

## Southeast Seattle Transportation Study (SETS)

# Core Community Team Project Review Package

July 2007

### What is in this package

- Sixty-three individual projects for review
- Project rating sheets

**The final report will also incorporate** the Seattle Transit Plan, the Bicycle Master Plan, projects and programs relating to maintenance, enforcement, education, urban village enhancement and other “non-engineering” approaches.

### Core Community Team (CCT) Review

CCT members are asked to work with the organization(s) they represent, if possible, to review the projects, or to review them individually. As CCT members, you and your organizations may focus on the projects that are of most interest to you; it's not necessary to rate or comment on every project.

**How the ratings/comments will be used:** The review process is not ‘scientific’, and the ratings will not be ‘added up’ to rank projects against each other. Thoughtful comments are more important than the ratings. The project team will use all the information from this review as well as other community comments and concerns to refine and revise projects and finalize the draft SETS plan.

**Schedule:** Please return ratings and comments to Sam Woods by **August 3, 2007**.

**It may be helpful in reviewing the projects to keep the SETS Goals and Strategy in mind.**

The study's goals are to:

- Improve mobility and safety for the diverse needs of Southeast Seattle.
- Improve the transportation network with a particular focus on connections to the new light rail system.
- Support the growth to enhance neighborhood livability.
- Make cost effective investments to maintain existing roads and build on other existing efforts.
- Prioritize transportation improvements that support the City's Comprehensive Plan as well as the strategies and actions defined in the Seattle Transportation Strategic Plan Update.

The Purpose and Goals were achieved by a strategy to focus planning efforts in the following areas:

- Within ½ mile of Link light rail stations
- Major commercial/residential hubs – Urban Villages
- Major east-west connectors
- Major north-south roadways
  - MLK along the light rail route is not included because street improvements are already underway

Name

Organization/Neighborhood

Project #	Page #	location	description	High	Medium	Low
<b>CORRIDOR</b>						
<b>Beacon Ave. S.</b>						
Beacon-1	1	Beacon Ave. S. & 14th Ave. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beacon-2	2	Beacon Ave. S. & 17th Ave. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beacon-3	3	Beacon Ave. S. & S. Lander St. / 16th Ave. S. / 17th Ave. S.	Street plaza design / one-way street designation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beacon-4	4	Beacon Ave. S. & S. McClellan St.	Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beacon-5	5	Beacon Ave. S. & S. Stevens St.	Intersection / Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beacon-6	6	15th Ave S. - Beacon Ave. S. to S. Stevens St.	Traffic calming / safety / urban design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beacon-7	8	Beacon Ave. S. & Columbian Way S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beacon-8	9	Beacon Ave. S. & S. Orcas St.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>S. Spokane St.</b>						
Spokane-1	10	Columbian Way S. to 23rd Ave. S.	Traffic, address delays	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Swift Ave. S.</b>						
Swift-1	11	16th Ave. S. to S. Warsaw St.	Corridor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Swift-2	12	Swift Ave. S. & I-5 NB ramp, S. Graham St., Albro Pl. S.	Intersections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Swift-3	13	Swift Ave. S. & Albro Pl. S.	Bicycle route on bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>31st Ave. S.</b>						
31st-1	14	Yesler Way to S. McClellan St.	traffic calming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>S. McClellan St.</b>						
McClellan-1	15	23rd Ave. S. to Rainier Ave. S.	Sidewalks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
McClellan-2	16	Rainier Ave. S. to Mt. Baker Blvd.	Streetscape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
McClellan-3	17	S. McClellan St. & Mt. Baker Blvd.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Martin Luther King Jr. Way S.</b>						
MLK-1	18	S. Bayview St. to S. McClellan St.	Bicycle & pedestrian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Seward Park Ave. S.</b>						
Seward-1	19	S. Juneau St. to Rainier Ave. S.	Street reallocation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seward-2	20	Seward Park Ave. S. & S. Juneau St.	Curb extensions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Renton Ave. S.</b>						
Renton-1	21	Renton Ave. S. & 43rd Ave S	Intersection & bike route	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Renton-2	22	Renton Ave. S. & 44th Ave. S. / S. Thistle St.	Pedestrian safety / street closure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Renton-3	23	Renton Ave. S. & 51st Ave. S. / S. Roxbury St.	Roundabout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Renton-4	24	Renton Ave. S. & S. Ryan St.	Intersection, pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>S. Alaska Street</b>						
Alaska-1	26	Rainier Ave. S. to MLK	Streetscape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETS Project Rating by CCT

Name

Organization/Neighborhood

Project #	Page #	location	description	High	Medium	Low
<b>Rainier Ave. S.</b>						
Rainier-1	27	Rainier Ave. S. & S. Dearborn St.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-2	29	Rainier Ave. S. & I-90 ramps	Pedestrian / cyclist safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-3	30	Rainier Ave. S. & S. Massachusetts St.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-4	31	Rainier Ave. S. & 21st Ave. S., S. State St. and S. Grand St.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-5	32	Rainier Ave. S. & 22nd Ave. S., S. Holgate St. and S. Plum St.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-6	33	Rainier Ave. S. & 23rd Ave. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-7	34	Rainier Ave. S. & S. Walker St.	Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-8	35	Rainier Ave S. & MLK	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-9	36	Rainier Ave. S. & S. Walden St.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-10	37	S. Genesee St. to S. Alaska St.	Parking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-11	38	Rainier Ave. S. & S. Genesee St.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-12	39	Rainier Ave. S. & S. Oregon St.	Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-13	40	S. Alaska St. to S. Cloverdale St.	Lane reconfiguration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-14	42	Rainier Ave. S. & 39th Ave. S.	Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-15	43	Rainier Ave. S. & 42nd Ave. S. / S. Brandon St.	Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-16	44	S. Lucille St. to S. Mead St.	Business district, pedestrian safety & accessibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-17	45	Rainier Ave. S. & S. Graham St. / 46th Ave. S.	Pedestrian Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-18	46	Rainier Ave. S. & S. Morgan St. / 47th Ave. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-19	47	Rainier Ave. S. & S. Holly St.	Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-20	48	Rainier Ave. S. & S. Rose St. / Wabash Pl. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-21	49	Rainier Ave. S. & S. Thistle St. / Rainier Pl. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-22	50	Rainier Ave. S. & Fisher Pl. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-23	51	Rainier Ave. S. & 51st Ave. S. & Sturtevant Ave. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-24	53	Rainier Ave. S. & 52nd Ave. S./Mapes Walkway	Pedestrian safety & accessibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rianier-25	54	52nd Ave. S. to Ithaca Pl. S.	Corridor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-26	56	Rainier Ave. S. & Seward Park Ave. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-27	57	Rainier Ave. S. & 57th Ave. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-28	58	Rainier Ave. S. & S. Cornell St.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rainier-29	59	Pedestrian scale lighting along Rainier Ave. S.	Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name

Organization/Neighborhood

Project #	Page #	location	description	High	Medium	Low
<b>SPOT</b>						
<b>Beacon Hill (I-5 to east slope of Rainier; I-90 to city limit)</b>						
BH-1	60	S. Oregon St. & Columbian Way S. / 15th Ave. S.	Intersection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BH-2	61	Bicycle access across I-5	Bicycle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>North study area (East slope of Rainier to Lake Washington; I-5 to McClellan)</b>						
North-1	62	S. College St: 22nd Ave. S. to Rainier Ave. S.	TBD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
North-2	63	23rd Ave S. at S. Bayview St.	Curb realignment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
North-3	64	Wilson Ave. S. & S. Dawson St.	Roundabout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Central study area (East slope of Rainier to Lake Washington; McClellan to Othello)</b>						
Central-1	65	S. Graham St. & 39th Ave. S., 42nd Ave. S., 44th Ave. S.	Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>South study area (East slope of Rainier to Lake Washington; McClellan to Othello)</b>						
South-1	66	43rd Ave. S. & S. Othello St.	Pedestrian safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
South-3	67	57th Ave. S. near S. Fletcher St.	One-way	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

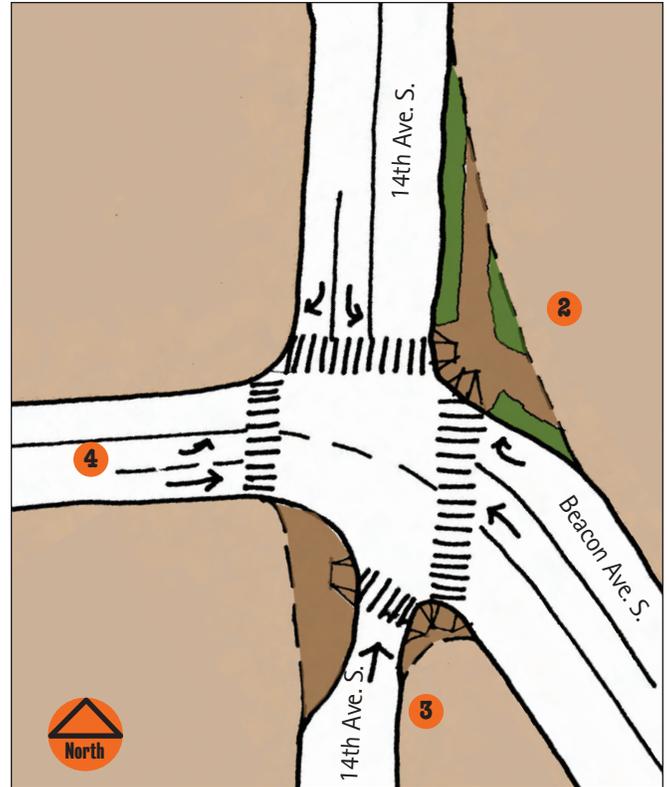
Five top projects:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_

Comments:

Please include project number. Attach more pages if necessary.

**Improve safety at intersection for all modes, calm traffic on neighborhood street, create gateway to business district.**



**Existing**

Beacon Ave. S. and 14th Ave. S. is a four-way stop with a free right turn from Beacon to 14th northbound. Beacon is a minor arterial and 14th north of the intersection is a collector arterial. South of the intersection 14th is a non-arterial. Metro routes 36, 38 and 60 operate on Beacon and use the free right turn lane.

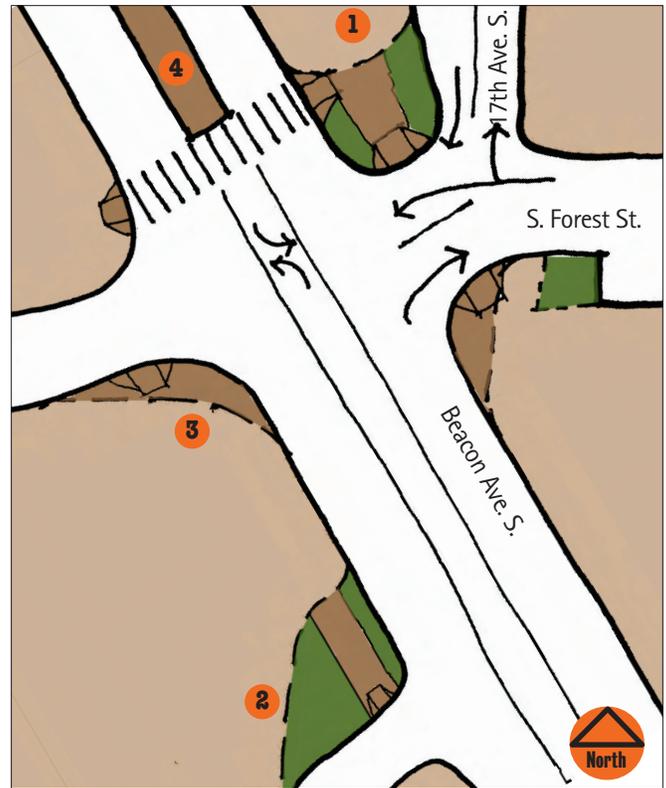
The angled street configuration and grade changes contribute to poor sight distances. 14th southbound has a designated right turn lane to Beacon. Eastbound Beacon has two lanes approaching the intersections without any directional signage on the pavement, which confuses motorists, who both turn right to 14th or continue on Beacon from the right hand lane, and turn left or continue on Beacon from the left hand lane.

There is no pedestrian crossing on the south approach of Beacon. The uncontrolled free right turn, northbound from Beacon to 14th, is a challenge for pedestrians who must cross the free right turn lane while watching for oncoming vehicles, and then wait in the painted island to cross the rest of the intersection.

**Proposed**

- 1** To enhance the urban village and support the Beacon Hill light rail station, consider designating this area as a Main Street project. Also, coordinate all projects on Beacon to ensure consistent urban design treatment and continue existing urban design elements from Beacon and 15th to this intersection.
- 2** Eliminate free right turn and construct curb extension. Add landscaping, pedestrian scale lighting, and pedestrian crossing on southeast approach.
- 3** Convert to one-way northbound, except for bikes. Construct curb extension to prevent southbound vehicular movement; reduce curb radii on both corners.
- 4** Add turn arrows on the west approach to designate one through lane to Beacon and one turn lane to 14th.

**Improve safety for all modes.**



**Existing**

Beacon Ave. S., S. Forest St. and 17th Ave. S. is a six-legged intersection in the Beacon Hill neighborhood commercial district. The cross streets are stop controlled. The skewed angle of Beacon creates long pedestrian crossings parallel with Beacon and the large curb radii allow motorists to execute fast turns from Beacon to 17th. The marked pedestrian crosswalk across Beacon on the north approach is unsignalized.

An asphalt island on the north approach of 17th channelizes traffic to and from 17th, and partially prevents vehicles on Forest from crossing Beacon from east to west.

The Beacon Hill Public Library on the northwest corner generates significant pedestrian traffic, and the intersection is one block from the Beacon Hill light rail station.

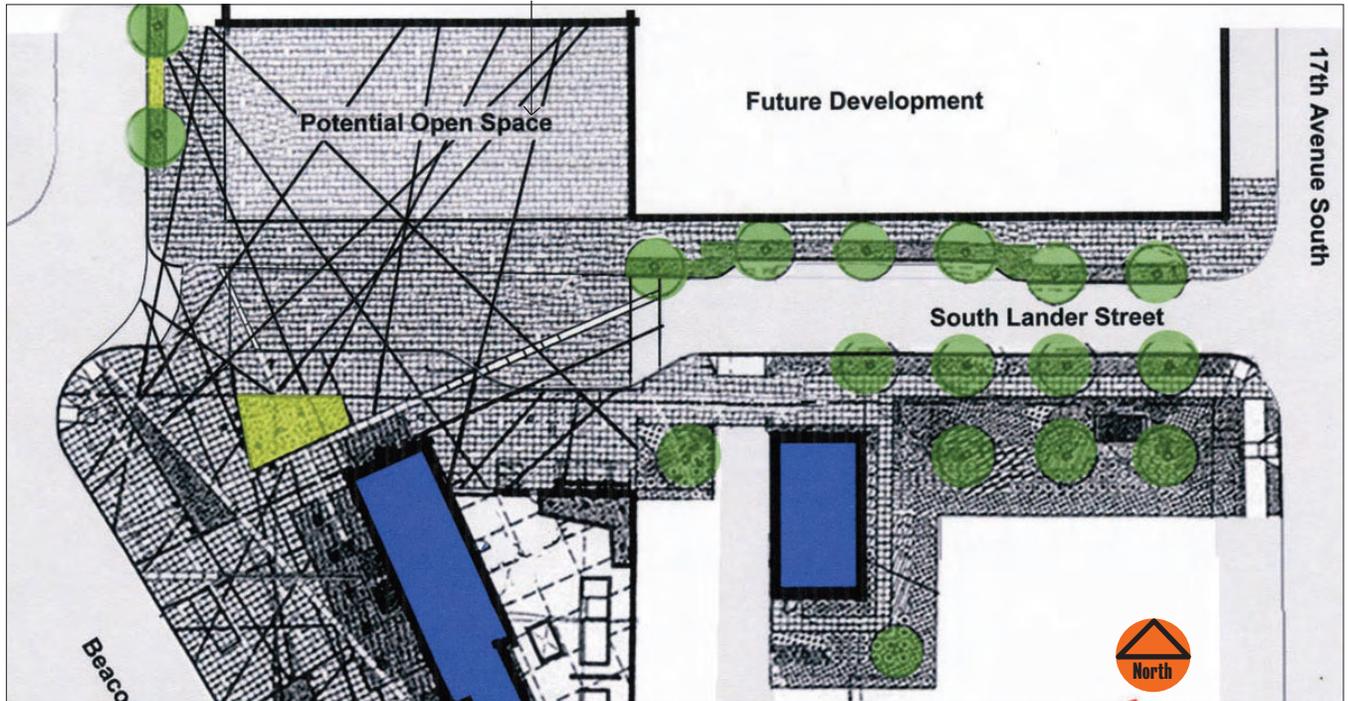
The Bicycle Master Plan recommends bike lanes on Beacon Ave. S.

**Proposed**

Reconfigure the skewed intersection to improve pedestrian safety and reduce vehicle conflicts. Coordinate projects on Beacon to ensure consistent urban design treatment.

- 1 Remove existing asphalt traffic island and extend curb south, reduce curb radii and realign streets to meet at right angles. Eliminate approximately two parking spaces on the southeast corner, reducing the potential for conflicts between turning vehicles and motorists backing out of stalls.
- 2 Reduce curb radius and realign driveway for existing business.
- 3 Reduce curb radius and pedestrian crossing distance.
- 4 Construct center median north of crosswalk to protect pedestrians in the crosswalk from vehicles in the two-way left turn lane.

Evaluate the recommendation for marking bike lanes on Beacon, taking into account the street width, parking, land use, and connectivity to other bicycle facilities.



Schematic sketch of Lander Square  
City Design

**Create public plaza adjacent to Beacon Hill light rail station and reduce modal conflicts at intersection.**

**Existing**

S. Lander St. between 16th Ave. S. and 17th Ave. S. was closed in 2004 for construction staging for the Beacon Hill Station. Station construction plans assume rebuilding and reopening Lander to through traffic in 2008. A paratransit loading zone is planned for the south side of Lander, adjacent to the station plaza. El Centro de la Raza is on the north side of Lander, with a large open space abutting the street. The neighborhood and El Centro de la Raza have been working with the City and Sound Transit to explore options for creating a large open public plaza between the Beacon Hill Link station and El Centro's building. The plaza could be used as a gathering space, host a farmer's market, and provide space for celebrations and festivals.

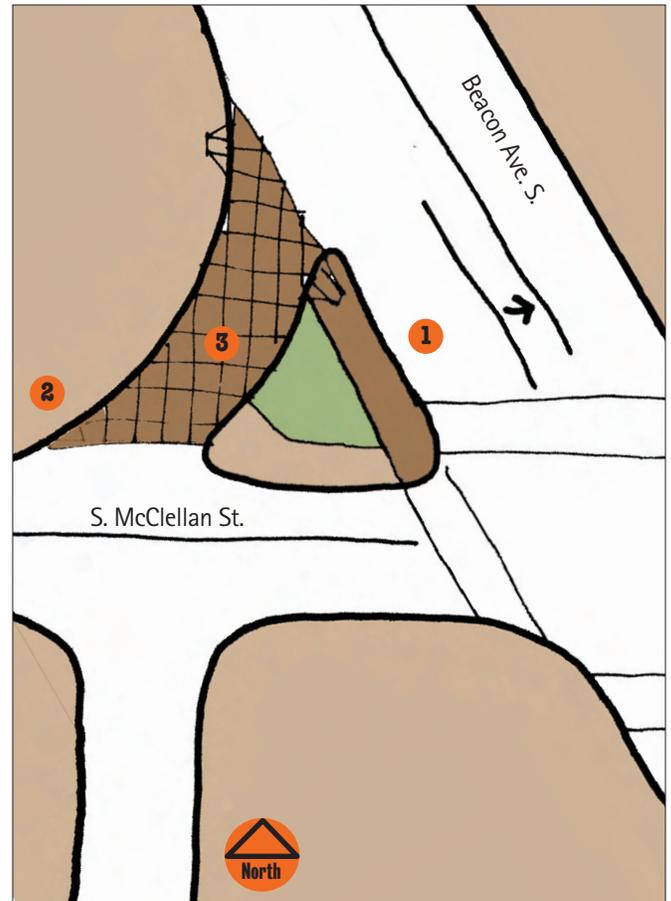
16th Ave. S. between Beacon and Bayview is one-way, southbound only, during light rail construction. As part of the light rail construction, a marked pedestrian crossing with overhead signs will be installed at Beacon and Lander.

**Proposed**

Improve pedestrian safety and enhance the Beacon Hill neighborhood commercial district. Also, coordinate all projects on Beacon to ensure consistent urban design treatment.

- 1 Implement proposed improvements for Lander Plaza.
- 2 Designate 16th as one-way southbound permanently, to reduce conflicts at the intersection with Beacon and Lander and improve vehicle, cyclist and pedestrian safety.
- 3 Add pedestrian activated half signal on Beacon at Lander to provide a safe pedestrian crossing to and from the Beacon Hill light rail station and bus stops on both sides of the street.

**Construct missing sidewalk link; provide pedestrians with better access and safety.**



**Existing**

The southbound right turn lane from Beacon to McClellan provides trucks and buses a negotiable radius at a skewed intersection. Just short of where the right turn lane intersects with McClellan, there is a stop sign and a marked crosswalk. This stop sign is frequently disregarded as drivers cross it and stop just short of McClellan to look for approaching traffic, as opposed to stopping twice. The sight distance between pedestrians and motorists is poor.

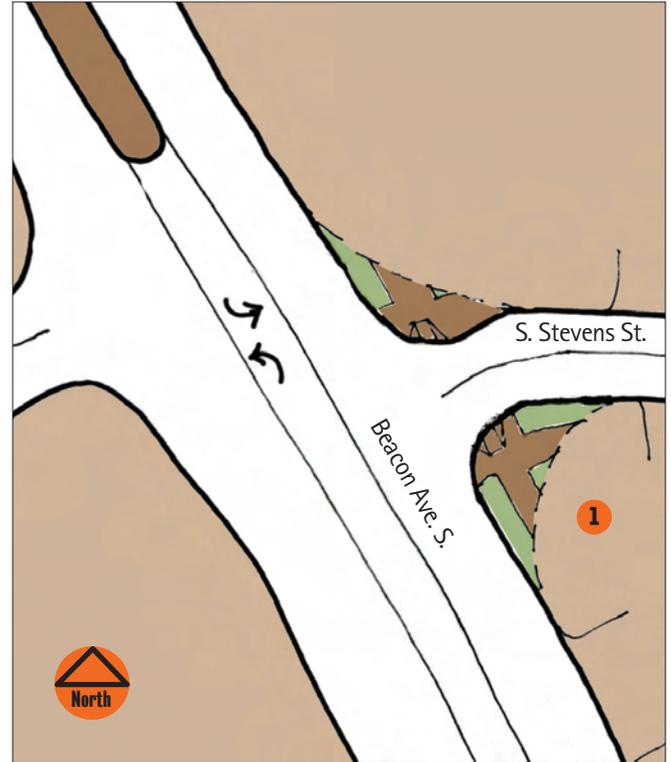
Pedestrians walking on the west side of Beacon do not have a continuous sidewalk. They either detour to the marked crosswalk or continue straight through the landscaped island; a worn foot path on the island indicates many choose the most direct route.

The Beacon Hill light rail station is located across the street from this intersection. When light rail opens in 2009, pedestrian volumes are expected to increase in this area.

**Proposed**

Improve pedestrian access and safety near the Beacon Hill light rail station. Coordinate all projects on Beacon to ensure consistent urban design treatment.

- 1 Construct continuous sidewalk along Beacon, through the landscaped island, following the desired foot path.
- 2 Relocate existing pedestrian crossing further south to line up with desired travel path along McClellan; relocate stop sign accordingly.
- 3 Repave the right turn lane with a raised, textured table, to slow turning traffic and make pedestrians more visible. Match the textured concrete to the urban design treatment proposed for the Lander Plaza and the median on Beacon between Lander and McClellan.



**Reduce curb radii to shorten pedestrian crossing distances.**

**Existing**

The skewed angle of Beacon Ave. S. creates long pedestrian crossings parallel with Beacon. The Beacon neighborhood commercial district continues north and south from here for several blocks, making Beacon an important walking route. A small park is located on the northwest corner of this intersection and one block north is the Public Library.

**Proposed**

Increase pedestrian safety by reducing crossing distance in a neighborhood commercial district. Coordinate all projects on Beacon to ensure consistent urban design treatment.

- 1 Construct curb extensions to narrow the intersection and reduce the crossing distance.

