2009 Active Transportation Plan for completing sidewalks on one side of all arterials. The city has completed 85.78% (including annexed area) of this goal. Council could consider strengthening this goal to address both sides of arterials and/ or both sides of arterial transit routes. The pedestrian prioritization process outlines the greatest benefit but as the city starts to fill-in the prioritized gaps through public works projects or through development, these additional segments may be considered.

OBJECTIVE: Complete sidewalk on **both sides** of principal and minor arterials on transit routes. Complete at least one side of all remaining arterials. Addresses original goal from 2009 plan.



BICYCLE PROJECT PRIORITIZATION AND IMPLEMENTATION

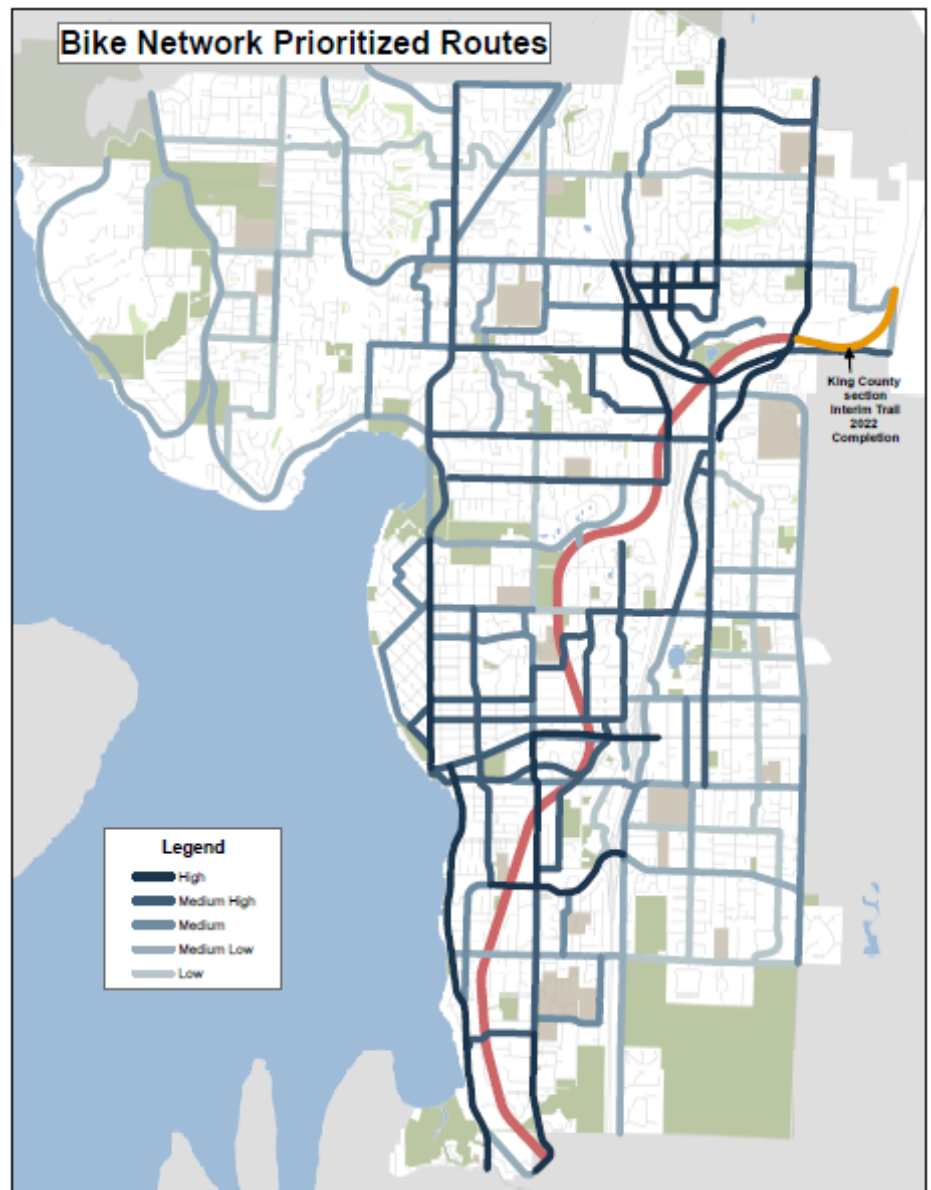


Bicycle Project Prioritization and Implementation

The bicycle project prioritization is described above. The higher a project scores for any given criteria, the greater benefit the project is likely to deliver.

