Beacon Hill Family Bicycle and Pedestrian Circulation Plan

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BEACON BIKES (Better Infrastructure Keeping Everyone Safe)

Beacon BIKES volunteers are your neighbors: Dylan Ahearn, Devor Barton, Christine Cole, David Gackenbach, Adam Ganz, Dee Dunbar, Kashina Groves, Kevin Haag, Ryan Harrison, Mark Holland, Mira Latoszek, Craig Lorch, Kat Marriner, Frederica Merrell, Mike Morris, Jason Rich, Steve Wickman, Willie Weir, Van Diep

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Chapter 1. Introduction and Background

Introduction

Beacon Hill residents are debuting a new form of transportation planning for their community. Beacon Hill is one of the first neighborhoods in Seattle to initiate the process of creating a comprehensive local circulation system to help residents of all ages, including children, safely navigate within the neighborhood on a bike or on foot. The Beacon Hill Family Bike and Pedestrian Circulation Plan is a proposed network of low-traffic streets, intersection improvements, multi-use paths, and other new and innovative infrastructures elements such as cycle tracks. Neighbors and advocates describe the process of creating the circulation plan as "local destination-based planning". The community values continuous routes without gaps, so that children and adults can more safely travel the entire route to their destination. The goal is to enable families and children to travel to local destinations on continuous signed routes. Advocates believe that if a system is sufficiently safe for children to get to school, all Beacon Hill neighbors will be able to comfortably and more safely ride bikes on local trips to the store, to parks, and to visit neighbors.

The backbone of the circulation system is a network of neighborhood greenways (also called bike boulevards). These routes are located on pedestrian-friendly residential streets that parallel major arterials and connect neighbors to important destinations in the community (Figure 1). Where neighborhood greenways cross arterial streets, intersection improvements facilitate crossings.

Figure 1. Neighborhood greenways provide safe and comfortable travel options for users of all ages and abilities.

The production of the circulation plan was initiated by neighborhood volunteers who organized under the name Beacon BIKES (Better Infrastructure Keeping Everyone Safe), was vetted by the public throughout the planning process (Appendix A) and is facilitated by a City of Seattle Department of Neighborhoods (DON) grant. The grant funded the study and design of the circulation plan and intersection improvements. The Seattle Department of Transportation (SDOT) is responsible for reviewing the recommendations and integrating approved changes into the City Bicycle Master Plan, Pedestrian Master Plan, and SE Transportation Study, Right of Way Manual and other relevant planning documents. The North Beacon Hill Neighborhood Plan identifies the design and construction of the circulation plan as a goal.

What are Neighborhood Greenways?

Neighborhood greenways are low-volume, low-speed streets that have been optimized for bicycle travel using a variety of treatments. Minimum treatments include wayfinding signage and pavement markings. Where needed, traffic calming, traffic reduction, and signal improvements are used. Most neighborhood greenway treatments are relatively inexpensive compared to the cost of building bike

lanes or cycle tracks on arterial streets. Neighborhood greenways that parallel arterial streets can reduce project costs and provide a more enjoyable ride compared to bike lanes on arterials with higher car speeds and more traffic.

Residents living on neighborhood greenways benefit from reduced vehicle speeds and calmer through-traffic. These streets become more attractive for both biking and walking (Figure 2). Local businesses that can be reached via neighborhood greenways benefit from the increased flow of customers. Additional discussion of neighborhood greenways is included in Appendix B.

The primary neighborhood greenways proposed in this plan include:

- 13th Avenue South
- 14th Avenue South
- 21st Avenue South
- 17th/18th Avenue
- South Forest Street
- South Hanford Street

Additional corridor improvements recommended in this plan that support the neighborhood greenways include:

- 14th Avenue South (cycle track)
- South Spokane Street (bike lanes)
- Beacon Avenue South (multi-use trail)
- Jefferson Park (multi-use trail)

Existing conditions of these facilities and neighborhood destinations are found in Chapter 2 and Appendix C. Each corridor contains one or more associated intersection improvements, discussed in Chapter 3. While improvements at all intersections are important and can increase safe circulation for all users, several intersections were selected for additional analysis based on their complexity and the critical role they play in the circulation network. These intersections are referred to as 'priority intersections projects' and include:

- 14th Avenue South and Beacon Avenue South
- 21st Avenue South and South McClellan Street
- South Columbian Way and Beacon Avenue South
- South Forest Street and Beacon Avenue South
- Lafayette Avenue South and South Spokane Street

Figure 2. Benefits of neighborhood greenways include reduced motor vehicle speeds and calmer through-traffic.

Destination-Based Planning

Advocates from Beacon Hill hope to inspire other neighborhoods in Seattle to initiate destination-based local transportation planning so that more families with children can safely and comfortably access their schools, parks and businesses by bike and on foot. Beacon BIKES also hopes to reduce motor vehicle traffic and congestion in the neighborhood, specifically around schools, by offering a safer and more appealing walking and bicycling environment.

The destinations that drive the design of the Beacon Hill circulation plan include:

- Schools: Beacon Hill International School, Kimball Elementary School, Dearborn Elementary School, Van Asselt Elementary School, Cleveland High School, Maple Elementary School, Mercer Middle School and St. George School
- Parks and trails: 12th Street Viewpoint, Chief Sealth Trailhead, Jefferson Park, Jose Rizal Bridge, Lewis Park, and Mountain to Sound Greenway
- Civic and institutional destinations: Beacon Hill library, Jefferson Community Center and Veterans Administration Hospital
- Urban village center: the light rail station, El Centro de la Raza, Red Apple market and other local businesses
- Other business and retail zones including: Hanford Street and Beacon business zone and Denise Louie Child Development Center, Verity Credit Union, McPherson's Produce and the retail area at Alaska, Columbian Way and Beacon Avenue

Biking to School

Beacon Hill is a long, narrow neighborhood and the schools are all located on north-south arterials that typically carry more vehicular traffic at higher speeds than local roads. Biking to school is currently a challenging undertaking and few complete walking and cycling routes to schools exist. A Safe Routes to School survey found that 30 percent of parents consider traffic-related danger to be a barrier to allowing their children to walk or bike to school (2004).

Figure 3. Sidewalks near Beacon Hill International School are already busy during school pick-up and drop-off. Changes to busing policies have the potential to increase pedestrian traffic around the school.

Seattle Public Schools serves an estimated 47,000 children and enrollment is expected to climb to 54,000 in coming years. Due to the district enrollment policy requiring an application to attend a school outside of their neighborhood, many children living on Beacon Hill attend one of the local public schools in the neighborhood. This focus on neighborhood enrollment reduces the burden on district transportation resources and is intended to foster an environment where students can walk or bicycle to school. However, many families drive their children to local schools in the neighborhood, as do the parents of students who live outside the neighborhood. This exacerbates problems associated with motor vehicle congestion, making pedestrian and bike access and pedestrian crossings potentially more difficult (Figure 3).

Beacon BIKES wants to encourage the City of Seattle to help neighborhood children get out of cars and more safely access neighborhood schools through pedal power and on foot. Neighborhood greenways are especially critical for children who do not have bus service and live too far away from their neighborhood school to walk. Beacon Hill residents believe that a smart and prioritized combination of improvements would enable more children to ride bikes to local schools while reducing individual motor vehicle trips to school and associated congestion.

Planning and Outreach

The recommended circulation network and proposed improvements were developed with Beacon BIKES volunteers, Alta Planning + Design, and input from neighbors, local business owners, and local school staff. A number of City staff took an interest in the project from the beginning and helped the community with their work. Beacon BIKES members identified key destinations and created the preliminary circulation plan using their knowledge of the neighborhood to map out the proposed circulation system. Volunteers tested routes, described the challenging intersections and helped inventory the presence or absence of curb ramps throughout the neighborhood.

Preliminary recommendations were presented to the public at a Saturday brunch at Beacon Hill International School in November 2010 (Figure 4). Neighbors commented on the plans by writing directly on the maps and brainstorming together on challenges and possible solutions. Based on the community input, Alta refined the proposals and developed more detailed conceptual solutions for several intersections. Beacon BIKES volunteers continue to conduct outreach to neighbors and businesses, walking door-to-door and attending local meetings and events to share the current design.

Figure 4. Beacon Hill residents have been involved throughout the planning process.

Connections to Relevant Planning Documents

The following documents and plans establish a framework for bicycle and pedestrian improvements on Beacon Hill.

- North Beacon Hill Neighborhood Plan (1999)
- Transportation Strategic Plan Update (2005)
- Seattle's Comprehensive Plan (2005)
- Seattle Bicycle Master Plan (2007)
- 2007 Seattle Complete Streets Policy (Ordinance 122386)
- Southeast Transportation Study (2008)
- Seattle Pedestrian Master Plan (2009)
- North Beacon Hill Neighborhood Plan Update (2010)
- North Beacon Hill Urban Design Framework, Final draft for discussion only (2011)

A detailed review of the documents and policies is provided in Appendix D.

Chapter 2. Existing Conditions

Neighborhood Setting

According to the Southeast Transportation Study, North Beacon Hill includes the areas of densest residential land use in Southeast Seattle. The density of the neighborhood is expected to increase over time, with a projected 30 people per acre in some areas by 2024. The neighborhood is known as a place of great diversity, with over 20 languages spoken in neighborhood schools. The recent North Beacon Hill Neighborhood Plan Update reaffirms the community commitment to nurturing ethnic and cultural diversity while encouraging vital streetscapes, connections to the citywide transit network, new mixed-use development and human powered transportation options for local trips. The Beacon Hill Family Bicycle and Pedestrian Circulation Plan is consistent with the goals and objectives set forth in this Plan.

Existing Conditions for Cycling and Walking

Critical Non-Arterial Roadways

Portions of the following non-arterial streets were identified as being critical to this circulation plan:

- 13th Avenue South
- 14th Avenue South
- 17th Avenue South
- 18th Avenue South
- 21st Avenue South
- South Forest Street
- South Hanford Street
- South Hinds Street

No pavement markings, signage, or other infrastructure exists to facilitate residents using these streets as neighborhood greenways. These non-arterial streets have adequate pavement quality, relatively minimal slope, relatively low motor vehicle volumes, and connect identified destinations. Based on these criteria, these non-arterials are the target of recommended improvements that will maximize their usability as neighborhood greenways.

