

BICYCLE FACILITIES STRATEGY  
TO  
REACH PLATINUM STATUS  
IN  
SOUTHWEST PORTLAND



Submitted by SWTrails  
to the  
Portland Office of Transportation  
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Platinum Trophy presented to the city of Portland  
by the Bike Gallery  
Photo: Jonathan Maus



## SW PORTLAND WANTS TO BE PLATINUM TOO

The 1996 *Portland Bicycle Master Plan* has proven to be very successful in promoting bicycling in the city of Portland. To continue this success, the plan is undergoing an update to address current bicycling and transportation needs and to build on the success of the last 12 years of its implementation.

Portland recently received the “Platinum” Award from the League of American Bicyclists as the most bicycle-friendly major city in the US. This award is based on the overall quality of facilities and bicycle promotion programs. It is apparent to most SW residents, and cyclists in particular, that SW Portland is not as bicycle-friendly as other parts of the city. While SW benefits from many of the city’s bicycle promotion programs, the facilities in SW are generally not on a par with most other areas in the city. SWTrails, a neighborhood advocacy organization, worked with SW residents and the Portland Office of Transportation (PDOT) to develop a facilities strategy to improve bicycling conditions in SW Portland.

This strategy is submitted to PDOT for consideration in the *Portland Bicycle Master Plan* update. Its purpose is to introduce a detailed assessment of the bicycling issues in SW along with recommended solutions. SWTrails recognizes the recommendations will be subject to further public review and evaluation by PDOT and that in some cases alternative approaches and design solutions will be developed. However, it is hoped that the integrity of these recommendations will be retained and incorporated as part of the revised master plan.

## THE FACILITY IMPROVEMENT STRATEGY OVERVIEW

The 1996 *Portland Bicycle Master Plan* primarily identifies a bikeway system, which requires significant and expensive roadway improvements to implement. As a result, relatively few of the bikeways proposed in the plan have actually been improved. Even if implemented, this system of bike lanes on major streets would appeal mainly to experienced cyclists and not to those who are less experienced.

To address these issues, the SWTrails effort focused on creating a less costly system of “bicycle boulevards” on low traffic streets with a pleasant and safe bicycling environment, something that is certainly lacking in SW Portland today. The majority of the routes and improvements recommended in this strategy would create a system that relies primarily on low traffic streets to be connected into a system of bicycle boulevards, which are easy to find and navigate through the use of signs, pavement markings, and methods to calm automobile traffic.

## Criteria for SW Bicycle Improvements

SWTrails concentrated on identifying facility improvements that would meet the needs of cyclists and would be practical to implement using the following general criteria:

- **System connections that link important destinations.** The facility improvements emphasize the need to create good routes that connect important destinations, such as community centers, business districts, parks, and schools.
- **Ease of implementation and financing.** Bicycle (and pedestrian) improvements have lagged in SW, because they are generally challenging and costly. Therefore, the facility recommendations must be realistic given financial constraints and the character of SW streets.
- **Accommodate all age groups and skill levels.** The majority of existing facilities in SW are bike lanes on busy arterials streets, which are best suited for experienced cyclists. The bicycle network needs to be expanded to suit the needs and abilities of all riders.
- **Potential number of users.** The priority improvements should focus on routes that have the greatest potential for bicycle use.
- **Terrain.** The hills aren't going away, but to the extent possible, the bicycle network should feature the most moderate grades available.
- **Community building and improved livability.** The bicycle system should enhance SW neighborhoods by providing a safe and convenient alternative to driving.

## Facility Types

The facility recommendations for SW fall into four general categories:

- **Bike boulevard.** The city defines bike boulevards as being potentially appropriate on streets with less than 3,000 vehicles per day. On the SW Walking map, this includes the streets shown in light and dark green. Wayfinding provided by signs and pavement markings is a key ingredient for bike boulevards.



Bike boulevard sign and pavement marking

- **Bike lane.** The city typically considers these to be the appropriate treatment on streets with more than 3,000 vehicles per day. The recommended width for bicycle lanes is 5 to 6 feet.



- **Separate path.** These should typically be a minimum of 10 feet wide for 2-way travel.

- **Wider uphill shoulder.** This is not really part of the city's improvement palette for bicyclists or pedestrians. Wider uphill shoulders of 3 to 5 feet would provide some additional room for cyclists. Because uphill bicyclist speeds are low, these shoulders may easily be shared with pedestrians.



## Community Involvement

SWTrails sponsored a series of neighborhood bike rides over the summer of 2007 to identify the most promising routes, which were presented at an open house on December 6, 2007 to get additional public comments and recommendations from over 40 people who attended. Using the additional ideas coming from the open house, SWTrails prepared a preliminary recommendation for bicycling improvements in SW Portland, consisting of a bike network maps and a spreadsheet, which provided additional description and detail about the recommended routes. These were reviewed by the public at a second open house on June 18, 2008 where over 35 people participated.

## BIKEWAY FACILITY RECOMMENDATIONS AND PRIORITIES

The facility recommendations and priorities for SW Portland utilize the four facility types. **Priority 1 Projects** are considered necessary to create a basic network of routes to accommodate bicycling in SW. The **Priority 2 Projects** would complete the system to allow safe and convenient access to all portions of SW Portland. Corresponding descriptions and information about each facility recommendation can be found in the Bicycle Facility Recommendations spreadsheet (Appendix A). In addition, **Special Needs**, such as limited sight distance and facility gaps, are noted for specific locations.

The most important **Priority 1 Projects** are labeled as **Immediate Actions**. These would establish an essential, basic system, which is focused primarily on serving neighborhood centers, such as Hillsdale and Multnomah, and public facilities, such as schools and parks. **Immediate Actions** are highlighted in **yellow** on the maps.

### ***A note about improvements and priorities***

The facility types recommended are preliminary and based on the best judgment of experienced cyclists - not traffic and transportation experts. As noted in these recommendations, facility treatments will need to be evaluated by PDOT, other city departments and government agencies, and the public. In addition, priorities will be subject to evaluation as part of the **Bicycle Master Plan** update. The priorities should be flexible and adjusted to take advantage of funding opportunities.



## Immediate Actions

Of the *Priority 1 Projects*, the *Immediate Actions* have been deemed the most important and should be implemented as soon as possible. **Forty Immediate Actions** are described below from north to south as shown on the Immediate Actions map (Figure 1). Additional details about the routes are provided in the SW Portland Bicycle Facility Recommendations spreadsheet (Appendix A). Also, references are made to “special needs”, which were identified during the public open houses. Special needs are described on pages 19-21 and Appendix A.

### *Immediate Actions Summary*

#### I-1 Kingston & Canyon Ct. between NW 23<sup>rd</sup> Pl./Burnside and Sylvan

**Need/Purpose** - A good route between downtown and Beaverton/West Slope should be identified. This improvement will provide a scenic route that takes advantage of existing bike lanes on Canyon Ct. It is one of the best connections available between Goose Hollow and Sylvan with low traffic volumes and speeds and relatively moderate grade. Another pathway connection is available from Jefferson to Kingston via the Rose Garden.

**Improvements** - Pathway/Bike Blvd./Bike Lanes:

- Provide wayfinding.
- Improve the deteriorating pathway surface near Burnside.
- Eliminate the bike lane gap on Canyon Ct. near the (Special Needs 3).

#### I-2 Hewitt & Patton between Sylvan and Talbot

**Need/Purpose** - Several bicycle routes converge at the top of the West Hills and a route should be identified that provides a low traffic link connecting bike routes at Sylvan (with pathway connections to Beaverton), Fairmount, Montgomery, and OHSU.

**Improvements** - Bike Blvd./Uphill Shoulder:

- Provide wayfinding
- Provide a short section of uphill shoulder or bike lane on Patton between Hewitt and Dosch. This would extend the existing uphill bike lane on Patton from Hillside to Hewitt.



Location of uphill shoulder/bike lane on Patton

### I-3 Jefferson & Clay between 20<sup>th</sup> and downtown

**Need/Purpose** - There are limited bike connections between Goose Hollow/Washington Park and downtown. The Jefferson bike lane provides a good westbound connection, but a corresponding eastbound route and other improvements are needed.



Bike lane gap on Jefferson



Overgrowth west of Vista Bridge

**Improvements** - Bike Lanes/Bike Blvd.:

- Provide wayfinding.
- Eliminate the bike lane gap on Jefferson between 18<sup>th</sup>-20<sup>th</sup>. The roundabout at Jefferson and 18th is not bike-friendly and should be improved (Special Needs 5).
- Create boulevard on Clay EB with a continuation across I-405 on Columbia. If possible, the I-405 crossing and Columbia should have a bike lane.

### I-4 I-405 Pathway between Montgomery and Jefferson

**Need/Purpose** - The existing path is poorly identified, and the city simply needs to take advantage of this good, but poorly marked facility.

**Improvements** - Pathway:

- Provide wayfinding.
- Look for ways to extend this pathway farther east along I-405.

### I-5 Montgomery & Talbot between PSU and Council Crest

**Need/Purpose** - A low traffic route with moderate grade should be identified between downtown and the Council Crest area. Bike connections to and from PSU also need to be provided. This route is the best option available.



Uphill shoulder needed on a portion of lower Montgomery

**Improvements** - Bike Blvd./Uphill Shoulder:

- Provide wayfinding.
- Provide an uphill shoulder on two portions of Montgomery between 16<sup>th</sup> and Vista.
- Address difficult crossing/sight distance issues at Vista (Special Needs 4) and Patton (Special Needs 1).



Tricky crossing at Vista and Montgomery



Consider left turn lanes for bikes



Evening commute on upper Montgomery

### I-6 6<sup>th</sup> - downtown connection between Broadway and College

**Need/Purpose** - A safe and comfortable connections into downtown/PSU from SW via Terwilliger/6<sup>th</sup> are lacking. This improvement will create a better northbound bicycle connection.

**Improvements** - Bike Lane:

- Eliminate the bike lane gap on the I-405 bridge.
- Better merge at Jackson to protect cyclists when the bike lane segment ends on the north end of the bridge (Special Needs 6). Recommend prohibiting motorists on 6<sup>th</sup> Avenue off-ramp from merging left until after College.
- Solutions have been discussed with PDOT (see Liden and Geller memos in Appendix B).



Bike lane ends at Broadway

### I-7 5<sup>th</sup> Terwilliger & Barbur connections

**Need/Purpose** - Safe and comfortable connections leaving downtown/PSU to SW are also lacking. These improvements will create better southbound bicycle routes.

**Improvements** - Bike Lane/Pathway:

- Create a safe and direct link to Terwilliger. This should be integrated with Immediate Action I-9 below. Many cyclists currently use the sidewalk on 6<sup>th</sup> south of Broadway (Special Needs 6) and continue up the hill on the Terwilliger path.
- Eliminate one vehicle lane between 5<sup>th</sup> and Barbur and add a bike lane.
- Solutions have been discussed with PDOT (see Liden and Geller memos in Appendix B).

## I-8 4<sup>th</sup> - downtown connection

**Need/Purpose** - The Barbur/4th bike lane ends at the north end of the I-405 bridge leaving cyclists in the middle lane of a busy street. Improvements should focus on making this major northbound bicycle connection from SW to downtown/PSU more hospitable to cyclists.

**Improvements** - Traffic Calming:

- Bike lane is complete on the I-405 bridge, but the bike lane drops on the north side of the bridge, leaving cyclists in the midst of relatively high-speed traffic (Special Needs 6).
- Solutions have been discussed with PDOT (see Liden and Geller memos in Appendix B).
- Coordinate future improvements with proposed Lincoln MAX line and possible pedestrian crossing improvements.

## I-9 Terwilliger between Broadway and city limit

**Need/Purpose** - Terwilliger is one of the most popular SW routes, but it has a number of serious gaps that compromise its usefulness. The improvements recommended below would correct these serious deficiencies to create one of the best bicycle facilities in SW.

**Improvements** - Bike Lanes and safety improvements:

- Provide wayfinding.
- Widen the substandard southbound bike lane between Sheridan and Sam Jackson (Special Needs 7). Integrate this improvement with the route connection from 5<sup>th</sup> (Immediate Action I-5).
- Provide better accommodation of left turns to continue south on Terwilliger at Sam Jackson.
- Provide bike lanes through the Capitol Highway intersection (Special Needs 13).
- Eliminate southbound bike lane gap near 7<sup>th</sup> (Special Needs 15).
- Improve design and wayfinding at Boones Ferry intersection (Special Needs 25).
- Correct chronically poor maintenance on the southbound bike lane between Sheridan and Barbur (Special Needs 49).



Substandard bike lane south of Sheridan



Debris in bike lane approaching Sam Jackson



Limited sight distance near Sam Jackson



Terwilliger bike lane gaps at Capitol Hwy. and 7th

#### I-10 Talbot between Patton and Fairmount

**Need/Purpose** - Several bike routes converge at the top of the hill and this existing connection needs to be identified to facilitate wayfinding between OHSU, Fairmount, Hillsdale, downtown, PSU, and Sylvan.

**Improvements** - Bike Blvd.:

- Provide wayfinding.
- Although this is an emergency access route, traffic calming for OHSU traffic should be implemented (Special Needs 31). This is especially important where the sight distance is poor between Fairmount and Patton.

#### I-11 Fairmount Loop

**Need/Purpose** - This existing route provides a perfect low traffic street that links several bike routes around Council Crest.

**Improvements** - Bike Blvd.:

- Provide wayfinding.
- Although this is an emergency access route between Talbot and Marquam Hill, traffic calming for OHSU traffic should be considered.

#### I-12 Hamilton between Shattuck and Dosch

**Need/Purpose** - An east-west route should be established between Beaverton-Hillsdale Highway to the south and Fairmount/Hewitt on top of the hill to the north.

**Improvements** - Bike Blvd./Bike Lanes:

- Provide wayfinding.
- Bike lanes would be the ideal treatment between Dosch and Shattuck. However, the recent preliminary engineering done for the potential HALO LID project suggests there may not be sufficient room for bike lanes and a separate walkway. If this is the case, wider paved shoulders should be provided.
- Improvements between Shattuck and 45<sup>th</sup> should be a first priority to improve access to Bridlemile School and for the proposed bike boulevards on 45<sup>th</sup>, 47<sup>th</sup>, and Tunnelwood.

#### I-13 45<sup>th</sup> between Hamilton & Cameron

**Need/Purpose** - A low traffic alternative to Shattuck is necessary to connect neighborhoods on the north and south sides of Beaverton-Hillsdale Highway.

**Improvements** - Bike Blvd.:

- Provide wayfinding.
- Modification of existing signal at Beaverton-Hillsdale Highway is necessary to accommodate cyclists (Special Needs 9).

#### I-14 Red Electric Trail between Hillsdale and 52nd

**Need/Purpose** - East-west routes with moderate grades and low traffic are lacking in SW. This project will represent a first step in completing excellent east-west route for cyclists of all abilities.

**Improvements** - Bike Blvd./Pathway:

- Provide wayfinding.
- Pathway between Capitol Highway and Cullen.
- Bike boulevard on local street segments.

**I-15 Cullen, 42<sup>nd</sup>, Pendleton, 37<sup>th</sup>, Dakota & 35<sup>th</sup> between Vermont and Cameron**

**Need/Purpose** - A low traffic connection needs to be identified between Gabriel Park/Multnomah Village and Red Electric Trail/Beaverton-Hillsdale Highway

**Improvements** - Bike Blvd./Uphill Shoulder:

- Provide wayfinding.
- Uphill shoulders on 35<sup>th</sup> between Vermont and Capitol Highway

**I-16 Vermont between Capitol Highway & 52<sup>nd</sup>**

**Need/Purpose** - Gabriel Park and community center are not well connected with the surrounding neighborhoods. Connecting the isolated bike lanes on Vermont near Gabriel Park with Capitol Highway to the east and neighborhoods to the west is an important first step in making the park more accessible.

**Improvements** - Bike Lanes:

- Provide wayfinding.
- Addressing bicycle access and safety at the Capitol Highway/30<sup>th</sup>/Vermont intersection (Special Needs 14).
- Bike lanes between 30<sup>th</sup> - 35<sup>th</sup> and 45<sup>th</sup> - 52<sup>nd</sup>.