Project benefits need to be weighed with project costs and the most likely mechanisms by which a project would be funded and constructed. For the purpose of this plan, both future and existing bike facilities were included in the prioritization process so that when existing bike facilities are improved, the city can rely on the prioritization framework to identify locations for future investment.

OBJECTIVE: Complete a connected spine network of safe high comfort cycling facilities such as protected facilities, separated trails or pathways, neighborhood greenways and a denser network of additional bike lanes or other on-road bike facilities.



Planned Bicycle Network

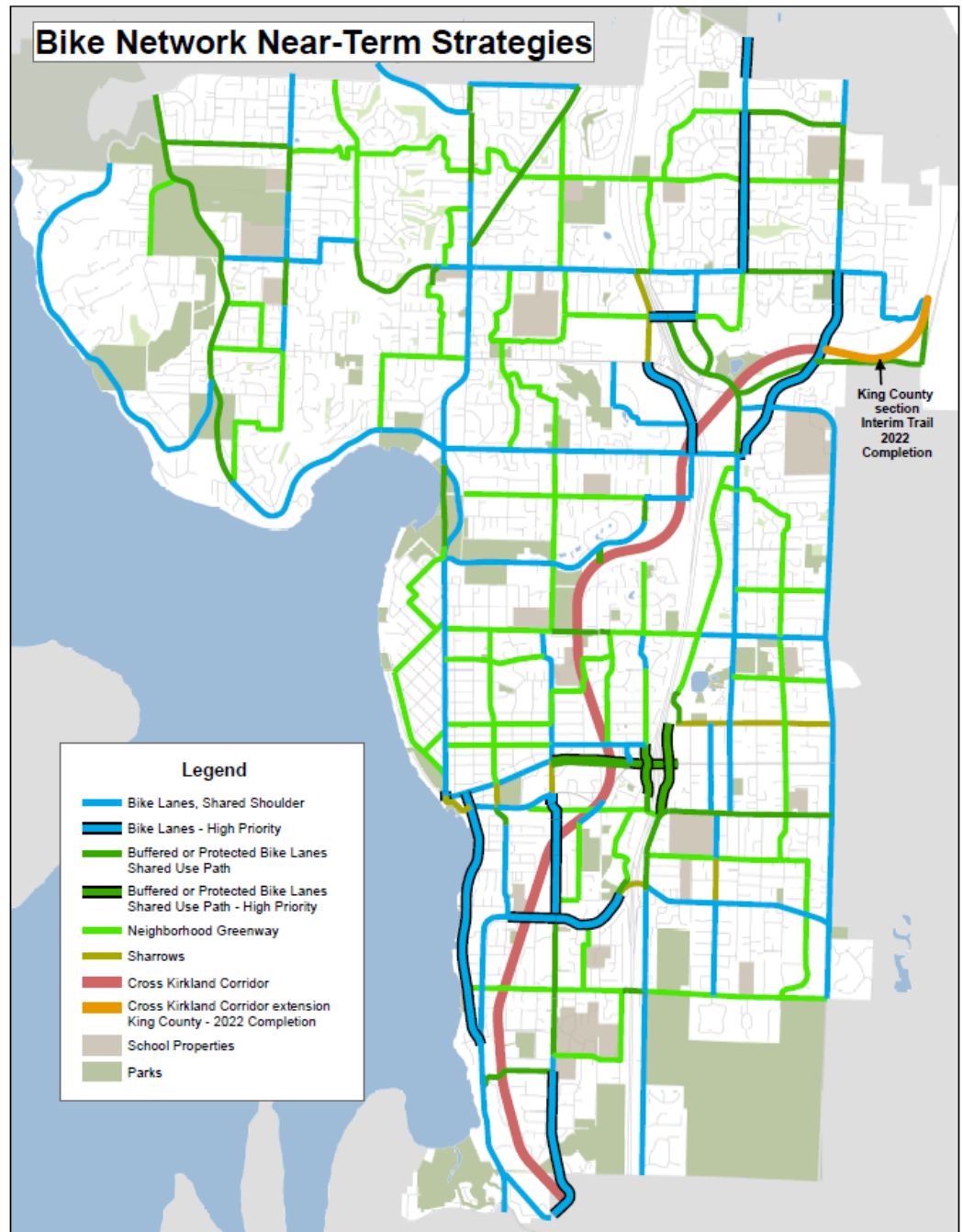
There is much support among the Kirkland community for creating a bicycle network that people of all ages and abilities would feel comfortable using. The planned network includes low-stress facilities such as neighborhood greenways, buffered bike lanes on lower speed streets, and protected bike lanes. In some cases, where there is sufficient space, recommendations call for upgrading an existing bike lane to a buffered or protected bike lane.