The roadways listed above parallel arterials and provide mostly complete east-west and north-south travel throughout the neighborhood. Locations where the hill topography is challenging, particularly in east-west directions, are difficult to navigate in several places. East-west travel constrained by topography includes areas north of Beacon Avenue, east of Jefferson Park, west of Beacon Avenue from Columbian Way south, and west of Columbian Way and 15th Avenue.

As part of the existing conditions analysis, volunteers from Beacon BIKES inventoried conditions along the proposed circulation network shown on Map C1 in Appendix C. The inventories included information on roadway characteristics including:

- Existing land use (e.g., residential, commercial)
- Motor vehicle parking
- Transit stops
- Roadway condition (e.g., cracked pavement)
- Existing bicycle facilities (e.g., bike lanes or shared lane markings)
- Traffic calming (traffic circles)
- Sidewalks and curb ramps
- Intersection controls (e.g., traffic signal)

An inventory of curb ramps along frequently used pedestrian travel routes is also included in Appendix C.

Though this Plan focuses on neighborhood greenway improvements along the circulation network, an analysis of existing conditions along other key roadways, trails, and neighborhood destinations was also performed. The analysis of conditions at each destination can be used to develop improvements that will enhance the cyclist and pedestrian experience in the Beacon Hill Neighborhood.

Arterial Roadways

Existing bicycle facilities on Beacon Hill primarily serve commuter-cyclists traveling on arterials. These facilities include bike lanes or shared lane markings on portions of 14th Avenue South, 15th Avenue South, 23rd Avenue South, Beacon Avenue, and South Spokane Street. Families living in the neighborhood have indicated that they do not allow their children to ride on bike lanes or shared lane markings on the arterial streets due to safety concerns. Safety concerns also deter less confident adult cyclists, as well as recreational cyclists who are uncomfortable riding on arterial roadways or who desire a low-stress pleasurable ride (Figure 5). For these reasons, this Plan focuses primarily on the existing conditions of non-arterial streets that could be improved to provide bikeways for safer family travel.

There is one significant exception. Due to the narrow structure of the hill north of Beacon Avenue there are no desirable neighborhood greenway alternatives for north-south travel to Beacon Hill International School. In this area, a further analysis of existing conditions on the arterial, 14th Ave. S north of Beacon Avenue, is critical.

Figure 5. Arterial roadways, such as South Spokane Street can serve as barriers for cyclists of all ages and abilities.

Multi-Use Trails: Chief Sealth, Mountain to Sound and Jefferson Park trails

The Chief Sealth Trail is a multi-use trail connecting parts of middle and south Beacon Hill that is suitable for use by people by all ages and abilities. The Chief Sealth Trail passes near two important destinations: Dearborn Elementary School and McPherson's Produce at 15th Avenue South and Columbian Way. The Mountains to Sound Greenway terminates at North Beacon Hill, but may one day continue on the west perimeter of the hill. The Mountains to Sound Greenway currently does not connect any two destinations on Beacon Hill at this time but can be used to access Thurgood Marshall Elementary and Franklin High School (using neighborhood streets across Rainier Avenue to travel south). Both of these schools also serve Beacon Hill families.

Jefferson Park is a large regional park with new multi-use trails and facilities. The multi-use trails through this park provide travel alternatives to the arterials roadways surrounding the park. The trails provide access to several destinations including Jefferson Park Community Center, tennis courts, playgrounds, Mercer Middle School, the Veterans Administration Hospital, and Verity Credit Union, and can be used to access retail centers at Columbian Way and Beacon Avenue and McPherson's Produce. The arterials that surround the park limit access to existing trails. There are two crossings that provide safe access to the park: one at Beacon Avenue and Spokane Street and one at Dakota and 15th Avenue South. The distance between these two access points is about a half-mile around the perimeter of the park. Additional crossing improvements would enhance bicycle and pedestrian access to the park.

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Curb Ramps and Intersections

Curb ramps are an integral part of the pedestrian network; they enable wheelchair users or pedestrians pushing strollers to use sidewalks. There is a deficiency of curb ramps throughout the plan area, including along arterials near elementary schools and in other areas that experience high pedestrian use. The curb ramp inventory in the appendix documents the presence of curb ramps along routes in the plan area that are considered critical to neighborhood circulation, including locations where lower traffic roadways intersect collector and arterial roadways.

Intersections that help bicyclists and pedestrians cross arterials and continue on the non-arterial neighborhood greenway or multi-use trail were identified as critical for this circulation plan. From north to south, these are:

- Beacon Avenue and 14th Avenue South
- South Forest Street, Beacon Avenue and 17th Avenue South
- 21st Avenue South and South McClellan Street
- Beacon Avenue and South Hanford Street
- Lafayette Street and South Spokane Street
- Beacon Avenue South and South Columbian Way
- 15th Avenue South and South Columbian Way

Existing Conditions Near Neighborhood Destinations

This section identifies issues associated with bicycling or walking to neighborhood destinations, including an analysis of pedestrian crossings, bike rack infrastructure, and automobile and bus congestion (especially for school arrival and drop-off times).

Schools and Parks

Beacon Hill International School

Beacon Hill International School (Figure 6) is located to the north of Beacon Avenue on 14th Avenue South. This school does not provide off-street parking for visitors or staff. The area is zoned multi-family, with the highest housing density in the neighborhood. A large portion of the school assignment area is south of Beacon Avenue; another large portion of the school assignment area is east of 15th Avenue South. No non-arterial routes provide school access for families and children from the south assignment area. Consequently, all students from the south assignment area must travel on 14th Avenue South whether traveling on foot, on bike, or by car. This portion of 14th Avenue South has relatively high motor vehicle volumes (over 10,000 daily trips), with peak traffic occurring in conjunction with school arrival and

Figure 6. A crossing guard assists students and parents crossing at the intersection of 14th Avenue South and South Hill Street near Beacon International School.

departure times. Numerous school buses also to use this route. Beginning in Fall 2011 under the new Seattle School Student Transportation Plan, buses serving other schools will pick up and drop off students from Beacon Hill at Beacon Hill International School, increasing the number of buses accessing the school.

The sidewalks near the school are already heavily used by pedestrians. Few curb ramps on the sidewalks along this portion of 14th Avenue facilitate family-friendly bicycle access to the school. Complicated intersection geometry contributes to challenging pedestrian conditions at the intersection of 14th Avenue South and Beacon and at 14th Avenue South and Hill Street, though a crossing guard at the Hill Street intersection in front of the school provides a protected crossing opportunity during school pick-up and drop-off. There is a traffic light at the school entrance on 14th Avenue South and Hill Street. A drop-off area is located on the south side of the school on Hill Street, but the street width is constrained and passage through the drop-off area is difficult. The school has a park on the north edge that blocks car access to the north, forcing all car and bus traffic to navigate 14th Avenue South or Hill Street for access.

There is one small bike rack at Beacon Hill Elementary at the main door. The bike rack is frequently full, which indicates that the school would benefit from additional bike parking. Bicyclists approach the building on the same paving area with pedestrians in order to park their bikes, increasing the potential for bicycle and pedestrian conflicts. The school entries could benefit from additional delineation of bicycle and pedestrian space.

Kimball Elementary School

The front entrance to Kimball is on 23rd Avenue South, an arterial roadway. Most of the assignment area for Kimball is west of the school site, so many children approach from the west on Hanford Street. Steep topography in the portion of the assignment area west of Jefferson Park limits the potential for students walking or biking to school. Due to a lack of motor vehicle parking on 23rd Avenue South, many families park on narrow streets to the west (e.g., Hanford Street and 22nd Avenue South) to drop their children off. Congestion on these narrow residential streets and along Hanford east of 23rd is significant during student pick-up and drop-off. A crossing guard assists children crossing at the light at Hanford Street and 23rd Avenue South. Bus drop-off and pick-up is on the north side of the site and does not cause congestion.

At the main entrance to the building there is a single-bike rack, while another bike rack on the playground holds more bikes.

Dearborn Elementary School, Van Asselt Elementary School and Chief Sealth Trail

Dearborn Elementary School and Van Asselt Elementary Schools are in South Beacon Hill area and are accessible by both the Chief Sealth Trail and the multi-use path that runs down the center of Beacon Avenue. There are signalized crossings at major intersections. The Beacon Avenue multi-use trail currently terminates south of the Beacon Avenue and Columbian Way intersection, resulting in an incomplete bicycle and pedestrian connection between north and south Beacon Hill.

Cleveland High School, Maple Elementary School and St. George School

These three schools are located near 15th Avenue South, south of Columbian Way. The residential streets near Maple Elementary School and St. George provide good non-arterial access to the schools. Car drop-offs and pick-ups cause traffic congestion near the schools, but a complete network of residential streets absorbs and distributes the motor vehicle traffic. Maple Elementary has good sidewalk access on the east side of the site

but the proximity of Maplewood Playfield limits access from the north, south, or west. Consequently, motor vehicles, buses, pedestrians, and bikes all converge along the long eastern sidewalk near the entrance and increase the potential for conflicts of all types.

Cleveland High School is newly-constructed and has two bike racks on 15th Avenue South. A signalized crossing on South Lucille Street connects to the residential neighborhood to the east. Cleveland is an all-city choice school, so large numbers of students take the yellow bus or the #60 Metro which has a stop in front of the school. Sidewalks all around the building and a signalized crossing facilitate walking. There is no bike lane on 15th Avenue to help students biking on 15th Avenue.

Mercer Middle School

See Jefferson Park below and Beacon Hill Library

Lewis Park, Jose Rizal Bridge, and Mountain to Sound Greenway

Lewis Park and Jose Rizal Bridge are at the far north end of Beacon Hill and are accessible from the south by taking arterial streets (either 14th Avenue South or 15th Avenue South), though the Mountains to Sound Greenway provides a direct connection from the east. The 14th Avenue South and 15th Avenue South intersection is challenging for all users due to the high speed of arterial traffic on the incline of 15th Avenue South, cars turning into the Pac Med clinic entrance, and the acute angle of the intersection. There is no bike rack at Lewis Park.

