

SECTION 6: CYCLING NETWORK AND PROJECTS

DEFINING A NETWORK

This Plan is formulated on the idea that a basic bicycle network will be established followed by an evaluation of places that need improvement and prioritization of the projects that are necessary to make those improvements.

The first step is to determine a bicycle facility network that will guide where investments are made in the medium term (0-10 years). All streets must have appropriate accommodation for cyclists, but not necessarily bicycle lanes. Most of the street miles in Kirkland are low volume and do not need special facilities to safely carry cyclists. Striped bicycle lanes are generally limited to collectors and arterials that have volumes over 3000 ADT.

Bicycle network and bicycle lanes

Bicycle lanes are generally suggested when auto volume exceeds 5,000 vehicles per day. Therefore, some segments of the bicycle network do not need bicycle lanes to adequately support bicycle travel.

Portions of the bicycle network that don't need bicycle lanes will still be signed for wayfinding.

Respondents to the bicycle survey indicated that cyclists are interested in regional destinations/relatively longer routes. Therefore, a starting point for developing a bicycle network is to examine the endpoints of Kirkland roads and identify the places they lead to. These are shown in the table below. The routes in the left hand side of the table should be on the bicycle network.

Table 15 Regional destinations that connect to streets in Kirkland

<i>Connecting Route leaving Kirkland</i>	<i>Route destinations</i>
<i>Juanita Drive</i>	Kenmore/Burke-Gillman Trail
<i>124th Ave NE, BNSF row</i>	Woodinville
<i>Lake Washington Blvd</i>	Bellevue
<i>100th Ave NE</i>	Bothell/Sammamish River Trail
<i>NE 132nd St, NE 124th St.</i>	Sammamish River Trail
<i>116th Ave. NE</i>	Bellevue SR 520 Trail
<i>108th Ave NE,</i>	Bellevue
<i>132nd Ave NE Sbnd</i>	Overlake/Bellevue/520 Trail
<i>132nd Ave NE Nbnd</i>	Woodinville
<i>NE 100th Ave (via Willows Rd), NE 80th St. (via 140th Ave NE) NE 70th St.</i>	Redmond
<i>Eastside rail corridor (BNSF) right of way</i>	Woodinville/Bellevue

Some streets were specifically described as important by the survey respondents. These routes should also be on the bicycle network.

- LW Blvd/Lake St/Central Way/Market Street/Juanita Drive from S. city limits to west city limits.
- 100th Ave NE between NE 124th and NE 132nd St.

- NE 68th St/NE 70th St between west of the BNSF and 132nd Ave. This suggests adding Lakeview Dr. between NE 68th St. and Lake Washington Blvd. along with State Street between NE 68th St. and Central Way. Adding these last two pieces connects 68th/70th to something on the west end.
- 116th Avenue NE between S. Kirkland City limit and NE 80th St. This suggests adding another connection all the way to Totem Lake via 124th Ave. NE/Totem Lake Blvd./120th Ave NE. Adding 122nd NE between NE 80th and NE 60th Streets completes that N/S corridor.
- 108th Avenue/6th Street between S. city limits and Central Way

Kirkland has existing bicycle facilities on an number of streets and those streets must also be on the network

- 132nd Ave NE/NE 120th St. between south city limits and Slater Ave.
- NE 132nd Street between east city limits and west city limits
- NE 80th St./I-405 overpass and portions of Kirkland Ave/Kirkland Way between 132nd Ave NE and Downtown
- NE 116th Street between 100th Ave NE and Slater Ave.
- NE 100th Street NE/18th Ave between 132nd Ave NE and Market St.
- 108th Avenue NE/6th Street from south city limits to Kirkland Way

The Eastside Rail Corridor (ERC) will eventually form the centerpiece of the off-street bicycle and pedestrian network in Kirkland.

- ERC right-of-way
- NE 60th St between 132nd Ave NE and Lake Washington Blvd
- 7th Ave, 6th St., between ERC and Central Way
- NE 112th St/Forbes Creek Dr. between ERC and Market St.
- 120th Ave NE/116th Ave NE between NE 112th St. and NE 132nd St. This suggests including NE 128th St between 116th Ave NE and 120th Ave NE.

Combining all the segments noted above result in the network shown on Map 20.

CROSS KIRKLAND TRAIL

A multi-use trail on the former Burlington Northern Santa Fe Railroad right-of-way is one of Kirkland's highest priority non-motorized transportation projects (see Goal G1). The right-of-way provides unprecedented opportunities for a number of reasons. Because it is designed for rail traffic it is practically flat. It cuts through the center of Kirkland on a diagonal, connecting Totem Lake, downtown and Houghton. Grade separation is already in place at I-405 and other key arterials but there is still adequate opportunity to connect to the street system through at-grade crossings. The trail can provide excellent regional connections to the north and south.