Neighborhood greenways will play an important role in Kirkland's low stress bicycle network. In many cases, a neighborhood greenway provides a parallel, alternative route to a busier street where it would be difficult to implement a low-stress bikeway. Many of the neighborhood greenways in the planned bicycle network will require modifications to the streets, including traffic calming, removal of parking to improve visibility at street corners, and at intersections with major streets where crossings need to be upgraded for safety and convenience. Still others may require some level of traffic diversion to reduce the volume of cars to a level that is conducive for users of all ages and abilities.

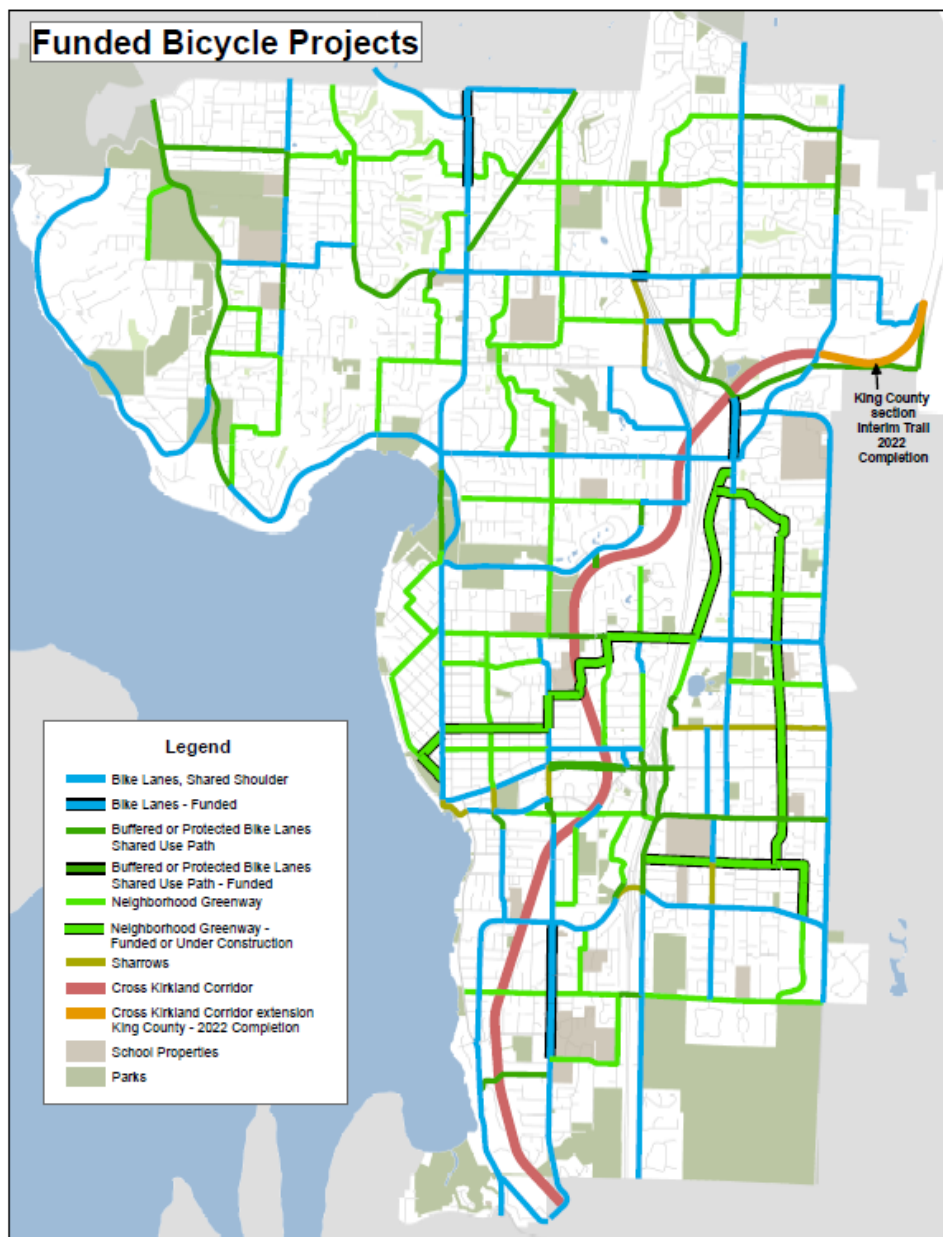
A smaller portion of the planned network includes conventional bike lanes where there are severe space constraints. The City will evaluate these corridors over time, taking into account shifts in travel patterns or other opportunities that may make it more feasible to implement a higher comfort bikeway in the future. The City also plans to explore exploring speed limit policy and introducing traffic calming measures throughout its network, which would make corridors with conventional bike lanes more comfortable for more people.