Beacon Hill Library

There is significant motor vehicle congestion on Forest Street at the library. The parking lot is accessed via Forest Street. The library and a popular church both utilize on-street parking on this block, though the church has no off-street parking. There is a flashing east-west crosswalk at the crossing of Forest Street, 17th Avenue South, and Beacon Avenue (Figure 7). Southbound vehicles on Beacon Avenue frequently detour to 17th Avenue to avoid the signalization at McClellan and Beacon Avenue, which can increase the difficulty for pedestrians and cyclists crossing at 17th Avenue.

Figure 7. Beacon Hill Library attracts bicycle and pedestrian traffic from both the east and west side of Beacon Avenue South.

There is no north-south crosswalk on Forest Street at the library, nor an east-west crosswalk on the south side of the intersection with Beacon Avenue. A bike rack is provided at the library entrance.

Jefferson Park: Park facilities, Veterans Administration Hospital, Verity Credit Union and Mercer Middle School

The park is surrounded by arterials with multiple lanes of high-speed motor vehicle traffic (Spokane Street South, 15th Avenue South, and Beacon Avenue). The intersection of Beacon Avenue and Spokane Street is the main entrance to Jefferson Park. The entrance at Dakota and 15th Avenue South serves neighbors on the southwest edge. Due to the length of the park perimeter, people often enter the park at other points where

there are no crossings or signalization. New park trails from the children's playground lead people to the north edge of the park where the lack of street improvements on Lafayette and Spokane Streets leads to an unimproved pedestrian situation. People try to enter the park at Lafayette and Spokane Streets, and they try to cross Columbian Way and 15th Avenue South to access the park and the bus stop near the park.

There is a large quantity of free public parking on Beacon Avenue. This parking is shared by all park visitors, including golfers and visitors to the community center and by employees of the Veterans Administration Hospital (Figure 8). On busy days, users tend to park their vehicles on pedestrian paths, fields, and other areas along the central road where parking is not intended (e.g., on the road connecting the golf clubhouse, Lawnbowling Club, and maintenance facilities).

There is a bike rack at the Jefferson Park Community Center, at Verity Credit Union, and another at the park viewpoint near Spokane Street. There is no bike rack at the new children's playground, nor at the Lawnbowling Club.

Figure 8. Jefferson Park attracts users from throughout the community and the region.

Cars access Mercer Middle School from Columbian Way, creating a back-up queuing into the parking lot. Bus pick-up and drop-off is on 16th Avenue South, on a gravel shoulder. 16th Avenue South has a sidewalk but no surface parking, as well as significant drainage issues on the west side running the length of the park and school property. The road becomes a gravel maintenance road on Seattle Public Utility property north of South Dakota Street, which could be used for bicycle and pedestrian access if it were surfaced. This property is the site of the proposed urban agriculture project (Beacon Food Forest). Multi-use trails in the park can be used to access Mercer Middle School at the southwest end of the park. Mercer Middle School has a bike rack near the gym.

Retail and Mixed Use Centers

Residential Urban Village Town Center: Sound Transit Lightrail Station, El Centro de la Raza, Red Apple Market

The residential urban village can be accessed from non-arterials via arterial crossings where traffic is signalized. There are new arterial crossing improvements on 15th Avenue South and more are anticipated on Beacon Avenue across from the LINK light rail station. The new Lander festival street is a bike- and pedestrian-friendly facility near El Centro de la Raza. Several city planning efforts support a proposal to extend the festival street across Lander Street, which would also increase accessibility to the urban center. Bicycle lanes exist on 15th Avenue South, but other key points of entry, such as Beacon Avenue South, remain untreated.

Bike racks and bike lockers are provided at the light rail station. There is one small bike rack at the Red Apple, but the store would benefit from additional bicycle parking. Local businesses on Beacon Avenue have some single-bike racks, and many business owners have expressed interest in expanding their bicycle parking capacity.

Beacon Avenue and Hanford Street Retail Area

The half-signal at Hanford Street and Beacon Avenue stops north-south traffic on Beacon Avenue but not east-west traffic on Hanford Avenue. The signal can be triggered by pedestrians or cyclists who ride up on the sidewalk. There are opportunities to enhance existing bicycle parking at destinations such as Hello Bicycle and Victrola Coffee.

McPherson's Produce Retail Area

This popular produce and grocery store is located at Columbian Way and 15th Avenue South, an intersection characterized by high motor vehicle volumes and complicated geometry. Students who attend Mercer Middle School cross at this intersection. A lack of cyclist signal activation complicates bicycle access to the area. The bike lanes on Columbian Way terminate shortly before the intersection at 16th Avenue South. There are no bike racks at McPherson's Produce.

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Chapter 3. Recommended System Improvements

This section provides system-wide conceptual recommendations for improvements within the proposed Beacon Hill Family Circulation System, which connects residents to desirable bicycle and pedestrian destinations throughout the neighborhood. These proposed routes were developed through extensive community input offered by neighbors, city staff, members of Beacon BIKES, and other area residents.

The goal of the Beacon Family Bicycle and Pedestrian Circulation Plan is to enable the families and children of Beacon Hill to travel to local destinations on safe, continuous, signed routes by bike or on foot. Key destinations are neighborhood schools. The system is based on programs designed and implemented in Portland, Oregon and other cities. The primary infrastructure recommendations are signed neighborhood greenways on non-arterials with some traffic calming recommendations and intersection treatments at collector and arterial roadway crossings.

Figure 9. Recommendations laid out in this plan can increase the safety and comfort of neighborhood residents walking and cycling on Beacon Hill.

Multi-use paths recommended in Jefferson Park and along Beacon Avenue South complement the proposed neighborhood greenway connections as does a short-length of cycle track on 14th Avenue South where parallel local roadways do not exist. There are also several high priority intersection changes recommended to facilitate bike and pedestrian crossings where greenways intersect with arterials.

The recommendations were developed based on existing bicycle and pedestrian user patterns, proximity of key destinations, existing right-of-way and infrastructure conditions, posted roadway speed and community comments. SDOT should take the lead in conducting further study and community design work prior to implementation.

Recommendations are described in detail in the following areas:

1. **Map 3.1/3.2** shows the project corridors and an annotated description of the proposed improvements.
2. **Table 3.1** Provides detail on the projects, length in miles, specific recommendations and other notes.
3. **Chapter 4** describes strategies for implementation including **priority intersections and corridor details**.
4. **Design Guidelines**, contained in Appendix E, describe typical treatments and guidance for greenways, wayfinding and other types of signing, cycle tracks, and bike lanes.
5. **Curb ramp** design details are contained in the *Seattle Pedestrian Master Plan*[1]

[1] Seattle Pedestrian Master Plan:
(http://www.seattle.gov/transportation/pedestrian_masterplan/pedestrian_toolbox/tools_deua_ramps.htm), May 12, 2011.

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Map 3.1 Draft Beacon Hill Neighborhood Greenway System Improvements - One

City of Seattle
Beacon Hill Family Bicycle and Pedestrian Circulation Plan

Author: Alta Planning + Design
Date: May 2011

TO SECTION ONE

Notes
A crossbike may be considered any place a crosswalk is specified.
Consider turning stop signs to favor greenway at intersections with minor arterials.

Intersection Priority #1

Allow parking on both sides of the roadway to increase friction and slow traffic.

Stripe crosswalk add curb ramps on 15th Ave. Neckdown treatment on Forest St. with advance cyclist stop bar.

Install wayfinding and directional pavement markings.

Provide wayfinding to Lander Festival Street.

Stripe high visibility crosswalk. Add curb bulbs and bicycle forward stop bar

Intersection Priority #2

Intersection Priority #3

Traffic calming (traffic circle)

Stripe high visibility crosswalk and add cyclist signal activation.

Prioritize installation of sidewalks

Stripe high visibility crosswalk.

Stripe crosswalk and add cyclist signal activation

Stripe crosswalk, add curb bulbs, consider RRFB.

High visibility crosswalk and median refuge and half signal

Intersection Priority #4

Roadway reconfiguration on Spokane Street. New configuration includes two travel lanes, two way center turn lane and bike lanes.

High visibility crosswalk and median refuge

Add cyclist signal activation

Intersection Priority #5

S BAYVIEW ST
S LANDER ST
S MCCLELLAN ST
S FOREST ST
S STEVENS ST
S WINTHROP ST
S HANFORD ST
S HORTON ST
S COLUMBIAN WAY
S WAITE ST
S HINDS ST
S SPOKANE ST
S COURT ST
S ANDOVER ST
S DAKOTA ST
S NEVADA ST
S OREGON ST
S SNOQUALMIE ST
S ALASKA ST
S ANGELINE ST
S EDMUNDS ST

15TH AVE S
16TH AVE S
17TH AVE S
18TH AVE S
19TH AVE S
20TH AVE S
22ND AVE S
24TH AVE S
25TH AVE S
12TH AVE S
13TH AVE S
14TH AVE S
11TH AVE S
10TH AVE S
HARRIS PL S
HINDS PL S
HAHN PL S
ALAMO PL S
DECATUR PL S
POWELL PL S

TWELFTH AVENUE SOUTH VIEWPOINT
EAST DUWAMISH GREENBELT
JEFFERSON PARK GOLF COURSE
JEFFERSON PARK
MAPLE WOOD PLAYFIELD

Hello Bicycle Shop
KIMBALL EL
MERCER MS

I5 NB - W SEATTLE BR RP
I5 SB - W SEATTLE BR RP
I5 NB - COLUMBIAN WY RP
I5 SB - COLUMBIAN WY RP
WEST SEATTLE BR EB
COLUMBIAN WY - I5 SB RP
BEACON AVE S

Legend
- Proposed Curb Ramp
- Existing Bus Stop
- Existing Traffic Signal
- Existing Stop Signs
- Proposed (Beacon Bikes) Circulation Network
- Existing Bicycle Facility (City of Seattle)
- Proposed SDOT Facility
- Parks

Map 3.2 Beacon Hill Neighborhood Greenway System Improvements - Two

City of Seattle
Beacon Hill Family Bicycle and Pedestrian Circulation Plan
Author: Alta Planning + Design
Date: May 2011