**I-17 Capitol Highway, 49<sup>th</sup> and Kerr between Barbur Boulevard and PCC**

**Need/Purpose** - Capitol Highway is an important bike route that links Hillsdale, Multnomah Village, PCC, and other community centers. However, it has several significant gaps, which compromise the value of the bike improvements made to date. The recommended improvements would complete the missing segments in this critical route.



No downhill bike lane and narrow uphill bike lane between Barbur-Terwilliger

**Improvements** - Bike Lanes:

- Provide wayfinding.
- Widen the substandard uphill bike lane between Barbur and Terwilliger. Consider eliminating a portion of the double uphill vehicle lanes to provide a proper bike lane width (Special Needs 12).
- Eliminate the painted center median on Capitol Highway between Sunset and Terwilliger and give the space to the existing bike lanes.
- Provide facility treatments to address difficulties in merging left to continue westbound on Capital Highway at B-H Highway (Special Needs 28).



Difficult merge at Hillsdale to continue on Capitol Hwy.

- Address a similar difficulty traveling eastbound to turn left at Sunset.
- Extend southbound bike lane past Texas because limited sight distance discourages motorists from sharing the road.
- Provide facility treatments to address merging difficulties to continue southbound on Capitol Highway at Vermont (Special Needs 14).
- Northbound bike lane ends approaching Vermont (Special Needs 14).
- Bike lanes and safety improvements between Multnomah and Alfred. The preliminary engineering funded by MTIP should consider sight distance limitations at Dolph where a bike boulevard crossing is proposed (Special Needs 21).
- Add bike lanes near PCC entrance (Special Needs 26).



Another difficult merge at Vermont to continue on Capitol Hwy.



Poor sight distance as bike lane ends at Texas



NB bike lane drops approaching Vermont



Barbur is a significant obstacle (Special Needs 22)

### I-18 52<sup>nd</sup> & Maplewood between Multnomah Blvd. and Vermont

**Need/Purpose** - This existing low traffic needs to be identified as an alternative to 45<sup>th</sup> to encourage bicycling between Multnomah Village and Vermont.

**Improvements** - Bike Blvd.:

- Provide wayfinding.

### I-19 Gabriel Park and Canby between Vermont and 35<sup>th</sup>

**Need/Purpose** - A low traffic alternative should be identified to facilitate bicycling between neighborhoods along Vermont and Multnomah Village. Gabriel Park could provide this connection.

**Improvements** - Bike Blvd./Pathway:

- Provide wayfinding.
- Make selected improvements to the existing pathway system in Gabriel Park to facilitate north-south travel across the park.



**I-20 35<sup>th</sup> and Spring Garden between Capitol Highway and 17th**

**Need/Purpose** -This connection would improve east-west neighborhood access across Barbur Boulevard, which is difficult to navigate today.

**Improvements** - Bike Blvd./Bike Lanes:

- Provide wayfinding.
- Add missing bike lane section west of 17<sup>th</sup> in front of Capitol Hill Elementary School.
- Provide crossing opportunity at Barbur Boulevard with signalized intersection, crosswalk, or equivalent (Special Needs 48).



Bike lane west of 19th



Opportunities for bike lanes in front of Capitol Hills Elementary School



**I-21 Hamilton, Twombly and Chesapeake between Dosch and Fairmount**

**Need/Purpose** - There are very few connections of any kind between Beaverton-Hillsdale Highway and Fairmount. This proposal would identify a low traffic route between Dosch/Sunset and Fairmount.

**Improvements** - Bike Blvd.:

- Provide wayfinding.

**I-22 Red Electric Trail between Corbett and Capitol Highway**

**Need/Purpose** - Access to and from the Corbett neighborhood is limited by Barbur and I-5. This project would provide an important link between the Corbett area and Hillsdale.

**Improvements** - Bike Blvd./Pathway:

- Provide wayfinding.
- Bike boulevard segments on Slavin and Nebraska.
- Pathway between Slavin and Nebraska.

**I-23 Sunset Blvd. between Capitol Highway and 18<sup>th</sup>**

**Need/Purpose** - Bicycle access between Hillsdale and the neighborhoods to the north is very limited. This proposal represents an important first step to provide access to and from Hillsdale.

**Improvements** - Uphill Shoulder:

- Provide wayfinding.
- An uphill shoulder would provide a comfortable and safe connection to the nearby neighborhoods - especially 18<sup>th</sup> and 19<sup>th</sup> noted below.



Sunset narrows north of the library

**I-24 18<sup>th</sup> and 19<sup>th</sup> between Sunset and 25<sup>th</sup>**

**Need/Purpose** - A low traffic alternative to Sunset needs to be provided.

**Improvements** - Bike Blvd.:

- Provide wayfinding.

**I-25 Dewitt and Westwood between Terwilliger and Sunset**

**Need/Purpose** - A low traffic alternative to Capitol Highway is needed between Terwilliger and Hillsdale.

**Improvements** - Bike Blvd.:

- Provide wayfinding.

**I-26 Westwood and Mitchell between Westwood and Fairmount**

**Need/Purpose** - Low traffic links with reasonable grades are scarce between Hillsdale and Fairmount. This route provides the best route with the gentlest available gradient.

**Improvements** - Bike Blvd.:

- Provide wayfinding.

### I-27 Wilson HS between Vermont and Capitol Highway

**Need/Purpose** - The Mary Reike and Wilson HS property acts as a barrier to safe and efficient bicycle travel between Vermont and Hillsdale. A pathway connection, which minimizes potential conflicts with pedestrians and/or vehicles, is needed.

**Improvements** - Pathway:

- Provide wayfinding.
- Define a direct pathway link between Vermont and Hillsdale. The school site offers several paved routes, but none are designed for through bike and pedestrian traffic.

### I-28 Vermont & Chestnut (or Burlingame Terr.) between Terwilliger and Capitol Hwy.

**Need/Purpose** - Bike boulevard improvements are scheduled for Vermont. This route should be further improved to provide better access to and from Terwilliger.

**Improvements** - Bike Blvd.:

- Provide wayfinding.
- Provide an eastbound crossing at Terwilliger to continue on to Barbur via 6<sup>th</sup> (Special Needs 35). Burlingame Terr. may be an alternative route or cyclists may be able to cross Terwilliger from the right turn only lane on Vermont.
- Replace storm drain grates that are dangerous for bikes.

### I-29 Barbur Boulevard south of Capitol Highway

**Need/Purpose** - Barbur Boulevard has the easiest grade of all routes in SW, but there are several dangerous bike lane gaps that must be eliminated.

**Improvements** - Bike Lanes:

- Eliminate bike lane gaps on the Newbury, Vermont, and Multnomah bridges (Special Needs 37). This will require coordination with ODOT. The Vermont and Newbury structures are being considered for STIP funding to perform major renovations, and bike/pedestrian safety improvements must be part of this work.

**I-30 19<sup>th</sup> and Capitol Hill between Spring Garden and Troy**

**Need/Purpose** - Good opportunities to cross Barbur are limited and this improvement would provide a safer and more convenient connection across it.

**Improvements** - Bike Lanes:

- Provide wayfinding.
- Eliminate one of the three travel lanes on 19<sup>th</sup> between Spring Garden and Barbur to allow for bike lanes.
- Provide paved shoulders on Capitol Hill north of Barbur if sufficient room or funding is not available for bike lanes.



19<sup>th</sup> could be modified to include bike lanes

**I-31 Canby and Troy between Capitol Highway and Capitol Hill**

**Need/Purpose** - A low traffic route is needed between Multnomah Village and neighborhoods to the east.

**Improvements** - Bike Blvd.:

- Provide wayfinding.

**I-32 6<sup>th</sup>, Hume and 17<sup>th</sup> between Terwilliger and Spring Garden**

**Need/Purpose** - A low traffic neighborhood connection is needed to provide a low traffic alternative to Taylors Ferry.

**Improvements** - Bike Blvd.:

- Provide wayfinding.
- A bike sensor is needed on Hume to enable cyclists to get a green light onto Terwilliger (Special Needs 19).

**I-33 Pomona/Palatine, 55<sup>th</sup> Alfred and 48<sup>th</sup> between Taylors Ferry and city limit**

**Need/Purpose** - A good, low traffic alternative to Barbur is needed to and from Tigard.

**Improvements** - Bike Blvd.:

- Provide wayfinding.
- Pave a gravel section of 55<sup>th</sup> between Brugger and Taylors Ferry (Special Needs 39).

**I-34 Taylors Ferry between Capitol Highway and 49<sup>th</sup>**

**Need/Purpose** -Taylors Ferry is the most direct route between Capitol Highway and the Washington Square/Metzger area, but it is an unacceptable facility for cyclists and pedestrians. This improvement would complement the anticipated bike and pedestrian improvements on Capitol Highway and a logical first step in improving all of Taylors Ferry to the city limit.



Taylors Ferry from Capitol Hwy.

**Improvements** - Bike Lanes:

- Provide wayfinding.
- Bike lanes or paved shoulders to at least allow access between Capitol Highway and neighborhood routes beginning at 49<sup>th</sup>.

**I-35 35<sup>th</sup> and Huber between Capitol Highway and Stephenson**

**Need/Purpose** - There are very few opportunities for providing north-south bike routes in this area of the city. This route would provide safe bicycle access to Jackson Middle School, the associated athletic fields, and the adjoining neighborhood.

**Improvements** - Bike Lanes:

- Provide wayfinding.
- Consider eliminating the center turn lane near Jackson Middle School to provide bike lanes.

**I-36 Maricara, 25<sup>th</sup> and Luradel between Lancaster and 35<sup>th</sup>**

**Need/Purpose** - East-west bike routes are also a rare commodity in this area of the city. Huber to the north and Stephenson to the south have much greater traffic volumes and are not well-suited for all cyclists. This project will provide a safe route to school between Lancaster and Jackson Middle School and 35<sup>th</sup>.

**Improvements** - Bike Blvd./Pathway:

- Provide wayfinding.
- Create a trail connection across Maricara Park that accommodates bicyclists. This improvement will require coordination with the Parks Department and surrounding neighborhood.

**I-37 Lancaster, Taylors Ferry and 26<sup>th</sup> between Stephenson and Spring Garden**

**Need/Purpose** - A north-south route is needed between 35<sup>th</sup> and Terwilliger. This will identify a reasonably low traffic route with moderate grades.

**Improvements** - Bike Blvd./Uphill Shoulder:

- Provide wayfinding.
- Possible traffic calming, paved shoulders, or possibly bike lanes (Special Needs 24). Sight distances and traffic speeds are potential issues. As noted in the public comments, this will need further evaluation to ensure safety.

**I-38 Maplecrest between Terwilliger and Lancaster**

**Need/Purpose** - A low traffic alternative to Taylors Ferry and Stephenson is needed between Terwilliger and Lancaster.

**Improvements** - Bike Blvd.:

- Provide wayfinding.

**I-39 Stephenson between Boones Ferry and 35<sup>th</sup>**

**Need/Purpose** - A direct connection between Boones Ferry and 35<sup>th</sup> is needed.

**Improvements** - Uphill Shoulder:

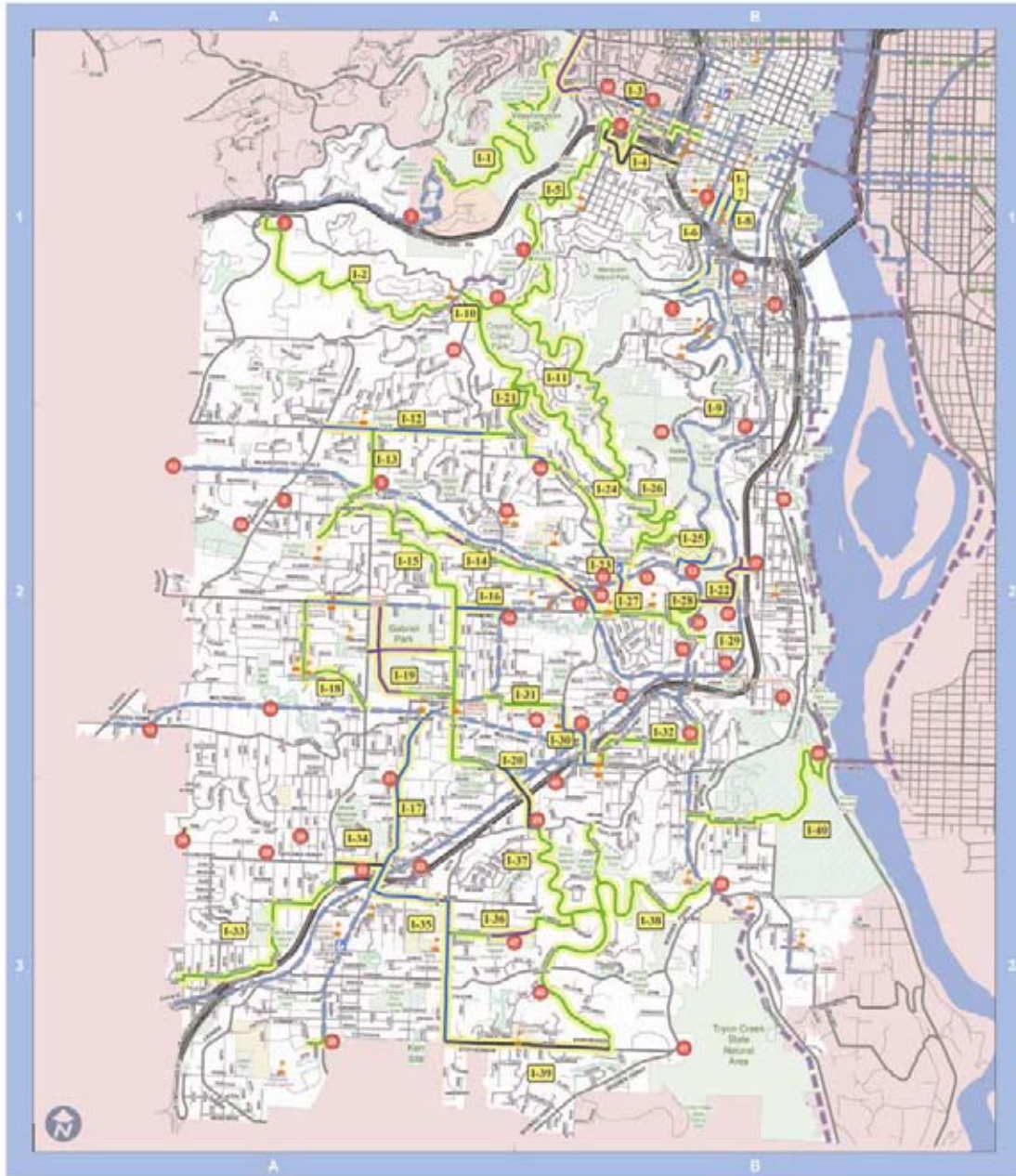
- Provide wayfinding.
- A wider shoulder where it is lacking on the north side of the street.

**I-40 Riverview Cemetery, Palatine Hill & Primrose between Macadam & Terwilliger**

**Need/Purpose** - Better identification of the best low traffic connection between Sellwood and Terwilliger should be provided, especially because the Taylors Ferry alternative is extremely inhospitable for cyclists.

**Improvements** - Bike Blvd.:

- Provide wayfinding.



**RECOMMENDED BIKE NETWORK  
IMMEDIATE ACTIONS**



November 3, 2008

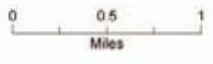


Figure 1





## Priority 1 Improvements

*Priority 1* projects include the *Immediate Actions* described above plus other important improvements that would create a good, basic bicycle network for SW Portland. These improvements are shown on the SWTrails Recommended Bike Network Map (Figure 2). Descriptions of the improvements are noted in the SW Portland Bicycle Facilities Recommendations spreadsheet in Appendix A.