**Address High Accident Location at 15th and McClellan, calm traffic through urban village business district, and extend urban design treatments.**

### **Existing**

15th Ave. S. is a minor arterial that provides an alternate route to Beacon Avenue, as well as a potential by-pass for I-5 traffic.

15th and McClellan is a vehicular High Accident Location; it is stop-controlled on McClellan but traffic on 15th does not stop. There is an overhead flashing red/amber light and a marked crosswalk on the north side of the intersection. Improvements to this intersection must accommodate truck access to the loading dock for the Red Apple Market, on the NE corner, as well as the turning radius for Metro Route 60 buses which turn from northbound 15th to eastbound McClellan. The radius at this SE corner has been previously increased for trucks and buses.

15th at Lander is offset, creating extra long pedestrian crossings. Lander will be heavily used by pedestrians accessing the Beacon Hill light rail station.

Because 15th is only 32' wide, providing a 16' through/parking lane in each direction, parking is restricted on both sides of the street during the morning and afternoon peak periods. At other times, motorists tend to park partially on the planting strip due to the narrowness of the parking lane, the high speed and volume of traffic, and the perceived risk when exiting on the driver's side.

The community has expressed concerns about the speeds and the amount of diverted traffic along this corridor as well as on 14th one block to the west. Traffic circles have been installed on 14th in an attempt to discourage cut-through traffic.

The Bicycle Master Plan recommends sharrows along 15th.

[Continues on next page]

**Proposed**

The four intersections along 15th at Lander, McClellan, Forest and Stevens should be considered as a corridor and modified to slow traffic and reduce collisions.

- 1 At Lander, install curb extensions to reduce the pedestrian crossing distance to 32', consistent with the rest of the corridor; install a marked crosswalk on the south approach to match the crossing on the south approach at Beacon; install a 5' wide planting strip on the east side of 15th, north of Lander.
- 2 Install either a full traffic signal or 4-way stop at McClellan. A traffic signal could have unintended consequences, such as a lower compliance of motorists stopping for pedestrians at Lander and increased speeds on 15th.

Potential parking/lane reconfigurations would require further study, but could include:

- 3 Eliminate the peak period parking restrictions and install curb extensions at Forest and Stevens to narrow the roadway entering the business district.

Or

- 4 Establish full-time parking on one side of the street and shift the center line accordingly which would allow for two 12' lanes and one 8' parking lane.

Extending the business district urban design treatments on 15th, from McClellan north to Beacon could help demarcate the business district, reduce speeds and make drivers more cautious.

The recommended sharrows could help reduce vehicle speed, however, sharrows should be reviewed in coordination with the proposed options.



**Improve traffic flow at congested intersection.**

**Existing**

Of the intersections analyzed, Beacon Ave. S. and Columbian Way S. is the most congested signalized intersection in the study area. It currently operates at Level-of-Service F in the PM peak hour with an average delay of over three minutes. By 2030, without improvements, the delay is expected to increase to over four and a half minutes. Split phasing and high traffic volumes from all approaches are major sources of delay. Columbian Way provides access between I-5, the West Seattle Bridge, Beacon Ave, MLK and (via Alaska) Rainier Ave.

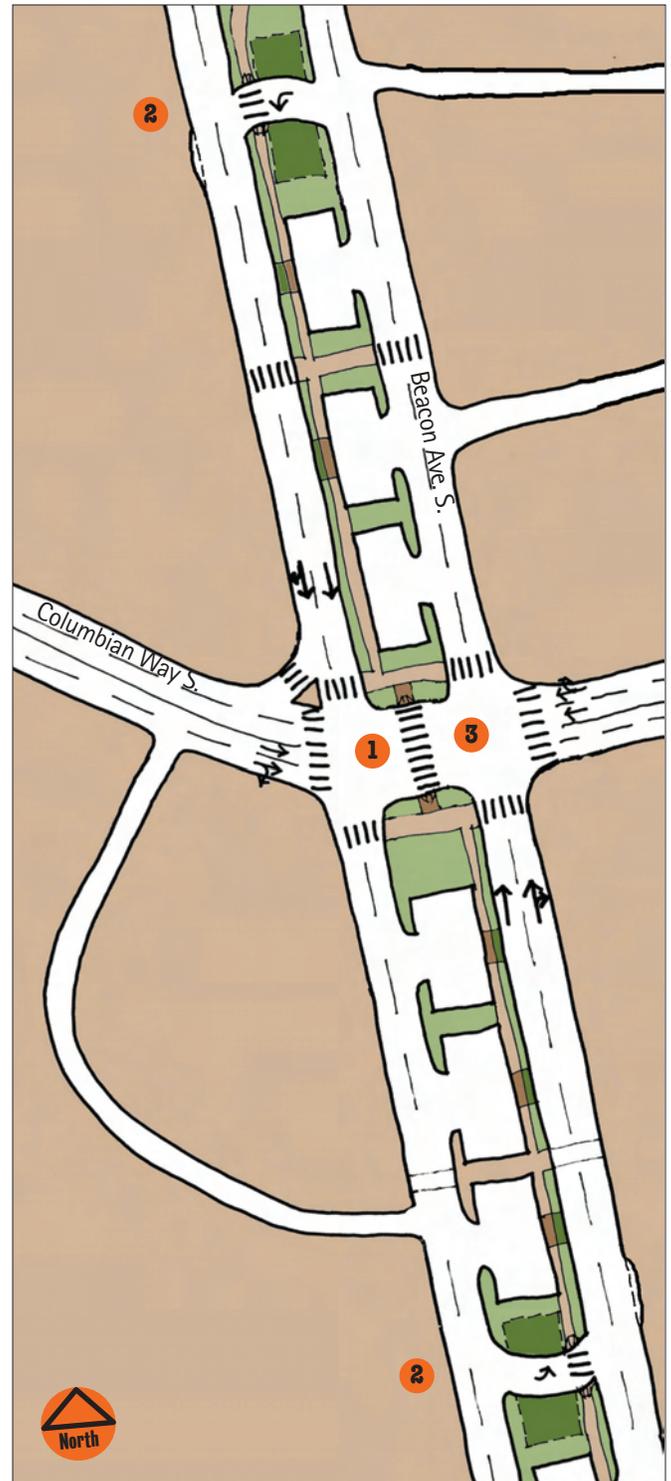
A walking path exists along most of the Beacon median, but north and south of this intersection the path is directed to the edge of the median parking lots provided for the adjacent businesses. Pedestrians are restricted from crossing Columbian Way from the median, so they must cross Beacon, Columbian Way and Beacon again to get back onto the median. The parking lots have access from both directions of Beacon. Motorists who are parked in the median lots typically jaywalk to the adjacent businesses, rather than walking to the nearest crosswalk or signal.

Beacon is a primary north-south route for bicyclists and the Bike Master Plan recommends bike lanes on Columbia, sharrows on Beacon south of the intersection, and bike lanes on Beacon north of the intersection.

**Proposed**

- 1 Improve traffic flow by restricting left turns and constructing an "elongated roundabout" or "U-turn Route". By eliminating the left turns, the traffic signal phasing is simplified, improving capacity on both Beacon Ave. and Columbian Way.
- 2 Improve pedestrian safety in the median by eliminating the driveway access on the existing sidewalk side (drivers will use the "U-turn Route"). Replace the driveways with a continuous sidewalk planting strip.
- 3 Install a pedestrian crosswalk and signal connecting the two medians, as no turning movements are allowed at the intersection.

Additional study is required to determine how to accommodate bike lanes through this intersection.





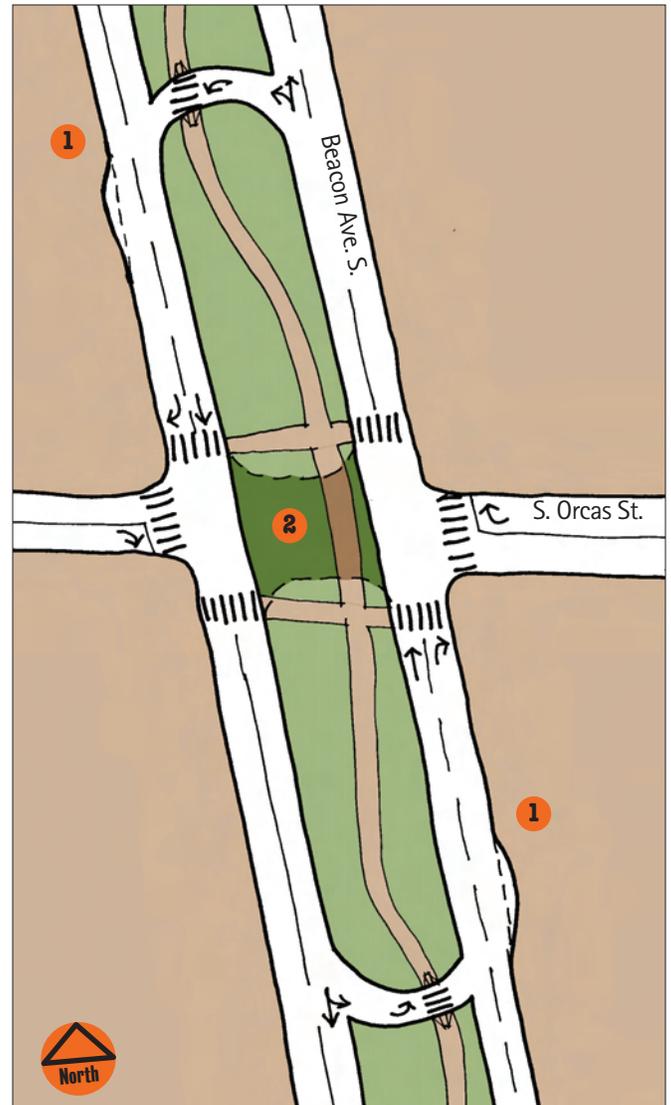
**Improve safety at High Accident Location and reduce vehicle delay.**

**Existing**

Beacon Ave. S. and S. Orcas St. is a vehicular High Accident Location and, of the unsignalized intersections studied, is the second most congested unsignalized intersection in the study area. To the east, Orcas is an arterial cross-valley route, providing a connection between Beacon Ave and Lake Washington Blvd. Collisions at this intersection are primarily from the left turns to and from this route. To the west, Orcas serves a church on the corner and a residential area.

There is a multi-use path on the median. Pedestrians using the path cross Orcas in the median.

Beacon is a primary north-south route for bicyclists and the Bike Master Plan recommends bike lanes on Orcas east of Beacon and bike lanes on Beacon.



**Proposed**

- 1 Improve traffic flow and safety by eliminating through and left turn movements and constructing an "elongated roundabout" or "U-turn Route".
- 2 Improve pedestrian safety and access by continuing the median through the intersection; pedestrians only have to cross the single "U-turn Route" lane.
- 3 Implement Bike Master Plan recommendations and install bike lanes on Orcas. Additional study is required to determine how to accommodate bike lanes on Beacon, especially at intersections.



**Address delays for vehicles in congested corridor.**

**Existing**

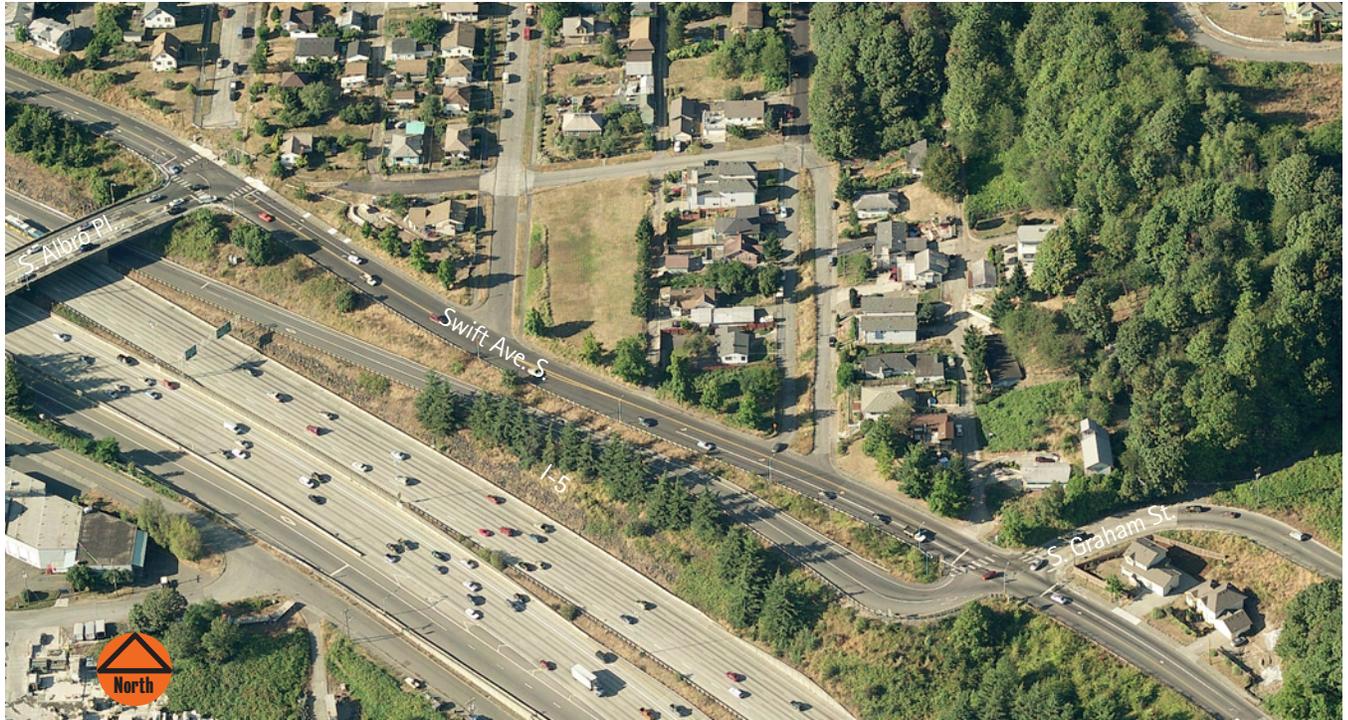
Columbian Way S. is a major connection between West Seattle, I-5 on- and off-ramps, and Beacon Hill/North Rainier. When I-5 is highly congested, drivers also use this route as a bypass to the Central District, First Hill, Capitol Hill, and Madison Valley.

The intersections at Columbian and Spokane (projected to be LOS F in 2030), 15th and Spokane (projected to be LOS D in 2030), and Spokane and Beacon (projected to be LOS F in 2030) are all congested, but an analysis of options to improve the first two intersections for traffic suggests that the congestion would simply move to the next bottlenecks. Any major improvements in the connecting corridors could attract more drivers to exit I-5 and detour through Beacon Hill, resulting in more traffic on local streets and no overall improvement.

As the third intersection in the corridor, improvements at Beacon and Spokane probably could reduce delays for drivers and shorten lines of idling cars, which would improve conditions marginally for adjacent residents, without necessarily attracting more vehicle trips to the intersection. Accomplishing these improvements, however, would require widening Spokane near the intersection to separate left, through, and right turning traffic. With two large apartment buildings close to the sidewalk on the north, and the fire station close to the street on the south, available right-of-way is limited.

**Proposed**

- 1 Signal timing in the Spokane corridor, and the geometry of the intersection of Beacon and Spokane should be studied further to determine if it is possible to engineer improvements to reduce delays at the intersection and help traffic move more smoothly, without increasing overall capacity and attracting more by-pass trips from I-5.



**Evaluate corridor operations and options to add bike lanes and to improve traffic flow, without encouraging drivers to use Swift as an I-5 bypass.**

**Existing**

Swift Ave. S. parallels I-5 and connects to freeway on- and off-ramps and also provides a north/south corridor connection to arterials serving Beacon Hill and all of South-east Seattle.

Looking ahead to 2030, Swift and the I-5 northbound off-ramp is projected to be a highly congested intersection, with a delay of more than two and a half minutes, as is Swift and Graham, with a delay in 2030 of 77 seconds.

The Bicycle Master Plan calls for bike lanes along Swift, with a connection to Albro over I-5, to provide a route from southeast Seattle over I-5 to SODO and West Seattle.

These two intersections and the Swift corridor need to be looked at as whole with regards to how improvements here could affect traffic patterns on surrounding streets, as well as what is required to accommodate bike lanes, with or without widening Swift.

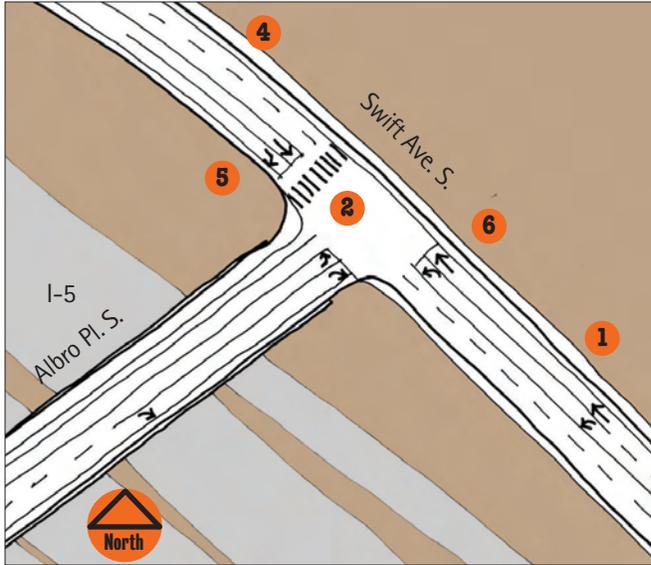
The topography in this area complicates the choices; much

of Swift is graded into the side of a steep slope. To the east, where the grade changes are not as severe, houses are built into the slope close to the edge of the road. To the west the ground falls off sharply in some places, and any widening would need to be on structure, or involve extensive regrading. Elsewhere there is very little right-of-way between Swift and the I-5 ramps.

**Proposed**

This corridor needs more detailed study, specifically of:

- 1 Traffic flow implications north, south and east of Swift if improvements are made to reduce vehicle delay. Would more drivers choose to exit I-5 here and use Southeast Seattle streets as a bypass to destinations north of the Columbian Way exit and even north of I-90, thus increasing traffic congestion and delay on other streets?
- 2 Can bike lanes be added to Swift without widening the street? If not, how much right-of-way would be required and can it be acquired? Would any portions of a wider street need to be built on structure?



**Reduce delay and accommodate bikes at three congested intersections.**

**Existing**

This project is a companion project to Swift-1, which is the entire corridor on Swift between 16th and Warsaw, and to Swift-3, which addresses bike lanes on the Albro overpass.

**Swift and I-5 northbound Off-Ramps:** This intersection operates at LOS F and it is expected to worsen by 2030 with a delay on the worst approach of over three minutes.

**Swift and Graham:** This intersection operates at LOS D, by 2030 the worst approach is expected to operate at LOS F with a minute and a half delay. Graham is a direct route across southeast Seattle all the way to Wilson; to the west of Swift it becomes a northbound on-ramp for I-5. At the intersection, heavy southbound traffic from Swift turning left onto Graham conflicts with heavy northbound through traffic on Swift. Changes in signal timing will improve operations on the worst approach slightly.

**Swift and Albro:** This intersection operates at an acceptable level-of-service and is expected to continue to do so in 2030. The biggest challenge here is finding road space to add bike lanes that would connect to proposed bike lanes on the Albro overpass.

These streets are also used by many trucks, particularly trucks accessing Georgetown and the associated industrial areas in South Seattle.

The Bicycle Master Plan calls for bike lanes along Swift, with a connection to Albro over I-5, to provide a route from southeast Seattle over I-5 to SODO and West Seattle.

**Proposed**

- 1 Evaluate adding bike lanes/sharrows on both sides of Swift, considering right-of-way requirements and whether ROW would need to be on structure or fill.
- 2 Coordinate signals along Swift from Albro to the I-5 northbound off-ramp to optimize traffic operations in the corridor.
- 3 Restripe northwest approach to have two through lanes from 150 feet south of the intersection and through the intersection. There will be two continuous northwest lanes between the off-ramp and Graham.
- 4 Restripe southeast departure along Swift to have two through lanes from Albro to Graham; there will be two continuous southeast lanes between the two intersections.
- 5 Reconfigure the southeast approach to be one through-only lane and one shared through/right turn lane.
- 6 Restripe the northeast approach along Albro to have a 200 foot left-turn pocket and a double right turn lane. The southwest departure would be reduced to one lane and would widen to two lanes after the 200 foot left turn pocket for the northeast approach.

**Provide access for bikes on Albro overpass across Interstate 5.**

**Existing**

There are very few options for cyclists to cross I-5 south of downtown. Almost all of the overpasses are freeway ramps, limited to vehicles only. Albro Pl. S. is one of the few crossings that permits pedestrians and cyclists. It has narrow sidewalks on both sides, which cyclists may legally use, but otherwise they must ride in the traffic lanes.

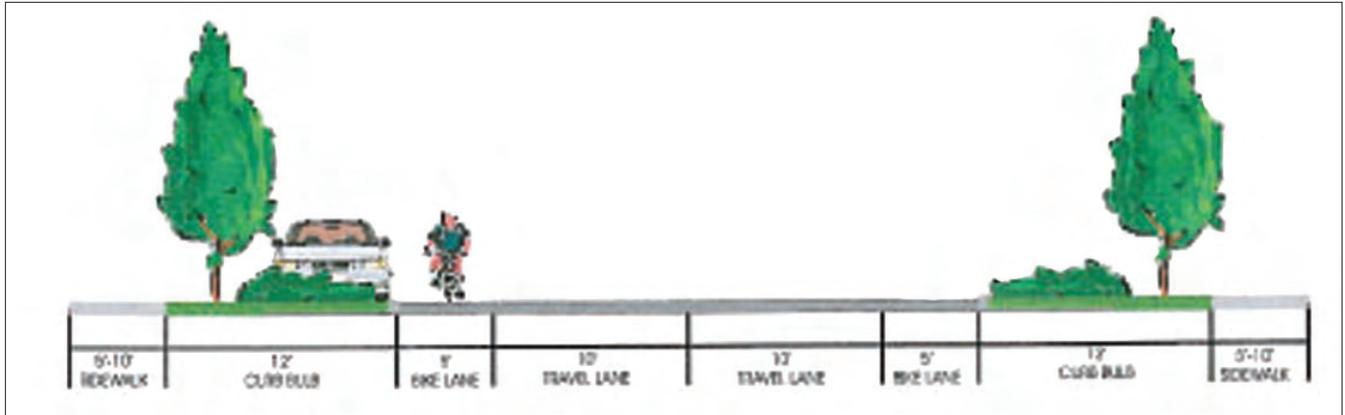
The Bicycle Master Plan recommends bike lanes on the Albro overpass.

**Proposed**

Short of widening this overpass or building a new one, options require determining how to allocate the available space to accommodate all users.

- 1 Reconfigure Albro Pl. to be one 12' lane westbound and two lanes eastbound (10' center lane and 12' curb lane), with 5' bike lanes on both sides. Retain the raised sidewalk on the north side.
- 2 Evaluate how to establish connecting bike facilities on Swift, to the east, and Albro and Airport Way to the west.





One concept proposed for portions of 31st Ave. S.  
 Source: Transportation Solutions, Inc.

**Slow traffic and improve pedestrian and bicycle safety on collector arterial.**

**Existing**

31st Ave. S. is a collector arterial from S. McClellan St. to Yesler Way. The community hired a transportation consultant with Neighborhood Matching Funds to analyze existing traffic conditions and develop various alternatives for reducing traffic speeds along this 1.5 mile corridor. The community is working with SDOT to develop final recommendations that will be available by summer 2007. Approximately half of the 31st neighborhood study area is contained in the SETS study area.

The street generally has two travel lanes, with parking on both sides. The curb to curb width varies between 42 and 45 feet between McClellan and Jackson, except where the roadway jogs and north of Jackson, where the street narrows to 25 feet. The combination of wide lanes, grades and absence of traffic control devices tends to encourage motorists to exceed the 30 mph speed limit. The sub-standard planting strip widths limit the types of street trees that can be planted. Street light poles and Metro trolley wire poles line the corridor. There are several marked crosswalks and curb bulbs along the corridor that reflect high pedestrian crossing demands. 31st is a preferred walking route for both John Muir and Leschi Elementary Schools and Metro Trolley Route 14 operates on the street.

The Bicycle Master Plan recommends bicycle lanes for most of 31st except for the segments from Grand to Norman, and from Jackson to Yesler where sharrows are recommended.

**Proposed**

As a first step in traffic calming 31st, SDOT will implement the BMP recommendations in 2007.

The traffic calming plan developed by the consultant includes textured crosswalks, roundabouts, curb extensions and bicycle lanes. SDOT will continue to work with the community to further implement the traffic calming plan.