NE 85th and NE 124th Streets

From a connectivity perspective, it would be ideal for both NE 85th and NE 124th Street to be part of the bicycle network. Although both were carefully considered for inclusion, neither NE 124 nor NE 85th Streets are part of the bicycle network. Reasons for this include:

- Auto volume of 30,000-40,000 vehicles per day with speed limits of 35 MPH combine to make both streets uncomfortable for most cyclists.
- Bicycle lanes cannot be placed through restriping, and given the speed and volume of auto traffic such lanes alone would be unlikely to make either street feel comfortable for cyclists.
- Interchanges at I-405 are barriers on both routes.
- There are no plans to develop NE 85th as a bicycle route in Redmond.
- NE 80th Street provides a reasonably close parallel route to NE 85th Street.

As a part of the 2008 resurfacing program, 10' wide inside travel lanes were striped on a section of NE 124th Street between NE 116th Avenue and about 108th Avenue. If this restriping is successful as judged by comments from the public and crash experience, other sections of both streets may be restriped to allow wider outside lanes. Wider outside lanes will provide some support to the experienced riders that tend to use both facilities.

Map 20 Bicycle network



Efforts to develop the trail began in the mid 1990's but were stalled by the fact that the railroad was not willing to provide access to the right-of-way. As this Plan is being prepared, the Port of Seattle is poised to obtain the right-of-way and sell a trail easement to King County. There are still questions about the future of passenger rail in the corridor and how some bridges will support a trail, but the promise of an outstanding trail is closer than ever to being realized (see Goal G1).

LOCATIONS THAT NEED IMPROVEMENT

Once the network is identified, the next step is to identify areas on the network that need improvements. In large part, this was done using information from the bicycle survey and public comment along with staff and Transportation Commission comments. In some cases the same segment has multiple projects. Usually this is the case when there is a simple project such as restriping that can provide an interim improvement and a more complicated and comprehensive project such as widening to provide bicycle lanes.

- Cross-Kirkland Trail on the Eastside Rail Corridor right-of-way.
- 98th Ave NE /100th Ave NE between NE 116th and NE 132nd Sts.
- 116th Ave NE between NE 124th and NE 132nd Sts. No bicycle facilities on street.
- Connection across Cross-Kirkland Trail between 18th Ave and NE 100th St.
- Kirkland Way between Railroad Avenue and 6th Street.
- NE 60th St. across Cross-Kirkland Trail.
- 116th Ave NE between south city limits and NE 60th St.
- NE 70th St at I-405 interchange.
- Lake St. between 2nd Street S. and Central Way.
- 6th St. S. between Kirkland Way and Central Way.
- Central Way between Market St. and 6th Street.
- Various signalized intersections where bicycle lanes are dropped such as: 98th Ave./NE 116th St, State St/NE 68th, Central/3rd, Central/6th.

POTENTIAL PROJECTS

After defining the bicycle network and areas where improvements are needed, treatments for those areas were developed. These improvements are shown in Tables 16, 17 and 18, and on Map 21. In some cases, a segment has multiple treatments. For example, one project might simply restripe wider outside lanes on a segment of

Sharrows

Sharrow is a nickname for shared lane markings which are also known as SLM. Their purpose is to indicate to motorists and cyclists that an area of the roadway is to be shared by both users. The City of San Francisco did research* to develop the sharrow marking finding it the most effective of several they tried.

The City of Seattle has begun to install sharrows and they are included in the Seattle Bicycle Master Plan.



A bicyclist pedals toward a sharrow along Stone Way N. in Seattle. Grant M. Haller/Seattle P-I.

Sharrows are not a direct substitute for bicycle lanes, so they should not be used where bicycle lanes are feasible.

*San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety FINAL REPORT February 2004 San Francisco Department of Parking & Traffic

roadway while another reconstructs that same section to provide enough width for full width bicycle lanes.

Projects are broken into three groups: those that require restriping alone or restriping and minor construction; those that require construction; and those that involve the Eastside Rail Corridor. The restriping projects tend to be lower cost, but in some cases do not provide the level of improvement that the far more expensive widening projects provide. The Cross-Kirkland Trail projects will be most valuable as connections once the trail is completed.

Because there are relatively few projects in each category further project prioritization is not necessary. Therefore, work should continue within the restriping program to complete the restriping projects. Projects that are associated with the Cross-Kirkland Trail should be pursued as a part of trail development. The construction projects should be evaluated for funding from the CIP non-motorized construction budget.