## Priority 2 Improvements

*Priority 2* projects are also shown on the SWTrails Recommended Bike Network Map (Figure 2) and described further in Appendix A. These projects would truly create a “Platinum” bicycling environment in SW Portland by providing safe and comfortable facilities serving all portions of SW. In some cases, they would replace Immediate Action or other Priority 1 projects, which represent interim improvements. This primarily applies to uphill shoulders, which in many cases are recommended to ultimately become bike lanes.

## Special Needs

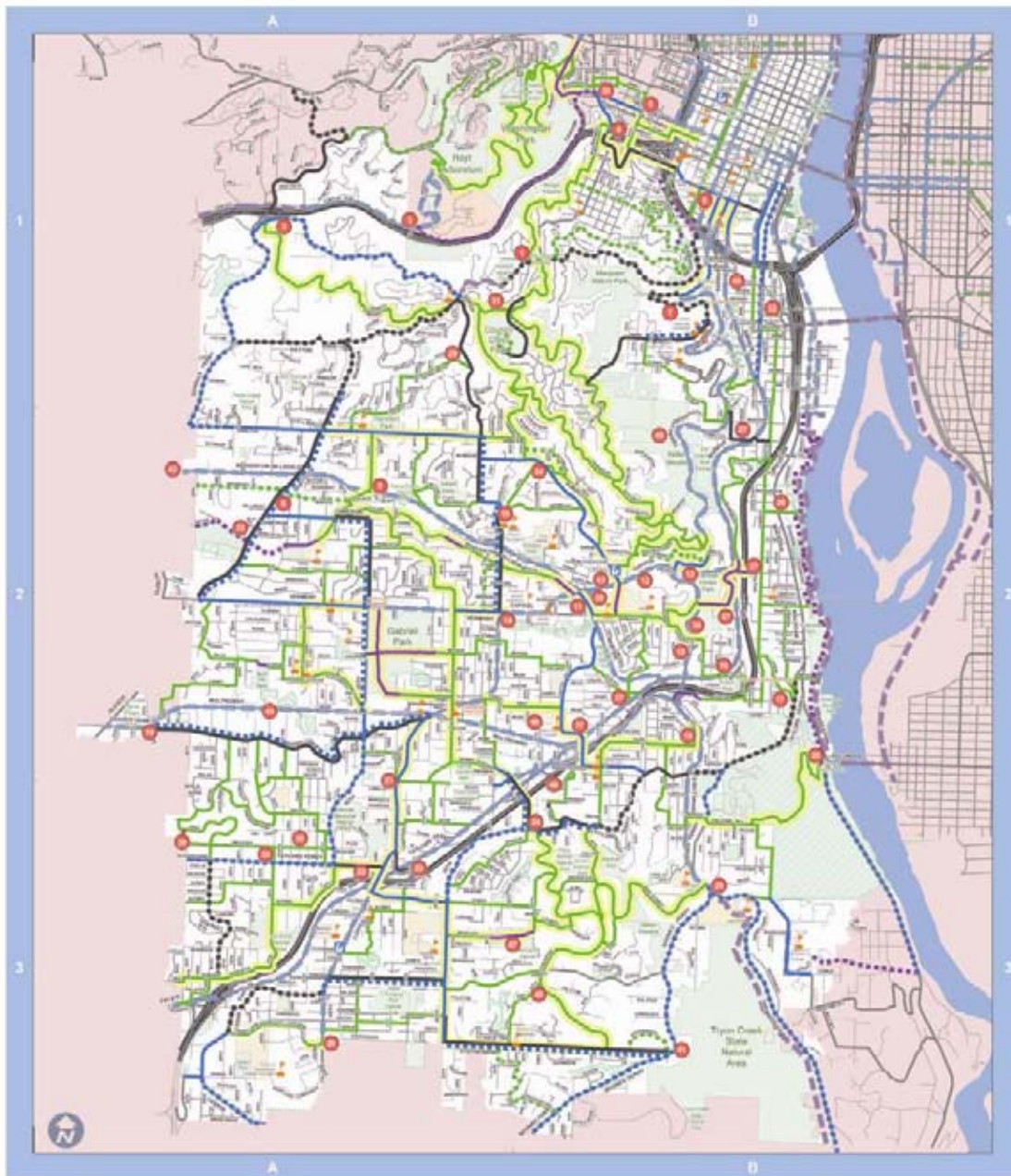
As noted earlier, special needs have been noted in a variety of locations in SW. These numbered locations are referenced in the bicycle facility maps and the spreadsheet in Appendix A.

1. **Montgomery.** Limited sight distance at Patton.
2. **Skyline.** Difficult connection from SB Skyline to Hewitt.
3. **Zoo.** Bike lane gap near zoo entrance.
4. **Vista.** Difficult intersection at SW Montgomery.
5. **Jefferson.** WB bike lane gap past 18th.
6. **4<sup>th</sup>/5<sup>th</sup>/6<sup>th</sup>/Broadway/Barbur.** Poor transitions and bike lane gaps to and from downtown.
7. **Terwilliger.** Bike lane gap and difficult left turn at SW Sam Jackson.
8. **Shattuck.** Sight distance at SW Martha and Boundary intersection is poor for bicycle crossing.
9. **Beaverton-Hillsdale Hwy.** Intersection with SW 45<sup>th</sup> needs bike loop sensors and improved crossing.
10. **Dosch.** Poor sight distance at SW Boundary.
11. **Bertha.** Bike lane gap at Capital Hwy.
12. **Capitol Hwy.** Narrow bike lanes and unnecessary center median between SW Sunset and SW Terwilliger.
13. **Terwilliger.** Bike lane gap at Capital Hwy.
14. **Capitol Hwy.** Bike lane gap at SW Vermont.
15. **Terwilliger.** Bike lane gap SB near SW 7th.
16. **Miles.** Bike sensor loops and directional markings to aid bike crossing at SW Barbur intersection.

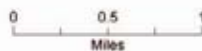
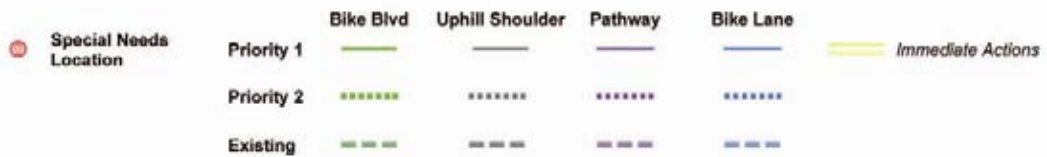
17. **Miles.** Difficult connection between SW Miles and SW LaView.
18. **Garden Home.** Intersection with SW Multnomah is dangerous.
19. **6<sup>th</sup>.** Bike loop sensor for NB cyclists entering/crossing SW Terwilliger.
20. **Macadam.** Pathway approach to and from the Sellwood Bridge.
21. **Capitol Hwy.** Poor sight distance at SW Dolph.
22. **Capitol Hwy.** Difficult crossing at SW Barbur.
23. **Barbur Transit Center.** I-5 crossing through transit center needs improved route across Barbur.
24. **Taylor's Ferry.** Difficult connection between SW Lancaster and 26<sup>th</sup> via Taylor's Ferry.
25. **Terwilliger.** Difficult intersection with SW Boones Ferry, Terwilliger, and Tryon Creek pathway.
26. **49<sup>th</sup>.** Bike lane gap at PCC entrance.
27. **Barbur.** Difficult intersection for WB cyclists on SW Hamilton.
28. **Capitol Hwy.** Difficult in Hillsdale to go from bike lane to left lane to continue on Capitol Hwy.
29. **Tunnelwood.** Poor sight distance onto Dosch.
30. **Kings.** Eliminate right turn only for cyclists and allow them to continue WB.
31. **Talbot.** Blind curve between Fairmount and Patton is hazardous to cyclists and pedestrians.
32. **Naito.** Difficult merges at Barbur, Ross Island Br. and Macadam.
33. **Shattuck.** Very narrow between Cameron and Boundary.
34. **26<sup>th</sup>.** Poor sight distance at Sunset.
35. **Chestnut.** EB cyclists (and motorists) prevented from proceeding EB across Terwilliger due to poor sight distance.
36. **Corbett.** Uphill section between Boundary and Hamilton has heavy traffic and no room on the street.
37. **Barbur.** Bridges with inadequate room for cyclists and pedestrians. Also, right turning traffic from southbound Barbur to Capitol Highway cuts off cyclists proceeding south on Barbur.
38. **Brugger.** Gaps of unimproved ROW between 49<sup>th</sup>-55<sup>th</sup>.
39. **55<sup>th</sup>.** Gravel surface between Brugger and Taylor's Ferry.
40. **27<sup>th</sup>.** Gravel surface near Lancaster.
41. **Stephenson.** Difficult intersection for all modes at Boones Ferry.
42. **Scholls Ferry.** Difficult intersection at B-H Hwy. and Oleson.
43. **Hillsdale redevelopment.** Integrate bike improvements with this project.
44. **57<sup>th</sup>.** Look for connection between Garden Home and Multnomah in this area.
45. **Corbett.** Look for east-west connection between Corbett and Barbur. Hooker may be a good choice, but a bike sensor will be needed where it intersects Barbur.

46. **Multnomah Blvd.** The 45 mph speed limit between Multnomah Village and Barbur needs to be reduced by 5 to 10 mph.
47. **Maricara Park.** The feasibility of a bike connection through the park should be evaluated.
48. **22<sup>nd</sup>.** Difficult and confusing crossing between the east and west segments of Spring Garden. Need signal at Barbur/22nd intersection and wayfinding to help cyclists.
49. **Terwilliger.** Chronically poor maintenance along the SB bike lane, with overgrown vegetation and debris between Sheridan and Barbur.





### RECOMMENDED BIKE NETWORK



November 3, 2008



Figure 2



## THOUGHTS ON IMPLEMENTATION

This bicycle facilities strategy represents a beginning point to create a truly “Platinum” bicycling environment in SW Portland. The ideas and recommendations described in this document should be evaluated further by PDOT and the public to provide the optimum bicycle network. To further support this implementation strategy, the following actions are recommended.

### **Portland Bicycle Master Plan Update**

The current *Portland Bicycle Master Plan* must be revised in order for most of the recommendations in this document to be realized. In particular, many of the bicycle boulevard recommendations and other improvements are not currently identified in the current plan. It must be amended before any significant progress can be made in SW.

### **North Macadam Development Transportation Strategy**

The city is currently working on an exciting transportation planning project to improve the transportation system for all modes in the North Macadam/Lair Hill area. In addition to the Gibbs Street Bridge connection between Lair Hill and the waterfront, this planning effort is evaluating a wide variety of improvements to enhance bicycle and pedestrian circulation in the North Macadam area. Connections between major destinations, such as downtown, PSU, and OHSU are major components of this project. The final plan should include improved bicycle connectivity between downtown/PSU and areas to the south. Safe and comfortable crossings over I-405 and I-5 are of particular importance. The outcome of this planning effort should be reflected in the *Portland Bicycle Master Plan* update.

### **Coordination between City Bureaus**

With declining city department budgets, there is more reason than ever to increase the level of coordination and cooperation between city bureaus. In particular, PDOT should forge closer working relationships with Portland Parks and Recreation and Bureau of Environmental Services (BES). Several of the proposed bicycle routes rely on traversing city parks. The Red Electric Trail is a Parks and Recreation project that has tremendous transportation benefits as well. Drainage and storm water culvert improvements are made periodically by BES in SW. These should be viewed as opportunities to convert drainage ditches into paved shoulders or bike lanes – not just ditch maintenance projects. The city has the crews, the equipment, and materials on location, so why not complete these projects as preparation for paving a shoulder at the same time or in the future?

### **Engaging ODOT**

ODOT is the key to several of the facility improvements, such as Barbur Boulevard, crossings over I-5/I-405, and the Sunset Highway (US 26). In many cases, these facilities have serious deficiencies for bicyclists, and PDOT should take every opportunity to encourage ODOT to correct them.

## **Working with OHSU and PSU**

For the new Schnitzer Campus, OHSU wants to “become the greenest campus in North America.” In discussing the future of the new waterfront campus, OHSU staff has emphasized the importance of having good connectivity with PSU, the proposed PCC/OMSI campus, and the existing facilities on the hill. Green transportation should not just stop at having the tram and rail transit brought to its door. PDOT and OHSU should strive to further reduce the auto-dependence of the entire OHSU operation, including the existing facilities above Terwilliger Boulevard. Safe, comfortable, and convenient bicycle connections should be emphasized between all of these destinations. OHSU and the city should form an on-going partnership to provide bicycle improvements to help mitigate the considerable traffic impacts associated with the OHSU operation.

Like OHSU, PSU also plans to rely less on the automobile. However, for the reasons described earlier, bicycle access to and from the campus is limited. The city should work closely with the university to further promote bicycle use to and from the campus.

## **Making a Greater Financial Commitment to Bicycling**

Money to fund transportation maintenance and improvements has become increasingly difficult. In recent years, the PDOT capital budget has allocated less than 1% for bicycle improvements. Even with this minute financial commitment, the city has had tremendous return on this investment with bicycle ridership increasing by double digits over the past four years. Compared to the significant infrastructure needs and operating costs to support vehicular travel and transit, bicycling is a great deal. With peak oil, climate change, and host of other transportation-related issues on the horizon, the city cannot afford to continue spending less than 1% on bicycle travel. Bicycling makes environmental and economic sense.

We will only continue to dream of reaching the bicycle mode splits of Copenhagen and Amsterdam in Portland unless we are really willing to commit. The city must find the additional funding necessary to allow bicycling to become a preferred transportation mode in SW Portland and all other areas of the city.



# **APPENDIX A**

## **SW Portland Bicycle Facility Recommendations**



## SW Portland Bicycle Facility Recommendations

The spreadsheet columns are:

- ***Bikeway***

*Location by number* - The map is divided into 6 sections with A and B splitting the map from west to east and 1, 2, and 3 from north to south. The recommendations are organized by the six areas (1A, 3B, etc.).

*Description* - Described routes often include multiple streets, which make up the route.

- ***Bikeway Type***

In some cases, more than one facility type is listed because the appropriate treatment will differ along the route. In addition, some improvements are sequential, such as uphill shoulders to be followed later by full bike lane improvements. There are also cases where the appropriate type of facility must be determined in coordination with the city (PDOT).

- ***Character***

Important considerations for selecting a bike facility type hinge on several elements including, traffic volume, speed, and slope. Routes located near schools are noted as having potential for the safe routes to school program. Black dots (●) indicate the worst situation (highest traffic volume/speed and steepest slope), “doughnuts” (◉) suggest moderate conditions, and white (○) is best.

- ***Improvements***

A general comment is given about the recommended facility treatment, specific needs (if any), relative cost (● is highest and ○ is lowest). Special needs relate to specific trouble spots noted by SWTrails and the public. The location number is referenced on the map.

- ***Comments***

Any observations or miscellaneous information is noted, including coordination needs with other city departments or other government agencies, such as ODOT.

- ***Immediate Action Projects***

These projects are highlighted in light yellow, and the numbers refer to the routes discussed on pages 5 through 18.