**New sidewalk connecting North Rainier Urban Village, Mt. Baker Station and Beacon Hill to encourage walking for short local trips and improve access to transit.**

**Existing**

S. McClellan St. is a direct, although very steep connection between the North Rainier urban village commercial core, the Mt. Baker Light Rail Station, bus routes on Rainier, and residential areas on the east side of north Beacon Hill. It is also on the recommended walking route for Kimball Elementary School.

The sidewalks on both sides of McClellan between 26th and Rainier are substandard at only six feet wide without any separation between the sidewalk and moving traffic. This portion of sidewalk also has numerous driveways with large parking lots, although required plantings provide a minimal buffer between the sidewalk and the parked vehicles. The sidewalk on the south side of the street is continuous to 23rd and provides the large residential population west of Rainier access to the services and transit along Rainier.

Sidewalks on the north side of McClellan are missing between 26th and 23rd. Adequate right of way exists to continue the planting strip and sidewalk widths as they exist west of 23rd, that is nine foot planting strips with six foot sidewalks. At McClellan and Rainier, the existing landings at the intersection do not provide adequate

space for pedestrians waiting to cross the street, and are partially taken up with traffic signal poles and a signal controller cabinet.

When light rail is operating, people living on the hillside may wish to walk downhill to the Mt. Baker Station for outbound trips, while coming home via the Beacon Hill Station and walking downhill again. Good sidewalk connections are important for pedestrian safety and to encourage walking and transit use.

**Proposed**

- 1 Construct sidewalk and curb ramps on the north side of McClellan between 26th and 23rd Avenues. Work with the property owner on the northwest corner of the Rainier/McClellan intersection to consolidate driveways and provide a wider sidewalk and landscaped planting strip.
- 2 Update the Right of Way Manual to include a pedestrian overlay for the portion of McClellan between Rainier Ave S and 26th Ave S to provide a minimum of ten feet wide clear sidewalk with a landscaped planting strip and limit driveways.
- 3 Update the Right of Way Manual to provide adequate queuing area for all intersection landings adjacent to light rail stations



**Traffic calming, bike facilities and pedestrian safety along McClellan to improve safety and encourage walking, cycling and transit use.**

**Existing**

S. McClellan St. between Rainier Ave. S. and S Mt. Baker Blvd. is a minor arterial connecting Rainier to Lake Washington Blvd., Hunter Blvd. and Mt. Baker Blvd. East of ML King Jr. Way S. it serves primarily local residential traffic. Currently, land uses at the intersection of Rainier include grocery, drug and hardware stores and auto-oriented services. With the new Mt. Baker Light Rail Station nearby, over time land use in the area is likely to become more pedestrian-oriented.

Currently, peak period parking is restricted on the north side of McClellan during the AM peak and on the south side in the PM peak between Rainier and 31st. Travel speeds are limited by the traffic signal at ML King and all-way stops at 31st, 34th and Lake Park Dr./Mt. Baker Blvd.

Between Rainier and 31st Ave S, the sidewalks are narrow and lack a landscaped buffer, some utility poles are located in the sidewalks, and on the south side there are numerous wide driveways. Combined with the steep grade east of ML King, the pedestrian environment is uninviting. East of 31st, the planting strips are narrow limiting street tree types, but utilities are undergrounded creating the potential for additional landscaping

Pedestrian generators include Mt. Baker Park, Mt. Baker neighborhood businesses, Mt. Baker Community Center, Muir Elementary School, Franklin High School, and Metro Route 7 and businesses along Rainier. A crossing guard is stationed at the school crosswalk at 33rd and curb bulbs have been built to further improve the crossing.

Metro bus #14 currently operates on McClellan east of 31st. Once the light rail station opens, this bus route will connect with the station, turning west from 31st.

Over time, more people are likely to walk along McClellan.

The Bicycle Master Plan recommends sharrows between Rainier and 29th and bike lanes between 29th and Mt. Baker Blvd

**Proposed**

Street improvements to calm traffic and increase safety, and encourage pedestrian and bicycle use.

- 1 Evaluate removal of the peak period parking restrictions, particularly east of ML King.
- 2 Install curb extensions to improve visibility between motorists and pedestrians at all intersections east of 31st. Incorporate signature street tree species at curb extensions to create a boulevard-like atmosphere.
- 3 Stripe parking lane edge line and bicycle lane between 29th and Mt. Baker Blvd. to visually narrow street and slow traffic.
- 4 Implement Bicycle Master Plan recommendation for sharrows between 29th and Rainier.
- 5 Relocate utility poles where necessary to ensure a minimum five-foot clear walking path.
- 6 Provide planting/landscaping buffers where feasible by removing concrete/asphalt planting strip materials for a minimum five-foot walking path.
- 7 Provide landscaping buffers where feasible.

**Reconfigure intersections for vehicle, pedestrian and cyclist safety; establish bike lanes.**

**Existing**

The intersection of S. McClellan St. and Mt. Baker Blvd. and Lake Park Dr. is the center of the Mt. Baker neighborhood. On the north side is Mt. Baker Park with a renovated playground and a path to Mt. Baker Beach. On the south side is the neighborhood commercial hub and the Mt. Baker Community Club, which generate significant pedestrian activity. On-street parking is provided immediately southeast of the intersection. The sidewalk is narrow with no planting strip along the curve of the street. There is no sidewalk on the east side of Mt. Rainier Dr.

The intersection is controlled by an all-way stop, but northbound traffic from Mt. Rainier Dr. has a free right turn to Lake Park Dr. Motorists tend to approach the all-way stop intersection at speeds too great for the curvature and grade of the street and for the level of pedestrian and cyclist activity. In addition, many turning movements occur just outside the all-way stop.

The Bicycle Master Plan recommends bicycle lanes on McClellan and Mt. Rainier Dr and sharrows on Lake Park Dr.

**Proposed**

- 1 Construct sidewalk from the south east corner of the intersection by moving the curb out to match the curb line approximately 150 feet south.
- 2 Shift centerline to accommodate on-street parking, a bicycle climbing lane and too narrow the northbound lane on Mt. Rainier Dr.
- 3 Implement Bicycle Master Plan recommendations. Stripe bike lanes on both sides.
- 4 Proposed intersection design TBD.



**Increase non-motorized travel by constructing a multi-use trail connecting the I-90 Mountains to Sound Greenway Trail and bicycle lanes further north.**

**Existing**

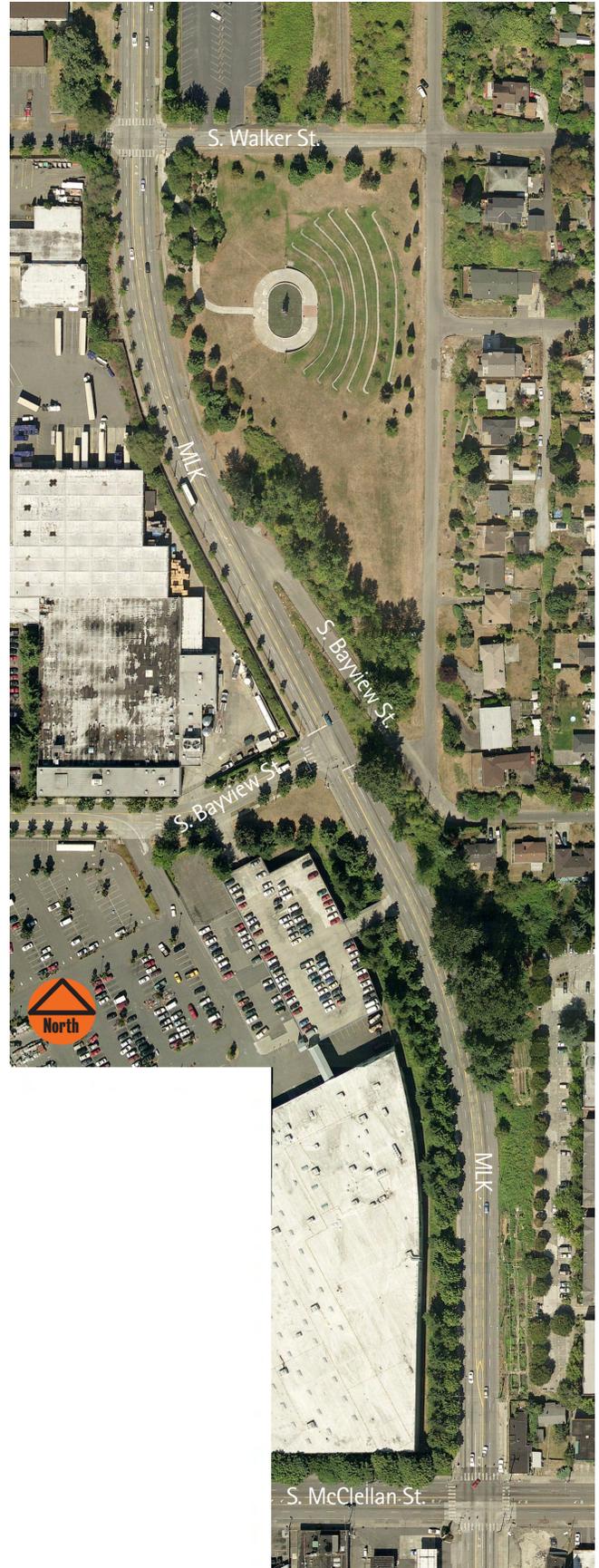
Martin Luther King Jr. Way S. (MLK) north of Rainier Ave. S is a minor arterial with a speed limit of 35 mph. South of Rainier, MLK is a 35 mph principal arterial and major truck route. Between McClellan and Holgate, MLK is a 52 foot wide five-lane street with two travel lanes in each direction and a center two-way turn lane. Peak traffic volumes are about half those south of Rainier. The roadway width and continuation of the 35 mph speed limit reflects MLK's past as the access route from the south to I-90, a function it no longer serves. Because of the steep hill on the east side of MLK, access points are limited. Between Holgate and McClellan there are only 3 intersecting non-arterial streets and no driveways.

Cyclists connecting to the Mountains to Sound I-90 multi-use trail, or to the bike lanes further north on MLK, travel in the curb lane adjacent to fast moving traffic. North of Holgate, the travel lanes are reduced to one lane in each direction with on-street parking. Further north, at the I-90 lid, the speed limit is 30 mph, and north of Judkins there are bicycle lanes. The Bike Master Plan recommends bicycle lanes along this corridor.

MLK lacks a sidewalk on the east side between Bayview and McClellan. The need for a sidewalk is shown by the narrow worn dirt path along the hillside P-Patch just north of McClellan, where there is also a bus zone.

**Proposed**

Construct a pedestrian/bicycle facility along the east side of MLK connecting to the Mountains to Sound I-90 multi-use trail, MLK bike lanes (to the north), MLK Memorial Park, Amy Yee Tennis Center, and Mount Baker Light Rail Station (to the south). Reduce the street right of way from 5 lanes to 3 lanes, matching the lane configuration to the north. Convert the right of way underutilized for vehicular traffic to open space including natural drainage features and a multi-use pedestrian/bicycle facility. At the three roadway crossings provide raised crossings to increase motorists' awareness of the trail. Reduce the width of the crossing on the east side of MLK at Bayview by realigning Bayview to intersect MLK at a right angle.



**Create a better bike street on Seward Park Ave S. for both commuters and recreational cyclists.**

**Existing**

Seward Park Ave. S. is an important connection in the bicycle network, as it is part of the Lake Washington loop and provides connections to many destinations including the I-90 multi-use path and the University of Washington. It is also used by recreational bicyclists traveling along Lake Washington. It is also a major connection to Bicycle Saturday and Sunday events when Lake Washington Blvd. is closed to through traffic, creating a great opportunity for young bicyclists to build skills.



The street width varies along the corridor, from 28' to 40'. Metro routes 34 and 39 operate along this corridor.

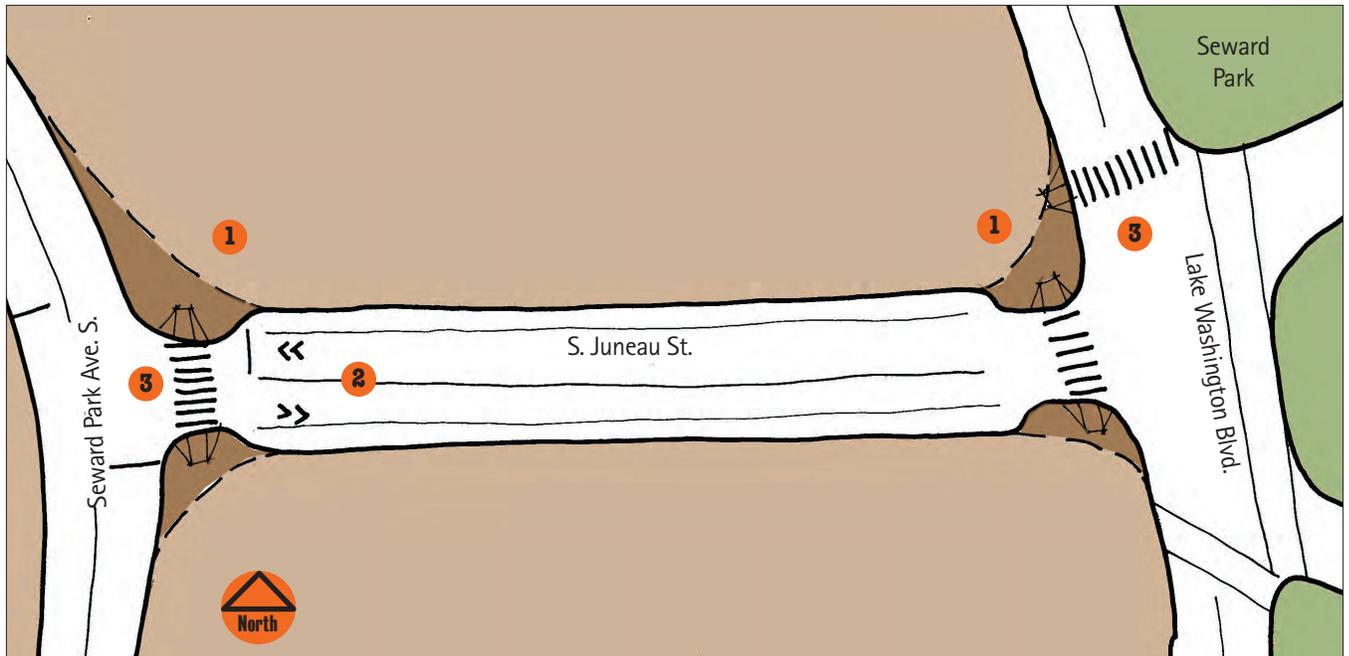
The Bicycle Master Plan makes a number of recommendations, shown in the table below.

**Proposed**

The Bicycle Master Plan recommends a combination of sharrows and bicycle lanes along this corridor. These improvements should be implemented with the following exceptions: Between Wilson and Morgan where a sharrow is recommended, a bicycle lane may be possible. For the section between Morgan and Holly, where bicycle lanes

are recommended, the corridor may require additional analysis and may only accommodate a sharrow. The analysis should include outreach to residents and Metro to help determine the best approach for this section of the corridor. Parking is illegal in a 15' lane, and those who park partially on the planting strip and roadway can be cited. For this section, options include marking the bicycle lanes or shifting the centerline to allow parking on one side of the street and marking sharrows.

Section	Roadway Width	Parking Use	BMP Recommendation	SETS Recommendation
Dawson to Juneau	40'	Both sides	Sharrow	Sharrow
Juneau to Wilson	30'	West side only	Sharrow	Sharrow
Wilson to Morgan	40'	Only 1/2 block; parking lane west side only	Sharrow	Bicycle lane
Morgan to Holly	30'	Only one block; parking on west side only	Bicycle lane	Bicycle lane or Sharrow after more analysis
Holly to Grattan	30'	Not enough width for parking; parking is informal/illegal	Bicycle lane	Bicycle lane



**Calm traffic on S. Juneau St, the connection between Lake Washington Blvd. and Seward Park Ave. S, improving safety for cyclists, pedestrians and vehicles.**

**Existing**

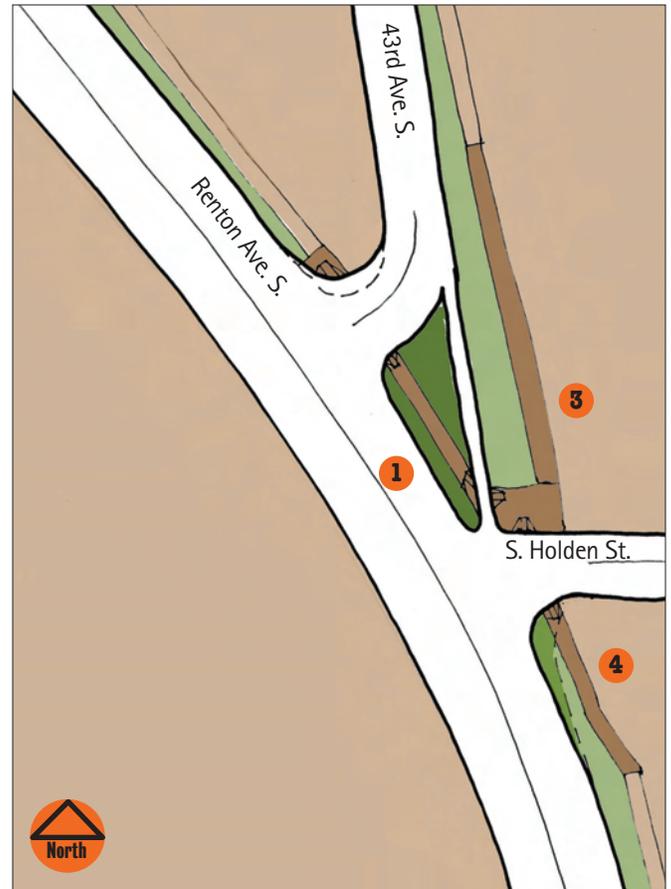
At the entrance to Seward Park, Lake Washington Blvd. and Seward Park Ave. S. are connected by one block of Juneau, which serves drivers, cyclists and pedestrians traveling to and from the park. Both Lake Washington and Seward are important bike routes and in addition to commuters attract large numbers of recreational cyclists. During major events at Seward Park, overflow parking is on nearby neighborhood streets and Juneau becomes an even more important connection for people walking to and from the park.



**Proposed**

- 1** Reduce curb radii and construct curb extensions at all four corners to calm traffic and improve cyclist and pedestrian safety.
- 2** Mark pavement with sharrow designation and stripe parking lane, reminding drivers there are other users on the street.
- 3** Mark crosswalks at Lake Washington Blvd. on the south and west approaches and at Seward Park Ave. S. on the east approach.

**Improve safety at intersection and create clear path for cyclists and pedestrians to and from Othello light rail station.**



**Existing**

Renton Ave. S. and 43rd Ave. S. is just southeast of where Renton Ave. meets Martin Luther King Jr. Way S. (MLK) and is a few blocks south of the Othello Station. By 2030, the average daily volume of vehicles is projected to be almost 3,000 at Renton/MLK, operating at LOS D. To avoid this intersection, drivers may divert to 43rd, a residential street.

In this area, the Bicycle Master Plan recommends adding bike lanes on Renton Ave. and signage directing cyclists north on 43rd to avoid the Renton/MLK and Othello/MLK intersections. A pedestrian actuated signal is planned for the intersection of 43rd and Othello, north of this project and adjacent to Othello Park (refer to Project # South-1). Modifying the intersection at Renton, 43rd and Holden will make it safer for cyclists to travel through the intersection and will provide a bicycle and pedestrian connection from Renton to Othello. It is important to lead cyclists around the Renton/MLK intersection which will have high volumes of pedestrian and vehicular traffic.

This project could also deter motorists from cutting through a residential area.

**Proposed**

- 1** Construct an island in the open triangle space at Renton, Holden and 43rd, with the bike lane on Renton continuing to the east of the island.
- 2** Sign 43rd between Holden and Othello as a shared roadway.
- 3** Extend sidewalk north to S. Webster St, connecting to Othello Park.
- 4** Construct new sidewalk.

**Close sharply angled street end to eliminate dangerous intersection and improve safety for all modes.**

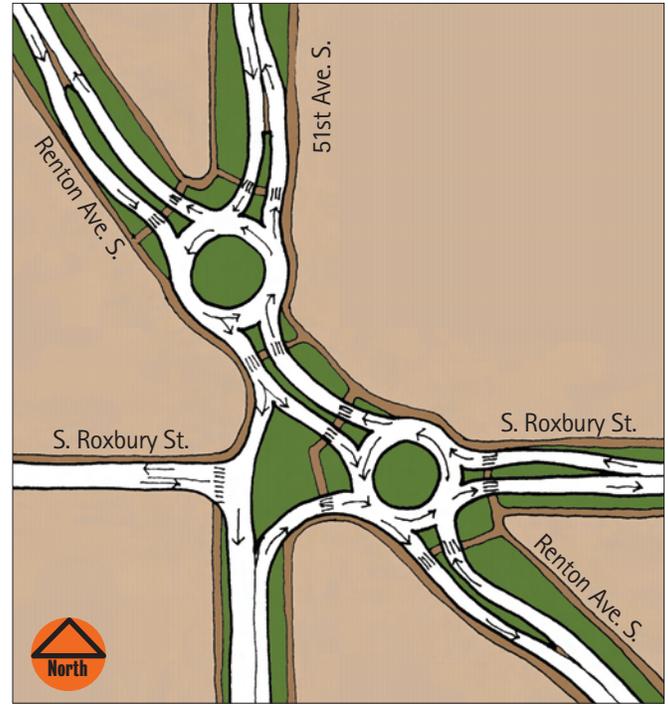
**Existing**

Renton Ave. S. cuts across the grid at S. Thistle St. and 44th Ave. S. creating a skewed angle at 44th and Renton where drivers turning either left or right onto Renton do not have adequate sight distance to make a safe turn. The Bicycle Master Plan recommends bike lanes on Renton. Renton is also the recommended walking route for two local elementary schools.

**Proposed**

- 1 Close 44th between Renton Ave. and Thistle. Provide access for residents as required.
- 2 Construct sidewalk and connect with existing sidewalks. Landscape remaining area.





**Construct a roundabout to improve traffic flow and pedestrian safety.**

**Existing**

51st Ave. S, Renton Ave. S. and S. Roxbury St. create three interconnected intersections. Renton is a major north-south route between Renton and Seattle; to the north it connects to Martin Luther King Jr. Way S and to the south it ends at Renton Airport. 51st is a southern extension of Rainier serving Skyway and connecting to Beacon Ave. S.

These intersections are currently controlled by 11 stop signs, and two of the three intersections have been identified as vehicular High Accident Locations. For the three intersections, there have been more than 60 collisions since 2000. In addition, because the intersections are so closely spaced, long vehicle queues form, creating significant delays resulting in increased local emissions from idling vehicles and cut-through traffic in the surrounding neighborhood. The skewed approaches of the intersections also result in long pedestrian crossings as long as 60 feet, 20-30 feet wider than a typical two lane arterial crossing.

The intersections have a high volume of traffic – an average of 20,280 vehicles per day. In addition to automobile traffic, these intersections are served by Metro Bus Routes 42 and 106, with all-day service in both directions.

As a result of these conditions the Rainier Beach community ranks improving this intersection as a high priority. Based upon earlier transportation analysis, the community has specifically requested a roundabout to simplify these intersections.

**Proposed**

From a traffic perspective, the roundabout provides the best reduction in the number and severity of collisions for this high-collision location. In addition, it creates a safer environment for pedestrians and provides the best level of service for vehicles. The revised roundabout also reduces local emissions from idling vehicles, increases pervious surface, and provides a potential for landscaping and beautification.

The roundabout design is a highly ranked project for the Rainier Beach community. The roundabout has the potential to create a gateway for the neighborhood and add to the sense of place.