This plan identifies both medium (near-term) and long-term strategies. For the most part, medium strategies are improvements to gaps or to existing bike facilities that are within Kirkland's existing city right-of-way, either the existing paved right-of-way or unpaved areas but still within city-owned property.

For instance, improvement of existing bike lanes could include extending the existing bike lanes to intersections where they fall short, adding green conflict zone markings through intersections or along intersecting streets, buffering or protecting existing bike facilities if space can be made available through restriping or rechannelization, or completing missing gaps in the system. This map shows the medium-term strategy and those segments that prioritize high as part of the prioritization process.



There are a number of funded bicycle projects that the city is working to implement. The following map shows those funded in the current Capital Improvement Program or are under construction. The map does not include additional bike improvements being added by current development projects but there are several more segments currently being implemented through development.

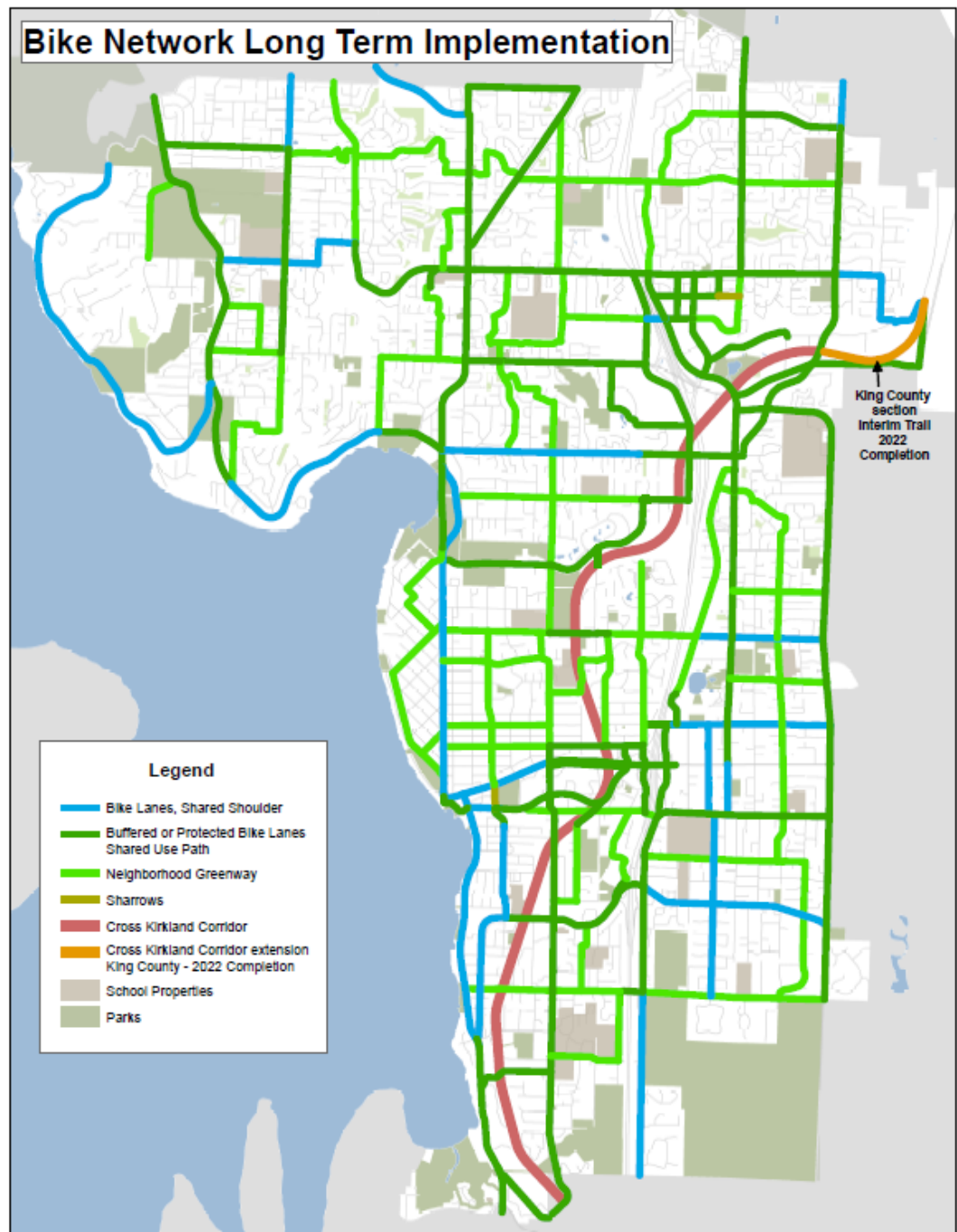


The **long-term strategy** outlines the city's long-term vision for the future bicycle network. Most of the differences noted in the long-term vision are improvements that require additional right-of-way, not necessarily tied to a specific time frame. The City is very fortunate to anticipate future development in many neighborhoods. The benefit of having these strategies specifically outlined in the Active Transportation Plan is so the city can be clear with future major projects led by the city and with future development the recommendations for the future bicycle network. As future construction of roadways through public works or through future development happens, the specificity in this plan can help ensure the city can preserve and/ or acquire the right-of-way needed for the long-term vision for more protected bike facilities outline in this plan.

This long-term vision outlines a network that connects the city through an all-ages and abilities network. Facilities that are considered more comfortable for people of all-ages and abilities include shared use paths, buffered or preferably protected bike lanes and neighborhood greenways.

NOTE:

Improvements to Lake Street/ Lake Washington boulevard are pending the upcoming promenade study. One outcome may provide protected bike facilities along the corridor.



The following list shows **gaps** in the bike network that are scoring highest for future improvements:

On	From	To	Near Term Strategy/ CIP	Long-term strategy
Lakeshore Plaza	Central Way	Boat launch	Downhill sharrow, uphill bike lane or shared use path on east side adjacent to auxiliary lot. Considerations with boat launch and queueing. Shared Use Path on east side adjacent to auxiliary lot avoids bike conflicts with the boat launch traffic but downhill SB cyclists unlikely to use this facility so downhill sharrow are still needed to raise awareness about potential conflicts	Further protected space as area develops. Considerations with boat launch and queueing.
NE 85th St	6th St	I-405 Station Area	Shared-Use Path	Shared-Use Path
124th Ave NE (north)	NE 132nd St	north city limits	Add pavement markings to existing bike lanes and extend bike lanes where they currently do not exist. Buffer where there is room.	Protected Bike Lanes as development occurs. Additional right-of-way required.
120th Ave NE	NE 128th St	NE 132nd St	Uphill bike lane	Protected Bike Lanes as development occurs. Additional right-of-way may be required.
85th interchange area connections	Four quadrants of the I-405 / 85 th Station Area		Shared Use Paths connecting to I-405 / 85th Station	
124th Ave NE	NE 128th St	NE 132nd St	There is a potential to add bike lanes on this segment of 124th Avenue NE between NE 130th Ln to NE 132nd St that would require the removal of the northbound right turn lane at the NE 132nd Street/124th Avenue NE intersection. The 128th Corridor Study recommends monitoring traffic volumes to determine if the northbound right turn lane can be removed.	Protected bike lanes as development occurs to extend 124th Ave bike lanes/ PBL's south to this segment. Additional right-of-way required.

113th Ave to 120th/ 118th St	NE 124th St	120th Ave NE	Restripe to add bike lane or neighborhood greenway. Would need comprehensive review to bike lanes.	Evaluate as part of all-ages and abilities network. Volume and speeds are slow to warrant a protected bike lane but could be warranted as an all-ages and abilities bypass of NE 116th Ave. Additional right-of-way required.
7th Ave	Market St	6th St	Add neighborhood greenway type improvements	Evaluate greater protection. Concern with negotiating intersections with existing curb extensions, circles and appropriateness of protected bike lane with many driveways.
7th Ave	6th St	116th Ave NE	Uphill bike lane CKC to 116th	Buffered or Protected Bike Lanes. May require impacts to parking. Impact to driveways are a consideration.
124th Ave NE	NE 84th Lane	NE 85th St	extend bike lanes to 85th intersection	maintain existing bike lanes

The following list shows improvements to **existing** bike facilities that are scoring highest in the prioritization framework.