## APPENDIX A - SW Portland Bicycle Facility Recommendations

11.3.08

BIKEWAY		BIKEWAY TYPE						CHARACTER			IMPROVEMENTS				COMMENTS	
Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	COMMENTS
1	1A Kingston & Fairview between Washington Park - Skyline or Zoo	√		√				2	○	○	●	Wayfinding between park entrance & Skyline. Uphill shoulder desirable Hoyt Arboretum to Skyline or zoo.	None.	○		
2	1A Kingston & Canyon Ct. (I-1) between Jefferson - Skyline	√	√					1	○	○	●	Wayfinding between park entrance, zoo, Canyon Ct. bike lanes & Sylvan.	Complete bike lane gap near zoo interchange with 26.	○	3	NB bike lane through parking lot is difficult to use when zoo is busy. Canyon Ct. bike lane is seldom swept. ODOT coordination required.
3	1A Pathway (I-1) 23rd Pl. - Salmon				√			1	NA	NA	○	Pathway and wayfinding.	Spot pavement improvements and wayfinding.	○		Old road access from Burnside into Washington Park.
4	1A Skyline north of Sylvan			√				2	●	○	○	Continue NB bike lane from Sylvan with uphill shoulder to at least Fairview.	None.	○		In the long term, the city should provide bike lanes & sidewalk/pathway for pedestrians.
5	1A Scholls Ferry between Skyline - BH Hwy.		√					2	●	●	●	Bike lanes on Scholls Ferry.	Create better SB left turn condition from Skyline to Humphrey/Hewitt. Work with Wash. Co. & ODOT to make intersection at BH Hwy. safe for bikes/peeds & provide connections to existing bike lanes on Scholls and Oleson (under const).	●	2 & 42	ODOT coordination required. B-H Hwy./Scholls/Oleson intersection identified as a "Special Area Street Overlay" in the Washington Co. 2020 Transportation Plan (Ord. # 683, Ex. 2, 4.18.07). This includes a map with the preferred alternative for intersection reconfiguration described in the Beaverton-Hillsdale Highway/Scholls Ferry Road/Oleson Road Intersection Preferred Alternative Report, Dec. 1996. Status should be confirmed.
6	1A Patton between Vista - Talbot	√		√			√	2	●	○	○	Wayfinding and an uphill shoulder, bike lane, or sharrow between Vista & uphill path/sidewalk that begins at Portland His. Park.	None.	○		Limited room on Patton between Montgomery and Portland His. Park. Major Emergency Response Route.
7	1A Humphrey between Patton - Sylvan		√	√				2	●	○	○	Wayfinding plus shoulders or bike lanes.	None.	●		Street widening will be difficult.
8	1A Hewitt (I-2) between Patton - Sylvan	√						1	○	○	○	Wayfinding and boulevard.	None.	○		
9	1A Patton (I-2) between Hewitt - Talbot		√	√			√	1	○	○	○	Uphill shoulder/bike lane and bike lanes both directions preferred.	None.	○		Uphill shoulder/lane on Patton section is important because of high use on Hewitt.
10	1A Patton between Scholls Ferry - Hewitt			√				2	●	●	●	Uphill shoulder or bike lane and potential traffic calming.	None.	●		Street widening will be difficult due to side slope. Partially in the county.
11	1A Shattuck between Lowell - Patton		√	√			√	2	●	●	○	Uphill shoulder minimum or bike lanes.	None.	○		The upper portion of Shattuck will be of limited value without Patton improvements. Partially in the county.

BIKEWAY		BIKEWAY TYPE						CHARACTER			IMPROVEMENTS				COMMENTS	
Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	Comments
12	1A Tunnelwood & 47th between Hamilton - Dosch	✓					✓	1	○	○	●	Wayfinding.	Sight distance from Tunnelwood onto Dosch is limited.	○	29	
13	1A Dosch between Hamilton - Patton			✓				1	●	●	●	Wayfinding plus uphill shoulder.	Constrained ROW (?)	○		Difficult, but probably the best connection from B-H Hwy. area and top of hill.
14	1A/B US 26 Pathway between Goose Hollow - Zoo				✓			2	NA	NA	○	Pathway on N or S side of 26 connecting Jefferson to the bike lanes at the zoo exit.	EB connection from pathway to Jefferson/18th. PE needed to assess appropriate route.	●		Would complete safe/direct Portland - Beaverton route. ODOT coordination required.
15	1B 20th, Kings WB/Main EB & Madison between Jefferson - Washington Park	✓						1	○	○	●	Wayfinding and Boulevard.	Eliminate right turn only for cyclists on King at Vista.	○	30	Because King is 1-way WB, Main should be EB couplet.
16	1B Jefferson, 18th & Clay (I-3) between Washington Park - downtown	✓	✓					1	○	●	○	Complete WB bike lane gap on Jefferson between 18th & 20th. EB bike lane from Wash. Park on Jefferson. EB bike blvd. to downtown via 18th & Clay.	Jefferson/18th roundabout isn't bike-friendly. Create EB bike lane on I-405 bridge.	○	5	No EB bike route into downtown/PSU from Wash. Park/Goose Hollow. ODOT coordination required for I-405 crossing.
17	1B I-405 pathway & 18th (I-4) between Montgomery - Jefferson	✓		✓				1	NA	NA	○	Wayfinding.	None.	○		
18	1B Montgomery (I-5) between PSU - Vista	✓		✓				1	○	○	●	Uphill shoulder from 12th to Vista.	Address difficult crossing at Vista. Possibly bike left turn lanes like SE Stark at 41st.	○	4	Portions of Lower Montgomery have limited room for uphill shoulder, but with creative design, a paved uphill shoulder is possible. Potential for coordination with BES on apparent storm drainage facility needs.
19	1B Montgomery & Talbot (I-5) between Vista - Fairmount	✓						1	○	○	○	Wayfinding and Boulevard.	Limited sight distance Montgomery to Patton.	○	1	Easiest low traffic climb from downtown to Fairmount.
20	1B Greenway between Talbot - Council Crest			✓				1	○	○	○	Uphill shoulder, bike lane, or sharrows	None.	○		Easiest final climb to Council Crest
21	1B Vista between King/Main - Montgomery			✓				1	●	○	●	Uphill shoulder, bike lane, or sharrows on Vista Bridge & up to Montgomery.	None.	○		For this to work well, the pavement next to the curb must be swept regularly.
22	1B Harrison between 1st - PSU			✓				1	○	○	○	Uphill bike lane, or sharrows needed.	None.	○		Because of relatively light traffic on Harrison, the city should evaluate possible replacement of the right travel lanes with bike lanes between 1st and 4th.
23	1B Park Blocks between Jackson & Burnside	✓					✓	1	○	○	○	Wayfinding and Boulevard.	None.			This could provide a relatively quiet route, which would connect PSU with downtown and the Pearl Dist. with an extension north of Burnside.
24	1B 6th (I-6) - Downtown connection		✓					1	●	●	○	Complete bike lane gap on I-405 Bridge, improve merge situation at Jackson, and calm traffic.	Limited space on I-405 bridge.	○	6	See Liden and Geller memos for treatments to Broadway, 6th, 5th, 4th, Barbur, etc. ODOT coordination required for state routes and I-405 bridge crossings.

BIKEWAY		BIKEWAY TYPE					CHARACTER			IMPROVEMENTS				COMMENTS		
Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	Comments
25	1B 5th (I-7) - Terwilliger & Barbur connections		✓			✓		1	●	○	○	Create a bike lane and/or path link between 5th bike facility and EB Barbur and Terwilliger.	Evaluate modification to existing Broadway cross section to create bike lane to Barbur and Terwilliger.	○	6	Above.
26	1B 4th (I-8) - Downtown connections		✓					1	●	○	○	Improve merge situation on N side of I-405 bridge and calm traffic.	None.	○	6	Above
27	1B Terwilliger (I-9) between Sheridan - Sam Jackson		✓					1	●	○	○	Widen standard uphill bike lane and related improvements. Possible bike sensors and signals to facilitate SB left turn at Sam Jackson.	Narrow bikelane vanishing before Sam Jackson, poor sight distance, inadequate street lighting, rocks on pavement, heavy traffic, etc. make this difficult to turn left to proceed on Terwilliger.	●	7	Several public comments were received during the open house about this hazardous zone. Given the heavy bike use on Terwilliger, this should be one of the top priorities in the city. See Liden and Geller memos.
28	1B Terwilliger (I-9) between Sheridan - Barbur							1				Existing bike lanes.	Cronically poor maintenance of segments of SB bike lane. Debris accumulate and grass/blackberries are overgrown.	○	49	Mixed/unclear responsibility between adjoining property owners, PDOT, Parks Dept., and possibly ODOT. PDOT should take responsibility.
29	1B I-405 Pathway in ROW between 10th - 12th					✓		1	NA	○	○	Extend existing pathway on south side of I-405 with a trail segment between 10th - 12th in ODOT ROW.	None.	○		This would connect via local streets to the existing trail between Montgomery - 18th. ODOT coordination required.
30	1B 12th, Cardinal & Myrtle between Montgomery - Upper Montgomery	✓						2	○	○	●	Wayfinding between PSU and upper portion of Montgomery.	None.	○		Portions of this route are steep.
31	1B 12th, Cardinal, Davenport & Ravenswood between Montgomery - Patton	✓				✓		2	○	○	●	Wayfinding between PSU and Patton/Vista intersection.	None.	○		Davenport is steep.
32	1B Talbot (I-10) between Patton - Fairmount	✓					✓	1	○	○	○	Wayfinding between Patton near Vista/Montgomery and Fairmount.	Blind curve 1 block east of Patton is hazardous for cyclists and pedestrians in both directions.	○	31	Although it's an Major Emergency Response Route, traffic calming should be considered because of OHSU traffic.
33	1B Fairmount (I-11) between Markham Hill - Talbot, NE section	✓						1	○	○	○	Wayfinding and traffic calming and/or wider shoulders.	None.	○		OHSU traffic is a factor during peak hours. This portion of Fairmount is an Major Emergency Response Route, but traffic calming is appropriate.
34	1B Fairmount (I-11) between Marquam Hill - Talbot, SW loop	✓						1	○	○	○	Wayfinding.	None.	○		
35	1B Broadway between I-405 - Vista							2	●	○	●	Uphill shoulder.	Limited ROW and steep side slopes. Difficult entry into downtown crossing Broadway.	●		Suggested at the open house. Constrained ROW (?). Maybe storm drainage improvements could be modified to provide uphill shoulder.

BIKEWAY		BIKEWAY TYPE						CHARACTER			IMPROVEMENTS				COMMENTS	
Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	COMMENTS
36	1B Sam Jackson between Terwilliger-Campus			✓				2	●	●	●	Uphill shoulder.	Limited ROW and steep side slopes.	●		Could provide a good direct route. Any potential to make this a 1-way street to provide room for bikes/peds? Steep side slope and potentially difficult.
37	1B Gibbs between Campus Marquam Hill			✓				1	●	○	●	Uphill shoulder, bike lane or sharrows with traffic calming.	Limited space in some places, esp. near hospital.	○		Uphill shoulder or sharrows could be possible and given the desire for slow traffic speeds, calming appears appropriate although it's a Major Emergency Response Route.
38	1B Marquam Hill between Gibbs - Fairmount			✓				1	●	○	●	Uphill shoulder & traffic calming.	Steep side slope and potentially constrained ROW.	●		Bike lanes both directions requested at open house. Major Emergency Response Route.
39	1B Naito between Barbur - Columbia		✓					1	●	○	○	Lanes.	Difficult merges related to Ross Is. Br. and Macadam.	●	32	Need to evaluate how to deal with ramps and constrained space in some sections to connect with the new bike lanes on Naito in downtown.
40	1B Bancroft, Gaines & 11th between Gibbs-Terwilliger	✓	✓					1	○	○	○	Boulevard or possibly uphill bike lanes or sharrows.	None.	○		Significant peak traffic volumes.
41	1B Condon between Barbur Terwilliger	✓						1	○	○	○	Boulevard. Uphill bike lane or sharrows might be more desirable.	None.	○		Significant peak traffic volumes. Good OHSU/Barbur connection.
42	1B 1st between Arthur - Harrison		✓					1	●	○	○	Lanes in both directions.	None.	○		Bike lane SB only.
43	1B Corbett between Arthur-Hamilton	✓						1	●	○	○	Boulevard with traffic calming. Possible sharrows.	Curb-to-curb width is deficient. Look for east-west connection between Corbett - Barbur near Hooker. Hooker needs bike sensor at Barbur intersection.	○	45	Best connection from Corbett/Johns Landing area to downtown with 1st. Consider sharrows if a lane is not possible.
44	1B Gibbs St. Bridge (planned/budgeted)					✓		1	○	○	○	Ped/bike bridge design under way.	Related to above, need better connections between west end of the bridge to downtown and other neighborhoods.	○	45	The use of the bridge will be limited until better connections to/from the west end are provided. Coordinate with N. Macadam Transportation Strategy project.
45	2A Hamilton between Scholls Ferry - Shattuck	✓						2	●	○	○	Boulevard with traffic calming and shoulders.	None.	●		
46	2A Hamilton (I-12) between Shattuck - Dosch		✓			✓		1	●	○	○	Lanes with traffic calming.	None.	●		Coordinate with neighborhood street improvement initiative - SW neighborhoods & PDOT. Wider shoulders may be the best possible solution due to limited ROW and need for a walkway.
47	2A Shattuck between BH Hwy. - Vermont		✓	✓				1	●	○	○	Uphill shoulder first priority and ultimately provide lanes.	Narrows between Camaron - Boundary are dangerous for cyclists and pedestrians.	●	33	Alpenrose is an important destination on the route.
48	2A Shattuck between Lowell - BH Hwy.		✓	✓		✓		1	●	○	○	Uphill shoulder minimum or bike lanes.	None.	○		Best connection to neighborhoods to west.



BIKEWAY		BIKEWAY TYPE						CHARACTER			IMPROVEMENTS				COMMENTS	
Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	Comments
49	2A Martha & Boundary between 45th - 65th	✓						2	○	○	○	Wayfinding and boulevard.	Sight distance from Martha heading WB or turning at Shattuck.	○	8	If the sight distance problem can be solved, this would provide a quiet alternative to B-H Hwy.
50	2A Cameron between Shattuck - Fairvale		✓					2	○	○	○	Lanes.	None.	○		
51	2A Cameron between Fairvale - 45th		✓	✓				1	○	○	○	Uphill shoulder followed by lanes in both directions.	None.	○		
52	2A 45th (I-13) between Hamilton - Cameron	✓				✓		1	○	○	○	Wayfinding and boulevard.	Modify signal at B-H Hwy. for bikes.	○	9	
53	2A Red Electric Trail & Cullen (I-14) between Capitol Hwy. - 52nd	✓				✓		1	○	○	○	Combination of wayfinding, boulevard & pathway.	Construct a pathway connection between Bertha - 21st, near Capitol Hwy.	●		This would open a section of the trail from 33rd & Bertha to Terwilliger or end of Parkhill Dr. Connection to Hayhurst School.
54	2A Red Electric Trail & Cullen between 52nd - city limit					✓		2	○	○	○	Combination of wayfinding & pathway.		●		Good connection to Shattuck, Alpenrose and Oleson.
55	2A 39th between Hamilton - B-H Hwy.	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		
56	2A/B Boundary, Dosch & Mitchell between Sunset - 39th	✓	✓			✓		1	○	○	○	Combination of wayfinding, boulevard & lanes.	Dosch and the poor sight distance at both Boundary connections is a barrier.	○	10	Good east-west connection. East portion of Boundary has direct connection to Robert Gray MS.
57	2A Dosch between Hamilton - B-H Hwy.		✓	✓				1	●	●	○	Uphill shoulder first priority and ultimately provide lanes.	None.	○		Lanes needed on Dosch to connect the Boundary bike boulevard segments noted above.
58	2A 30th between B-H Hwy - Vermont		✓	✓				2	●	●	●	Uphill shoulder first priority and ultimately provide lanes.	None.	●		Limited ROW.
59	2A 30th, Iowa & 32nd between B-H Hwy. - Vermont	✓	✓					1	○	○	●	Wayfinding with lanes between Iowa - B-H Hwy. and boulevard on Iowa-32nd.	None.	○		If the lower portion of 30th could be improved, this is a reasonable alternative to the narrow, upper portion of 30th.
60	2A 42nd, Kanan & 41st (I-15) between Cullen - Pendleton	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		
61	2A Pendleton & 47th between 41st - Illinois	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		
62	2A Pendleton, 37th, Dakota & 35th (I-15) between 41st - Vermont	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		
63	2A 35th (I-15) between Vermont - Capitol Hwy.		✓	✓				1	○	○	○	Uphill shoulder first priority and ultimately provide lanes.	None.	○		Important connection for Multnomah Village.
64	2A Vermont (I-16) between Capitol Hwy. - 35th		✓					1	●	●	○	Lanes.	None.	○		Coordinate with neighborhood street improvement initiative - SW neighborhoods & PDOT. It's REALLY TIME to do this now!
65	2A Vermont (I-16) between 45th - 52nd		✓					1	●	●	○	Lanes.	None.	○		Coordinate with neighborhood street improvement initiative - SW neighborhoods & PDOT.