**Add pedestrian island at S. Ryan on east side of Renton Ave. S. to reduce crossing distance.**

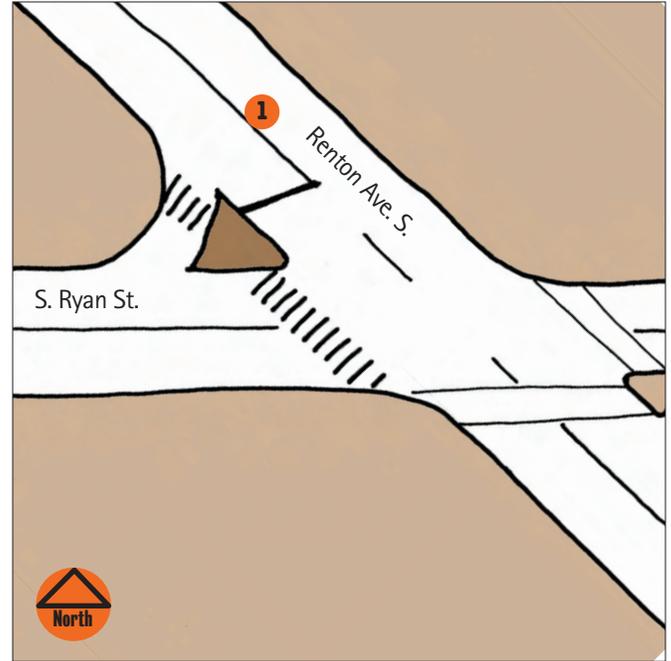
**Existing**

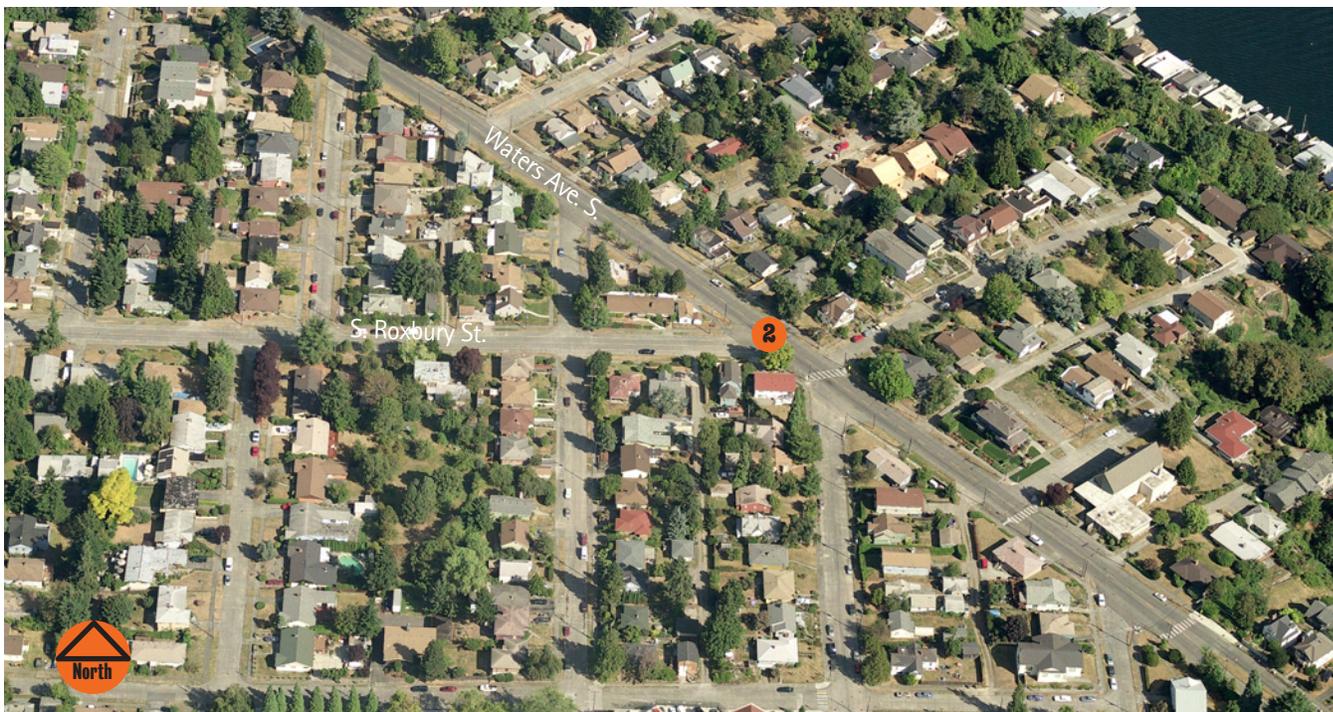
S. Ryan St. intersects with Renton Ave. S. at a skewed angle. A pedestrian-actuated signal exists at this location, which is part of a recommended school walking route. There is a pedestrian island on the east side of Ryan, however, the west side of Ryan has a crossing distance of over 80 feet.

The traffic on Renton Ave. S. is fairly high, with over 15,000 average daily trips expected in 2030.

**Proposed**

- 1** Construct a pedestrian island to reduce crossing distance.





Partial view of Waters Ave. S.

**Improve skewed intersections along Waters Ave. S, providing better visibility for motorists and cyclists and reducing crossing distances for pedestrians.**

**Existing**

Waters Ave. S. is a collector arterial parallel to and between Renton Avenue and Rainier Avenue. On the west side the cross streets meet Waters at 90 degree angles, but on the east side the grid is shifted and all streets meet at skewed angles. The result is a series of skewed intersections and mid-block crossings because of the non-matching street grids. Sight distances are poor for motorists and crossing lengths can be long for pedestrians. South of 61st, Waters is a divided by a landscaped median, with the north- and southbound lanes at different elevations on the side of the hill, further complicating access to and from the Metro Route #7 trolley bus stops which operates southbound on Waters as far as 64th.

Waters crosses Roxbury between 59th and 60th and the neighborhood has consistently requested traffic calming measures for Roxbury.

Emerson Elementary School is two blocks west of Waters, which is a preferred walking route for the school.

The Bicycle Master Plan recommends Waters as a shared roadway and recommends Roxbury for further study as a bicycle facility.

**Proposed**

- 1 Reduce curb radii at the south side of the following intersections with Waters southbound (west side): 62nd, 63rd, 65th, and 66th (not shown above).
- 2 Reduce crossing distances at both north and south sides of Roxbury at Waters.



**Increase pedestrian safety and comfort along a connector to the light rail station with streetscape improvements.**

**Existing**

S. Alaska St. is a minor arterial connecting ML King Jr. Way S. and Rainier Ave. S. It is just over one-quarter mile long and is an important pedestrian connector. Pedestrian generators near the east end include Orca Elementary School, Rainier Community Center, Rainier Playfield, Columbia City Library, Rainier Cultural Center, Zion Prep, and Washington State Dept. Services for the Blind. Rainier Vista, at the west end, will contain over 1,000 housing units when completed. The Columbia City Light Rail Station is located at the intersection of Alaska and ML King.

Metro route #39 operates on Alaska and there are numerous transit routes on ML King and Rainier crossing Alaska.

The Bicycle Master Plan recommends a climbing lane westbound on Alaska and a sharrow eastbound.

S. Edmunds St., two blocks south of Alaska, has been identified as the pedestrian connector between the Columbia City Light Rail station and the Columbia City business district and has received streetscape improvements to enhance the pedestrian environment. However, people walking to and from destinations on or closer to Alaska are likely to choose it as a route, as will many bus riders.

**Proposed**

Add pedestrian amenities on S. Alaska St. to provide an inviting connection between, Rainier Vista and the Columbia City Light Rail station and the many pedestrian generators along the corridor.

Urban design improvements should include: pedestrian scale lighting to improve the sense of safety and security for pedestrians and a landscaping buffer between the sidewalk and moving traffic.

A pedestrian overlay should be adopted for this corridor and any redevelopment along the corridor would be required to build the pedestrian improvements.

Add urban design elements to pedestrian crossings at 35th Ave. S. for visibility such as a textured concrete crossing.

Implement recommendations from the Bicycle Master Plan

**Reduce delay, address High Accident Location and improve intersection for pedestrians and bicyclists.**

**Existing**

Rainier Ave. S. and S. Dearborn St. is a signalized multi-phase intersection with heavy turn movements and is currently operating at capacity. It is a vehicular High Accident Location.

As Dearborn connects to I-5 and Rainier connects to I-90, demand, and delay, is expected to increase by 2030. The intersection currently operates at LOS F with a PM peak overall delay of nearly 2 minutes and a delay on the south approach of over 4 minutes. By 2030, overall delay is projected to exceed 3 minutes and a delay on the south approach of nearly 8 minutes.

The bike lanes on the south side of Dearborn end 300' before the intersection and on the north side, the bike lane does not start until 600' west of the intersection. The four foot wide bike lane is immediately adjacent to the curb and collects gravel and debris. The bike plan has a designated route east of the intersection on Hiawatha Pl, which then connects to the I-90 multi-use path. Providing a clear connection for bicyclists to this route is challenging due to traffic volumes and turn movements. There are no bike lanes on Rainier.

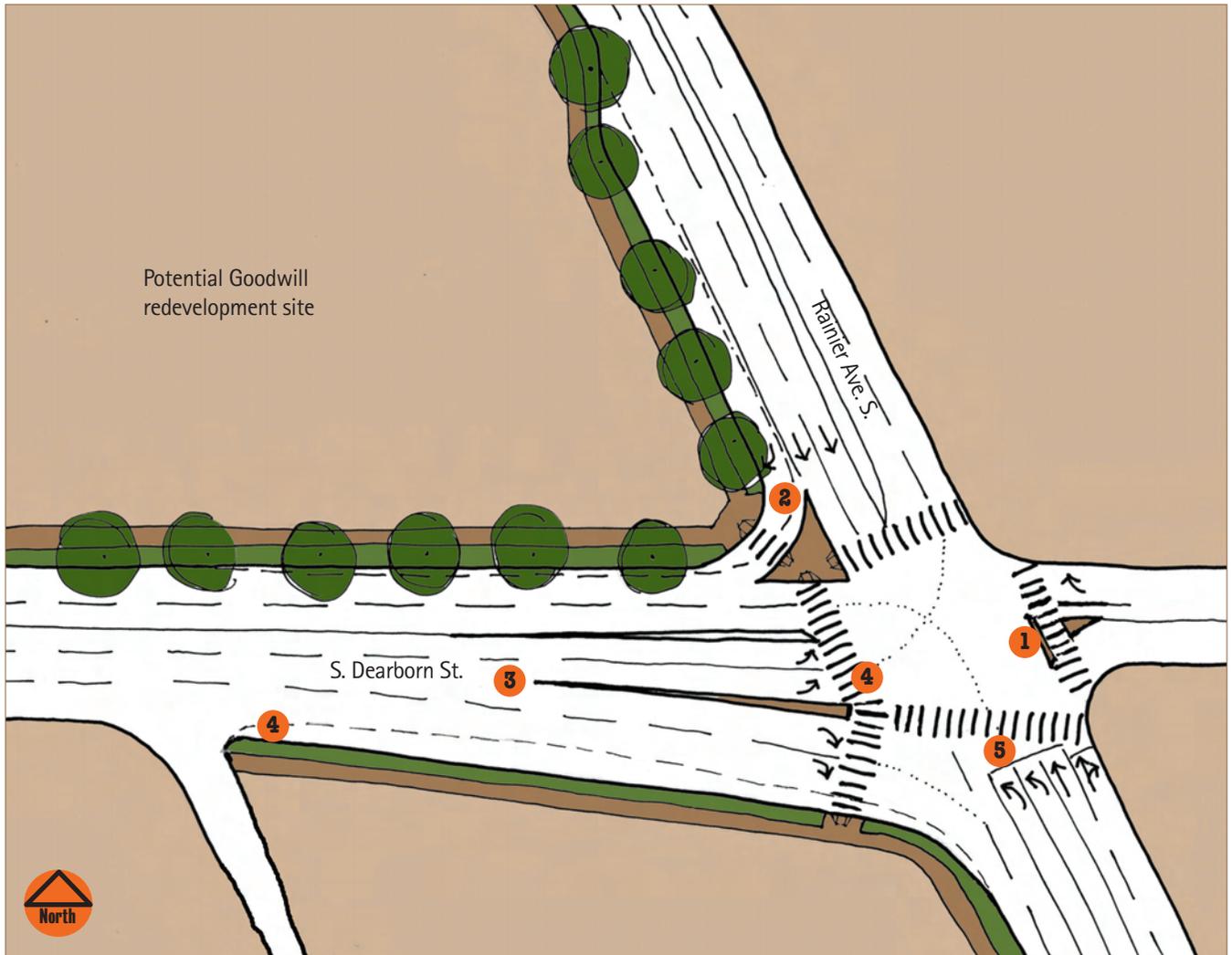
Pedestrians can cross three approaches of the intersection but are restricted from crossing Rainier on the south approach. Pedestrians crossing Dearborn on the west approach must cross double right turn lanes from Dearborn eastbound to Rainier southbound. Although the right turn lanes are signalized, due to the large radius and motorists making right turns on red, this crossing is particularly challenging. The pedestrians have an asphalt raised island between the double right turn lanes and double left turn lanes.

Double turn lanes are not ideal because of drivers' difficulty in navigating them safely and the challenges they pose to pedestrians and cyclists. However, the traffic patterns, volumes, and available vehicle storage space at this intersection may require that this intersection continues to operate with double turn lanes. This consideration may change if pedestrian and bicycle volumes increase when the East Link light rail station is developed at I-90 and Rainier.



Potential redevelopment and street vacations proposed for the Goodwill property on the northwest corner may provide opportunities to improve the safety and capacity of the intersection through other approaches. For example, a multi-lane roundabout may be a potential solution, but property acquisition would be necessary. In addition, if the I-90 ramps are re-designed (see Project # Rainier-2), providing for eastbound I-90 access may result in a net reduction of some turning movements at Rainier and Dearborn, thus improving the level of service.

[Continued on next page.]



**Proposed**

Reconfigure Rainier/Dearborn intersection to reduce vehicle delay and potentially reduce accidents. Changes to this intersection should increase safety and access for bicyclists and pedestrians.

- 1 Restrict to right-in right-out operation. Modify the center island to restrict vehicle movement and improve pedestrian crossings.
- 2 Acquire right-of-way and add a southbound right turn. The right turn pocket should start a minimum of 300 feet from the intersection. Construct a crossing island separating the right turn lane from the through lanes. Move the bus stop slightly north to accommodate turn lane.
- 3 Acquire right-of-way and re-stripe to create a 500-foot eastbound left-turn pocket, a shared left and right-turn lane that splits to left-only and right-only lanes, and one right-turn only lane. Remove parking spaces on the north side of Dearborn. Shift two westbound lanes to the north. Keep the existing two right-turn lanes.
- 4 Extend existing bike lanes on Dearborn to Rainier. Allow eastbound through movement for bikes only from left hand (south) left turn lane. Alternately, cyclists may choose to stay in the bike lane to the intersection and use the crosswalk.
- 5 Provide a new pedestrian crosswalk across Rainier on the south approach of the intersection with a ped lead signal. Restrict right turn on red from Dearborn to Rainier during ped signal phase for this crossing.



**Improve safety for pedestrians and cyclists, encouraging walking, biking and transit use.**

**Existing**

The I-90 interchange ramps were designed to maximize vehicular access and speeds and are designed with merge lanes and large radii. This current design puts vehicular access first and pedestrian/ bicycle access and safety second.

The large ramp radii allow motorists to accelerate while on Rainier to freeway ramp speeds. Due to the curve of the on-ramps, the crosswalks are not visible to drivers until they are already on the curve and have sped up to merge onto the freeway. These are unsignalized crossings, with generally low compliance for motorists stopping for pedestrians. Due to lack of compliance the crosswalk on the southbound I-90 on-ramp was removed, leaving pedestrians with only an overhead sign. The I-90 off-ramps reflect a similar treatment.

Sound Transit is planning to construct a light rail station for East Link in the I-90 right-of-way between Rainier and 23rd, accessible from both streets, which will attract many pedestrians and cyclists.

**Proposed**

The potential redesign of the following ramps should be evaluated and prepared in cooperation with Sound Transit plans for the East Link light rail station, and with WSDOT.

- 1 Relocate the eastbound on-ramp (from the south) entrance further north to align with the traffic signal for the eastbound off-ramp. This ramp would intersect with Rainier at a right angle with a much reduced radius, allowing for a marked crosswalk that is aligned with the sidewalk adjacent and parallel to Rainier.
- 2 Relocate the westbound off-ramp to Rainier northbound to intersect with Rainier at a right angle. Eliminate the deceleration lane on Rainier (or make it transit only).
- 3 Relocate the westbound off-ramp to Rainier southbound to intersect with Rainier at a right angle. Eliminate the acceleration lane on Rainier (or make it transit only). The Rainier off-ramps for both the NB and SB directions could intersect with Rainier at a new signal, however this could greatly reduce capacity and backups on I-90 may be unacceptable.
- 4 Relocate the southbound on-ramp entrance to align with Rainier at a right angle. The existing pedestrian/ bicycle crossing has extremely limited sight distance. A much reduced radius would allow for a marked crosswalk that is aligned with the sidewalk adjacent and parallel to Rainier and would reduce turning speeds.

**Reconfigure intersection to reduce conflicts between vehicles and improve crossing safety; add climbing lane for bicyclists.**

**Existing**

Rainier Ave. S. and S. Massachusetts St. is a vehicular High Accident Location and presents challenges to pedestrians and cyclists. Bus stops under I-90 and access points to the I-90 multi-use trail on the northwest corner of this intersection generate significant pedestrian and bicycle traffic.

Motorists from Massachusetts turning north on Rainier conflict with Rainier drivers merging right to the I-90 on-ramp.

The intersection is signalized with pedestrian crossings on all approaches, but the crossing on the north approach is problematic for pedestrians. The double right turn lane from Massachusetts to Rainier, as well as the large radius encourages motorists to continue through the intersection even when pedestrians have the walk light. Many motorists attempting to make a right turn on red look for a gap and then start their right turn without checking for pedestrians. Also, if a vehicle in the right turn curb lane does stop for pedestrians it can block the view of a driver in the second right turn lane, who may not see the pedestrians.

Conflicts also occur when a motorist turns from the outside right turn lane on Massachusetts westbound to the left hand lane of Rainier northbound, at the same time a facing motorist turns from the left turn lane on the opposite side of Massachusetts tries to turn into the same lane.

For cyclists, the Bike Master Plan recommends a climbing lane on the south side of Massachusetts which would require elimination of on-street parking. High volumes of cyclists cross all directions at this intersection, in part due to its proximity to the I-90 trail.

Sound Transit is planning to construct a light rail station for East Link in the I-90 right-of-way between Rainier and 23rd, accessible from both streets.



**Proposed**

- 1 Narrow Massachusetts, widen the sidewalk on the north side, and reconfigure the lanes to one travel lane in each direction with a striped bike lane between Rainier and 21st.
- 2 Eliminate the dual right turn lanes from Massachusetts to Rainier. Consider eliminating free right on red.
- 3 Construct a small curb bulb on the northeast corner, to further slow traffic turning from Massachusetts to Rainier.
- 4 East of 21st continue the bike lane on the south (uphill) side of the street; on the north (downhill) side stripe a sharrow.

**Establish separate intersections for S. State St. and 21st Ave. S. at Rainier Ave. S. to reduce conflicts and turning speeds and to reduce pedestrian crossing distances.**

**Existing**

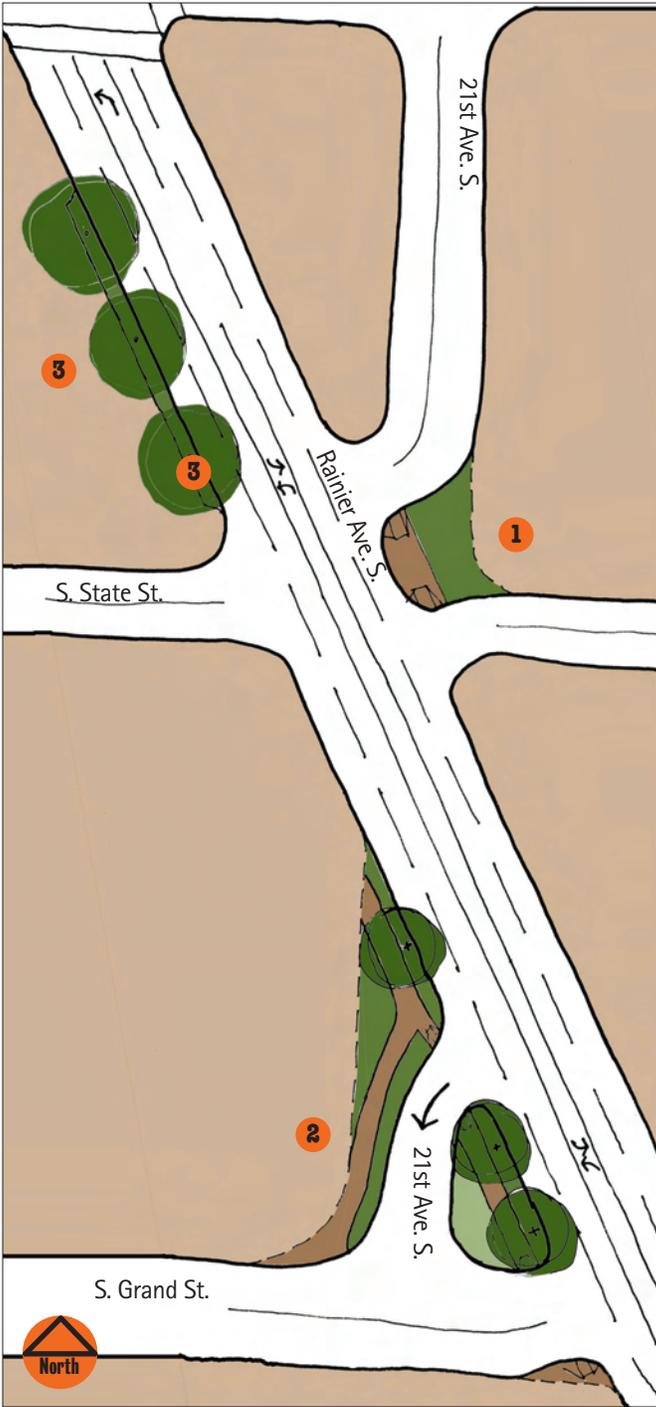
Rainier Ave. S, 21st Ave. S. and S. State St. is a five-approach unsignalized intersection. On the east side of Rainier, 21st and State intersect at a skewed angle with Rainier creating a 105' long pedestrian crossing parallel with Rainier. On the west side of Rainier, although the cross streets do not intersect, the skewed angle at 21st creates a pedestrian crossing of 95'. In addition to the pedestrian and bicyclist challenges posed by these crossings, the wide intersections also result in motorists not having clearly defined stopping locations to make turns onto Rainier and motorists turning from Rainier can do so at high rates of speeds. A similar situation exists where Grand intersects Rainier just south of 21st. Between Rainier and Grand, 21st Ave is an unimproved street that is approximately 53' wide.

On the west side of Rainier, between the signalized intersection of Massachusetts (to the north) and State there is a parking setback that serves the adjacent business. Motorists parking in this 7' parking strip impede traffic flow on Rainier during the parking maneuver and park partially on the sidewalk so they can exit their vehicles safely. This partially blocks the limited sidewalk width and has damaged the sidewalk.

Pedestrians and cyclists use Rainier here to access bus stops and the I-90 multi-use trail; use can be expected to increase when the East Link light rail station opens at I-90.

**Proposed**

- 1** Square up the intersection of 21st and State, reducing the crossing distances to improve pedestrian and bicyclist safety and to more clearly define motorists turning locations.
- 2** Consider making 21st, south of Rainier, one-way southbound. Narrow 21st south of Rainier to 25' wide, allow parking on the west side and construct street improvements including sidewalks, landscaping and street trees.



- 3** Eliminate the parking set back and convert to landscaping to remove parking conflict and improve transit speed and reliability and pedestrian safety.

**Limit access to and from 22nd Ave. S. to reduce conflicts and increase safety; direct traffic to S. Plum St.**

**Existing**

Rainier Ave. S., and 22nd Ave. S. intersect at a skewed angle that create long pedestrian/cyclist crossings, 135' on the west and 110' on the east parallel to Rainier. The street angles also mean that motorists do not have clearly defined stopping locations from which to make turns onto Rainier, and motorists turn from Rainier at high rates of speed.

The one block section of 22nd between Rainier and Plum serves as the vehicle and truck loading and parking area for Stewart Lumber. Because of the topography, Stewart Lumber does not have access from any other street. A conflict exists between vehicles loading/parking at Stewart Lumber and vehicles turning from Rainier at a high rate of speed.