0 0.25 0.5 Miles

alta PLANNING + DESIGN

Table 3.1. Recommended Corridor Improvement Summary

Corridor	Facility	Length	Location	Improvements	Notes	Destinations	Time frame
13th Avenue South	Neighborhood Greenway	1.09	16th Avenue South to South Lucille Street	Pavement markings, wayfinding signs, and curb ramp installation.	Includes short segments on South Snoqualmie Street and South Dakota Street	Jefferson Park, Maplewood Playfield, Maple Elementary School, St. George School and Mercer Middle School, Georgetown, Cleveland High School	Long
	Intersection Improvement		South Dakota Street and 15th Avenue South	Add cyclist signal activation and ADA compliant curb ramps.	Provides access to Jefferson Park.		
14th Avenue South	Neighborhood Greenway	0.49	Beacon Avenue South to South Hanford Street	Pavement markings, wayfinding signs, traffic calming, and intersection improvements including curb ramp installation.		Beacon Hill International School, 12th Avenue Viewpoint	Medium
	Intersection Improvement		14th Avenue South and South Beacon Avenue to South Lander Street	Remove parking restriction on east side of street to increase friction, narrow roadway and slow motor vehicle traffic.	Consistent with city policy to consider narrowing when roadway wider than 25 feet.		
	Priority Intersection		14th Avenue South and Beacon Avenue South	Details as shown in implementation chapter.	Notes A, B.		
	Neighborhood Greenway	0.1	South Hinds Street from 14th Avenue South to 15th Avenue South	Pavement markings, wayfinding signs, sidewalk installation and intersection improvements including curb ramp installation.			
	Intersection Improvement		South Hinds Street and 15th Avenue South	Install high visibility crosswalk or crossbike and accompanying signing, as well as curb bulbouts. Consider installation of Rectangular Rapid Flashing Beacons or other high visibility crossing aids.	Note B.		
14th Avenue South	Cycle Track	0.19	South Hill Street to Beacon Avenue South	Cycle track feasibility study.	Recommended cycle track on east side of roadway. Potential concerns include driveway access, on-street parking, facility entry/egress and intersection treatments.	Beacon Hill International School	Short
17th/18th Avenue	Neighborhood Greenway	1.71	Mountains to Sound Greenway to South Spokane Street	Pavement markings, wayfinding signs, intersection and improvements including curb ramp installation.	Also includes portions of South Lander Street, South Bayview Street and South Forest Street. Note F: South Spokane Street roadway reconfiguration.	Mountains to sound Greenway, Jefferson Park, Lewis Park, Beacon Hill Library, Jefferson Community Center, Mercer Middle School, LINK Lightrail, Urban Village Center, other business and retail destinations	Short
	Bike Lanes	0.21	South Spokane Street from 16th Avenue South to 24th Avenue South	Roadway reconfiguration and bicycle lanes. Curb ramp installation/ upgrade.	Note B. Note F: 17th/18 Street neighborhood greenway and Lafayette Avenue intersection improvements.		
	Safety Enhancement		18th Avenue South and South Massachusetts Street and Mountains to Sound Greenway Junction	Turn head-in parking to diagonal back-in parking.	Proven reduction in instance and severity of collisions.		

Corridor	Facility	Length	Location	Improvements	Notes	Destinations	Time frame
	Intersection Improvement		18th Avenue South and Between South Massachusetts Street and South College Street	Install traffic calming; consider traffic circles or speed cushions.	Note B.		
	Intersection Improvement		18th Avenue South and South Bayview Street	Install wayfinding, directional pavement markings and ADA compliant curb ramps. Add warning signs and pavement markings on east and west approaches to alert motorists to neighborhood greenway cross traffic.	Intended to help cyclists navigate jog in route.		
	Intersection Improvement		18th Avenue South and South College Street	Install high visibility crosswalk or crossbike, accompanying signing, ADA compliant curb ramps and permeable diverter, if determined necessary through engineering study.. Review existing conditions and confirm that sight lines meet established standards and observed travel motor vehicle travel speed is consistent with posted speed. Consider traffic calming, facility modification (e.g., pavement striping to visually reduce lane width), or other methods to alert motor vehicles to crossing neighborhood greenway traffic.	Note B.		
	Intersection Improvement		18th Avenue South and South Lander Street	Provide wayfinding signs to South Lander Festival Street.			
	Intersection Improvement		18th Avenue South and South Massachusetts Street	Install high visibility crosswalk or crossbike, accompanying signing and ADA compliant curb ramps. Consider turning stop signs to favor neighborhood greenway.	Purpose is to facilitate bicycle travel in addition to traffic calming. Note B.		
	Intersection Improvement		18th Avenue South and South McClellan Street	Install high visibility crosswalk or crossbike and accompanying signing.	Notes A, B.		
	Intersection Improvement		18th Avenue South and South Stevens Street	Install ADA compliant curb ramps and traffic calming; consider traffic circle.	Note B.		
	Priority Intersection		South Spokane Street and Lafayette Avenue South	Install high visibility crosswalk or crossbike, median refuge and half-signal.	Note B. Note F: South Spokane Street roadway improvements.		
21st Avenue South	Neighborhood Greenway	0.94	South Plum Street to Mountains to Sound Greenway	Pavement markings, wayfinding signs, and intersection improvements including curb ramp installation.	Includes short segments of South Grand Street and 20th Avenue South.	Lewis Park, Mountains to Sound Greenway, Kimball Elementary, Jefferson Park	Long
	Intersection Improvement		21st Avenue South and South College Street	Install high visibility crosswalk or crossbike , accompanying signing, ADA compliant curb ramps and permeable diverter, if found necessary by engineering study. Consider turning stop signs to favor neighborhood greenway.	Note B.		
	Intersection Improvement		21st Avenue South and South Hanford Street	Install curb extensions, ADA compliant curb ramps and high visibility crosswalk or crossbike with accompanying signing.	Note B.		
	Intersection Improvement		21st Avenue South and South Spokane Street	Install curb extensions, ADA complaint curb ramps, bicycle forward stop bar, high visibility crosswalk, and median refuge island. Improvements should be installed in conjunction with South Spokane Street bike lanes and crossing improvements.	Note B.		

Corridor	Facility	Length	Location	Improvements	Notes	Destinations	Time frame
	Intersection Improvement		21st Avenue South and South Stevens Street	Traffic calming; consider a traffic circle or addition of roadway striping (similar to improvements proposed at South McClellan Street and 21st Avenue South.	Note B.		
	Priority Intersection		21st Avenue South and South McClellan Street	Details as shown in implementation chapter.	Note B.		
Beacon Avenue Center Path I	Multi-use Trail	2.66	South Dawson Street to 39th Avenue South	Pavement markings and wayfinding signs.	Trail already exists.	Chief Sealth Trailhead, Dearborn Elementary School	Medium
Beacon Avenue Center Path II	Multi-use Trail	0.44	South Alaska Street to South Dawson Street	Construction of Multi-use Trail	Note B. Note F - Priority Intersection 5. Includes reconfiguration of parking bays and reconstruction of multi-use path.	Retail destinations near Columbian Way and Beacon Avenue, Veterans Administrative Hospital, Jefferson Park	Long
	Priority Intersection		South Columbian Way and Beacon Avenue South	Details as shown in implementation chapter.	Note B.		
Jefferson Park Access and Circulation	Jefferson Park Multi-Use Loop Trail	1.46		Construction of Multi-Use Trail	Trail includes vacated 16th Avenue South on SPU property. See 17th/18th Corridor, 21st Ave. S Corridor, and 13th Avenue Corridor for other Jefferson Park access intersection improvements.	Jefferson Park, Jefferson Community Center, Veterans Administrative Hospital, Beacon Food Forest, Mercer Middle School	Long
	Priority Intersection		15th Avenue South and South Columbian Way	Details as shown in implementation chapter.	Note B. Improvements at this intersection may be implemented prior to construction of the multi-use trail.	Jefferson Park	
South Forest Street	Neighborhood Greenway	0.57	12th Avenue South to 21st Avenue South	Pavement markings, wayfinding signs, and intersection improvements including curb ramp installation.		Beacon Hill Library, 12th Avenue Viewpoint, Urban Village Center, Kimball Elementary School	Medium
	Intersection Improvement		15th Avenue South and South Forest Street	Stripe crosswalk or crossbike and curb ramps on 15th Avenue South. Neck down treatment on Forest Street with advance cyclist stop bar.	Note B.		
	Intersection Improvement		South Forest Street and 15th Avenue South	Install high visibility crosswalk or crossbike and accompanying signing, ADA compliant curb ramps. Consider Rectangular Rapid Flashing Beacons or other high visibility crossing aid. Consider turning stop signs to favor neighborhood greenway.	Notes C, D.		
	Priority Intersection		South Forest Street and Beacon Avenue South	Details as shown in implementation chapter.	Note B. Note F: improvements recommended in North Beacon Hill Urban Design Framework.		
South Hanford Street	Neighborhood Greenway	0.32	14th Avenue South to 18th Avenue South	Pavement markings, wayfinding signs, and intersection improvements including curb ramp installation.		Retail Destinations on Hanford Street and Beacon Avenue, Kimball Elementary School	Medium
	Intersection Improvement		South Hanford Street and 15th Avenue South	Install crosswalk or crossbike on south intersection leg as well as ADA complaint curb ramps. Add cyclist signal activation on South Hanford Street.	Note B.		

Corridor	Facility	Length	Location	Improvements	Notes	Destinations	Time frame
	Intersection Improvement		South Hanford Street and Beacon Avenue South	Install crosswalk on south intersection leg as well as ADA complaint curb ramps. Consider curb bulbs on all intersection legs. Add cyclist signal activation on South Hanford Street.	Notes B, C, D.		

Note A. Consistent with and complementary of Southeast Transportation Study and Beacon Hill Urban Design Framework. Projects should be completed in coordination.
Note B. Requires traffic impact study
Note C. Crossing difficulty
Note D. Community identified safety issue
Note E. Frequent mention in community meeting.
Note F. Complete upgrades in coordination with:

Chapter 4. Implementation Strategies

The Beacon Hill Family Bicycle and Pedestrian Circulation Plan provides for the development of a community-wide bikeway network that is comfortable for all users. The following implementation strategies provide recommendations for phasing and prioritization criteria, community involvement, monitoring traffic changes, integration with other plans, departments and agencies, funding and other details.