On	From	To	Existing Facility Type	Near Term Strategy	Long Term Strategy
Totem Lake Blvd	NE 124th St	120th Ave NE	Widened sidewalk/ shared-use path on east side	Add wayfinding and shared use signs for existing wide sidewalk	Protected Bike Lane southbound connecting to the Totem Lake Bridge Connector. Additional right-of-way required as development occurs.
Market St	Central Way	Forbes Creek Dr	Bike Lanes	Maintain green conflict zone markings. Provide protected space connecting Stores to Shores Greenway across Market between 9th Ave and 2nd St W (pending Greenway alignment design). Conduct parking utilization and multimodal analysis.	Implement recommendations from additional study.

				Part of evaluation/ design of corridor with planned transit improvements.	
120th Ave NE	NE 116th St	NE 118th St	Bike Lanes	Extend NB bike lane stripe to 116th St, add thermo bicycle symbols, remove sharrow. Evaluate with pedestrian improvements and improved access to Cross Kirkland Corridor.	Protected Bike Lanes as development occurs. Additional right-of-way required.
120th Ave NE	NE 118th St	NE 124th St	Bike Lanes	Add green conflict zone markings and add bike symbols to existing bike lanes. Complete bike lane to intersection at north end.	Protected Bike Lanes as development occurs. Additional right-of-way required.
Lake St - Lake Wa Blvd	Lakeview Dr	Central Way	Bike Lanes	Lake St - Lake Washington Blvd Promenade study	Implement study recommendations that could include protected bike lanes, share use paths or some other type of improvement that would upgrade the existing bike lanes.
6th St	NE 68th St	1st Ave S	Bike Lanes	Add green conflict zone markings	Protected Bike Lanes as development occurs on east side. Additional right-of-way required.
6th St	1st Ave S	Kirkland Ave - Way	Bike Lanes	Protected Bike Lanes up- hill and around curve. COK right-of-way between Kirkland Ave and 6th St at triangle. May require assessment of parking and channelization.	Add protected Bike Lane for full length as development occurs if additional right-of-way is needed to fully complete protected bike lanes.
NE 128th St	116th Way NE	Totem Lake Blvd	Bike Lanes	Add green conflict zone markings. Move EB bike lane to south curb between 116 th Way NE and TLB. Add raised protected bike lane at curbside level on north side, in-street with delineators on south side between TLB and 120 th Ave NE	

NE 68th St	State St	I-405 ramps	Bike lanes (not fully contiguous)	Rechannel/ restripe to complete WB bike lane to 108th, add green paint at driveways. Complete bike lane to 405 ramps and add green paint at driveways.	Protected Bike Lanes as development occurs. Additional right-of-way required.
NE 72nd St over I-405	I-405 off-ramp	116th Ave NE	EB Sharrow	Work with WSDOT to improve bike markings, merge.	Improvements to add bike protection would require bridge widening.
108th Ave NE	south city limits	NE 52nd St	Bike Lanes NE 41st Dr to NE 52nd St, Sharrows city limit to NE 39th St	Stripe uphill bike lane from south city limit to NE 41st Dr, green intersection markings. Will require coordination with Bellevue to the south	Protected bike lanes as development occurs. Additional right-of-way required, easement on Lake Washington School district property.
NE 116th St	124th Ave NE	Slater	Bike Lanes	Extend bike lane to 116th intersection, add green conflict zone markings	Protected Bike Lanes as development occurs. Additional right-of-way required.
Slater Ave NE	NE 116th St	NE 124th St	Bike Lanes	Add green conflict zone markings.	Protected Bike Lanes as development occurs. Additional right-of-way required.
Slater/ 132nd Ave NE	NE 124th St	NE 129th St	Bike Lanes	Add bike symbol markings to existing bike lanes, add green conflict zone markings. Other improvements as recommended from CKC/ 132nd crossing study.	Protected Bike Lanes as development occurs. Additional right-of-way required.