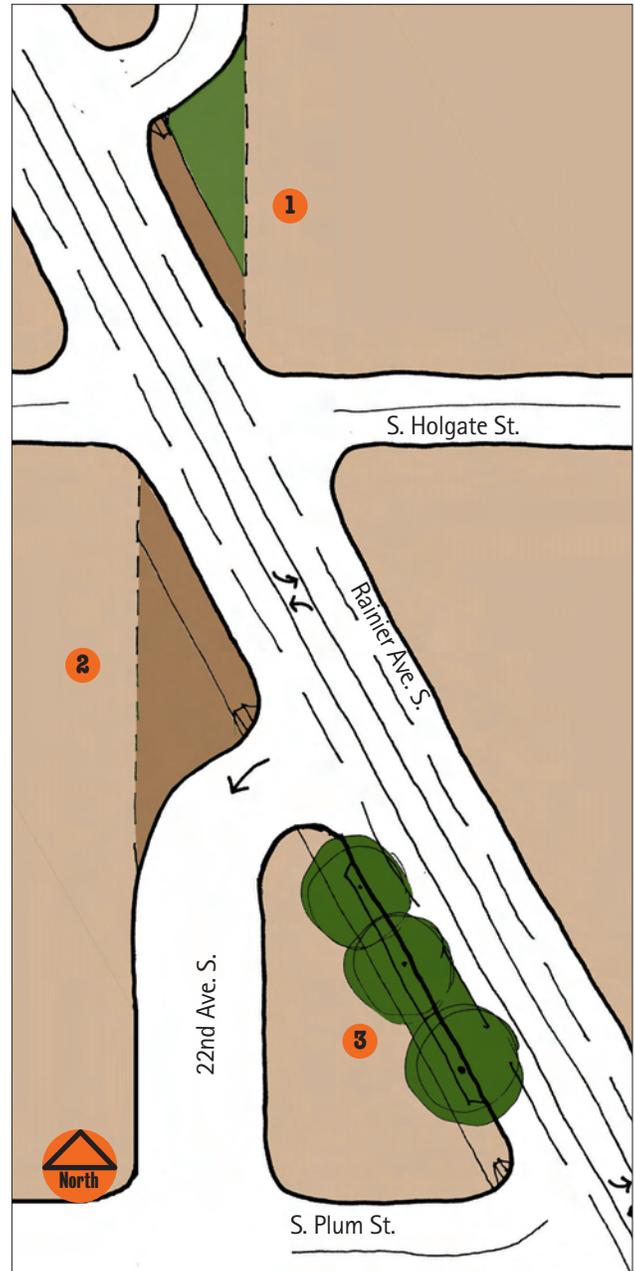
Between 22nd and Plum on the west side of Rainier, there is a parking set back that serves the adjacent business. Motorists parking in this seven-foot wide parking strip impede traffic flow on Rainier during the parking maneuver and park partially on the sidewalk as exiting their vehicle adjacent to Rainier's high traffic flow is difficult. This has resulted in damage to the sidewalk as well as partially blocking the limited sidewalk space. Parking for this establishment can be accommodated on either 22nd or Plum.

**Proposed**

A solution to this intersection needs to be developed that prevents or discourages right turns from Rainier to 22nd, and prohibits left and right turns from 22nd to Rainier, while maintaining Stewart Lumber's ability to maneuver large trucks to and from its loading doors at the front of the building, while preserving customer parking. Safety for pedestrians and cyclists on Rainier also must be considered.

- 1 Square up the intersections at 22nd to reduce the crossing distances to improve pedestrian and bicyclist safety and to more clearly define the motorists stopping location to execute turns.

Consider making 22nd, south of Rainier one-way



- 2 southbound; this will allow large truck access to the loading area; as trucks must enter 22nd and back into the loading zone, consider additional treatments to slow or discourage through traffic from using this portion of 22nd.
- 3 Eliminate the parking set back and restore planting strip with street trees and landscaping, removing the parking conflict and improving pedestrian safety and transit speed and reliability.

**Reconfigure intersection, add pedestrian crossings on all approaches, and reduce crossing distances.**

**Existing**

Rainier Ave. S, 23rd Ave. S. and S. Hill St. intersect at a signalized intersection that is a vehicular High Accident Location. Hill is stop sign controlled with right turn only restrictions, but motorists are permitted to turn right from Hill to Rainier, across 23rd.

The signal operates with a split cycle for left turns from 23rd and Rainier, because of very heavy turning movements.

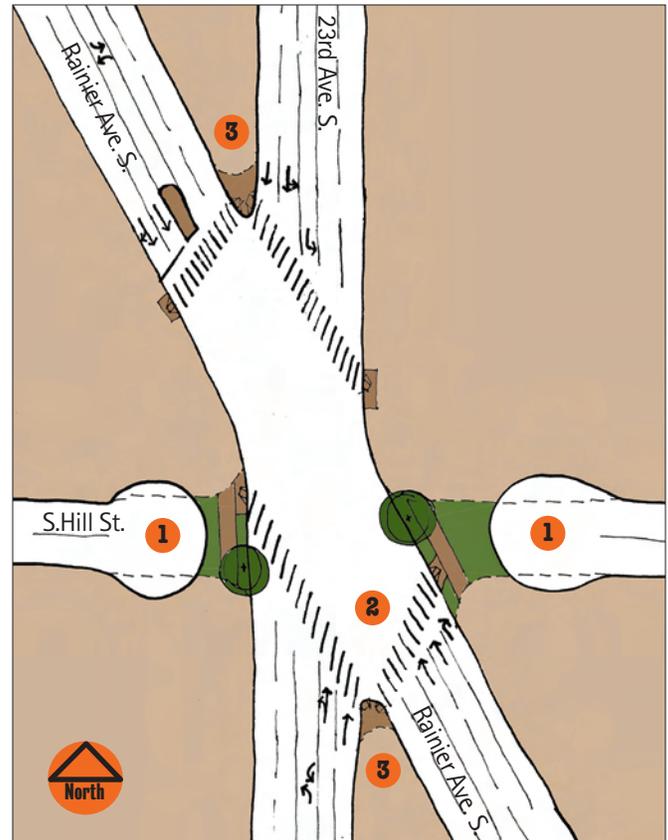
The intersection currently operates at LOS D with a nearly 1-1/2 minute delay on south approach; by 2030 it is projected to be at LOS E with over a two minute delay. The volume on Rainier is almost 38,000 vehicles daily, and is projected to exceed 41,000 vehicles by 2030. 23rd has a daily traffic volume of about 15,000 vehicles.

This is also a very challenging intersection for pedestrians and cyclists. Crossings are not permitted on the north approach of Rainier, and due to the skewed angle of the intersection, the crossings are very long. In addition, the distance from the stop bars on Rainier to the pedestrian crossings on 23rd is approximately 140' (almost half a block), and motorists tend not to yield to pedestrians in the crosswalks. The Lighthouse for the Blind is located two blocks to the east, and many blind pedestrians cross to and from the bus stops.

Metro routes 7 on Rainier and 48 on 23rd meet here; over 1,300 riders board and alight here between 6:00 am and 6:00 pm, the greatest number of transit patrons of all the stops along the Rainier corridor. All of them likely to have to cross at least once, on the inbound or outbound trip.

**Proposed**

**1** Cul-de-sac Hill east and west of the intersection, eliminating the conflict of traffic from Hill crossing the signalized approaches of 23rd. All local access traffic on Hill will reroute to other streets. Improve pedestrian connections with new sidewalks and street trees.



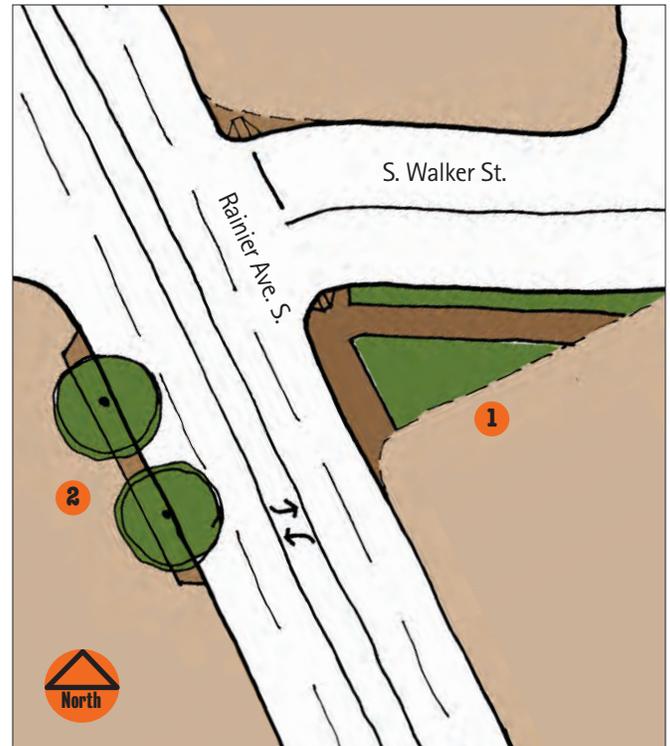
- 2** Move the Rainier south crosswalk so that it is slightly more parallel to 23rd, creating an improved pedestrian crossing. Install a new Rainier north crossing at nearly the same angle as the south crosswalk; this requires moving the stop bar for southbound traffic further north. On 23rd, keep the north crosswalk in its current location; relocate the south crosswalk parallel to Rainier. To address vehicle/pedestrian conflicts during right turns on green, install a pedestrian lead signal. Consider special pavement treatment to heighten motorist awareness of pedestrians and to aid blind pedestrians in crossing.
- 3** Restrict right turns from 23rd to Rainier because of the very difficult angle, and realign curbs to reinforce this restriction. Motorists wishing to make these turns can do so using cross streets north or south of this intersection. This also has the benefit of reducing the pedestrian crossing distances.

**Realign intersection to reduce pavement width;  
planting strip improvement.**

**Existing**

On the east side of Rainier Ave. S. at S. Walker St., the intersection is very wide, 90 feet, which is twice as wide as typical. This wide crossing results in a long exposure time for pedestrians and bicyclists crossing Walker and allows motorists to execute turns at high speeds, thus creating a conflict. Overhead trolley lines serve Metro's turn around for route 4 for the westbound direction.

On the west side of Rainier, an existing planting strip was removed to provide a 5.5' wide parking area. Because of the limited width of the parking area, when motorists park in this area, to avoid conflicts with the travel lane, they park partially on the sidewalk. Parking maneuvers also cause conflicts with traffic in the curb lane, particularly buses and trucks.



**Proposed**

- 1** Narrow the crossing by realigning the curb line on the south side to reduce the pedestrian crossing distance and require motorists to slow down to make the turn; add street trees and landscaping.
- 2** Construct planting strip by eliminating the narrow parking strip. Add street trees.

**Add pedestrian all-way walk and tighten radii to reduce crossing distances.**

**Existing**

Rainier Ave. S. and Martin Luther King Jr. Way S. is one of the busiest intersections in the study area, handling 4,800 vehicles in the PM peak hour today, with a projected increase to 5,200 vehicles by 2030. Despite these high volumes, the intersection operates acceptably for vehicles with an overall LOS D both now and projected in 2030.

The intersection is configured similar to Rainier and 23rd, with MLK being split phased due to the heavy left turn movements to Rainier. Left turns from Rainier to MLK are restricted. Right turns from MLK northbound to Rainier southbound are also restricted. There is a free right turn lane from Rainier southbound to MLK southbound, where traffic never stops.

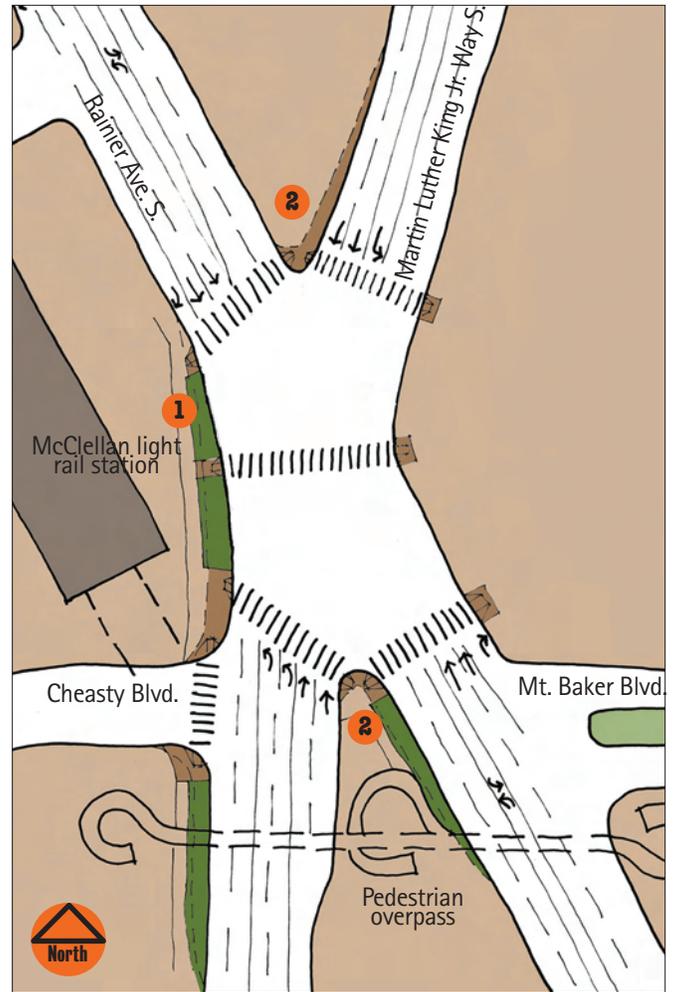
South of the intersection, MLK is a Major Truck Route and north of the intersection Rainier is a Major Truck Route.

Currently, there is only one at-grade crossing, the north approach of MLK. Although the pedestrian overpass provides the safest option for crossing Rainier and MLK south of Mt. Baker Blvd, many pedestrians cross at grade illegally. Franklin High School, on the east side, generates very high pedestrian traffic, and the future Mt. Baker Station, on the west side and the bus transfer center to the north will greatly increase the numbers of people walking and biking here. Sidewalk widths are minimal along Rainier and at current bus zones waiting transit patrons block through pedestrian movements.

This area is within the North Rainier Urban Village; increased commercial and residential transit-oriented development is expected in the future.

**Proposed**

- 1** Eliminate the free-right turn lane from Rainier southbound to MLK southbound. The skewed angle provides an adequate turn radius for trucks and buses without the turn lane. This will also reduce the pedestrian crossing distance.
- 2** Realign curb on both the northwest corner of MLK at Rainier and on the southwest corner of Rainier at



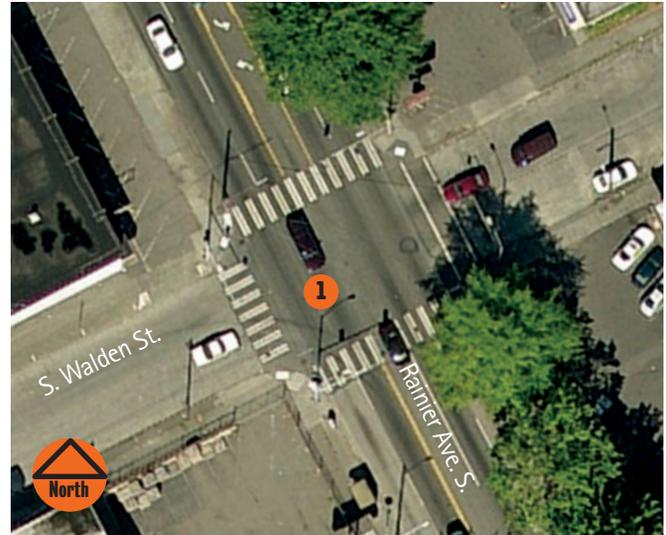
MLK (install a curb extension here if the bus zone on Rainier remains active after light rail opens).

- 3** Add an all-way walk to the signal phasing and install five pedestrian crosswalks nearly perpendicular to the street being crossed. This includes a crosswalk across the center of the intersection, providing Franklin HS and the Mt. Baker neighborhood with the most direct crossing opportunity. Operation of the intersection will also require restricting all right-turns on red. This will allow for the safest pedestrian movements and at the same time facilitate the best vehicular traffic flow.
- 4** As redevelopment occurs in the vicinity of the Mt. Baker light rail station, require all new buildings to be set back to provide a minimum six-foot planting strip and ten-foot wide sidewalk and minimize driveways across the sidewalk and near the traffic signal.

**Reduce pedestrian/vehicle crashes by adding pedestrian lead signal at Rainier Ave. S. and S. Walden St.**

**Existing**

This pedestrian High Accident Location is a signalized intersection, on the grid, without grade changes, and with good sight distances. All four corners have businesses with curb cuts near to the intersection; vehicles use the center turn lane to enter and exit parking lots. On the northwest corner the old Chubby & Tubby building has angled parking between the building and the sidewalk that uses the sidewalk for circulation space.



**Proposed**

- 1** Add pedestrian lead signal to give pedestrians a short all-way red cycle where no traffic enters the intersection. When the light turns green for cars, pedestrians will already be in the intersection and will be more visible to right and left turning vehicles.

**Reconfigure traffic lanes to accommodate parking on west side of street, eliminate parking on east side.**

**Existing**

Between S. Genesee St. and S. Alaska St, except where there are left turn pockets at intersections, Rainier has 9' inside lanes and 17' curb lanes for through travel and parking. On the east side of the street between Genesee and Oregon is a large commercial development with off street parking, and between Oregon and Alaska is Rainier Park. Parking on the east side of the street is restricted. On the west side of Rainier, development includes single-family homes, churches and small-scale neighborhood businesses. Parking for these uses is generally on-street and motorists, due to the narrow curb lane, frequently park on the planting strip and/or sidewalk. This damages both the planting strip and sidewalk along the corridor, and discourages pedestrian travel.

**Proposed**

- 1 Because parking is limited to the west side of the street, shift the centerline 4 feet east to establish the following lane configuration: northbound 10' inside lane, 12' curb lane; southbound 10' inside lane, 12' travel lane plus an 8' parking lane. Transition lane widths to meet lane configuration needs at intersections. Coordinate with Project # Rainier 12, Rainier and Genesee.
- 2 Construct curb extensions on Rainier on the north-west and southwest corners at Oregon, to further define parking lane and discourage parking on the planting strip.
- 3 Reconstruct sidewalks where damage has occurred; rehab planting strip to improve tree health and aid in permeability of soil.



**Reconfigure High Accident Location to reduce vehicle and pedestrian crashes.**

**Existing**

Rainier Ave. S. and S. Genesee St. is a Vehicular High Accident Location. In 2006, SDOT revised the southbound left turn to a protected phase, eliminating the permissive phase that contributed to the collision history at the intersection. Speeding was a contributing factor in many of the collisions, as this intersection had the highest reported number of collisions between 2002 and 2004 for motorists running off the road and hitting fixed objects (utility poles), for the entire Rainier Corridor.

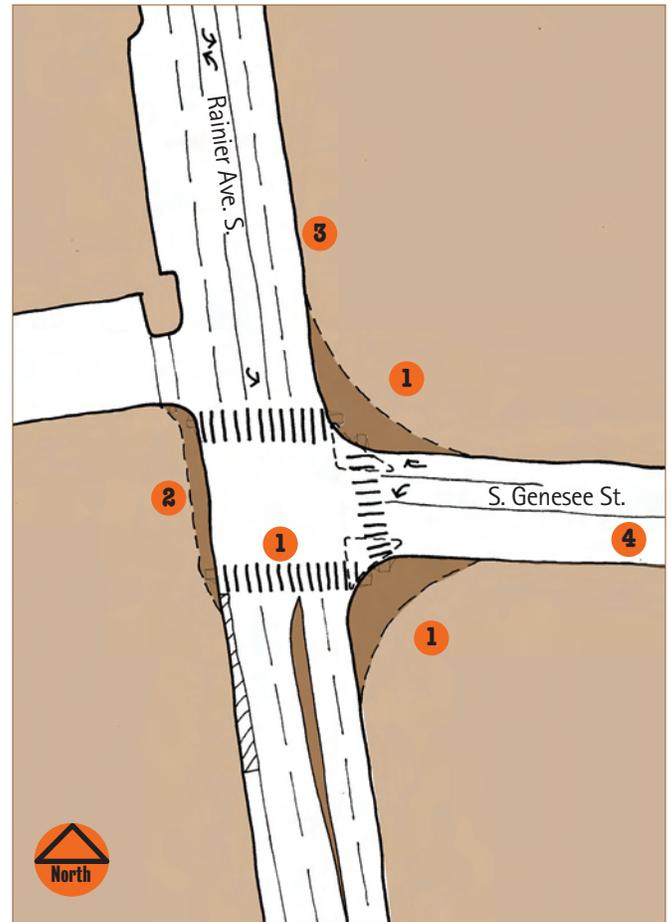
Pedestrians are restricted from crossing on the south approach, to and from the recent commercial development on the southeast which includes a coffee shop and drug store. On Genesee, pedestrians crossing the free right turn lanes must look backwards for motorists turning right. Motorists turning right from Genesee to Rainier often block the marked crosswalk while looking back for a gap in traffic. The large radii for both these free right turn lanes present challenges for pedestrians as motorists are able to execute these turns at relatively high speeds. A northbound bus stop just north of the intersection also complicates turns and merges when buses stop in-lane at the stop.

On the west side of Rainier, the north crosswalk is often obstructed by vehicles parked across it and the curb set-back creates a safety issue as vehicles pulling into and out of parking spaces block the intersection.

The Bicycle Master Plan recommends sharrows on Genesee.

**Proposed**

**1** Reduce the curb radii on the northeast and southeast corners, eliminating the free right turn lanes and traffic islands. The revised radius must be designed so that motorists do not block the crosswalk when making the westbound right turn. Install a pedestrian



crossing on the south approach in addition to the two existing crossings.

- 2** Construct curb and sidewalk on the west side of Rainier, eliminating the parking set back within the intersection. See Project #: Rainier 11, where on-street parking south of this intersection will be accommodated in a safety improvement.
- 3** Prohibit on-street parking north of Genesee on the east side of Rainier, to improve traffic flow, ensure buses stopped in-lane can pull back into traffic, and accommodate freight.
- 4** Implement Bicycle Master Plan recommendations. Genesee can accommodate sharrows as the through and parking lane is 21' wide.

**Add a pedestrian signal at this Pedestrian and Vehicle High Accident Location.**

**Existing**

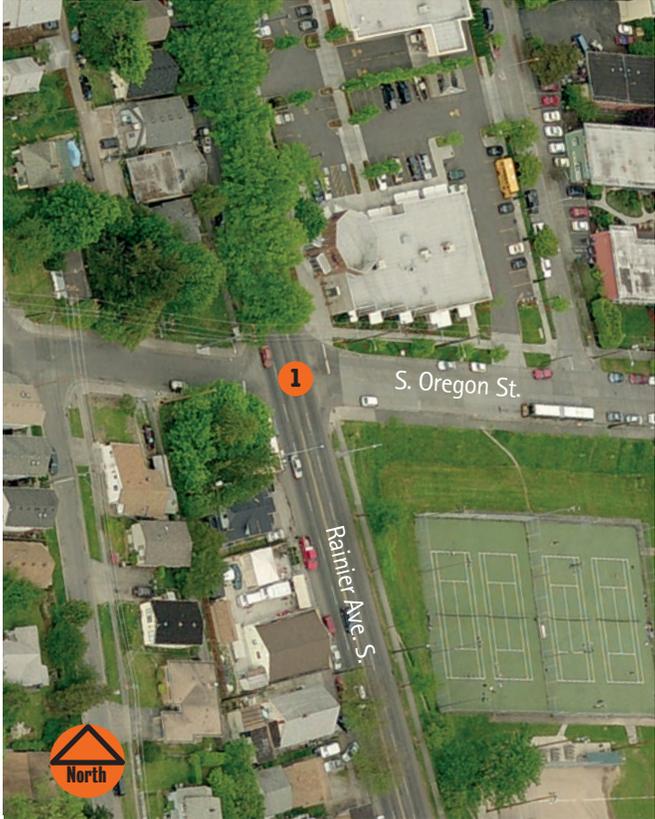
Rainier Ave. S. and S. Oregon St. is an unsignalized intersection that has a significant number of pedestrian generators in the immediate vicinity, including the Rainier Community Center, Rainier Park, community businesses, three elementary schools and churches. Many children and seniors cross here. The intersection is on the preferred walking route for three area elementary schools. The nearest signalized intersections are located 530' to the north at Genesee and 850' to the south at Alaska; pedestrians would have to walk one quarter of a mile out of their way to cross the street with the aid of a traffic signal.

Parking is permitted on the west side of the Rainier, consistent with where residences and businesses are located. Motorists tend to park on the curb and sidewalk/planting strip due to excessive speed of vehicles on Rainier and lack of parking delineation.

This intersection, the corridor between Oregon and Genesee and the intersection of Rainier and Genesee are all vehicular High Accident Locations (HALs). See Project # Rainier - 11 for corridor improvements.

**Proposed**

- 1 Install a pedestrian signal.