Implementation Strategies

Strategy 1: Phase Implementation over Ten Years and Establish Criteria for Prioritization of Projects

The Beacon Hill Family Bicycle and Pedestrian Circulation Plan is designed as a ten-year plan.

Projects should be prioritized based on the following hierarchical criteria:

1. Projects that immediately improve pedestrian or bike safety at locations identified as challenging by City data or community comments.
2. Projects that address gaps in identified circulation network corridors, especially near schools.
3. Projects that connect users to a destination identified in this Plan.
4. Projects that are logically associated with funded infrastructure and can be leveraged to install bike and pedestrian projects in conjunction with other improvements.
5. Projects based on community input at scoping meetings.
6. Projects based on identification in an existing City plan.

Priority Intersection Designs

During the planning process, it was determined that project priorities should balance corridor improvements and spot improvements. While the intent of the plan is to design complete, continuous corridors, there are locations along existing corridors that already provide relatively good bicycle and pedestrian service with the exception of one or two problem intersections. Spot improvements can significantly increase access for multiple users to multiple destinations and are complemented by additional neighborhood greenway corridor improvements. The project team selected intersections on Beacon Hill that act as significant barriers to pedestrian and bicycle travel and conducted additional design analysis in these locations, which resulted in conceptual solutions that are ready for additional evaluation and study by SDOT. Relevant studies include motor vehicle speed and vehicle volume counts and analysis of signal timing.

These intersections are designated as priority improvements that can be integrated into the relevant corridor project (e.g., 14th Avenue neighborhood greenway), but may also be implemented as short term stand-alone projects that have the potential to significantly improve bicycle and pedestrian travel conditions. Opportunities may exist to integrate these projects into other planned or programmed transportation improvement projects. However, the intersection of South Spokane Street South and Lafayette Avenue South should be improved in conjunction with the 17th/18th Avenue neighborhood greenway and South Spokane Street roadway reconfiguration, which is necessary to accommodate the proposed median refuge island.

Strategy 4: Integrate Recommendations from this Plan into the City's Bicycle and Pedestrian Master Plans and Right-Of-Way Improvements Manual

This plan presents a vision for the future of bicycling and walking in the Beacon Hill neighborhood. For successful implementation, this Plan should be treated as a living document that is incorporated into the day-to-day activities of planning, design, funding, construction, and maintenance in Seattle. This plan recommends several ways for bicycle planning to be integrated into the planning process.

- Work with City staff to integrate recommendations from this Plan into the current Bicycle and Pedestrian Master Plan and any subsequent updates.
- Work with City staff to further develop and adopt all or aspects of the Beacon Hill Family and Pedestrian Circulation Plan as part of the Neighborhood Green Street Network and/or as an officially recognized Concept Plan in the Right of Way Improvements Manual (Chapter 6)
- Work with City staff to implement innovative traffic calming treatments recommended as part of these design guidelines.

Strategy 5: Use a Wide Variety of Funding Sources to Implement the Plan, including:

- Bridging the Gap funds
- Neighborhood Street Fund and Cumulative Reserve Fund
- Parks Opportunity Fund
- Annual Capital budget
- Private and public grants and fundraising
- State and federal transportation funds
- Department of Neighborhoods grants
- Family and Education Levy funds
- Leverage private development for frontage improvements and/or traffic mitigation

Additional information on these funding sources is contained in Appendix I.

Strategy 6: Coordinate across Departments and Agencies

There are elements of this plan that require work, coordination, and cooperation from several departments and agencies:

Seattle Department of Transportation (SDOT): There are several divisions and associated oversight committees (such as the Bicycle Advisory Board and Pedestrian Advisory Board) that impact the success of the plan. Support is needed from divisions of traffic, planning, engineering, neighborhood projects, bicycle and pedestrian divisions as well as others to complete Plan implementation.

Seattle Parks Department (SPD): Jefferson Park is a major regional park and a high priority destination. Coordination on connections and access to and through the park is critical to the Plan's success.

Seattle Public Utilities (SPU): There is a multi-use trail project on the vacated 16th Avenue Road on SPU property. Cooperation from SPU will be needed in order to provide safer bike and pedestrian access through this corridor.

Seattle City Light (SCL): There are areas where utility impacts could be minimized to maintain the conditions of the corridors and utility cooperation could be helpful.

Strategy 4: Integrate Recommendations from this Plan into the City's Bicycle and Pedestrian Master Plans and Right-Of-Way Improvements Manual

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Seattle Parks Department (SPD): Jefferson Park is a major regional park and a high priority destination. Coordination on connections and access to and through the park is critical to the Plan's success.

Seattle Pacific University (SPU): There is a multi-use trail project on the vacated 16th Avenue Road on SPU property. Cooperation from SPU will be needed in order to provide safer bike and pedestrian access through this corridor.

Seattle City Light (SCL): There are areas where utility impacts could be minimized to maintain the conditions of the corridors and utility cooperation could be helpful.

Seattle Department of Planning and Development (DPD): DPD staff provide Citywide guidance on planning and their support for the Plan is also important.

Seattle Public Schools (SPS): Schools are primary destinations and cooperation with SPS will allow children to reach their final destination safely and have a place to park their bike when they get there.

Strategy 7: Pursue a 20 mile per hour Speed Limit on the Family Circulation Network

The City of Seattle has expressed interest in reducing the speed limit on local streets that are designated as part of the circulation network from 25 miles per hour to 20 miles per hour. While simply signing a speed limit reduction is typically not enough to reduce motor vehicle speeds, this treatment has been used in conjunction with traffic calming and other roadway treatments in several cities to create a 'woonerf' style roadway environment that is safer for motorists, bicycles, and pedestrians alike.

Strategy 8: Prioritize Sidewalk Infill and Curb Ramp Installation on the Circulation Network

Though several specific sidewalk improvements are recommended for Beacon Hill in the Southeast Transportation Study and the Seattle Pedestrian Master Plan, these recommendations generally follow the arterial and collector roadway network. This Plan provides a complementary focus on local streets that can act to move pedestrians and cyclists in a safer, less stressful and more pleasant environment.

As part of the development of each neighborhood greenway corridor, an inventory of substandard or missing sidewalk segments should be conducted. The city should take advantage of opportunities to install missing segments or substandard segments as part of storm water improvements, roadway improvements or other mechanisms that would increase funding efficiencies, such as the adoption of the Neighborhood Green Street.

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Neighborhood Greenway/ Intersection	Existing Conditions		Recommended Treatments
17th Ave/ 18th Ave From Mountains to Sound Greenway to Jefferson Park (***Map 4.1***)	Major Intersections:	S Massachusetts St (2-way stop) S College St (2-way stop) S Forest St (2-way stop) S Hanford St (signal) S Spokane St (uncontrolled)	• Measure speeds and traffic volumes. • Install neighborhood greenway signing and pavement markings. • Consider corridor improvements as shown on Map 4.1. • Crossing priority intersection improvements at Lafayette Avenue South and South Spokane Street as shown on Figure 4.1. • Crossing priority intersection improvements at Lafayette Avenue South and South Spokane Street as shown on Figure 4.1 in conjunction with South Spokane Street roadway reconfiguration. • Crossing priority intersection improvements at South Forest Street, Beacon Ave South and 17th Avenue South (Figure 4.3)
	Crash History:	Several along corridor	
	Existing Conditions:	17th and 18th Avenue are north/south running local roadways with a 25 mile per hour speed limit. These roadways connect Jefferson Park to the Mountains to Sound Greenway and destinations in between including the Lander Festival Street, LINK light rail station, and neighborhood town center. Currently there are no designated bicycle facilities in this corridor.	
	Considerations:	This project builds on recommendations made in the North Beacon Hill Urban Design Framework and Southeast Transportation Study Green street improvements similar to those recommended for Beacon Avenue in the Urban Design Framework should be explored during the next phases of project study. The improvements proposed on Spokane Street are key to the success of this project. As this corridor creates a spine for the neighborhood greenway network, it is recommended that this corridor be developed first.	
	Recommended Next Steps:	Meet with interested parties to set performance goals and metrics for neighborhood greenway performance. Seek funding for engineering studies and implementation through Neighborhood Street Fund or other funding source. Initiate vehicle speed studies and counts in conjunction with preliminary engineering to confirm treatment recommendations.	
	Planning Level Cost Opinion	$479,000 Total (Including priority intersection of Beacon Avenue South and 17th Avenue South, Lafayette Avenue South and South Spokane Street – est. cost $92,000 and roadway reconfiguration of South Spokane Street – est. $43,000)	

Map 4.1. Beacon Hill System Improvements - 17th/18th Avenue Neighborhood Greenway

City of Seattle
Beacon Hill Family Bicycle and Pedestrian Circulation Plan
Author: Alta Planning + Design
Date: May, 2011