BIKEWAY		BIKEWAY TYPE						CHARACTER			IMPROVEMENTS				COMMENTS	
Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	Comments
66 2A	Vermont between 52nd - Oleson		✓					1	●	●	○	Lanes.	None.	●		Coordinate with neighborhood street improvement initiative - SW neighborhoods & PDOT. Also coordinate with Washington Co. to extend a pathway connection to Nicol Rd.
67 2A	Capitol Hwy (I-17), between Sunset - Nevada		✓			✓		1	●	●	○	Complete lane gaps in both directions near 30th & Vermont.	1. Difficult merge WB to continue on Capital Hwy. at BH Hwy. 2. Similar difficulty at Vermont. 3. No sight distance as SB lane drops near Texas. 4. NB lane from Multnomah Village drops near Texas. 5. Left turn EB to NB Sunset or Terwilliger is difficult.	●	14	These 5 situations really limit the usability and safety of this facility. <b>This should be one the city's top priorities.</b> Access to JCC.
68 2A	Illinois between 45th - Shattuck	✓				✓		1	○	○	○	Wayfinding and boulevard.	None.	○		
69 2A	50th between Illinois - Vermont	✓				✓		1	○	○	○	Wayfinding and boulevard.	None.	○		
70 2A	63rd, Miles, Canby & 68th between Shattuck - Garden Home	✓						1	○	○	●	Wayfinding and boulevard.	Garden Home - Multnomah Blvd. intersection is difficult and dangerous due to traffic volumes, speeds and turns.	○	18	Suggestion for a wheel gutter on Nevada off of 63rd to connect with 60th.
71 2A	52nd & Maplewood (I-18) between Vermont - Multnomah	✓				✓		1	○	○	○	Wayfinding and boulevard.	None.	○		
72 2A	Miles, Logan & Nevada/Custer between 60th - 52nd	✓				✓		1	○	○	○	Wayfinding, boulevard & pathway.	None.	○		Good connection through April Hill Park.
73 2A	Gabriel Park (I-19) between Vermont - Canby					✓		1	NA	NA	○	Wayfinding and pathway.	Improve existing pathway system to provide easier connections through the park.	○		Coordination with Portland Parks.
74 2A	Gabriel Park, Nevada, 33rd & Texas (I-19) between 45th - Capitol Hwy.	✓				✓		1	NA	NA	○	Wayfinding, pathway and boulevard.	Improve existing pathway system to provide easier connections through the park.	○		Coordination with Portland Parks.
75 2A	45th between Cameron - Vermont		✓	✓				1	○	○	○	Lanes. Uphill minimum & 2-way preferred.	None.	●		
76 2A	45th between Vermont - Multnomah		✓	✓				2	●	●	○	Lanes. Uphill minimum & 2-way preferred.	None.	●		
77 2A	45th between Multnomah - Carson		✓					1	○	○	○	Lanes. Uphill minimum & 2-way preferred.	None.	○		
78 2A	45th & 48th between Multnomah - Taylors Ferry		✓	✓				2	○	○	○	Lanes. Uphill minimum & 2-way preferred.	None.	○		
79 2A	40th between Canby - Garden Home	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		
80 2A	Canby (I-19) between Gabriel Park - 35th	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		Connection to Multnomah Village.

BIKEWAY		BIKEWAY TYPE						CHARACTER			IMPROVEMENTS				COMMENTS	
Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	Comments
81	2A 35th (I-20) between Capitol Hwy. - Spring Garden	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		Connection to Multnomah Village.
82	2A Spring Garden, Dolph, 35th & Alice between Spring Garden - Capitol Hwy.							1	○	○	○	Wayfinding and boulevard.	None.	○		
83	2A 31st, Hume, 30th & 26th between Capitol Hwy. - Taylors Ferry		✓	✓				1	●	○	○	Lanes. 2-way or uphill shoulders from Taylors Ferry to Barbur on 26th.	None.	○		
84	2A Spring Garden, Dolph, 41st & Carson between 35th - 45th	✓						1	○	○	○	Wayfinding and boulevard.	Poor sight distance Dolph to 41st at Capitol Hwy. .	○	21	Sight distance should be addressed during PE for Capitol Hwy. 41st needs to be paved.
85	2A Garden Home between Capitol Hwy. - Oleson		✓	✓				1	●	○	○	Lanes. Uphill minimum 2-way preferred.	Bad intersection at Multnomah.	●	18	Important connection with the recreation center at Oleson and a trail connection to Beaverton.
86	2B Hamilton, Twombly & Chesapeake (I-21) between Dosch - Fairmount	✓						1	○	○	●	Wayfinding and boulevard.	None.	○		
87	2B Red Electric Trail (I-22) between Corbett - Capitol Hwy.	✓	✓	✓		✓		1	NA	NA	○	Pathway and variety of street improvements from pedestrian bridge to 33rd & Bertha		●		
88	2B Sunset (I-23) between Capitol Hwy. - Dosch		✓					1	○	○	○	Lanes. 2-way or uphill shoulders Dosch to 27th and Capitol Hwy. to 18th.	Sections with limited ROW.	●		One of best potential routes in Hillsdale area. Focus on Capitol Hwy. to 18th as top priority.
89	2B 26th, Sunset & 27th between Boundary - Hamilton	✓				✓		1	○	○	●	Wayfinding and boulevard.	Poor sight distance from 27th to Sunset.	○	34	Better alternative could be Dosch Park (private) & 29th.
90	2B 18th & 19th (I-24) between Sunset - 25th	✓				✓		1	○	○	○	Wayfinding and boulevard.	None.	○		If Sunset is improved by Safe Streets, may not be necessary. Possible connection to Hamilton via Seymore/27th.
91	2B Hillsdale redevelopment	✓	✓					2	○	○	○	Possible lanes or boulevards with redevelopment in Hillsdale NW of Sunset/Capitol Hwy.	Integrate bike access improvements with redevelopment. Connect DeWitt through the site.	○	43	Coordinate with BOP and neighborhood as internal street system is developed.
92	2B Bertha between Vermont - B-H Hwy.		✓			✓		2	●	○	○	Bike lanes on this segment of Bertha.	This is a gap between two good facilities.	○	11	
93	2B Capitol Hwy. (I-17) between Barbur - Vermont		✓					1	●	○	○	Lanes 2-way and lane widening. Possible bike sensors and signals to facilitate left turns and merges in both directions.	No EB lane and narrow, poorly maintained uphill lane east of Terwilliger. Narrow lanes between Terwilliger - Sunset. Also difficult going WB to get left and proceed on Capital Hwy. past B-H Hwy. Substandard bike lane width EB before Bertha bridge.	●	12 - 28	Remove center painted median between Terwilliger - Sunset and widen bike lanes. Drop one uphill vehicle lane from Barbur to provide adequate bike and vehicle lane widths.

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Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	COMMENTS
94	2B Dewitt & Westwood (I-25) between Sunset - Terwilliger	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		
95	2B Cheltenham between Cheltenham Ct. - Terwilliger	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		
96	2B Westwood & Mitchell (I-26) between Fairmount - Westwood Dr.	✓						1	○	○	●	Wayfinding and boulevard.	None.	○		Westwood has most gradual slope of the possibilities on this end.
97	2B Menefee between Westwood - Westwood	✓						1	○	○	●	Wayfinding and boulevard.	None.	○		More direct connection between Fairmount and Terwilliger than Westwood.
98	2B Hamilton between Terwilliger - Corbett		✓	✓				1	○	○	●	Lanes. Uphill shoulder at a minimum, 2-way lanes preferred.	Crossing at Barbur not good for cyclists.	●	27	Good connection between Corbett and Terwilliger.
99	2B Slavin & Nebraska (I-22) between Terwilliger - Corbett	✓			✓			1	○	○	●	Wayfinding, boulevard & pathway.	None.	○		Part of Red Electric trail.
100	2B Ralston pathway between Barbur - Terwilliger					✓		2	NA	NA	●	Wayfinding & pathway.	None.	●		Pathway would use existing Ralston ROW.
101	2B Terwilliger (I-9) between Cheltenham - Barbur		✓					1	●	○	○	Complete bike lane gaps at Capital Hwy. and near 7th (SB).	On N. side of Capitol Hwy. improve existing gravel path for pedestrians and existing sidewalk for bikes. Room available near 7th.	○	13 & 15	These gaps compromise the value of the facility.
102	2B Wilson HS (I-27) between Vermont - Capitol Hwy.					✓		1	NA	NA	○	Pathway connection.	None.	○		A sidewalk and parking lot driveway provide this now, but an "official" route should be established.
103	2B Vermont, Chestnut or Burlingame Terr. (I-28) between Capitol Hwy. - Terwilliger	✓						1	○	○	○	Wayfinding and boulevard. Possible uphill lane WB from Terwilliger to Wilson HS.	Can't legally cross Terwilliger EB on Chestnut. Wheel biting storm drains on Chestnut.	○	35	Maybe EB cyclists could cross where right turn only lane meets Terwilliger.
104	2B Corbett between Hamilton - Custer	✓		✓				1	●	○	●	Wayfinding, boulevard & possible uphill shoulder/lane.	Really need uphill lane NB from Boundary to Hamilton.	●	36	The Boundary-Hamilton section is nasty with heavy traffic and NO room.
105	2B Boundary between Willamette Grwy. - Corbett	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		Good E-W connection with signal.
106	2B Nebraska between Willamette Grwy. - Corbett	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		Good connection with Willamette Park with signal.
107	2B Miles, Laviwe, Corbett, Custer, Miles, 5th & Chestnut between Willamette Grwy. - Terwilliger	✓						1	○	○	●	Wayfinding and boulevard.	Improve Barbur/Miles signals/stripping for bikes (esp. EB). Crossing at Macadam/Virginia not good for cyclists. High-speed traffic on SB Macadam ramp to Taylors Fry. Widen sidewalk between Virginia & Laviwe.	○	16 & 17	Remove utility pole in sidewalk between Virginia & Laviwe that no longer serves a purpose.

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108 2B	Virginia between Miles - Nebraska	√						1	○	○	○	Wayfinding and boulevard.	None.	○		Fix Sellwood Br. Access as well as connection to south Macacam and Riverview Cemetery with the bridge project.
109 2B	Willamette Grwy. between Bancroft - Sellwood Br.			√				2	NA	NA	○	Pathway improvements to better accommodate all users.	Terrible access to/from Sellwood Br.	●	20	
110 2B	Barbur (I-29) between Capitol Hwy. - Multnomah		√					1	●	○	○	Bike lane gaps on bridges must be completed to really make all of Barbur safe.	Gaps on two bridges leave no room for cyclists. Right turning cars from SB Barbur to Capitol Hwy. cut off cyclists proceeding south.	●	37	City should work with ODOT to get these done as part of bridge maintenance and not wait for replacement.
111 2B	Custer & 5th between Corbett - Terwilliger	√				√		1	○	○	○	Boulevard, pathway and wayfinding.	None.	●		Join these streets with a connection under Terwilliger immediately south of I-5. In ODOT ROW and has been studied before. Pathway already open.
112 2B	12th & 13th between Vermont - Barbur	√				√		1	○	○	○	Wayfinding and boulevard.	None.	○		
113 2B	Custer between Barbur - Capitol Hill	√						1	○	○	○	Wayfinding and boulevard.	None.	○		
114 2B	Capitol Hill between Troy - Bertha		√					1	○	○	○	Lanes.	None.	●		
115 2B	19th & Capitol Hill (I-30) between Spring Garden - Troy		√			√		1	○	○	○	Lanes.	None.	○		With Capitol Hill and Spring Garden improvements, this is a critical Barbur crossing. ODOT coordination.
116 2B	Texas, 29th, Nevada, Caldwell & 21st between Capitol Hwy. - Capitol Hill	√						1	○	○	○	Wayfinding and boulevard.	None.	○		Look into possibility of continuing Nevada to Capitol Hill as a pathway.
117 2B	Canby & Troy (I-31) between Capitol Hwy. - Capitol Hill	√						1	○	○	○	Wayfinding and boulevard.	None.	○		Multnomah connection.
118 2B	24th & 25th between Troy - Spring Garden	√						1	○	○	○	Wayfinding and boulevard.	May need path connection.	○		
119 2B	Multnomah between Barbur - 45th							1	○	○	○	Good existing bike lanes.	Reduce current speed limits of 45 (Barbur-31st) and 35 (31st-45th) by at least 5 mph.	○	46	Speeds on all of Multnomah are too high and this just encourages fast driving.
120 2B	22nd between Spring Garden - Multnomah		√					1	○	○	○	Lanes and wayfinding.	Difficult and confusing crossing between the east and west segments of Spring Garden. Need signal at Barbur/22nd intersection and wayfinding to help cyclists.	●	48	This is a very difficult crossing for cyclist and pedestrians. Will require coordination with ODOT.
121 2B	Spring Garden (I-20) between 35th - 17th		√			√		1	○	○	○	Lanes.	None.	○		Partial bike lanes need to be extended to be of much value.
122 2B	Spring Garden between 17th - Taylors Ferry		√			√		1	○	○	○	Lanes.	None.	○		Partial bike lanes need to be extended to be of much value.

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Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	Comments
123	2B 6th, Hume & 17th (I-32) between Terwilliger - Taylors Ferry	✓				✓	1	1	○	○	○	Wayfinding and boulevard. Immediate action between Terwilliger - Spring Garden.	Bike detection loop on 6th onto Terwilliger.	○	19	Signal on 6th to Terwilliger will not provide a green even after pushing pedestrian bottom.
124	2B 9th & Orchard between Hume - Terwilliger	✓				✓	1	○	○	○	○	Wayfinding and boulevard.	None.	○		
125	2B Taylors Ferry between Macadam - Terwilliger		✓	✓			2	●	●	●	●	Uphill shoulder first priority and ultimately provide lanes.	None.	●		
126	3A 61st, Orchard & 62nd between Garden Home - Taylors Ferry	✓					1	○	○	○	○	Wayfinding.	None.	○		
127	3A 61st between Garden Home - Pasadena	✓		✓			1	○	○	○	○	Wayfinding. Uphill shoulder or lane south of TF.	None.	○		
128	3A Knightsbridge between Orchard - 55th	✓					1	○	○	○	○	Wayfinding and boulevard.	None.	○		
129	3A 57th, Orchard, 50th & 49th between Garden Home - Taylors Ferry	✓				✓	1	○	○	○	○	Wayfinding and boulevard.	Look for Garden Home/Multnomah connection opportunity on or near 57th.	○	44	
130	3A 52nd between Dolph - Orchard	✓				✓	1	○	○	○	○	Wayfinding and boulevard.	None.	○		
131	3A Dolph between 48th - 57th	✓				✓	1	NA	NA	○	○	Wayfinding and pathway.	None.	○		Because it is relatively level, creating pathway or street connections along the Dolph alignment between 49th and 55th should be considered.
132	3A 54th between Dolph - Garden Home	✓					1	○	○	○	○	Wayfinding and pathway.	None.	○		
133	3A Brugger between 62nd - 48th	✓					1	○	○	○	○	Wayfinding and boulevard.	Gaps of unimproved ROW between 49th - 55th.	○	38	Tremendous potential to be an excellent alternative to Taylors Ferry. Check possible connection to Florence via water tank property.
134	3A 55th, Pasadena & Ponomal/Palatine (I-33) between Brugger - City Limit	✓					1	○	○	○	○	Wayfinding and boulevard.	Gravel surface on 55th between Brugger and Taylors Ferry.	○	39	Except for gravel section, very good N-S route.
135	3A 48th & Alfred (I-33) between Taylors Ferry - 55th	✓					1	○	○	○	○	Wayfinding and boulevard.	None.	○		
136	3A Alfred, 61st & Wilbard between 55th - City Limit	✓				✓	1	○	○	○	○	Wayfinding, boulevard and pathway connection.	None.	○		ROW appears to be available to make pathway connection.
137	3A Taylors Ferry (I-34) between Capitol Hwy. - 49th		✓	✓			1	●	●	●	●	Uphill shoulder first priority and ultimately provide lanes.	ROW may be an issue.	●		Improving the connection between Capitol Hwy. - 49th should be first priority. PE for Capitol Hwy. improvements should be expanded to comprehensively assess the intersection of Taylors F. -Barbur-I-5.