**Complete design and engineering and then implement a lane reconfiguration plan for Rainier Avenue between Alaska and Cloverdale to increase safety, enhance business districts, improve pedestrian environment, provide bike lanes, maintain transit speed and reliability and accommodate freight access and loading.**

**Existing**

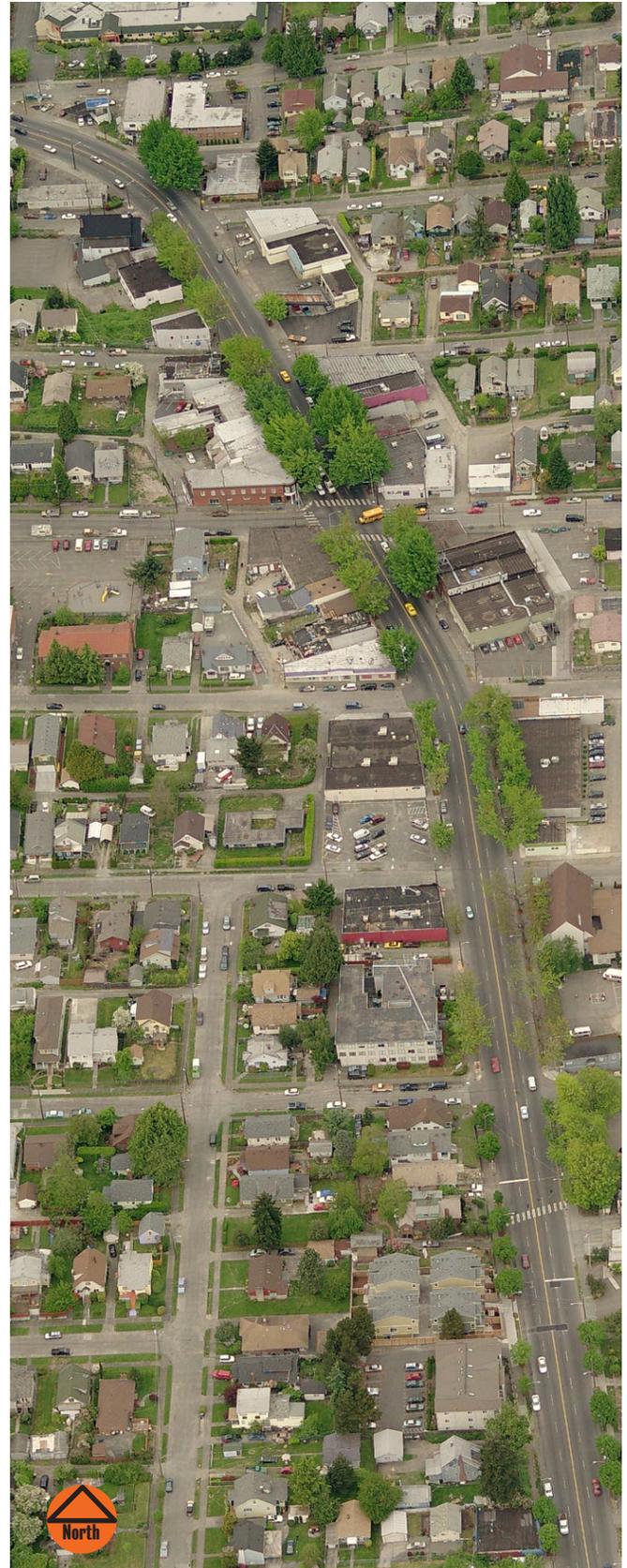
Rainier Ave. S. between S. Alaska St. and S. Cloverdale St. runs through Columbia City, a vibrantly revitalized business district, and Hillman City, a neighborhood commercial district currently on the upswing. Both areas, along with other businesses south of Hillman City, depend on their customers coming by foot, transit, bike and car. In these historic districts businesses abut the sidewalks. Pedestrians need to feel safe from moving traffic and need to feel at ease crossing back and forth across Rainier safely and comfortably.

Rainier Avenue between Alaska and Cloverdale is currently configured with two nine-foot center lanes and two seventeen-foot outside lanes for both through traffic and parking.

Most of the businesses fronting Rainier in Columbia City and Hillman City rely on on-street parking. In Columbia City curb extensions help define the parking lane, but in Hillman City motorists often park partially on the sidewalk or planting strip; the curb is low and drivers feel safer exiting their cars with the added room. However, this causes damage to existing curbs and sidewalks, detracts from the attractiveness of the district and makes the sidewalks unappealing for pedestrians.

The Columbia City and Othello light rail stations are located less than one-half mile from Rainier. There are at least six public elementary schools that include Rainier as part of the recommended walking route and there is a high concentration of elderly and non-English speaking residents in the area.

Following is a summary of many of the factors that need to be considered in a design and engineering plan for this street.



Rainier Avenue S through Hillman City

*Safety:* Rainier has the highest number of crashes of any street in the City of Seattle. Major causes of crashes include speeding, the conflicts created at angled intersections where Rainier cuts across the grid, and pedestrians jaywalking, in many cases because of the very long distances between marked crossings. In the heart of Columbia City there are three signalized intersections a block apart, but in Hillman City there is only one full signal, at Orcas, and one half signal at Brandon.

*Pedestrian-Friendly Business Districts:* Businesses along Rainier rely on cars to bring customers but also, particularly in the urban villages, need to be comfortable places for people to walk, whether it's residents from surrounding neighborhoods, people who come on transit, or drivers after they park their cars.

*Cyclists:* Cyclists consistently say Rainier is "the desire line", a long direct route with a reasonable grade from the south end of Rainier Valley almost all the way downtown.

*Transit:* Rainier carries some of the heaviest transit ridership volumes in the entire state; changes to the street must ensure that buses can operate fast and reliably and that passengers can safely walk or bike to and from stops.

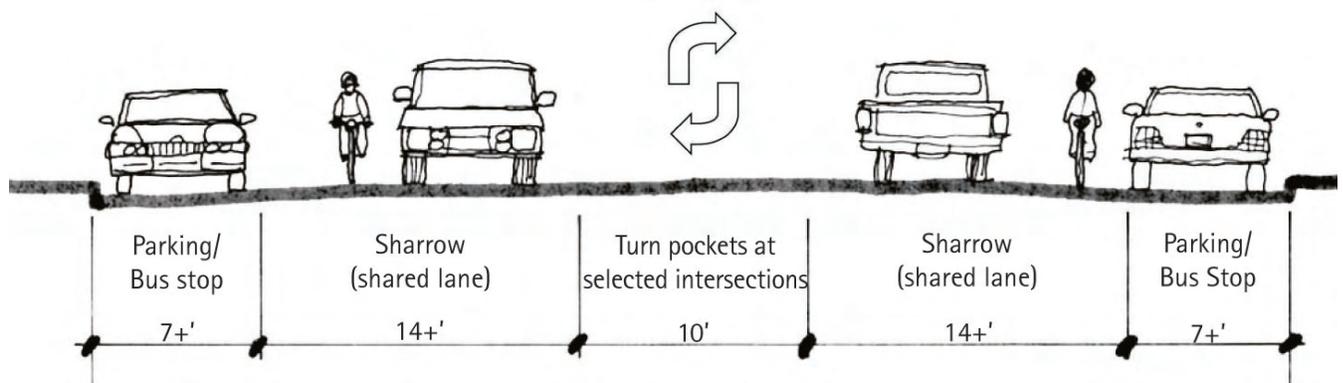
*Freight:* While Rainier is not a major truck route south of MLK, businesses along the street rely on trucks to bring the goods they sell to their customers.

**Proposed**

Past work on a possible lane reconfiguration plan for Rainier has repeatedly called for 'further study' with no clear direction regarding the desirable outcome. The work done for the Southeast Seattle Transportation Study has confirmed that such a plan can be implemented for at least most of the length of Rainier Avenue south of Alaska, although along some stretches implementing an optimum plan might have to be done in concert with redevelopment of the adjacent land parcels. The next step is to engineer the plan, block by block, determining the appropriate final configuration for each block, and then funding and implementing the plan.

The goal is to design and engineer a street configuration on Rainier that would provide one through lane in each direction, and accommodate bus stops, bike facilities, left turn lanes/pockets, freight loading, pedestrian crossings and other needs.

- 1 Complete engineering for and implement a lane reconfiguration plan for Rainier Avenue between Alaska and Cloverdale, to increase safety, enhance business districts, improve pedestrian environment, provide bike lanes, maintain transit speed and reliability and accommodate freight.
- 2 This project would incorporate elements of projects Rainier-14 through Rainier-21.



Sample lane configuration, one of several that might be appropriate for portions of Rainier Avenue

**Add a pedestrian signal at High Accident Location in Columbia City business district; relocate bus zones.**

**Existing**

Rainier Ave. S. and 39th Ave. S. is a High Accident Location near the southern end of the Columbia City business district. Urban design features that create an identity for the historic business district include brick curb extensions, benches, drinking fountains and historic lighting. At one time a marked crosswalk was installed on Rainier at 39th, but the location did not meet the current crosswalk marking criteria so the crosswalk was removed. Curb ramps still exist and pedestrians continue to use the unmarked crossing. Metro bus zones are located immediately south of this intersection. The nearest signalized crossing to the north is at Hudson, over 530 feet away, and to the south there is a half signal at Brandon over a third of a mile away. The distance between two full signals is over half a mile. This long uninterrupted stretch between Columbia City and Hillman City allows drivers room to exceed the speed limit, which many do, particularly on the downhill grade northbound.



**Proposed**

- 1** Install a pedestrian signal to provide a protected crossing.
- 2** Relocate bus zones providing in-lane stops at the far side of the proposed pedestrian signal.

**Realign street to improve pedestrian crossing for both Rainier and Brandon.**

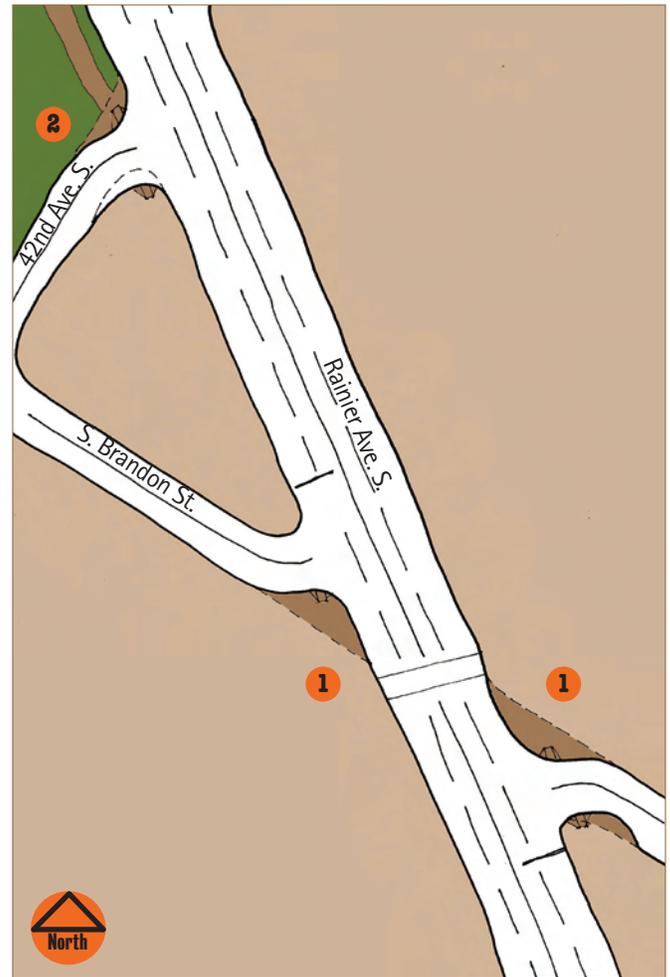
**Existing**

S Brandon St. is a 25' non-arterial street that intersects Rainier Ave. S. at a skewed angle making the crossing of Brandon along Rainier 65' wide. The long crossings are not inviting to pedestrians as they increase the exposure time the pedestrian is in the street. The width of the crossing also allow motorists to execute right turns from Brandon and left turns from Rainier at higher rates of speed. A pedestrian signal provides access to transit stops, a medical facility and other pedestrian generators in the area. Motorists turning right from Brandon are not able to see the traffic signal heads and therefore must be alert for pedestrians utilizing the signalized pedestrian crossing.

The neighborhood is currently working on a community-designed public space at 42nd Ave. S, between the Columbia City and Hillman City commercial districts.

**Proposed**

- 1 Realign both approaches from Brandon so they intersect Rainier at right angles reducing the pedestrian crossing from 65' to 30' and improving the sight distance for motorists turning across the signalized pedestrian crossing.
- 2 Continue public space design elements in new sidewalk/landscaping area to help create a sense of place and an inviting environment for pedestrians.





**Add urban design elements and street improvements to enhance urban village business district, improve pedestrian environment, and increase safety.**

**Proposed**

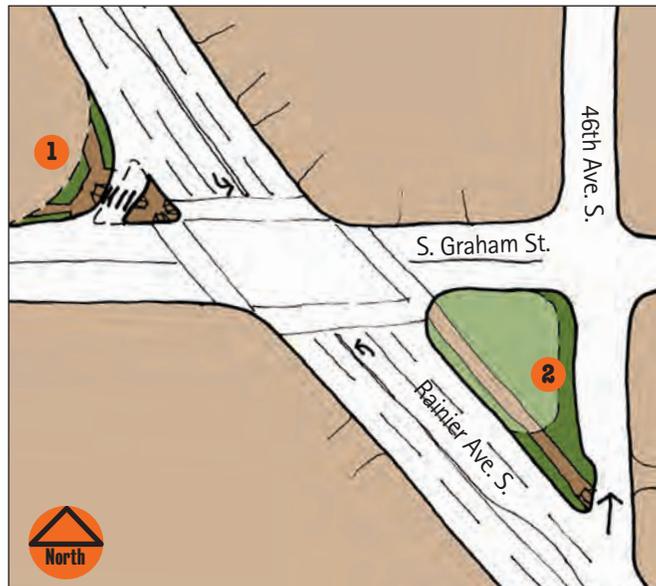
**Existing**

Rainier Ave. S. between S. Lucille St. and S. Mead St. is the heart of the Hillman City neighborhood commercial district. The storefronts along Rainier share a similar historic character with those in Columbia City, but the street lacks pedestrian amenities and crossing opportunities. The impacts from traffic on Rainier add to an uninviting environment for pedestrians. Due to narrow travel lanes and high travel speeds, motorists park their vehicles partially on the planting strip further encouraging high speeds and detracting from the pedestrian environment.

The mature street trees contribute to Hillman City's historic character, provides separation between vehicles and pedestrians, and shelter pedestrians from rain and sun. With few businesses having large windows facing the street, however, the sidewalk area lacks light. Additionally, some sidewalks are in poor condition due to damage from tree roots and vehicles.

The Rainier Traffic Safety Project recommended evaluating the possible use of curb extensions in Hillman City to address pedestrian safety and activity.

- 1 Install urban design improvements to create a sense of place and improve the pedestrian environment. Improvements may include curb extensions on Rainier and cross streets to shorten pedestrian crossings and define parking lanes, brick pavers, benches and pedestrian lighting. To encourage a connection to Columbia City some design elements should continue north to 39th, the southern end of Columbia City.
- 2 Install traffic signals at Rainier/Mead and Rainier/Findlay to provide crossing opportunities and accessibility for all modes.
- 3 Consolidate driveways and, where possible, move access from Rainier to cross streets, to reduce driveway/pedestrian conflicts and reaffirm Rainier as a pedestrian street. Work with property owners/developers to reconfigure access and on-site parking when buildings are upgraded or redeveloped.
- 4 Install directional signs on cross streets that emphasize Hillman City (current signs direct drivers to Columbia City). Help create an identity for Hillman City.
- 5 Repair sidewalks in business district. Consider providing more space for tree growth.



**Improve pedestrian High Accident Location by closing street end of 46th and continuing sidewalk on Rainier.**

**Existing**

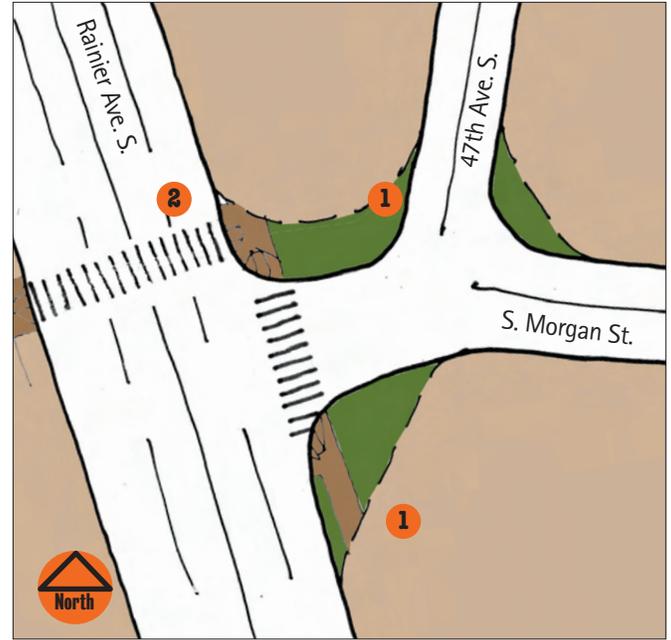
Rainier Ave. S. and S. Graham St. is a signalized pedestrian High Accident Location. The land uses along Rainier are multi-family and commercial. Two elementary schools, Brighton and Graham Hill, have this intersection on their recommended walking routes. An adult crossing guard is not stationed at this intersection. Transit ridership is high and bus zone shelters are provided south of the intersection.

West of Rainier, Graham is a minor arterial that connects to Swift, with access to and from I-5. The intersection experiences high pedestrian and vehicular volumes and heavy turning movements. The free right turn on the northwest corner is a challenge for pedestrians due to the large curb radius.

Just south of the intersection, 46th Ave. S. intersects Rainier at a skewed angle creating a 65' long crossing which is not inviting to pedestrians as it increases the exposure time the pedestrian is in the street. The width of the crossing also allows motorists turning right from Rainier to do so at a high rate of speed. Left turns from Rainier are restricted at this intersection. The triangular island created by these intersecting streets is a landscaped park-like area with a bus shelter, and provides a neighborhood amenity.

**Proposed**

- 1 Reduce the curb radius on the northwest corner, maintaining the free right turn and reduce the size of the pedestrian island. Reconstruct the smaller pedestrian island with concrete curb and sidewalk. This improvement will slow motorists, making the pedestrian crossing safer.
- 2 Reduce the width of the crossing at 46th by creating a one-way northbound right turn only from Rainier. The crossing will be reduced from 65' to 20'. Extend the sidewalk and landscaping from the triangular island.



**Reconfigure intersection to reduce pedestrian crossing distance and improve vehicle safety; install pedestrian signal.**

**Existing**

Rainier Ave. S., S. Morgan St. and 47th Ave. S. is an unsignalized intersection. On the east side of Rainier, Morgan and 47th intersect creating a long pedestrian crossing parallel with Rainier. Although both Morgan and 47th are non-arterial streets with widths of 25', the overlapping right-of-way creates a crossing nearly 85' long. The wide crossing results in a long exposure time for pedestrians and bicyclists walking or riding on the east side of Rainier, as well as allowing motorists to execute turns at higher speeds, thus creating potential conflicts.

Traffic speeds and volumes along this segment of Rainier are generally high, limiting pedestrian accessibility in the area. The area is characterized by high density, multi-family apartments. Bus stops are located at this intersection.

**Proposed**

- 1** Reduce intersection width by realigning how 47th intersects with Morgan and realign Morgan to intersect Rainier at a right angle. The crossing can be significantly reduced creating a more inviting pedestrian environment with landscaping and trees, and increasing vehicle safety.
- 2** Install a pedestrian signal on Rainier to provide a protected crossing.

**Install a pedestrian lead and countdown signal to assist the elderly and school children; construct curb extension to reduce the crossing distance.**

**Existing**

Rainier Ave. S and S Holly St. is a signalized intersection. Holly is a non-arterial street, but west of Rainier it is 36' wide, so it functions similar to an arterial street. This intersection has one of the highest densities of multi-family housing along the Rainier corridor. Pedestrian generators in the area also include transit stops, a senior center on the southwest corner and several schools. This intersection is on the recommended walking route to school for both Brighton and Graham Hill Elementary Schools; an adult crossing guard is stationed at this intersection.



**Proposed**

- 1** Install pedestrian lead and countdown signals for all crosswalks, to assist the elderly and young pedestrian population in the area.
- 2** Construct a curb extension on the northwest corner to reduce the crossing distance for pedestrians crossing Holly, shift centerline south to accommodate right turns. Realign the north approach crosswalk to be more direct.



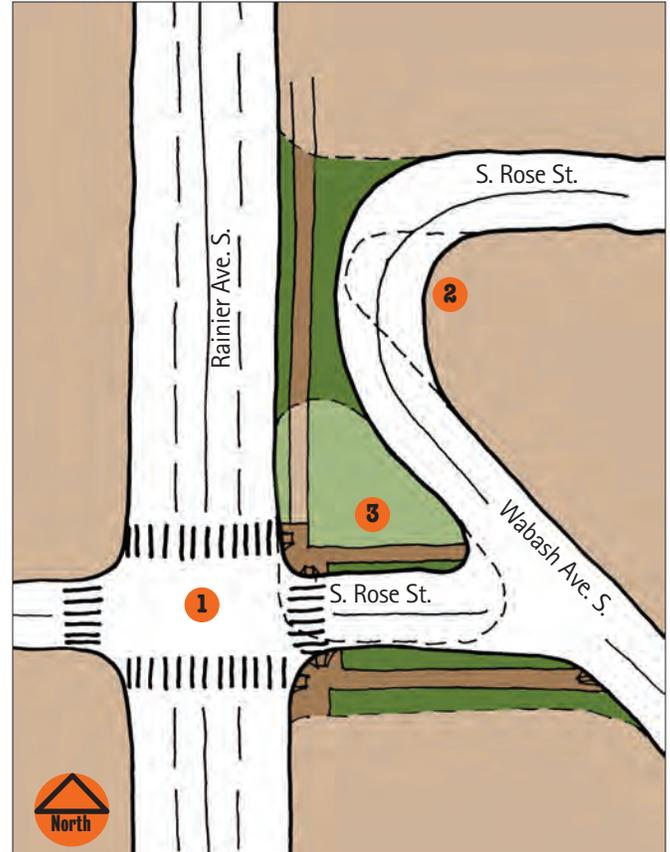
**Reconfigure intersection to reduce pedestrian crossing distance and improve vehicle safety; convert pedestrian signal to full traffic signal.**

**Existing**

Rainier Ave. S., S. Rose St. and Wabash Ave. S, intersect in an unusual configuration. North of the pedestrian signal, where the non-arterials Rose and Wabash, both 25' feet wide, intersect at Rainier, there is a pedestrian crossing over 90' long parallel to Rainier. This is due to the skewed angle of Wabash and the overlapping right of way with the north leg of Rose. The south leg of Rose does not line up with the west approach. At one time, an island was installed to more clearly define the travel paths. The configuration creates challenges and confusion for pedestrians and motorists alike.

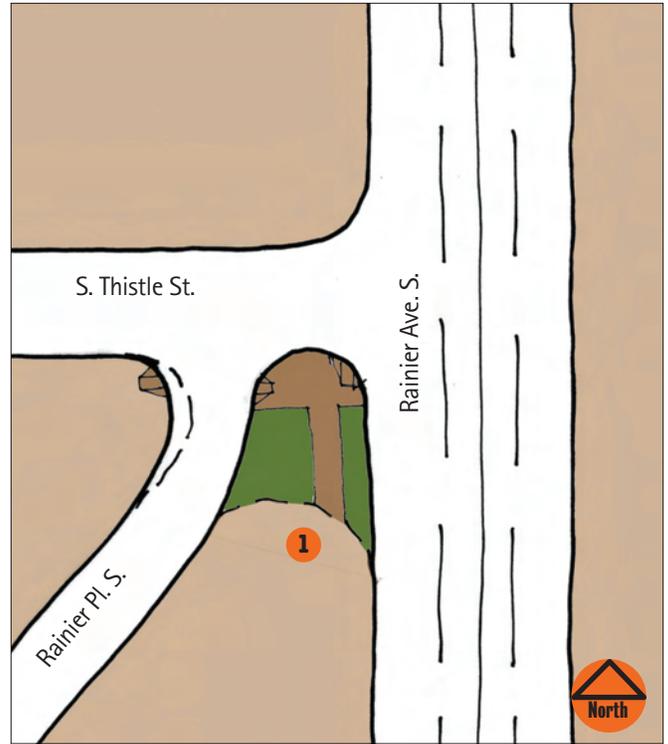
There is currently a pedestrian half signal to cross Rainier south of the western approach of Rose, and a Metro bus stop on the island. Surrounding land uses include multi-family housing, churches and schools. Students from Dunlap and New School at South Shore Elementary schools use this intersection which is on their recommended walking routes. The distance between full traffic signals on Rainier in this stretch is three-quarters of a mile and drivers here tend to exceed the speed limit. The community has suggested improvements to this intersection during the Neighborhood Planning process.