0 0.25 0.5 Miles

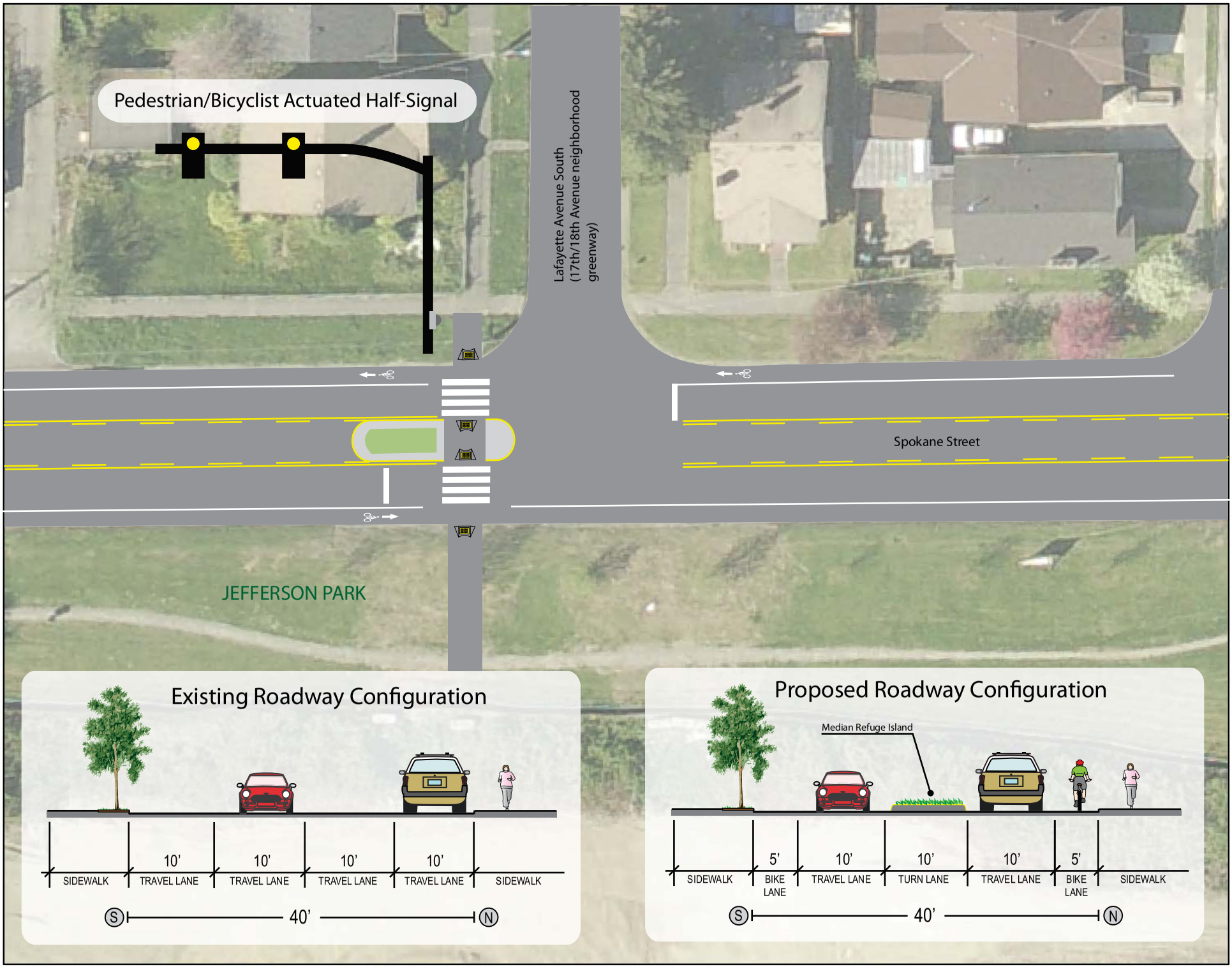

Figure 4.1 - Intersection improvements at Lafayette and South Spokane Street

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Neighborhood Greenway/ Intersection	Existing Conditions		Recommended Treatments
Beacon Ave S and 14th Ave S Priority Intersection 1 **(Figure 4.2**)	Crash History:	None	• Consider improvements as shown on Figure 4.2.
	Posted Speed:	14th Avenue South (30 Miles Per Hour) Beacon Avenue South (30 Miles Per Hour)	
	Intersection Control:	Stop controlled	
	Transit:	14th Avenue is a designated transit corridor north of Beacon Avenue South. Beacon Avenue is a designated transit corridor east of 14th Avenue South	
	Neighborhood Greenway Corridor:	14th Avenue South	
	Existing Conditions:	The intersection of 14th Avenue South and Beacon Avenue South is the northernmost reach of the neighborhood. South of this intersection, 14th Avenue South is designated as a local roadway, while the roadway north of this intersection is classified as a collector. Beacon Avenue South is designated as a minor roadway providing connections through the neighborhood center to Jefferson Park and destinations further south. Challenges at this intersection include offset intersection geometry, long crossing distances, and limited sightlines. A key neighborhood destination located on 14th Avenue South is Beacon Hill International School.	
	Considerations:	This project builds on recommendations contained in the Southeast Transportation Study and further developed in the North Beacon Hill Urban Design Framework.	
	Recommended Next Steps:	Pursue funding for conceptual design and preliminary engineering after development of 17th/18th Avenue neighborhood greenway	
	Planning Level Cost Opinion:	$225,000	

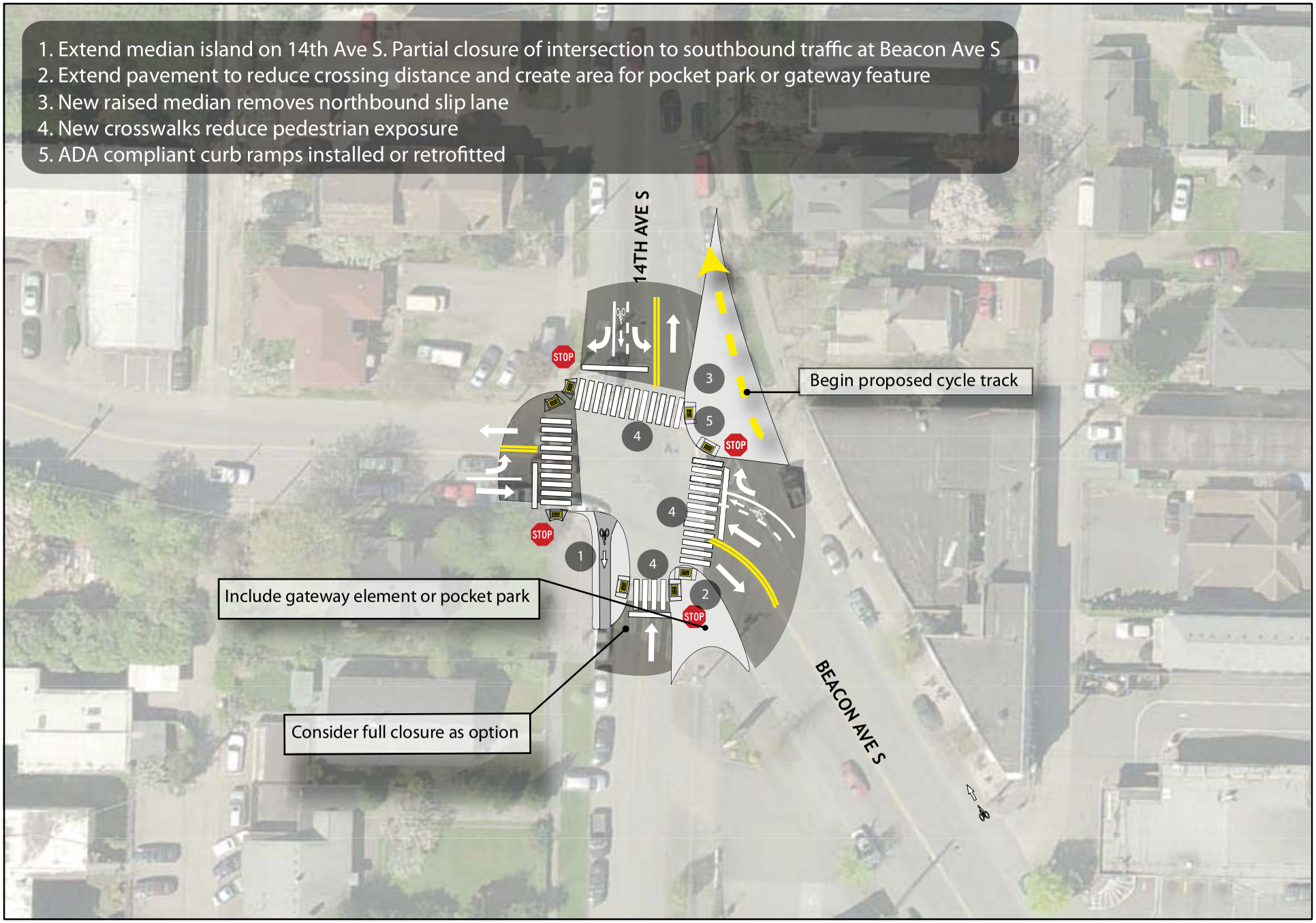

Figure 4.2 Beacon Avenue South and 14th Avenue South Conceptual Improvements

Seattle, WA
Beacon Hill Family Bicycle and Pedestrian Circulation Plan
Source: SDOT
Date: May, 2011

Neighborhood Greenway/ Intersection	Existing Conditions		Recommended Treatments
S Forest St, Beacon Ave S and 17th Ave S Priority Intersection 2 (**Figure 4.3**)	Crash History:	3 (no reported bicycle or pedestrian crashes)	• Consider improvements as shown on Figure 4.3.
	Posted Speed:	Beacon Avenue South (30 Miles Per Hour) South Forest Street (25 Miles Per Hour) 17th Avenue South (25 Miles Per Hour)	
	Intersection Control:	Stop signs on South Forest Street favor Beacon Avenue South	
	Transit:	Beacon Avenue South is a designated transit corridor	
	Neighborhood Greenway Corridor:	17th/18th Avenue South	
	Existing Conditions:	The intersection is characterized by offset intersection geometry, and higher speed traffic with infrequent traffic gaps on Beacon Avenue South. The library on the northwest corner of the intersection is a key pedestrian and bicycle attractor.	
	Considerations:	The recommendations build on improvements proposed by the Southeast Transportation Study and North Beacon Hill Urban Design Framework. These improvements should be developed in conjunction with proposed roadway reconfiguration of Beacon Avenue South	
	Recommended Next Steps:	Pursue funding for preliminary engineering evaluation and study in conjunction with development of 17th/18th Avenue neighborhood greenway.	
	Planning Level Cost Opinion:	$104,000	

Figure 4.3 South Forest Street, Beacon Avenue South, and 17th Avenue South Conceptual Improvements

Seattle, WA
Beacon Hill Family Bicycle and Pedestrian Circulation Plan
Source: SDOT
Date: May, 2011