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Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	Comments
138	3A Taylors Ferry between Capitol Hwy. - City Limit		✓					2	●	●	○	Lanes.	ROW may be an issue.	●		Focus on section between PCC and I-5.
139	3A Capitol Hwy. (I-17) between Garden Home - Huber		✓					1	●	●	○	Bike lanes.	Barbur intersection needs to accommodate cyclists between Taylors Ferry - Huber.	●	22	MTIP funding approved to do PE. Need to position for MTP construction \$ next. ODOT coordination for Barbur intersection treatment.
140	3A 49th & Kerr (I-17) between Capitol Hwy. - City Limit		✓					1	●	●	○	Bike lanes at PCC entrance.	None.	●	26	Bike lane gap at PCC entrance is a difficult section for cyclists.
141	3A Capitol Hwy. & Lesser between 49th - western PCC entrance.			✓				2	●	●	○	Uphill shoulder between PCC entrance and 49th.	None.	●		
142	3A Haines & Lesser between City Limit - western PCC entrance.		✓					1	●	●	○	Bike lanes.	None.	●		ROW May be limited. Good connection to/from Tigard.
143	3A PCC Campus between 49th - Lesser	✓		✓				1	○	○	●	Boulevard or uphill bike lane and wayfinding.	None.	○		Coordination with PCC.
144	3A 40th, Alfred, 43rd & Dickinson between Barbur Transit - Capitol Hwy.	✓				✓		1	○	○	○	Wayfinding, boulevard and pathway connection.	Need to provide a good connection through transit station and across Barbur.	○	23	Reasonable low traffic alternative to crossing Barbur on Capitol Hwy. Without improvement to Barbur/Capitol intersection, this crossing (and connections to it) should be evaluated as part of a safe route between Multnomah Village and Jackson School/PCC area.
145	3A 35th & Alice between Dolph - Capitol Hwy.	✓						1	○	○	○	Wayfinding and boulevard.	None.	○		
146	3A Taylors Ferry between 26th - 35th		✓			✓		2	●	●	○	Lanes.	None.	●		ROW may be limited.
147	3A Stanley between 26th - 35th	✓						1	○	○	●	Wayfinding and boulevard.	None.	○		
148	3A 35th (I-35) between Stanley - Stephenson		✓			✓		1	●	●	○	Lanes.	None.	○		Coordinate with neighborhood street improvement initiative - SW neighborhoods & PDOT (between Stephenson - Arnold).
149	3A/B Huber & 25th (I-35) between Capitol Hwy. - Lancaster		✓	✓				1	○	○	○	2-way lanes between Capitol - 35th and minimum uphill shoulders between 35th and 25th.	None.	○		Focus on Capitol Hwy. - 35th section as high priority.
150	3A/B Maracara, 25th & Luradel (I-36) between 35th - Lancaster	✓				✓		1	○	○	○	Wayfinding, boulevard and pathway connection.	An evaluation of the feasibility of a bike route through the park must be conducted..	○	47	Some of the immediate neighbors have raised objections to having a bicycle route through the park. Because a quiet, safe east-west route is lacking in this area, this potential bicycle route deserves serious consideration.

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151	Pomona between 35th - Capitol Hwy.		√	√				2	●	●	○	2-way lanes preferred and minimum uphill shoulders.	None.	●		
152	Vesta, Vecuna & Coronado between 35th - 49th	√						1	○	○	○	Wayfinding and boulevard.	None.	○		
153	45th between Pomona - Vesta	√						1	○	○	○	Wayfinding and boulevard.	None.	○		
154	Lancaster, Taylors Ferry & 26th (I-37) between Stephenson - Spring Garden	√	√	√				1	○	○	○	Wayfinding and boulevard. However, this may need uphill shoulders/lanes or 2-way lanes to address traffic and limited sight distances.	Treatment needs further evaluation by PDOT. Also, difficult connection between Lancaster and 26th on Taylors Ferry.	●	24	Received comments of concern about the safety of this route. Still best N-S route in area.
155	21st, Marigold & 23rd between Spring Garden - Taylors Ferry	√						1	○	○	○	Wayfinding, boulevard and pathway (existing).	None.	○		Grade allows easier climb NB than 17th.
156	Maplecrest (I-38) between Lancaster - Terwilliger	√						1	○	○	○	Wayfinding and boulevard.	None.	○		Best connection to Terwilliger.
157	18th between Taylors Ferry - Maplecrest	√						1	○	○	○	Wayfinding and boulevard.	None.	○		In combination with 17th, it's one of the better Taylors Ferry crossings.
158	Broadleaf between 18th - Lancaster	√						1	○	○	○	Wayfinding and boulevard.	None.	○		Short segment should be signed for cyclist convenience.
159	14th between Lancaster - Maplecrest	√						1	○	○	○	Wayfinding and boulevard.	None.	○		Short segment should be signed for cyclist convenience.
160	Taylors Ferry between 17th - 26th		√					1	●	●	○	Lanes to connect N-S routes.	ROW may be an issue.	●		
161	Taylors Ferry between 26th - Spring Garden			√				2	●	●	○	Uphill shoulder or lane.	ROW may be an issue.	●		
162	Taylors Ferry between Spring Garden - Terwilliger			√				1	●	●	○	Uphill shoulder or lane.	ROW may be an issue.	●		
163	Arnold between 35th - Lancaster	√	√	√				1	○	○	○	Wayfinding and boulevard. However, this may need uphill shoulders/lanes or 2-way lanes to address traffic and limited sight distances.	None.	●		Similar situation to Lancaster. Treatment needs further evaluation by PDOT. Major Emergency Response Route.



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Location	Description	Boulevard	Lanes	Uphill	Shoulder	Pathway	School	Priority	Traffic Volume	Traffic Speed	Slope	Treatment	Special Needs	Cost	Location	COMMENTS
164	3B 27th between Lancaster - Stephenson	√						1	○	○	●	Wayfinding and boulevard.	Gravel surface for 1-2 blocks near Lancaster.	○	40	
165	3B Stephenson (I-39) between Boones Ferry - 35th		√	√			√	1	●	●	○	Uphill shoulder followed by lanes in both directions.	Difficult intersection for all modes at Boones Ferry.	●	41	Some creative re-stripping may prove some of the desired uphill shoulders without widening. Major Emergency Response Route.
166	3B Boones Ferry between Terwilliger - City Limit		√	√				2	●	○	○	2-way lanes preferred and minimum uphill shoulders.	None.	●		Some public comment to make a higher priority.
167	3B Stephenson Ct. near Boones Ferry	√						1	○	○	○	Wayfinding and boulevard.	None.	○		Offered as an idea if Stephenson remains as it is, because it bypasses a busy, steep section on Stephenson.
168	3B 27th Pl., Sylvania, Orchard Hill between Stephenson - Boones Ferry	√						2	○	○	○	Wayfinding and boulevard.	None.	○		
169	3B Riverview Cemetery, Palatine Hill & Primrose (I-40) between Macadam - Terwilliger	√						1	○	○	●	Wayfinding and boulevard.	None.	○		Best way up from Sellwood Br. City should consider obtaining a permanent easement.
170	3B Palatine Hill & Palater between cemetery - Terwilliger	√						1	○	○	○	Wayfinding and boulevard.	None.	○		
171	3B Palater, Comus, Palatine Hill between Terwilliger - City Limit		√					1	○	○	○	2-way lanes preferred and minimum uphill shoulders.	None.	○		Partial bike lane improvement near Lewis & Clark needs to be expanded.
172	3B Lewis & Clark pathway between Macadam - Terwilliger					√		2			●	Don't describe in more detail...	None.	●		
173	3B Terwilliger between Taylors Ferry - City Limit		√	√			√	2	●	●	○	2-way lanes preferred and minimum uphill shoulders.	Boones Ferry intersection needs improvement for cyclists on Terwilliger, Boones Ferry and Tryon Cr. path.	●	25	
174	3B Boones Ferry between Terwilliger - Taylors Ferry			√				2	○	○	○	Should this get any special treatment?		○		
175	3B Macadam between Sellwood Br. - City Limit		√	√				2	●	●	○	2-way lanes or separate pathway preferred and minimum uphill shoulders.	None.	●		Coordination with ODOT.



# **APPENDIX B**

## **Improvement Recommendations SW Downtown**



## MEMORANDUM

TO: Roger Geller  
FROM: Keith Liden  
RE: SW Bicycle Issues  
DATE: August 21, 2006

In response to your request at this month's BAC ride to submit ideas to solve some of the access problems in SW Portland, I have prepared a number of suggestions for your consideration. In addition to the BAC ride last week, I revisited many of the areas discussed below this past weekend.

Generally speaking, the SW transportation system surrounding downtown was set with the urban renewal and I-405 construction of the '60's and 70's. At that time the car was really king, and the design of the streets and other transportation facilities reflect that by encouraging fast automobile speeds while providing little or no pedestrian and bicycle facilities. The challenge now is to create a better balance for everyone.

I have a number of suggestions below, but a common ingredient to all of them is the need to transform these streets to truly accommodate all transportation modes. In addition to the specific facility recommendations, I feel that it is essential for the city to change the character of the area from auto routes to bicycle and pedestrian-friendly places that people will want to visit rather than an area to simply travel through. Obviously this goes beyond PDOT, and it should involve a joint effort with ODOT, Portland Planning Bureau, and PDC.

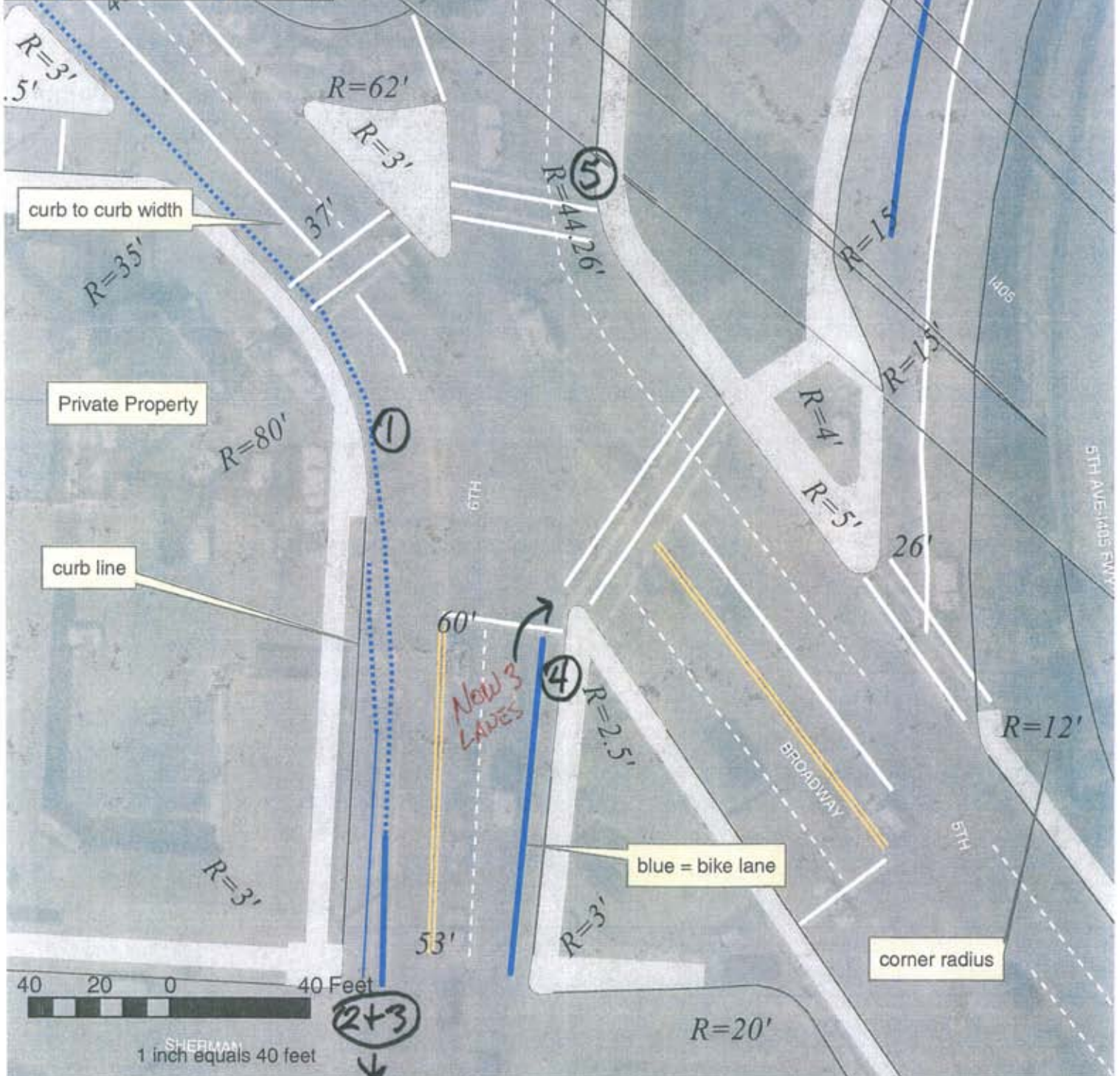
I have listed a number of problem areas along with potential solutions to enhance bicycle connections between downtown and SW Portland. The problems and solutions range from small, simple fixes to major overhauls. The location of the numbered recommendations is shown on the attached maps.

Problem	Possible Solution
<b>Outbound – Broadway/6<sup>th</sup> Avenue/Terwilliger</b>	
1. Storm Drain located right at the apex of the curve from Broadway to 6 <sup>th</sup> that forces cyclists to the left edge of the bike lane as motorists are veering toward the curb while turning.	Move the drain grate to another location or make it occupy less of the bike lane width.
2. Substandard bike lane with south of Sheridan to Terwilliger/Sam Jackson intersection.	Widen bike lane.
3. Difficult merge to get in the left turn lane to continue on Terwilliger	Provide a combination of increased bike lane width, improved sight distance, better winter and night time lighting, and traffic calming.