The Bike Master Plan has identified Wabash as a shared roadway facility and Rose as a crossing location.



**Proposed**

- 1** Convert the half signal to a full signal, improving safety at this intersection and along Rainier. Install bicycle detection on Rose.
- 2** Eliminate the Wabash and north leg of Rose intersection at Rainier; eliminating the 90+ foot crossing by constructing a new sidewalk and landscaping improvements. A new section of roadway will be constructed to connect the north leg of Rose with Wabash.
- 3** Reconfigure the triangular island, relocating the south leg of Rose (on the east side of Rainier) and aligning it with the west approach of Rose. Include striped bike lanes on this short section of Rose so the roadway width will be 30'. Adjust the south portion of this street accordingly with new curb, sidewalk and landscaping.



**Realign street to improve pedestrian crossing along Rainier Ave. S. at S. Thistle St. and Rainier Pl. S.**

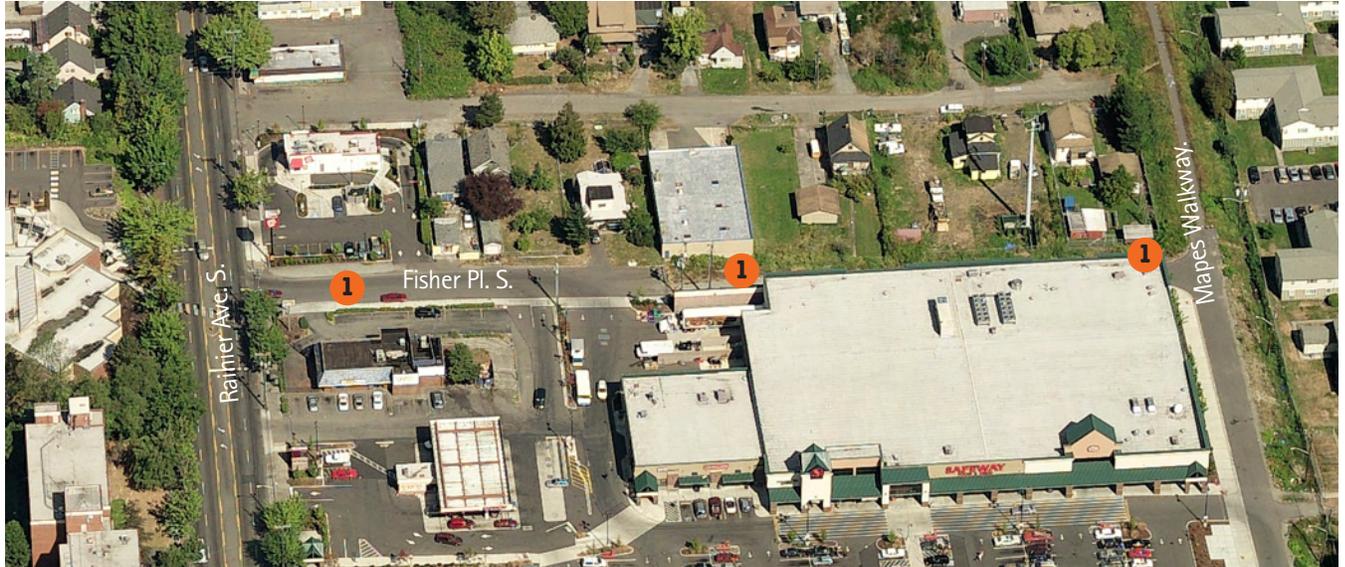
**Existing**

S. Thistle St. intersects Rainier Ave. S. at a right angle, but Rainier Pl. S. also intersects at this location at a skewed angle creating a long pedestrian crossing on the west side of Rainier, as well as a challenging situation for motorists turning to and from Rainier to or from either side street.

**Proposed**

- 1 Reconfigure intersection, so that Rainier Pl. intersects Thistle at a right angle, eliminating the direct turns to and from Rainier Pl. to Rainier. This enhances the pedestrian environment by reducing the crossing distance and the exposure time the pedestrian is in the street; this also requires motorists to execute turns at safer speeds.

**Improve the pedestrian connection from Rainier Ave. S. to 52nd Ave. S. and Mapes Walkway.**



**Existing**

Fisher Pl. S. connects Rainier Ave. S. with 52nd Ave S. This one block street is an unimproved street that serves as a back entrance to the grocery store and other services. At the intersection of Rainier, there is a pedestrian half signal that is utilized by Rainier Beach Library patrons, local residents and transit riders. Fisher Pl. could provide an ideal pedestrian connection for those traveling from the library or senior housing on the west side of Rainier to Mapes Walkway and the public spaces adjacent to Lake Washington. It is an alternative pedestrian route that would allow pedestrians to avoid the congested intersection of Rainier and Henderson, just to the north.

**Proposed**

- 1 Improve the safety and accessibility to the public right of way by constructing sidewalks, pedestrian scale lighting and landscaping.

**Reconfigure pedestrian High Accident Location intersection to improve safety for all modes by reducing curb radii and adding protected left turn.**



**Existing**

Rainier Ave. S. makes a 90 degree turn at the intersection of 51st Ave. S. This "T" intersection operates well for vehicles as it has only one left turn with vehicular conflicts, however, these left turns create conflicts with pedestrians in the marked crosswalks and the intersection is a pedestrian High Accident Location.

51st is a minor arterial that serves as a southern extension of Rainier connecting to Renton Ave S and Beacon Ave S, serving Skyway and Renton. This extension generates large turning volumes between 51st and Rainier. Motorists turning right from Rainier can do so at high speeds as they currently turn into a 30' lane. This is also true for the left turn from Rainier; however, these motorists must also cross two travel lanes on Rainier, at a curve with restricted sight distance.

Pedestrians crossing 51st, a 65' crossing, not only have a long exposure time in the street, they must also look out for turning motorists. When motorists on 51st have the green light to turn onto Rainier, they must wait for pedestrians crossing on Rainier. Signs have been installed at the signal to create motorist awareness of the pedestrian crossing.

Near Rainier and 51st there are numerous wide driveways for the businesses on the north side of Rainier, creating a challenging pedestrian environment.

This intersection is located in the heart of the Rainier Beach commercial area. The large senior housing on the northwest corner, the Rainier Beach library, the commercial center on the northeast corner and transit connections, all attract many pedestrians who cross at this location.

Pedestrian volumes can be expected to increase as this intersection will be within a 1/2 mile radius from the Henderson light rail station.

[Continues on next page]



**Proposed**

Coordinate this project with other Rainier Beach projects.

- 1 Narrow the southbound lane of 51st and reduce the curb radius on the southeast corner to reduce crossing distances and slow turning motorists.
- 2 Provide the following signal improvements: a protected left turn phase for the westbound Rainier left turn; a pedestrian lead phase for crossing Rainier.
- 3 Construct a median island to further define the pedestrian crossing and provide a location where people can pause and look to avoid conflicts with left turning motorists.
- 4 Evaluate vehicular access and work with property owners along Rainier to consolidate driveways where possible and to provide opportunities to "tame" Rainier traffic with landscaped medians.
- 5 Add planting strip to sidewalk on north side of curve where feasible, to further define pedestrian walking area and to protect pedestrians from moving traffic. Planting strip will also provide more space for existing trees. Where appropriate, provide new street trees where gaps in planting exist.
- 6 Reduce curb radius on the southwest corner of Sturtevant Ave S. This street provides an additional connection to Roxbury, but is a non-arterial street and the large radius encourages speeding.

**Corridor: Rainier Ave. S.  
RAINIER AVE. S. & 52nd AVE. S./  
MAPES WALKWAY**  
Pedestrian safety & accessibility

**Improve pedestrian/bicycle path between Henderson and Rainier Avenue serving high school, residential, and commercial center.**

**Existing**

Mapes Creek runs north-south within the 52nd Ave. S. right of way, providing a pedestrian connection between S. Henderson St. and Rainier Ave. S. Only the first phase of the project, a raised walkway along the creek connecting a small public plaza at Henderson with the intersection of Fisher Pl and 52nd, is complete. Lack of landscape maintenance, pedestrian scale lighting, and the fact that the path dead-ends behind the Safeway store, all contribute to the trail being underutilized; personal safety concerns and lack of awareness of the trail may both be factors.

Additional components of this project must be constructed to complete the community vision and improve the safety and attractiveness of this route, a major non-motorized connection for walkers and cyclists. The distance between the high school area and businesses on Rainier is shorter via the Mapes Creek Trail than traveling along Rainier. Major pedestrian generators that are served by the trail include Rainier Beach High School, Rainier Beach Community Center, The New School, Rainier Beach Library, the Rainier Beach business district, Lake Washington Apartments, and the lakefront. The trail also serves transit riders on Metro routes 7, 42, 48, and 107, and the Rainier Beach light rail station.

**Proposed**

Coordinate this project with other Rainier Beach projects.

- 1** Connect trail to Fisher Pl. which dead ends to the west, to provide connection to Rainier Beach Library.
- 2** Continue connection to Rainier, with pedestrian scale lighting, landscaping and clear delineation of path along the Safeway parking lot and across the driveway.
- 3** Add pedestrian signal at 52nd and Rainier to provide a safe connection for people to and from the trail from the south side of Rainier.



- 4** Relocate the bus zone on the south side of Rainier at Sturtevant to 52nd and evaluate the removal of the bus zones at 54th to consolidate zones at signalized locations where it is safer for pedestrians to cross.
- 5** Implement Mapes Walkway Master Plan.



**Provide improvements along Rainier Ave. S. in Rainier Beach to promote economic growth, vehicular safety, and pedestrian and bicycle safety and accessibility.**

**Existing**

Rainier Ave. S. between 52nd Ave. S. and Ithaca Pl. S. runs through the heart of the Rainier Beach commercial area. In this one-third mile section, Rainier changes from a five-lane roadway with no parking on either side to a four-lane roadway with parking on both sides to a three-lane roadway with parking on only one side. Both the five-lane and three-lane sections operate well. In the five-lane section private parking lots have eliminated the need for on-street parking and in the three-lane section, parking is only needed on the east side, as the hillside on the west restricts development. The four-lane section, however, does not serve the needs of adjacent businesses, pedestrians or bicyclists.

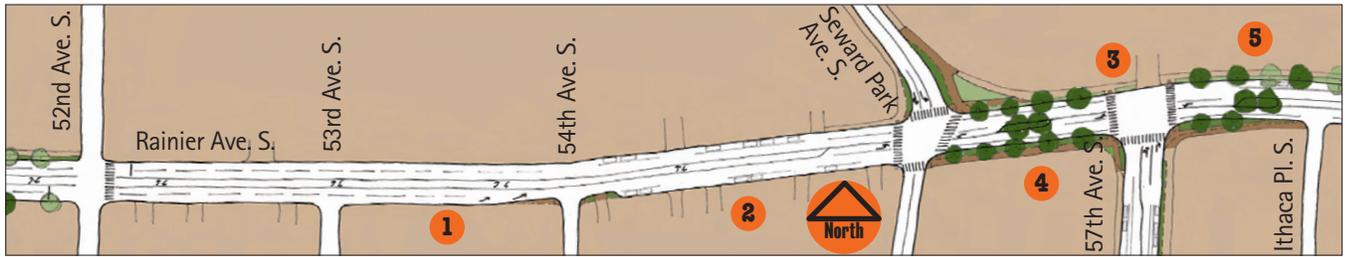
The commercial area between 54th and 56th/Seward has high on-street parking demand. Currently, motorists park partially on the planting strip as the 17 foot curb lane is too narrow for people to comfortably exit their vehicles. The results is damage to the curb, sidewalk and to some street trees. Along 57th, minimal sidewalk widths mean people walking to the businesses have no buffer from moving traffic.

Both the signalized intersections at Seward and 57th/ Spinnaker Bay Condominiums experience left turn demand that affects the through traffic lane. Metro Route 7 operates as a one-way loop here, using Rainier northbound and Seward southbound between 57th and Henderson.

The speed limit on Rainier increases from 30 mph to 35 mph just south of Ithaca. Northbound motorists frequently exceed the 35 mph speed limit along the 1.4 mile section of Rainier between Ithaca and the south city limits and often continue speeding through the Rainier Beach commercial area. Design treatments that reinforce the reduced speed limit, as a supplement to signing, would benefit the community by reducing collisions and creating a more inviting environment for people to patronize local businesses.

The Bicycle Master Plan recommends bike lanes along this portion of Rainier connecting to the existing bike lanes south of Ithaca.

[Continues on next page]



**Proposed**

Coordinate this project with other Rainier Beach projects.

- 1 Provide a continuous two-way left turn lane through this portion of Rainier transitioning with lane markings and signage from two through lanes to one through lane between 53rd and 54th. Provide left turn pockets at both Seward and 57th, and possibly add left turn protected signal phasing.
- 2 Stripe parking edge line between 54th and 56th. If a landscaped median can be installed in this block without conflicting with driveway access, it would eliminate motorists using the two way left turn lane as a passing lane, which they do now, and further help to tame traffic on Rainier.
- 3 Stripe bike lanes from Seward connecting to existing bike lanes south of Ithaca. Install a planting strip on the south side of Rainier between 56th and 57th to provide buffer for pedestrians. Construct a landscaped island between the two signals to define the left turn pockets and prevent conflicting uses for the left turn space between two closely spaced traffic signals.
- 4 Continue the planting strip on the south side of Rainier, east of 57th so curb lines match. This creates an opportunity to add street trees and landscaping. Construct a landscaped island east of the left turn pocket for 57th.
- 5 Plant street trees along Rainier in the planting strips and island. The tree canopy will also alert motorists to slow down as they are entering a commercial area. Investigate opportunities for speed tables or other pavement treatments to further reinforce the reduced speed limit upon entering the Rainier Beach commercial area.

**Reconfigure intersection to improve safety for pedestrians, bicyclists and motorists.**

**Existing**

Seward Park Ave. S, a minor arterial, is a major connection for bicyclists on the Lake Washington Loop. Currently, bike lanes on Rainier Ave. S. end just east of Ithaca Pl. S, and fail to connect to Seward. Bicyclists compete with motorists during the right turn from Rainier and conversely, the left turn from Seward. Motorists can make the right turn from Rainier at a high rate of speed as the radius is very large and the lanes are wide; the curb lane on Rainier is 17 feet wide, and the receiving lane on Seward is 25 feet wide. The pedestrian crossing of Seward is 70 feet long.

These design features tend to result in higher speeds, though the speed limit throughout the commercial area is 30 mph. The high speeds also create challenges for motorists turning left from Rainier to Seward, part of a one-way loop for Metro Route 7. Seward narrows quickly; just 120 feet north of the intersection it is only 28' wide.

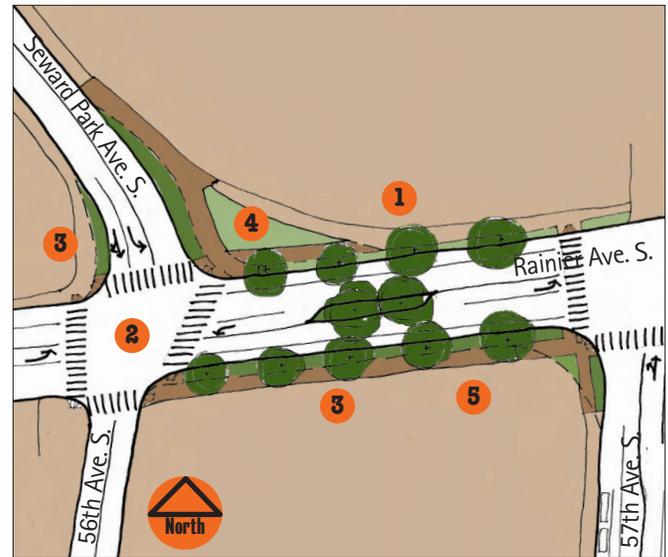
Pedestrians cannot cross Rainier on the east approach of this intersection and the sidewalks east of this intersection are minimal. On the north side of Rainier the minimum standard of an eight foot wide sidewalk adjacent to a moving travel lane has been accommodated with landscaping on the back side of the sidewalk. On the south side of Rainier the sidewalk does not meet minimum standards and as pedestrians walk east, the sidewalks narrow even further.

The Bicycle Master Plan recommends sharrows on Seward and a bike lane on Rainier. With the bike lanes on Rainier ending only a few blocks away, a gap in the bicycle network exists.

**Proposed**

Coordinate this project with Project # Rainier 25 – 52nd Ave. S. to Ithaca Pl. S, corridor improvements and Project # Rainier 27 – Rainier Ave. S. and 57th Ave. S, intersection improvements.

- 1 With the channelization proposed in Project # Rainier 25, bike lanes on Rainier continue to Seward and left turn pockets are provided.
- 2 Add a pedestrian crosswalk on Rainier on the east approach to improve accessibility for pedestrians.



- 3 Narrow Seward at the intersection with Rainier, taking into account the turn radius needed for buses, to narrow the crossing distance for pedestrians, slow traffic through the intersection and provide room to add landscaping. Change the left turn from Seward to Rainier from double left turn lanes to a single left turn lane.
- 4 Reduce the size of the landscape triangle on the northeast corner to provide for a new sidewalk separated from Rainier by a planting strip with street trees. Continue east with street tree plantings to 57th.
- 5 On the south side of Rainier between 56th and 57th, provide separation between the travel lanes and the sidewalk by constructing the planting strip proposed in Project # Rainier 25.

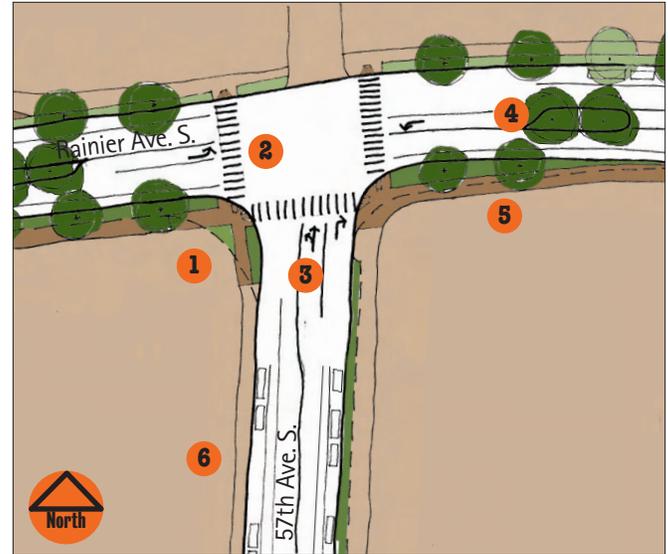
**Reduce curb radii, eliminate free right turn lane onto 57th and double left turn off of 57th, add planting strip and bicycle lanes to improve safety for all modes and calm traffic on Rainier and 57th in this pedestrian oriented neighborhood commercial area.**

**Existing**

The area around 57th Ave. S. and Rainier Ave. S. is developing into a small pedestrian-oriented neighborhood commercial area with cafes and services for residents from the surrounding area. 57th is a collector arterial with trolley bus service that provides a connection to Waters and a large residential area. The current intersection design encourages high speeds and is uninviting to pedestrians. Calming traffic here would enhance the business district and encourage more people to patronize local businesses, without limiting the vehicular capacity of the intersection.

Pedestrians are restricted from crossing the west approach of this intersection due to the double left turn from 57th. The pedestrian crossing on 57th is challenging, as people must cross a 20-foot wide free right turn with a large radius and then wait on a small asphalt island for the WALK signal. The typical motorist can execute this free right turn at a high rate of speed, which discourages pedestrians. The large radius on the southeast corner is an additional challenge for pedestrians, where northbound right turning motorists turn into a 22+ foot wide lane on Rainier; pedestrians just stepping off this curb on the WALK signal must be cautious of motorists making the right turn. The sidewalk on the south side of Rainier east of 57th is only five feet wide and is adjacent to a travel lane. The speed limit on Rainier to the east increases to 35 mph after this intersection.

The Bicycle Master Plan recommends a shared roadway on 57th and Waters.

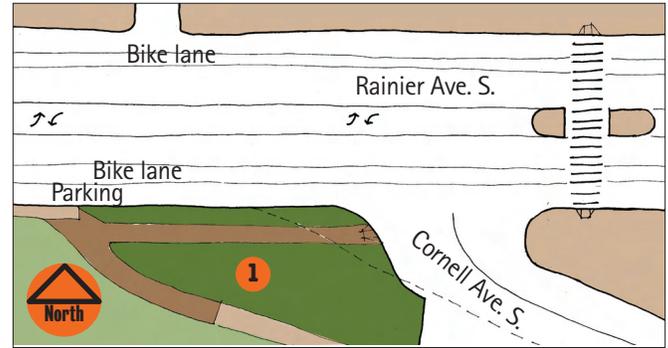


**Proposed**

Coordinate this project with Project # Rainier 24 – 52nd Ave. S. to Ithaca Pl. S, corridor improvements and Project # Rainier 25, Rainier Ave. S. and Seward Park Ave. S, intersection improvements.

- 1 Reduce curb radii, eliminating the free right turn thus narrowing the pedestrian crossing. Design the radii to accommodate the trolley bus turns at this intersection.
- 2 Add a pedestrian crosswalk on the west approach to improve accessibility for pedestrians
- 3 Eliminate the double left turn from 57th as necessary to accommodate corridor improvements in Project # Rainier 24.
- 4 Construct a landscaped median east of the left turn pocket from Rainier to 57th; this island will be the first visual clue that motorists are entering the Rainier Beach Neighborhood commercial area.
- 5 Construct a planting strip on the east side of 57th. This will provide opportunities to enhance the pedestrian environment without eliminating parking.
- 6 Stripe a bicycle climbing lane southbound on 57th; designate 57th as a sharrow in the northbound direction.

**Reconfigure the intersection to improve safety for all modes.**



**Existing**

The skewed angle of the intersection of Rainier Ave. S. and Cornell Ave. S. creates challenges for motorists, pedestrians and bicyclists. Although Rainier was rechannelized at this location, from four lanes to three lanes with striped bike lanes, the intersection still does not function optimally. Because of the skewed angle, southbound drivers on Rainier turning right onto Cornell often make the turn without slowing, creating an uninviting environment for cyclists in the bike lane and for pedestrians walking along Rainier and crossing Cornell.

A parking/bus zone lane on the west side of Rainier, and the large gravel area on the northwest corner, add to the conflicts for all users. Cornell is utilized by Metro transit routes.

The only marked pedestrian crossing is on the north approach of Rainier which conflicts with motorists turning left from Cornell. The city has a funded project, scheduled for summer 2007, that will relocate the crossing to the south approach and install median islands and curb ramps.

The pedestrian crossing of Cornell is nearly 150 feet long, partially through an undefined gravel parking area; it is not handicapped accessible. The gravel parking area serves the adjacent Lakeridge Park and its baseball field. Motorists backing out of parking spaces conflict with fast-turning traffic from Rainier to Cornell. In addition, the gravel poses problem as it spills out onto the bicycle lane.

**Proposed**

- 1** Reconfigure the northwest corner of the intersection and add nearly 100 feet of sidewalk, to clearly define the turning radius, make the crossing handicapped accessible, narrow the pedestrian crossing, and prevent gravel from spilling over to the bicycle lane. Add landscaping and define the parking area to reduce conflicts with through traffic. Relocate lost parking spaces in the gravel lot to the northwest side of Rainier by extending the parking lane. Taken together, these changes will slow motorists making the right turn from Rainier, and make the intersection function more optimally for all users.
- 2** Work with Metro to determine optimal locations for bus zones.