Map 21 Bicycle network and improvements



Table 16 Bicycle network projects that require construction

PROJECTS THAT REQUIRE CONSTRUCTION				
No.	Street	From	To	Project
C1.	120th Avenue NE	NE 128th Street	NE 132nd Street	Add bicycle lanes. Not in initial scope of CIP project, but can be added.
C2.	120th Avenue NE	Totem Lake Blvd	NE 128th Street	Add bicycle lanes. Not in initial scope of CIP project, but can be added.
C3.	6th Street	Kirkland Avenue	Central Way	Add bicycle lanes. Parkplace redevelopment would add lanes on west side.
C4.	98th Avenue NE	Juanita Bay Bridge	NE 116th Street	Widening/rebuilding. Possibly include a bicycle lane for NB left turn.
C5.	Kirkland Way	Railroad Avenue	NE 85th Street	Widen for bicycle lanes.
C6.	Kirkland Way	6th Street	Railroad Avenue	RR bridge/overpass is a major obstruction. From 6th to about 4th could be restriped for bicycle lanes if parking was removed on one side.
C7.	98th Avenue NE	NE 116th Street	NE 124th Street	Widening to include bicycle lanes. Expensive and difficult. Probably done in connection with redevelopment.
C8.	116th Avenue NE	City Limits	NE 60th Street	Add bicycle lanes. Design funded as CIP project NM-0001.
C9.	NE 116th Street	120th Avenue NE	124th Avenue NE	Complete bicycle lanes. Funded by WSDOT nickel project. Scheduled for construction in 2010.
C10.	NE 120th Street	124th Ave NE	Slater Ave NE	Construct new road connection. Funded CIP project ST 0057 construction in 2012. Project includes bicycle lanes.
C11.	NE 70th Street	I-405 West Ramps	116th Avenue NE	Rebuild interchange . Unfunded WSDOT responsibility. NE 70th and NE 85th Street interchanges would be rebuilt together.
C12.	Totem Lake Blvd	NE 124th Street	NE 132nd Street	Add bicycle lanes.
C13.	Totem Lake Way	East End	NE 126th Place	Construct trail to connect Totem Lake with 132nd Avenue. Unfunded CIP project NM 0043 estimated cost \$4.3m.
C14.	122nd Avenue NE	NE 70th Street	NE 80th Street	Add bicycle lanes. Part of Lake Washington High School remodel and CIP project NM 0055.
C15.	NE 90th Street	West End at I-405	East End at I-405	Overpass at I-405. Would likely have to wait for rebuild of NE 85th Street/I-405 interchange.

Table 17 Bicycle system improvements that require striping

PROJECTS THAT CAN BE COMPLETED THROUGH RESTRIPING AND/OR MINOR CONSTRUCTION				
No.	Street	From	To	Project/Notes
S1.	100th Avenue NE	NE 124th Street	NE 132nd Street	Restripe to 5 car lanes@ 10 + 2 bicycle lanes @5'. Requires narrowing medians, coordinate with King County to extend north to connect to existing bicycle lanes.
S2.	116th Ave/Way	NE 124th Street	NE 132nd Street	Restripe for NB climbing lane. Perhaps add shared lane markings on downhill side.
S3.	Lake Street	2nd Street S	Central Way	Shared lane marking (sharrow). May also be able to extend bicycle lanes north of 2nd Street S.
S4.	116th Avenue NE	Houghton P&R S. entrance	NE 70th Street	Restripe for bicycle lanes in both directions. Need WSDOT approval, to narrow lanes, limited access area of I-405.
S5.	120th Avenue NE	NE 116th Street	N. of BNSF	Restripe to complete Sbdn lane.
S6.	98th Avenue NE	Juanita Bay Bridge	NE 116th Street	Restripe for wider outside lanes. Can add some width, but need to be careful to keep left turn lane of adequate width.
S7.	Central Way	4th Street	6th Street	Stripe wider outside lane. Parkplace could provide extra width for eastbound lane.
S8.	Central Way	Lake Street	4th Street	Eastbound; stripe bicycle lane Westbound; stripe wider outside lane.
S9.	Central Way	Market Street	Lake Street	Shared lane marking (sharrow), may be able to fit a bicycle lane in westbound.
S10.	98th Avenue NE	NE 116th Street	NE 124th Street	Restripe for slightly wider outside lanes. If project S1 completed, this could be sharrows especially Sbdn between NE 124 and existing bicycle lanes at 120th Pl.
S11.	NE 132nd Street	100th Avenue NE	132nd Avenue NE	Restripe for uniform width. Requires coordination/agreement with King County.
S12.	Totem Lake Blvd	NE 124th Street	NE 132nd Street	Restripe. Not enough width for standard bicycle lanes. May result in wide outside lanes or climbing lane/shared lane combination.
S13.	116th Avenue NE	City Limits	NE 60th Street	Narrow car lanes, more evenly balance shoulder widths to provide additional space for bicycles.
S14.	Various	At Intersections		Look for locations where bicycle lanes can/should be continued through intersections. Consider sharrows.

Table 18 Bicycle projects that involve the Eastside Rail Corridor

PROJECTS THAT INVOLVE THE CROSS-KIRKLAND TRAIL/EASTSIDE RAIL CORRIDOR				
No.	Street	From	To	Project
ER 1.	Eastside Rail Corridor	Southwest City Limits	Northeast City Limits	Complete a multipurpose trail on the eastside rail corridor. Waiting for BNSF/Port of Seattle/King County agreement.
ER 2.	116th Avenue NE Highlands	North End of 116th Avenue	Forbes Creek Drive	Connect to and across BNSF right-of-way. This could connect at other locations, purpose is to connect Highlands neighborhood to right-of-way.
ER 3.	NE 100th Street	6th Street	111th Avenue NE	Construct trail to connect through park and across BNSF
ER 4.	NE 60th Street	BNSF	BNSF	Construct trail to connect across railroad, approaches very steep.