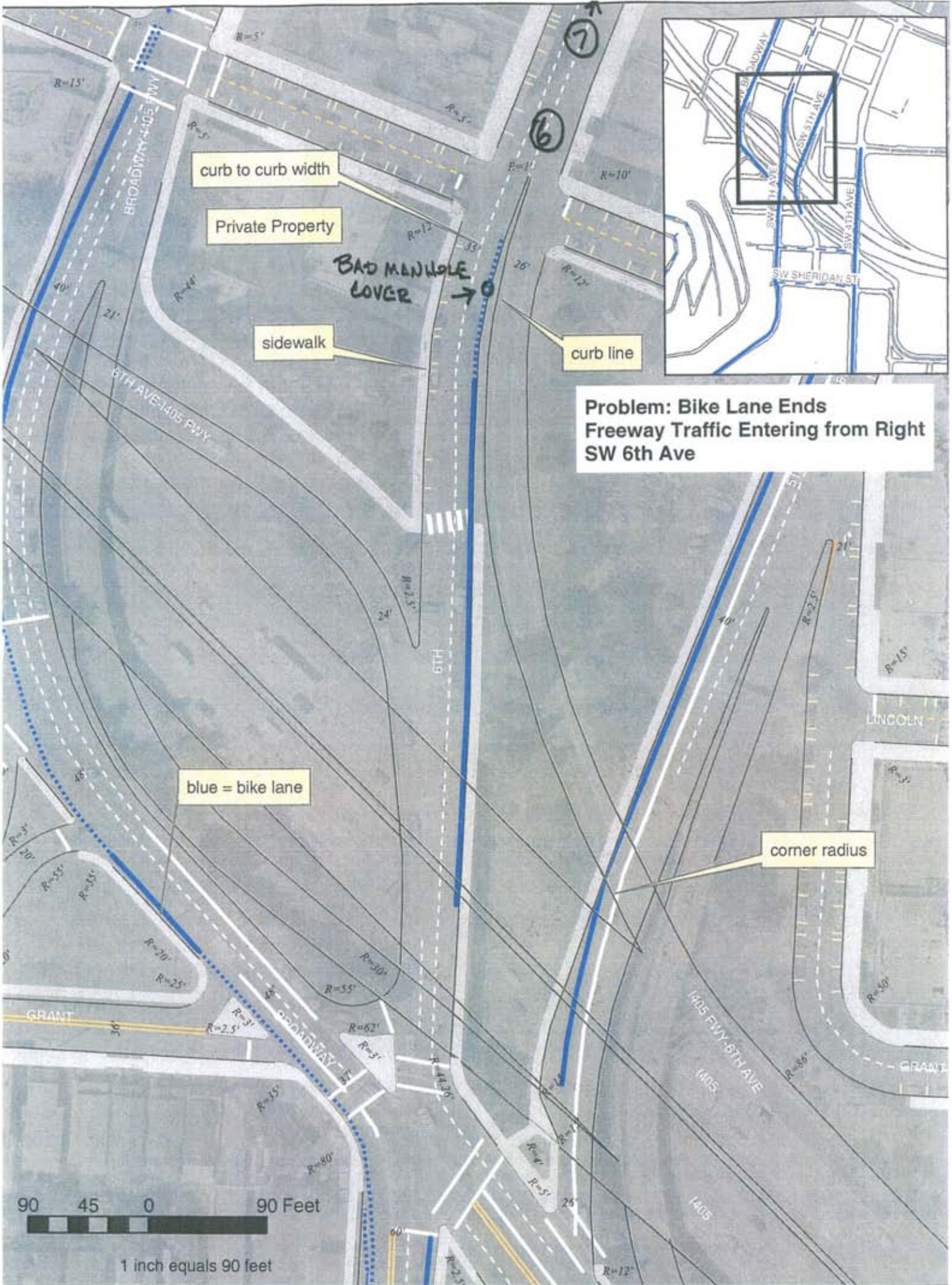
<b>Problem</b>	<b>Possible Solution</b>
<b>Inbound – Terwilliger/6<sup>th</sup> Avenue</b>	
4. Illegal right turns by motorists at 6 <sup>th</sup> onto Broadway that endanger cyclists traveling straight.	Provide wayfinding signs before Sheridan for lost motorists leaving OHSU and put directional arrows on the pavement.
5. Bike lane drops on the I-405 bridge compromising safety and comfort.	The interim “fix” is the existing bike lane, which has helped, but ultimately it should go the entire length of the bridge – not the just northern 2/3. Also, manhole cover at north side should be removed or raised to pavement height with non-slip surface.
6. Traffic speeds and lane changes associated with the 6 <sup>th</sup> Ave. off-ramp. Motorists coming from I-405 often try to make left lane changes too soon before they know what is around them.	Prohibit lane changes for 1 or 2 blocks to allow people to become oriented with the traffic around them before lane changes can be made.
7. Light progression on 6 <sup>th</sup> Ave. is too fast to make bicycling comfortable for all abilities.	Slow the light progression. Currently, following the lights now leaves you with a short wait at Market. The progression could be slowed some more, and it would not affect travel time or street capacity.
<b>Outbound – 5<sup>th</sup> Avenue/Terwilliger</b>	
8. Bicycling environment on 5 <sup>th</sup> Avenue is poor.	Provide bike lane from Jefferson as proposed by BAC.
9. Recent pedestrian improvements have enhanced the situation, but the connection from 5 <sup>th</sup> to Terwilliger continues to be inconvenient.	A scramble light might work. However, unless the substandard bike lane width and difficult merge to turn left onto Terwilliger (at Sam Jackson) are resolved as noted above, I don't think this will be an attractive option for many 5 <sup>th</sup> Ave. cyclists. They will continue to prefer riding on the east sidewalk along 6 <sup>th</sup> Ave.
<b>Outbound – 5<sup>th</sup> Avenue/Barbur Blvd.</b>	
10. Bike lane gap on 5 <sup>th</sup> at Broadway is created by curb extension design.	As part of the bike lane improvement from Jefferson, the existing curb on 5 <sup>th</sup> , just before Broadway, should be removed.
11. Bike lane gap between 5 <sup>th</sup> and Broadway and Barbur.	Retain the 2-lane cross-section on Broadway east of 6 <sup>th</sup> (where 3 lanes are now) to allow a bike lane on the southwest side of the street. Later, have a 3-lane cross-section instead of 4 lanes to allow the bike lane to continue to Barbur. The 4-lane cross-section is awkward and slow. Large vehicles, such as buses, can't really stay in their lane. Change the intersection approach to 3 lanes and a bike lane. This appears feasible because Barbur drops to 1 lane past the YMCA.
<b>Inbound – Barbur/4<sup>th</sup> Avenue</b>	
12. Bike lane ends abruptly at the 4 <sup>th</sup> Ave. off-ramp.	Lane widths of the 2-lane off-ramp and 4 <sup>th</sup> Ave. should be evaluated to see if the center curb could be removed to allow the bike lane to continue allowing a more gradual merge into the auto lanes.

<b>Problem</b>	<b>Possible Solution</b>
13. Traffic speeds are high on 4th Ave.	Traffic calming techniques – especially between I-405 and College. This could possibly include narrower lane widths, making the curve before College tighter, signal at College, and/or other traffic calming improvements.
<b>Inbound - Goose Hollow</b>	
14. Jefferson provides a good route outbound, but there is no corresponding inbound route.	Establish Clay as a bike boulevard from 18 <sup>th</sup> to 14 <sup>th</sup> , and north to Columbia. Provide a bike lane on Columbia across I-405 (the route is there except for the ADA ramps on the north side of the bridge), and continue the bike lane to 12 <sup>th</sup> or 10 <sup>th</sup> .
	Take better advantage of the pathway on the north side of the Sunset Hwy. between 18 <sup>th</sup> and 12 <sup>th</sup> and Montgomery.
<b>Corbett</b>	
15. Corbett has fast-moving traffic, especially between Boundary and Hamilton, with narrow travel lanes.	Although this is a more critical problem with the S. Waterfront construction, Corbett is really the best route for many in the Johns Landing area. The quality of this route should be improved all the way to downtown using traffic calming, signs, or similar techniques.
<b>Front/Naito and 1st</b>	
16. Hamilton and 1 <sup>st</sup> Avenue bike lanes are not well connected with other SW facilities.	I'm not sure what the planned link is between the Front/Naito bike lane and the south. This is simply a request to make sure the connection can be made to and from destinations to the south.

Problem: Transitioning from SW 5th to SW 6th (outbound)







curb to curb width

Private Property

sidewalk

curb line

BAD MANHOLE COVER  
→

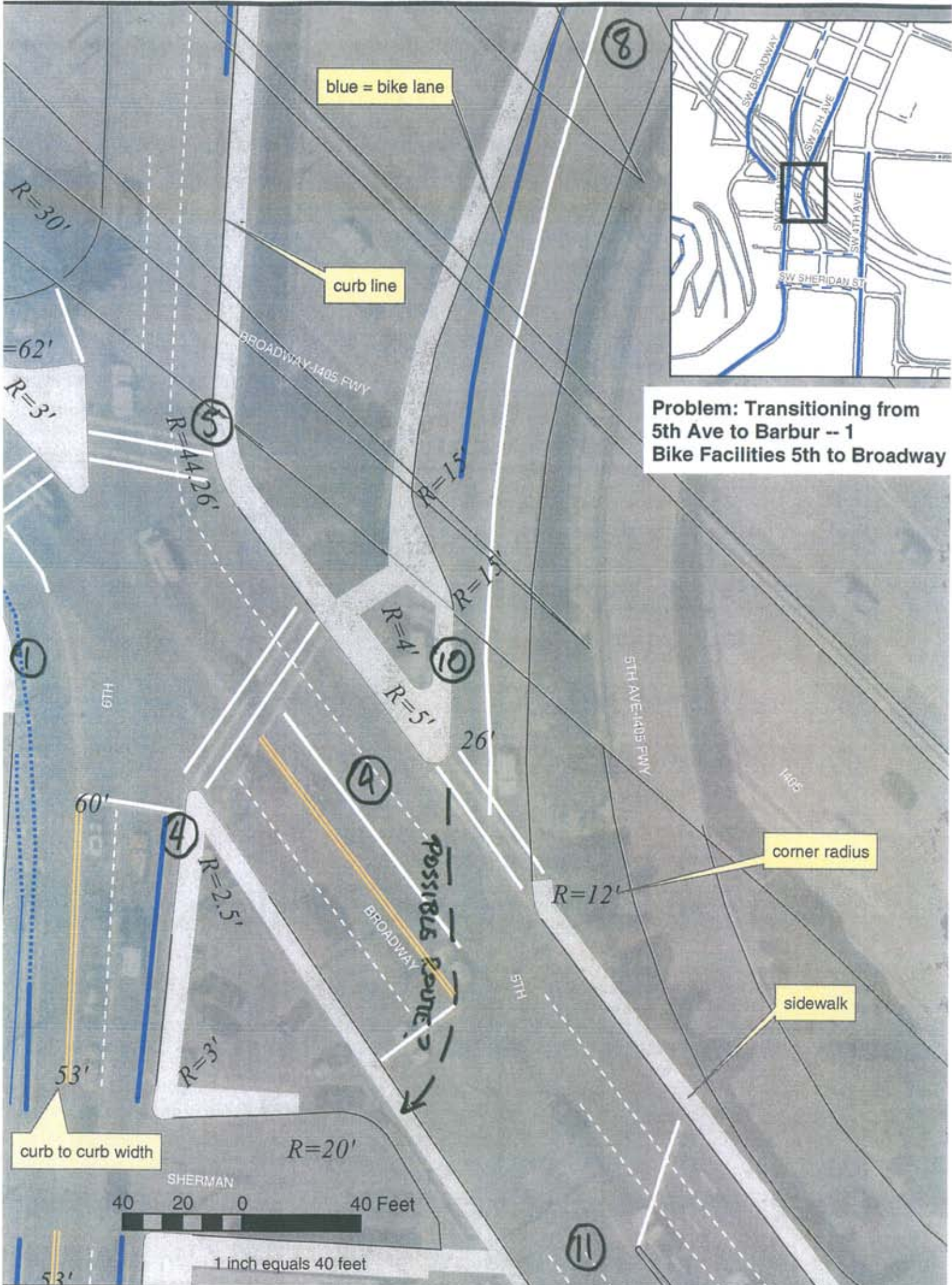
**Problem: Bike Lane Ends  
Freeway Traffic Entering from Right  
SW 6th Ave**

blue = bike lane

corner radius

90 45 0 90 Feet

1 inch equals 90 feet



blue = bike lane

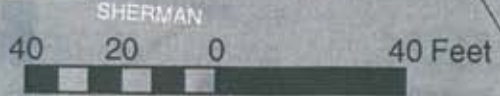
curb line

**Problem: Transitioning from 5th Ave to Barbur -- 1 Bike Facilities 5th to Broadway**

corner radius

sidewalk

curb to curb width



1 inch equals 40 feet



R=30'

=62'

R=3'

R=44.26'

R=15'

R=15'

R=4'

R=5'

26'

5TH AVE-1405 FWY

1405

6TH

BROADWAY

5TH

R=20'

SHERMAN

53'

60'

53'

R=2.5'

R=3'

R=12'

8

5

10

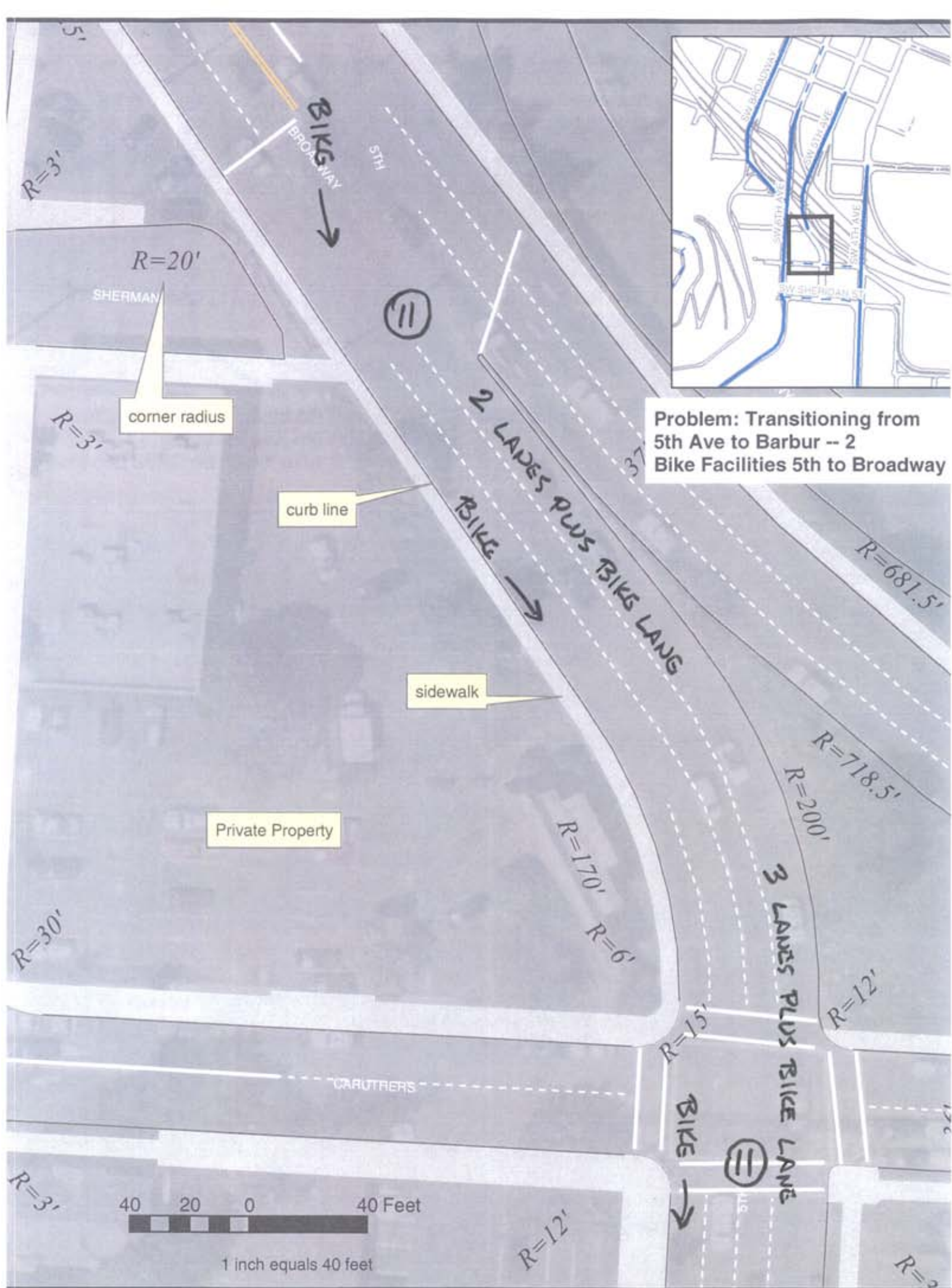
9

4

1

11

POSSIBLE ROUTE?