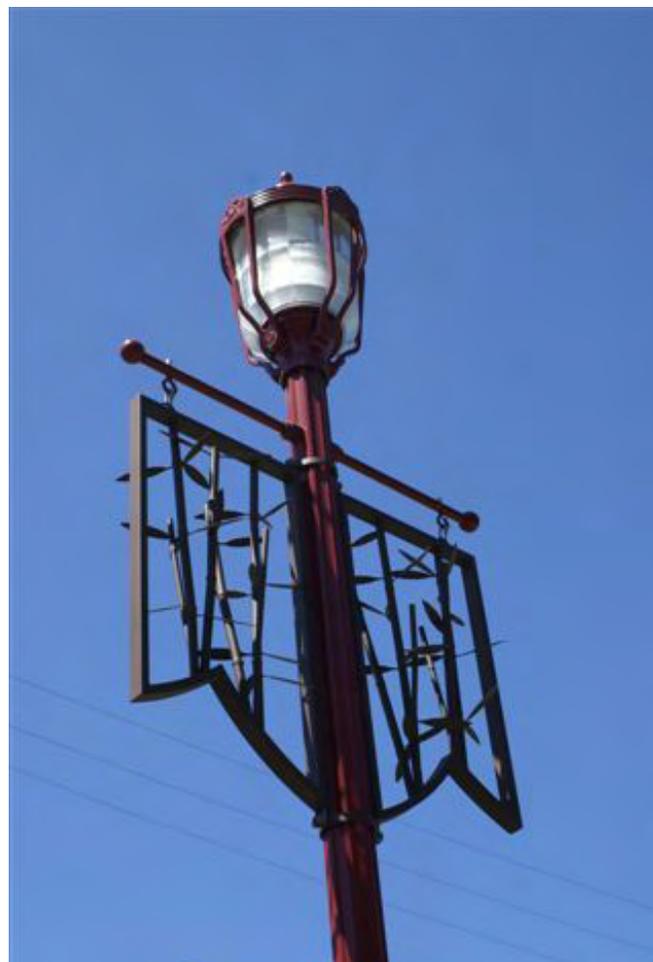
**Add pedestrian scale lighting to increase visibility of pedestrians.**

**Existing**

Pedestrian safety along and across Rainier Ave. S. is one of the biggest concerns in Southeast Seattle. Many segments of Rainier are poorly lit, not only for vehicles, but pedestrians as well. Although most intersections have street lighting for vehicles, it doesn't always help drivers see pedestrians. Additionally, community members have expressed personal safety concerns about lighting near Metro bus stops. Metro does provide standard lighting at many stops, however, the lighting does not continue further than the stops. Riders are concerned about their safety as they leave the stop.

**Proposed**

Add pedestrian scale lighting near signals along Rainier Avenue, at High Accident Locations for vehicles and pedestrians, and near Metro bus stops to increase visibility for pedestrians at night. In some locations, lighting should continue around corners of key intersections, such as Holly where there are a number of facilities for elderly citizens.





**Improve safety at High Accident Location by reconfiguring intersection and creating pedestrian crossings on all approaches.**

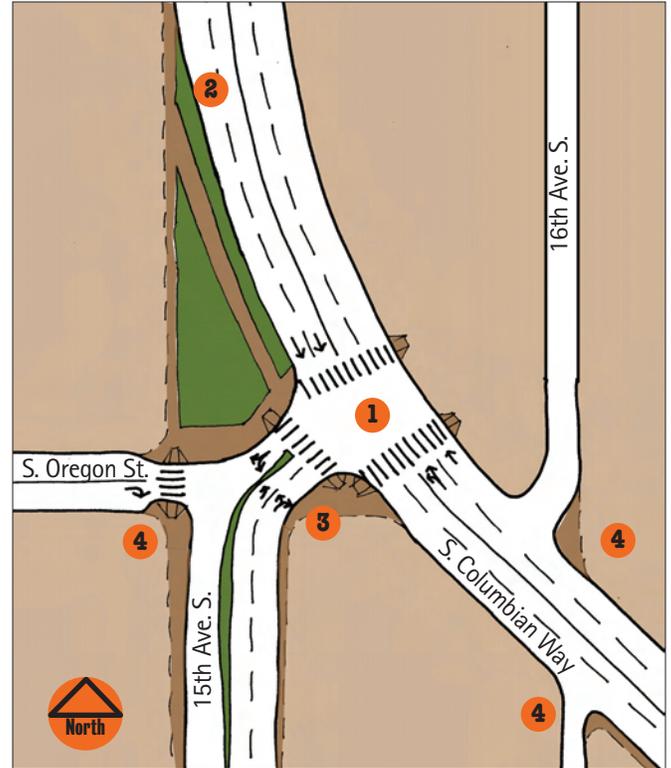
**Existing**

S. Oregon St. and S. Columbian Way is a vehicular High Accident Location and is a complex intersection where 15th, Columbian and Oregon come together. The primary movement is from 15th to Columbian, but 15th also continues south and crosses Oregon while Oregon dead ends at Columbian. McPherson's Fruit and Vegetable stand, a high vehicle generator, is located at the south end of the intersection and further complicates traffic patterns with access to its corner parking lot from two streets.

Currently pedestrians can cross at the curve of 15th/Columbian in only one location, to and from an asphalt island surrounded by all three streets. The Oregon/15th intersection has laddered crosswalks on all four approaches. On the curve of Columbian and 15th, the curb lanes have been widened at the expense of planting strips between the traffic lanes and the sidewalks, leaving pedestrians exposed to adjacent traffic.

Mercer Middle School is just east of the intersection, adjacent to the VA Hospital parking lot, and many students cross here, to and from the businesses and bus stops.

The Bike Master Plan recommends bike lanes on Columbian and Oregon through the intersection, and sharrows on 15th north of the intersection.



**Proposed**

A final proposal for this intersection needs to be developed at the design stage, taking into account the need to:

- 1 Create laddered crosswalks to improve crossing for pedestrians.
- 2 Remove or calm traffic heading south on 15th beyond the Columbian curve, to reduce conflicts at 15th and Oregon, but maintain access and parking for businesses facing 15th in the partial block between Oregon and the curve
- 3 Combine access point between 15th and Oregon, to Columbian, creating a single intersection, to improve safety for all modes.
- 4 Narrow curb radii where possible to reduce traffic speeds on turns, and reduce pedestrian crossing distances.
- 5 If possible, narrow curb lanes and construct planting strips between traffic lanes and sidewalks, planted with trees, to improve pedestrian comfort and safety.
- 6 Implement the Bike Master Plan recommendations.
- 7 Review driveways/access to and from McPherson's to improve pedestrian safety on the sidewalks and in the parking lot.

**Connect Chief Sealth Trail across I-5 for bicyclists and pedestrians. Connect Chief Sealth Trail to I-90 Trail.**

**Existing**

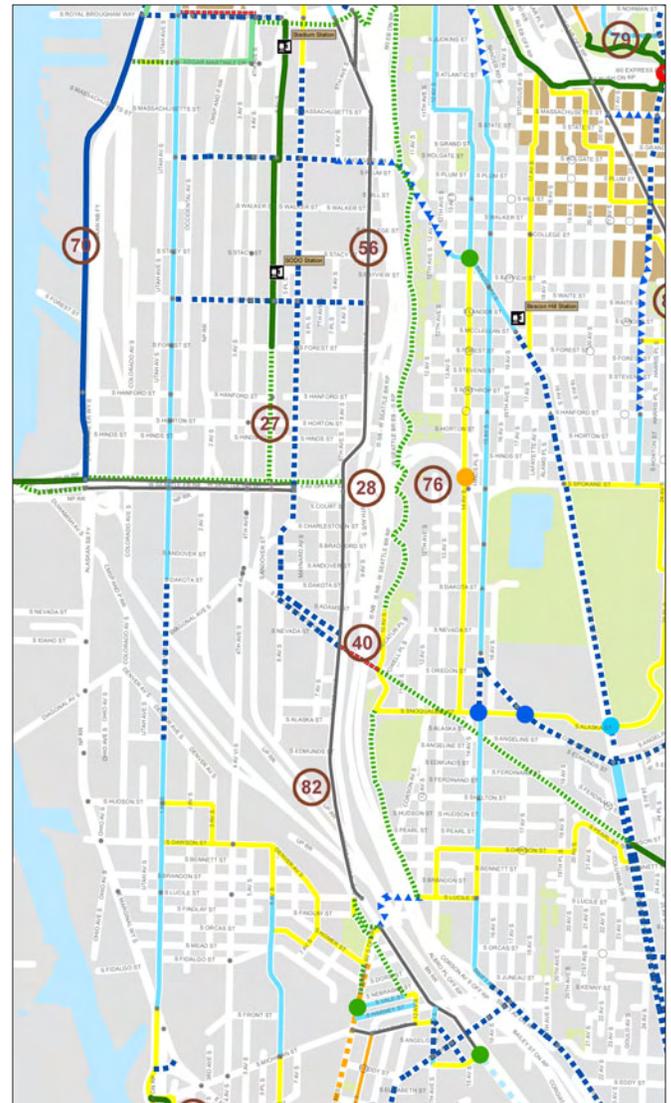
Currently, the Chief Sealth Trail runs from Gazelle St. near Kubota Gardens, north to Beacon Ave near Dawson where it terminates. There are no direct connections with continuous bike facilities between the Trail and downtown Seattle, the west side of I-5, or the I-90 trail to the north; cyclists must use city streets, sharing unmarked lanes with traffic.

Future Chief Sealth Trail extensions (not yet funded) include a connection to downtown Seattle and to the south City limits. The existing City Light right-of-way continues west of Beacon, angling north to terminate at Oregon St. just east of I-5; after the power lines cross I-5 the right-of-way continues for a couple blocks in the median of S Industrial Way.

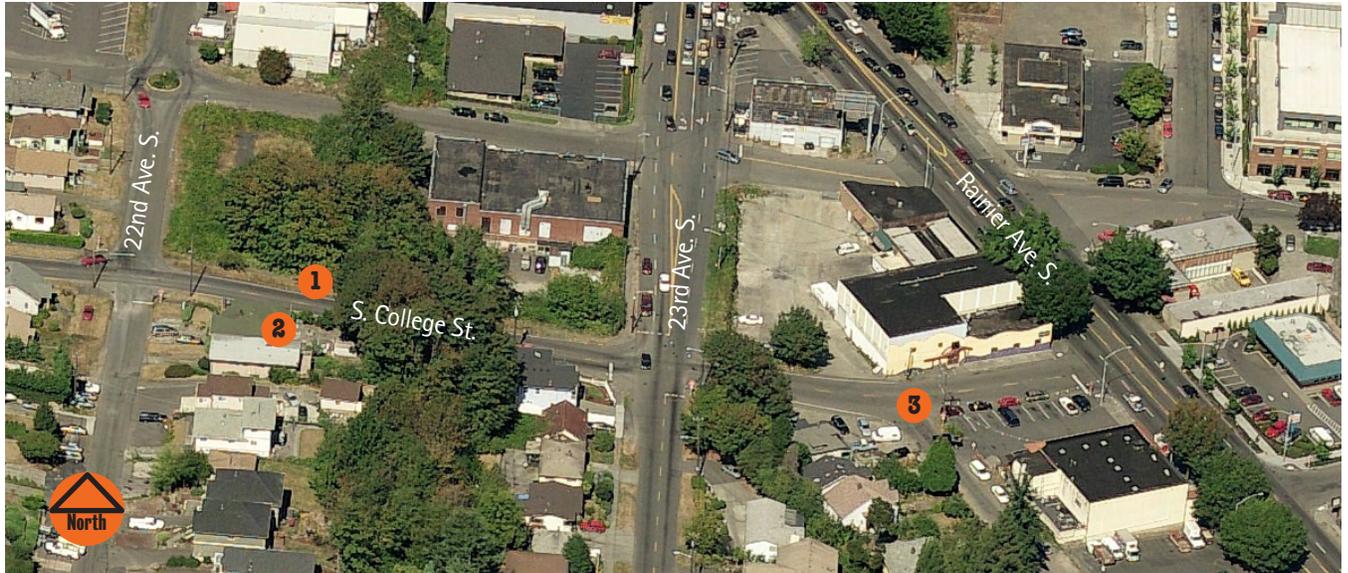
Recommendation 40 of the Bicycle Master Plan calls for the City to: "Study potential locations to construct a crossing of I-5 to connect to the Chief Sealth Trail towards Downtown Seattle. The crossing could be at any location between S Spokane Street and S Snoqualmie Street. The precise location of the pedestrian/bicycle overpass/underpass across I-5 at the west end of the future Chief Sealth Trail extension should take advantage of topography and existing infrastructure."

**Proposed**

- 1 Construct a bicycle/pedestrian crossing of I-5 connecting the Chief Sealth Train towards downtown Seattle to complete this missing link.
- 2 Connect the Chief Sealth Trail to I-90 Trail east of I-5 to complete this missing link.



*From Seattle Bicycle Master Plan*



**Improve safety on S. College St. at two vehicular High Accident Locations by TBD**

**Existing**

S. College St. and 22nd Ave. S. and S. College St. and 23rd Ave. S. were both vehicular High Accident Locations between 1998 and 2003. Because of topography, College is the only east-west street that connects Rainier directly to the Beacon Hill commercial district. West of 22nd College is a residential street with sidewalks and planting strips, and cross streets are stop-sign controlled. Between 22nd and Rainier development is mixed residential and light industrial, with no sidewalks or curbs and poorly defined intersections. College and 23rd is a four-way stop with a right turn lane for southbound motorists turning west on College. College and 22nd is a two-way stop. There is heavy traffic on 23rd, which is a major north-south route between Rainier and Beacon Hill, with connections to Spokane, I-5, and the West Seattle Bridge.

The Bicycle Master Plan calls for climbing lanes on S. 23rd south of College and bike lanes north of College.

**Proposed**

- 1 Add curb, gutter and sidewalk on the north side of College between 22nd and Rainier, to better define street edge, slow traffic and reduce collisions.
- 2 Add curb and gutter on south side of College between 22nd and 23rd to better define street edge, slow traffic and reduce collisions.
- 3 Add curb, gutter and sidewalk on the south side of College between 23rd and Rainier, plus a planting strip where feasible, to better define street edge, slow traffic and reduce collisions. This will also provide safety for pedestrians.
- 4 Coordinate with project # North 2, sidewalks on east side of 23rd.



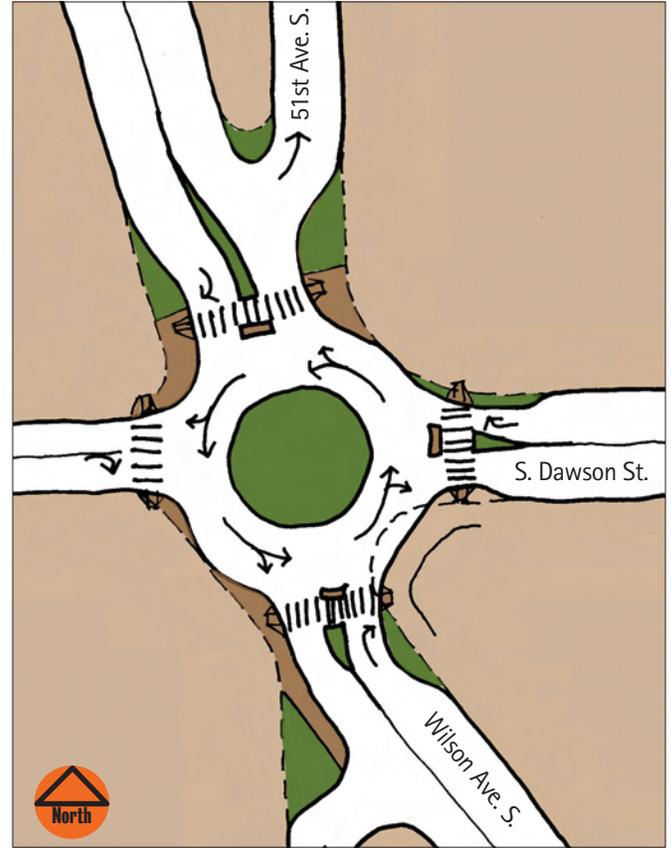
**Realign curb and construct sidewalk to provide safe pedestrian route on corridor connecting Beacon Hill and Rainier Ave. S.**

**Existing**

23rd Ave. S. is a heavily traveled route between Beacon Hill and Rainier Ave. S. North of Waite there are no sidewalks on the east side of the street, and at Bayview, the street curves creating a large open paved area, all of which presents a hazard to pedestrians.

**Proposed**

- 1** Construct sidewalk and planting strip on east side of 23rd between Waite and Rainier to provide protected walking route for pedestrians.
- 2** Define street edge at lane edge and remove extra pavement and landscape area. Provide access to adjacent residence.



**Reduce delay, improve pedestrian safety, enhance neighborhood commercial district and add bike facilities.**

**Existing**

Wilson Ave S, S. Dawson St and 51st Ave S. is a six-legged, stop sign controlled intersection. The skewed approach of Wilson Ave S. through this intersection results in long pedestrian crossings, as much as 75', more than double the crossing distance for a similar right-angled intersection. The northbound single lane, north of Dawson is 50' wide, which merges into a single 16' wide lane. This wide lane encourages motorists to drive around pedestrians in the crosswalk.

This intersection serves as the hub of a small neighborhood commercial center, including PCC Natural Market, restaurants, small retail and services, which provide amenities to this primarily single-family neighborhood.

This area is also a hub for all modes. Metro bus route 39 travels on both Wilson and Dawson and all three streets are recommended walking routes for Whitworth Elementary School, located five blocks to the east. Additionally, the Seattle Bicycle Master Plan recommends sharrows on

Wilson and Dawson east of Wilson.

Current and projected conditions (with no improvements) are:

- 2006: LOS D (25 second delay)
- 2030 projection: LOS E (42 second delay)

The southbound approach on Wilson will overwhelm this intersection, creating long queue lengths and increasing localized emissions from idling vehicles.

**Proposed**

A number of options were proposed for this intersection, including installing a signal. The final recommendation is the installation of a roundabout. This proposal may require acquisition of a small amount of right-of-way. However, the proposal would reduce the number of vehicular conflict points, significantly improve pedestrian safety by both simplifying and shortening the crossings, and provide the best level of service for both pedestrians and motorists. The roundabout creates an additional environmental benefit by reducing localized emissions and creating more pervious surface for landscaping potential. This option also allows for a gateway treatment for this neighborhood commercial center. Bicyclists will have the option to ride around the roundabout via the sidewalks or to ride through it within the travel lane.



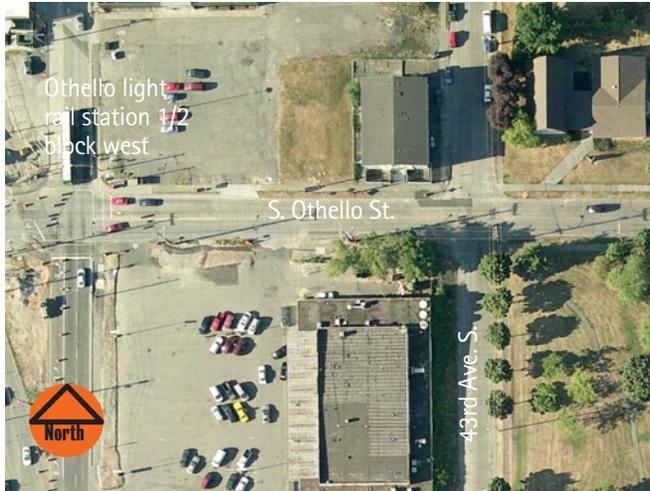
**Reduce speeds along S. Graham St. at High Accident Locations by constructing curb extensions, marking crosswalks, and painting parking lane.**

**Existing**

There are two High Accident Locations on S. Graham St. between MLK and Rainier. Major pedestrian generators include Aki Kurose Middle School, between 39th and 42nd, and Trinity Life Center at 44th. Graham is one lane in each direction with parking on both sides.

**Proposed**

- 1** Construct curb extensions at Graham and 39th, 42nd and 44th to calm traffic and make pedestrians more visible to drivers. Install laddered crosswalks.
- 2** Stripe parking lane to further encourage drivers to slow down.



**Install pedestrian/bicycle signal at this pedestrian High Accident Location.**

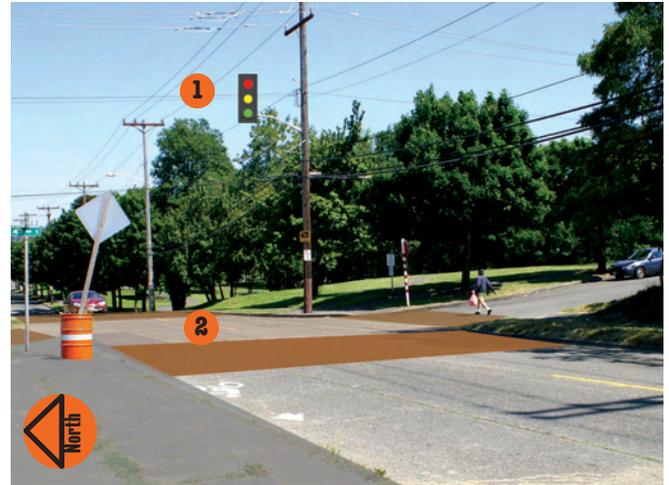
**Existing**

43rd Ave. S. and S. Othello St. is an unsignalized intersection and Pedestrian High Accident Location. Traffic on 43rd is stop controlled. To the east, Othello slopes downhill, limiting the sight distance of drivers approaching from that direction. One block to the west is MLK and Othello Station. Traffic stopped at the Othello/MLK signal often backs up through this intersection, and stopped cars in the westbound lane block eastbound drivers' view of pedestrians trying to cross. Othello Park, at the southeast corner of the intersection, is a major pedestrian generator, as are the light rail station, Othello business district, and Othello Station/New Holly housing development which include a public library and community center. Children attending Brighton and Graham Hill Elementary Schools use Othello as a school walking route.

By 2030 Othello is expected to carry over 9,000 vehicles a day in this location, and walking and cycling trips will increase because of the light rail station, population increases associated with New Holly and Othello Station developments, and likely improvements in the business district.

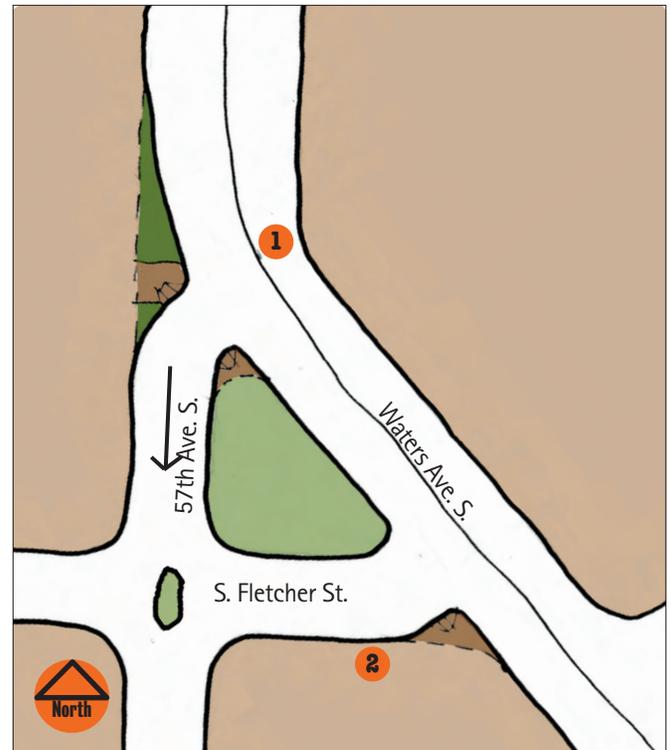
There are currently bike lanes on Othello, and the Bike Master Plan recommends a sharrow on 43rd, which together would be the primary bike route from areas south to the Othello station.

Unless this intersection is improved, adding more traffic, more pedestrians and more cyclists will worsen existing problems.



**Proposed**

- 1 Evaluate feasibility of installing a full signal at 43rd and Othello one block from the MLK/Othello intersection. At a minimum put in a pedestrian signal with push buttons for cyclists as well, to stop traffic when people are trying to cross.
- 2 Construct new crosswalks, consider raised pavement, textured or colored treatments, or other approaches to make the crosswalk more visible to motorists.
- 3 Install school walking route signs to warn drivers of the presence of children.



**Improve safety by making 57th Ave. S. one-way southbound between Waters Ave. S. and S. Fletcher St., and narrowing the radius of the southwest corner of Waters and Fletcher.**

**Existing**

57th Ave. S. is a Metro trolley route and an arterial frequently used by nearby residents. Waters Ave. S. merges into 57th and then intersects with Rainier. The street geometry is skewed and due to elevation changes, sight distance is limited.

There is a small commercial area between Fletcher and Rainier with parking and pedestrian needs.

**Proposed**

- 1 Convert to one-way southbound; eliminate the through/left across Waters for drivers heading north on 57th.
- 2 Narrow the curb radius at Waters and Fletcher to bring Fletcher in at a right angle, to slow traffic turning right (southbound) from Fletcher to Waters and improve safety of the turn.