0 25 50 Feet

Neighborhood Greenway/ Intersection	Existing Conditions		Recommended Treatments
21st Ave S and S McClellan St Priority Intersection 3 **(Figure 4.4)**	Crash History:	1 (no reported bicycle or pedestrian crashes)	• Consider improvements as shown on Figure 4.4.
	Posted Speed:	21st Avenue South (25 Miles Per Hour) South McClellan Street (30 Miles Per Hour)	
	Intersection Control:	Stop signs on 21st Avenue South favor South McClellan Street	
	Transit:	South McClellan Street is a designated transit route	
	Neighborhood Greenway Corridor:	21st Avenue South	
	Existing Conditions:	South McClellan Street is an east/west collector, which serves vehicles traversing Beacon Hill. Due to an offset in the street grid, the arterial follows 21st Avenue South, a local roadway, for approximately one block. East/west traffic is not required to stop, resulting in vehicles entering and exiting 21st Avenue South and higher speeds. Restricted sight lines contribute to potential conflicts.	
	Considerations	The City of Seattle already has several raised crosswalks installed on transit routes in West Seattle	
	Recommended Next Steps:	Pursue intersection improvements as part of 21st Avenue South neighborhood greenway implementation or as stand-alone project	
	Planning Level Cost Opinion	$51,000	

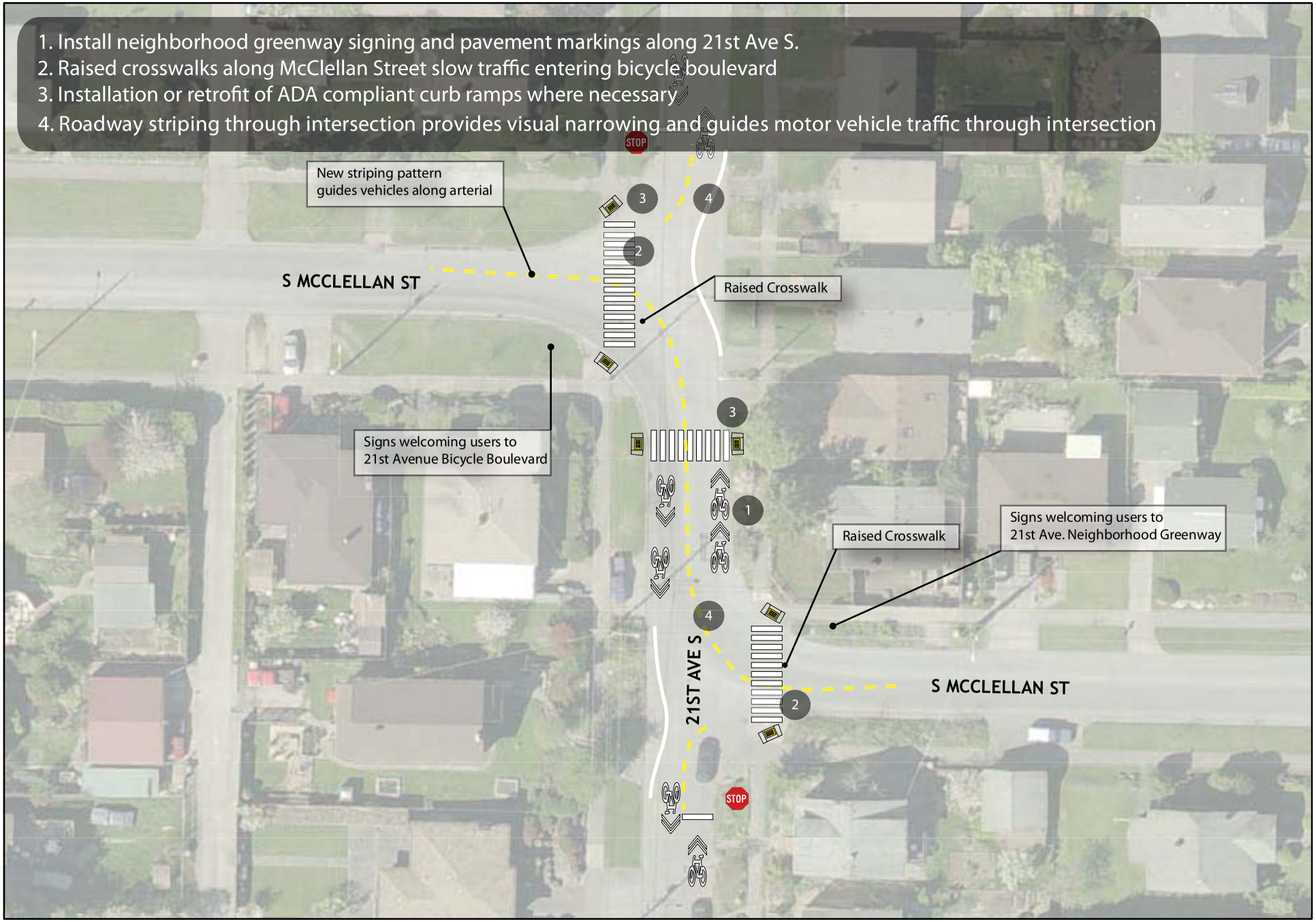

Figure 4.4 21st Avenue South and South McClellan Street Conceptual Improvements

Seattle, WA
Beacon Hill Family Bicycle and Pedestrian Circulation Plan
Source: SDOT
Date: May, 2011

0 25 50 Feet

Neighborhood Greenway/ Intersection	Existing Conditions		Recommended Treatments
S Columbian Way and 15th Ave S (Figure 4.5)	Crash History:	3 (no reported pedestrian crashes)	• Consider improvements as shown on Figure 4.5.
	Posted Speed:	South Columbian Way (30 Miles Per Hour) 15th Avenue South (30 Miles Per Hour)	
	Intersection Control:	Signal controlled with free flowing northbound traffic on 15th Avenue South	
	Transit:	15th Avenue South and South Columbian Way are both designated transit routes	
	Neighborhood Greenway Corridor:	This improvement is not on a designated neighborhood greenway; however, this crossing will provide pedestrian access to Jefferson Park	
	Existing Conditions:	This intersection is a primary gateway for motor vehicle traffic entering the Beacon Hill neighborhood from the west. Vehicles have the option to exit I-5 onto Columbia Way. West of the intersection land use is predominantly residential and includes several multi-family complexes. Currently this intersection lacks pedestrian crossing facilities. Residents living in this area must travel at least 600 feet in either direction to access another protected crossing.	
	Considerations:	The land use west of 15th Avenue South in this area is generally multi-family residential.	
	Recommended Next Steps:	Work with Seattle Department of Transportation to evaluate potential signal timing modifications. Investigate funding for conceptual design and construction of new staircase entry to Jefferson Park.	
	Planning Level Cost Opinion:	$129,000	

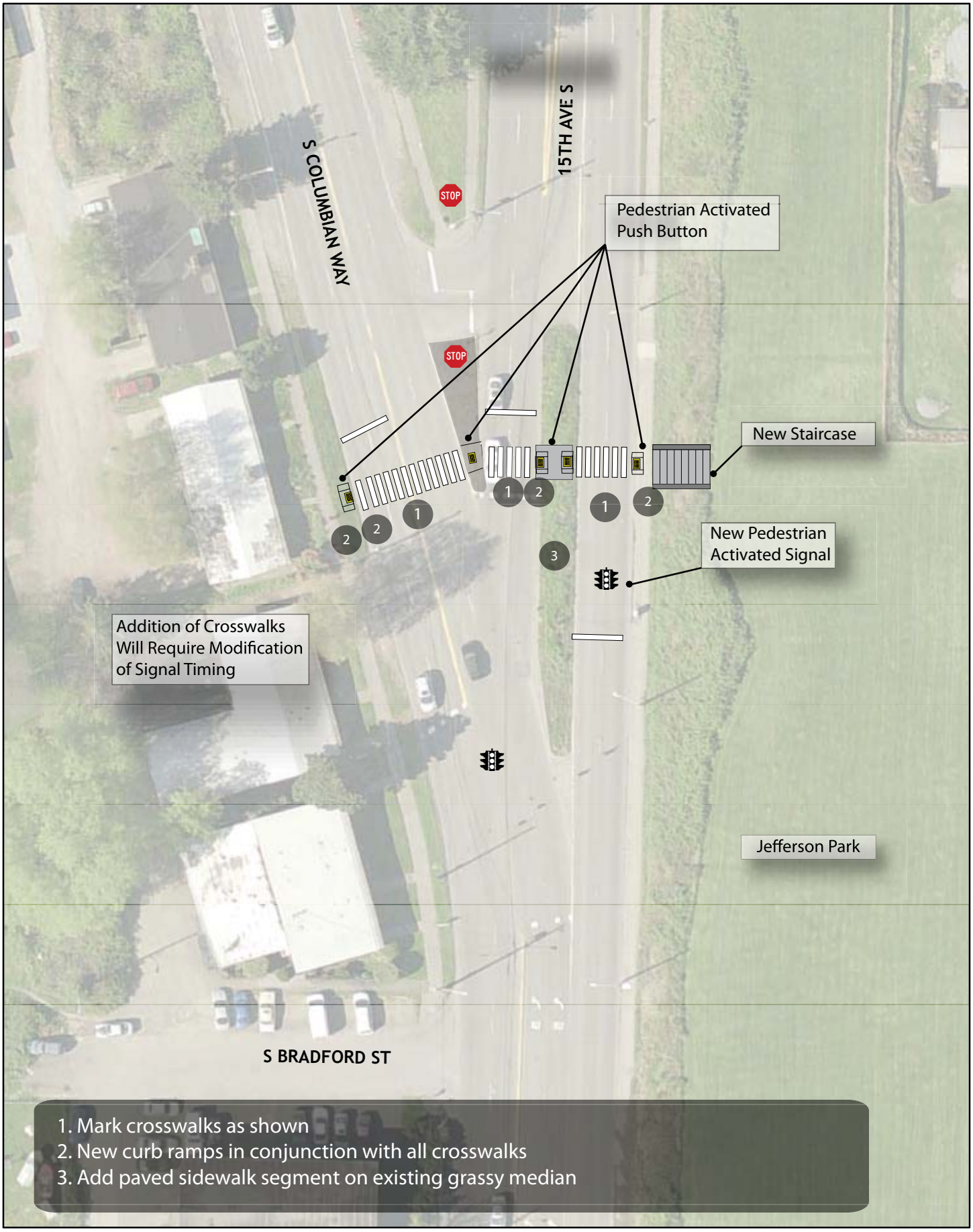

Figure 4.5 15th Ave. S. and S. Columbian Way Conceptual Improvements

Seattle, WA
Beacon Hill Family Bicycle and Pedestrian Circulation Plan
Source: SDOT
Date: May, 2011