**Problem: Transitioning from 5th Ave to Barbur -- 2 Bike Facilities 5th to Broadway**

corner radius

curb line

sidewalk

Private Property

40 20 0 40 Feet

1 inch equals 40 feet



**Problem: Transitioning from 5th Ave to Barbur -- 3 Bike Facilities 5th to Sheridan to Barbur**

← BIKE  
3 LANES PLUS  
5TH  
RIGHT SIDE BIKE LANE

corner radius

$R=25'$

curb line

48'

curb to curb width

11

SHERIDAN

BIKE

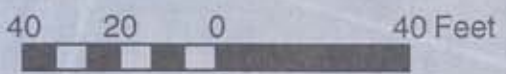
Private Property

$R=72'$

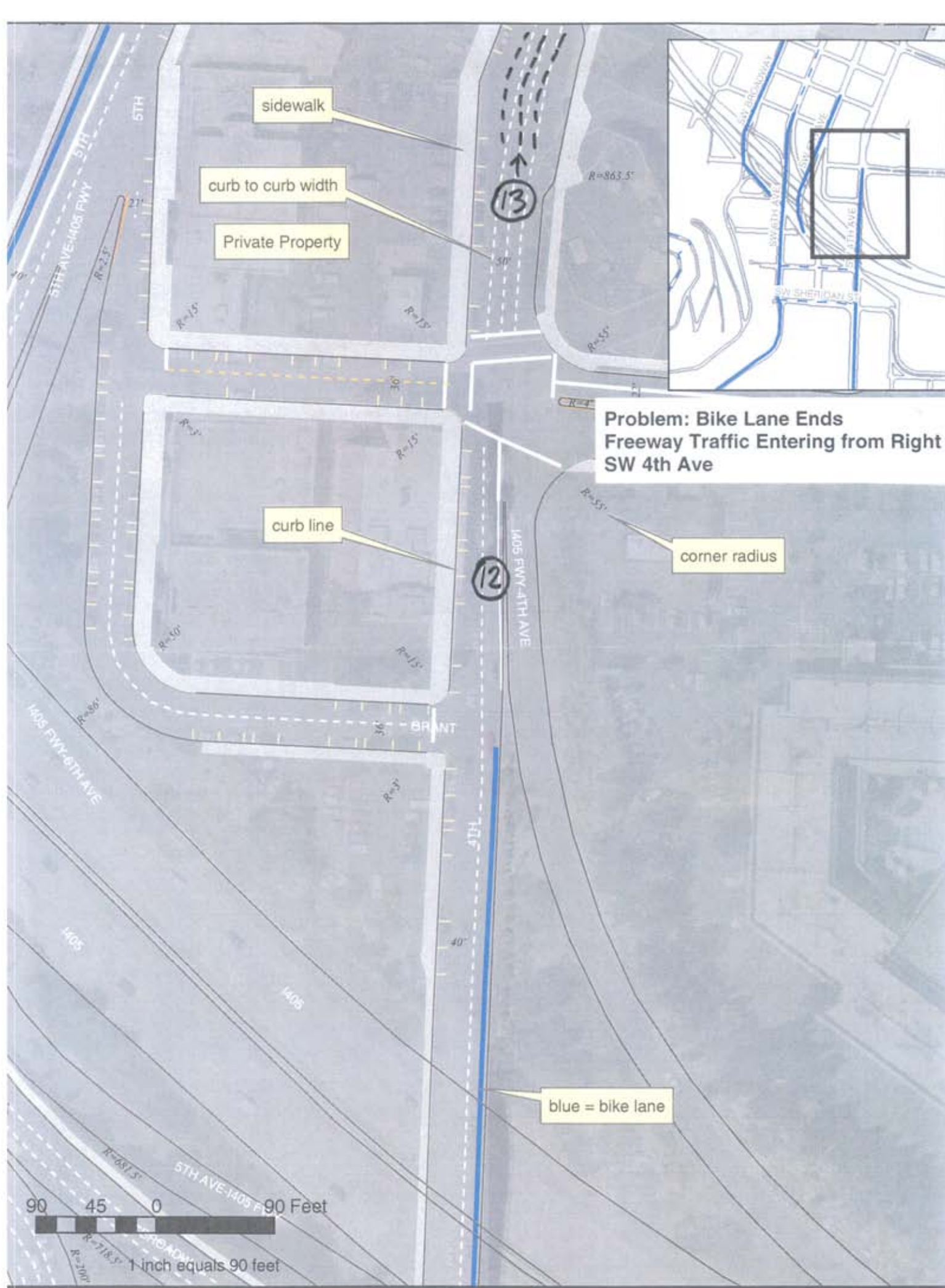
sidewalk

blue = bike lane

11



1 inch equals 40 feet



sidewalk

curb to curb width

Private Property

curb line

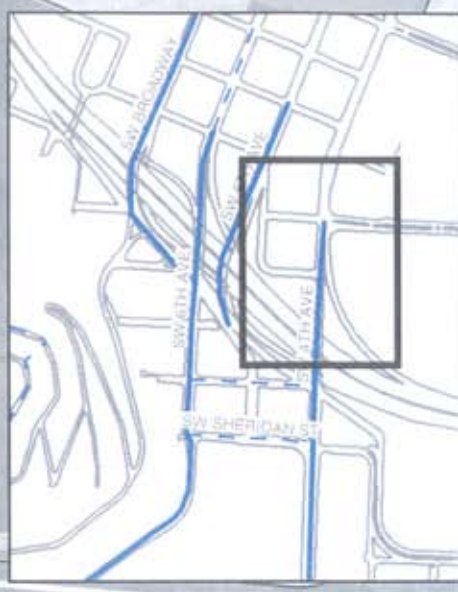
corner radius

**Problem: Bike Lane Ends  
Freeway Traffic Entering from Right  
SW 4th Ave**

blue = bike lane

90 45 0 90 Feet

1 inch equals 90 feet



12

13

5TH

5TH

SW 4TH AVE-1405 FWY

R=2.5'

27'

R=15'

R=15'

R=5'

R=15'

R=10'

R=15'

1405 FWY-6TH AVE

R=86'

36' BRANT

R=37'

1405 FWY-4TH AVE

1405

40'

5TH AVE-1405 F

R=681.5'

R=718.5'

R=200'

R=863.5'

R=55'

R=55'

R=55'

50'

CR-4

1405

1405

ROADWAY

SW 5th Avenue Hill Climbing

14

Riverplace. Increasing traffic too high for shared lanes?

Esplanade. Unnecessary conflicts between pedestrians and cyclists

Difficult Connections from SW to Downtown

16

Springwater Trail Connection. How to improve?

Harrison Street. Center running streetcar

South Waterfront. Does it look bike-friendly?

15

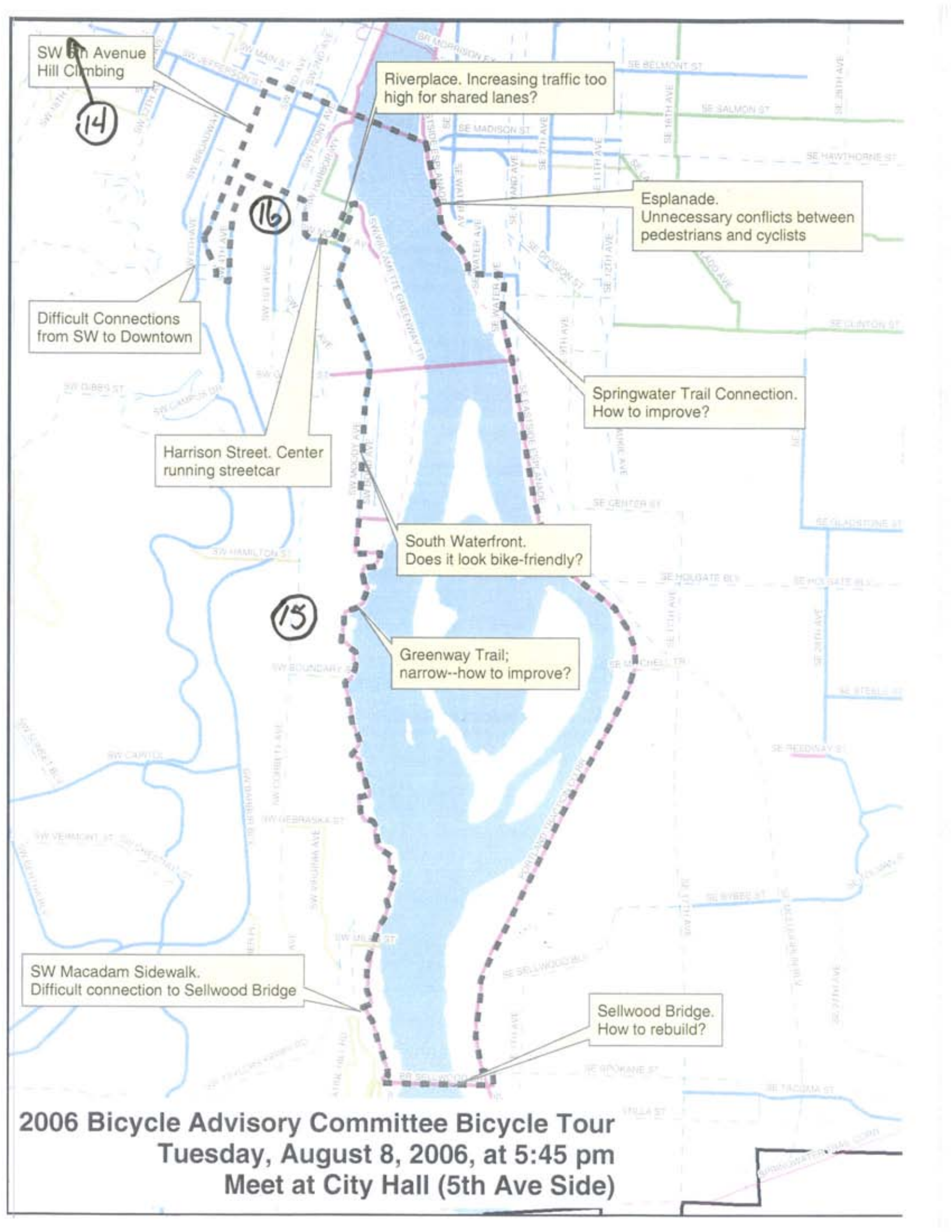
Greenway Trail; narrow-how to improve?

SW Macadam Sidewalk. Difficult connection to Sellwood Bridge

Sellwood Bridge. How to rebuild?

2006 Bicycle Advisory Committee Bicycle Tour  
Tuesday, August 8, 2006, at 5:45 pm  
Meet at City Hall (5th Ave Side)

SPRINGWATER PARK CORP



Sam  
Adams  
Commissioner

Susan D.  
Keil  
Director

Eileen  
Argentina  
System  
Management

Don  
Gardner  
Engineering &  
Development

Sam M.  
Irving, Jr.  
Maintenance

Paul  
Smith  
Planning

## Meeting Notes

August 31, 2006 Meeting

Re: SW Bicycle Issues Noted on August 2006 BAC Annual Ride

In attendance: Keith Liden

Jeff Smith

Mark Lear

Numbered elements below first repeat Keith's observations/problem statement from his August 21<sup>st</sup> memo in bold text. Below that are my notes about what we discussed at our August 31<sup>st</sup> meeting.

**1. Storm Drain located right at the apex of the curve from Broadway to 6<sup>th</sup> that forces cyclists to the left edge of the bike lane as motorists are veering toward the curb while turning.**

Action Item	Responsible Party
Check with Bureau of Maintenance for needed action to repair	Roger Geller

**2. Substandard bike lane with south of Sheridan to Terwilliger/Sam Jackson intersection.**

Reconfigure SW 6<sup>th</sup> Sheridan to Terwilliger/Sam Jackson as follows:

Provide inbound bicycle path in Duniway Park; separate from existing pedestrian path. Remove inbound on-street bicycle lane. Shift centerline to south/east and provide 6'-7' bike lane (potentially raised) in outbound direction.

Action Items	Responsible Party
Develop rough design	Jeff Smith
Conversation with Parks Department re: feasibility of integrating bikeway into Park using PDOT funds	Roger Geller

**3. Difficult merge to get in the left turn lane to continue on Terwilliger**

Rider actuated bicycle-only signal either as a scramble or operating similarly to Broadway-Lovejoy signal.

Action Item	Responsible Party
Conversation with Signals Section regarding feasibility and resources needed for next steps.	Roger Geller

**4. Illegal right turns by motorists at 6<sup>th</sup> onto Broadway that endanger cyclists traveling straight.**

Action Item	Responsible Party
Put in a service request to Eileen re: wayfinding signs	Roger Geller

**5. Bike lane drops on the I-405 bridge compromising safety and comfort.**

Action Item	Responsible Party
Seek installation of 20 mph signs to slow traffic speeds. Check with Mark Lear	Roger Geller
Put in service request to Eileen Dent	Roger Geller

**6. Traffic speeds and lane changes associated with the 6<sup>th</sup> Ave. off-ramp. Motorists coming from I-405 often try to make left lane changes too soon before they know what is around them.**

Action Item	Responsible Party
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Put in service request to Eileen Dent for means to prohibit lane changes	Roger Geller
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**7. Light progression on 6<sup>th</sup> Ave. is too fast to make bicycling comfortable for all abilities.**

Action Item	Responsible Party
Check with Signals Section/Traffic Design Section/Traffic Investigations re: altering signal progression to slow traffic speeds	Roger Geller

**8. Bicycling environment on 5<sup>th</sup> Avenue is poor.**

In progress: bicycle lane to be provided on SW 5<sup>th</sup> beginning at SW Jefferson.

**9. Recent pedestrian improvements have enhanced the situation, but the connection from 5<sup>th</sup> to Terwilliger continues to be inconvenient.**

Look at potential design for scramble signal across intersection to make direct connection between SW 5<sup>th</sup> to SW 6<sup>th</sup> across Broadway. This is needed to provide access to one of only two egress points from Downtown to outer SW neighborhoods.

Action Item	Responsible Party
Check LRT on Mall project to seek funding as part of light rail project.	Roger Geller
Check with Signals Section/Traffic Design Section for signals/traffic design OR Work with Missing Links for traffic design and Signals Section for signal design	Roger Geller/Jeff Smith

**10. Bike lane gap on 5<sup>th</sup> at Broadway is created by curb extension design.**

After discussion, we recognized that the curb extension is not a problem at this location.

**11. Bike lane gap between 5<sup>th</sup> and Broadway and Barbur.**

Provide continuous bicycle lane connection between SW Broadway/5<sup>th</sup> to Barbur via Broadway to 5<sup>th</sup> to Sheridan. Fund through Missing Links(?).

Action Item	Responsible Party
Measure cross-section of segment to assess initial feasibility for striping bicycle lanes	Roger Geller
Develop bicycle lane design through segment	Jeff Smith
Check with Traffic Design Section for feasibility of design.	Jeff Smith

**12. Bike lane ends abruptly at the 4<sup>th</sup> Ave. off-ramp.**

Explore removing parking on SW 4<sup>th</sup> and shifting lanes to west in order to continue bicycle lane. Off-ramp likely cannot be altered as it is a two-lane off-ramp.

Action Item	Responsible Party
Look at parking removal and shifting lanes to continue bicycle lane to end of concrete divider	Jeff Smith
Explore feasibility with Signals Section of split phase, bike-actuated signal to stop ramp traffic in favor of through bicyclists	Roger Geller

**13. Traffic speeds are high on 4th Ave.**

Action Item	Responsible Party
Seek installation of 20 mph signs to slow traffic speeds. Check with Mark Lear	Roger Geller
Put in service request to Eileen Dent	Roger Geller

**14. Jefferson provides a good route outbound, but there is no corresponding inbound route.**

Explore potential routes. In particular, Keith had the following suggestions:



1. Jefferson to 18<sup>th</sup>, 18<sup>th</sup> to Clay, Clay to 14<sup>th</sup>, Columbia to 12<sup>th</sup>. This would necessitate bicycle lanes on 12<sup>th</sup>.
2. Make better use of the Existing pathway between 18<sup>th</sup> and 12<sup>th</sup> (18<sup>th</sup> to Pathway, Pathway to Montgomery, Montgomery to 12<sup>th</sup>).

Action Item	Responsible Party
Conduct field work to define the route (Intern needed)	Roger Geller

**15. Corbett has fast-moving traffic, especially between Boundary and Hamilton, with narrow travel lanes.**

Can explore traffic calming, uphill bike lane, etc, but must be done in the context of a funded project, as it's too big for a relatively small fix.

**16. Hamilton and 1<sup>st</sup> Avenue bike lanes are not well connected with other SW facilities.**

Action Item	Responsible Party
Conduct field work to define the route (Intern needed)	Roger Geller