0 25 50 Feet

Neighborhood Greenway/ Intersection	Existing Conditions		Recommended Treatments
S Alaska St/ S Columbian Way and Beacon Ave S (Figure 4.6)	Crash History:	24 (2 reported pedestrian crashes)	• Consider improvements as shown on Figure 4.6.
	Posted Speed:	Beacon Ave South (30 Miles Per Hour) South Columbian Way (30 Miles Per Hour)	
	Intersection Control:	Signal controlled on all approaches	
	Transit:	Beacon Avenue South and South Columbian Way/South Alaska Street are designated transit routes.	
	Neighborhood Greenway Corridor:	Beacon Avenue South Multi-use Path	
	Existing Conditions:	As shown in Figure 12, the interaction of Beacon Avenue South and South Columbian Way/South Alaska Street is characterized by complex intersection geometry. To the north and south of the intersection, parking bays provide additional off-street parking in the roadway median. Existing sidewalks accommodate pedestrian travel.	
	Considerations:	The Southeast Transportation Study recommended a solution, which implements U-turns to the north and south of the intersection in conjunction with modifications to existing median parking bays. The solution proposed in this plan builds on the previously proposed U-turn solution but additionally proposes reconfiguration of existing median parking and construction of a multi-use trail to further reduce potential conflicts with motor vehicle traffic.	
	Recommended Next Steps:	Work with City of Seattle and business owners and residents to develop a unified concept for intersection improvements and roadway reconfiguration.	
	Planning Level Cost Opinion:	$26,000	

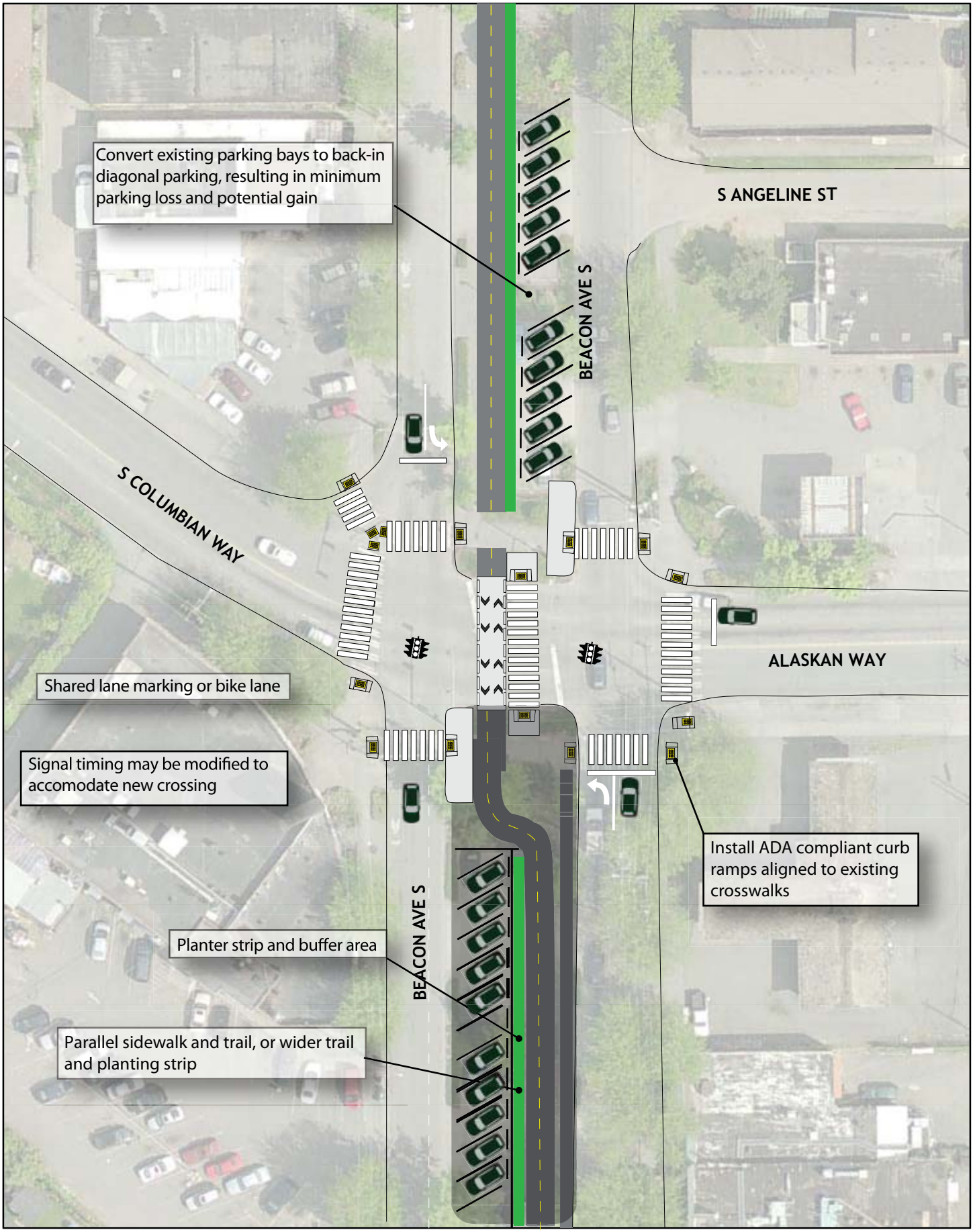

Figure 4.6 Beacon Avenue South and South Colunbian Way Improvements

Seattle, WA
Beacon Hill Family Bicycle and Pedestrian Circulation Plan
Source: SDOT
Date: May, 2011

0 25 50 Feet

Cost Opinions

This section summarizes planning level cost opinions associated with the recommended family circulation network improvement corridors. Cost opinions were derived from similar Bicycle Master Plans and experience in nearby communities. Table 4.1 provides a general planning level cost estimate for medium and long term corridor improvements based on a per mile estimate. The assumptions used to estimate costs for each facility type are found in Appendix H. More detailed cost opinions were developed for priority intersections and the priority corridor recommendation. These costs are presented in Table 4.2 and 4.3, while additional details are available in Appendix H. Short term recommendations for feasibility study costs are found in Table 4.4. Potential funding sources are included in Appendix I.

Table 4.1 Preliminary Corridor Cost Opinion Medium and Long Term Projects

Corridor	Facility	Mile	From	To	Cost Opinion
13th Avenue South	Neighborhood Greenway	1.09	South Dakota Street	South Lucille Street	$100,000
14th Avenue South	Neighborhood Greenway	0.49	Beacon Avenue South	South Hanford Street	$45,000
14th Avenue South	Cycle Track	0.19	South Hill Street	Beacon Avenue South	$289,000
21st Avenue South	Neighborhood Greenway	0.94	South Plum Street	Mountains to Sound Greenway	$87,000
Beacon Avenue Center Path II*	Multi-use Trail	2.66	South Dawson Street	39th Avenue South	$42,000
Beacon Avenue Center Path I	Multi-use Trail	0.44	South Alaska Street	South Dawson Street	$369,000
Jefferson Park Multi-use Trail Loop**	Multi-use Trail	1.46			$1,232,000
South Forest Street	Neighborhood Greenway	0.57	12th Avenue South	21st Avenue South	$53,000
South Hanford Street	Neighborhood Greenway	0.32	14th Avenue South	18th Avenue South	$30,000
South Hinds Street	Neighborhood Greenway	0.1	14th Avenue South	15th Avenue South	$9,000

* Wayfinding signs and pavement marking only
** Includes vacated 16th Avenue South right-of-way on SPU property

Table 4.2 Planning Level Cost Opinion for Priority Intersection Projects

Intersection/Corridor	Cost	Burdened Cost[2]	Notes
South Columbian Way and Beacon Avenue South	$13,000	$26,000	Does not include cost for signal timing modifications, drainage improvements, modifications to existing parking or trail construction.
Beacon Avenue South and 14th Avenue South	$110,000	$226,000	Cost assumes partial closure. Does not include cycle track or drainage improvements.
South Forest Street, Beacon Avenue South 17th Avenue South	$51,000	$104,000	Does not include reconfiguration of Beacon Avenue, drainage improvements or costs for closure of 17th Avenue South, which will be determined during implementation of Urban Design Framework. Cost for closure will vary significantly based on style of closure.
21st Avenue South and South McClellan Street	$25,000	$51,000	
15th Avenue South and South Columbian Way	$63,000	$129,000	Does not include costs for signal timing modification study or staircase installation
Lafayette Avenue South and South Spokane Street	$45,000	$93,000	Does not include cost of roadway reconfiguration shown in Table 4.1

Table 4.3 Planning Level Cost Opinion Short Term Priority Corridor Improvements

Corridor	Facility	Mile	From	To	Cost Opinion
17th/18th Avenue*	Neighborhood Greenway	1.71	Mountains to Sound Greenway	South Spokane Street	$479,000

* Does not include costs for improvements associated with Urban Design Framework or LINK light rail station modifications or drainage improvements. Includes recommended roadway reconfiguration of South Spokane Street and priority intersection improvements at Forest Street and Beacon Avenue and Lafayette Avenue and Spokane Street.

Table 4.4 Planning Level Cost Opinion Short Term Priority Corridor Feasibility Study

Corridor	Facility	Mile	From	To	Cost Opinion
17th/18th Avenue	Neighborhood Greenway	1.71	Mountains to Sound Greenway	South Spokane Street	$80,000-$100,000
14th Avenue South	Cycle Track	0.19	South Hill Street	Beacon Avenue South	$20,000 – 40,000

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[2] Costs are burdened based on engineering/construction, engineering/design, mobilization and Administration. Costs are based on recent costs incurred by projects throughout the region. Final costs may be higher or lower based on costs of labor and materials at the time of construction.

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