



DATE: February 29, 2012
TO: Bellevue Transportation Commission
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SUBJECT: Downtown Transportation Plan Update

INTRODUCTION

The update to the Downtown Transportation Plan will address mobility issues and challenges and support Downtown growth forecasts looking out to 2030.

On March 8, 2012, staff will review preliminary project ideas to provide for bicycle mobility within Downtown Bellevue and to adjacent neighborhoods and regional connections. Staff will want to discuss project ideas with the Commission and seek direction to proceed on refinements.

BICYCLE MOBILITY ISSUES

The 2009 Pedestrian and Bicycle Transportation Plan addressed long-term, City wide bicycle mobility. This update to the Downtown Transportation Plan will produce a specific detailed plan for Downtown Bellevue bicycle mobility, including early implementation concepts and potential interim measures.

During the late Summer and Fall of 2011, staff worked through various public outreach events and meetings with the Transportation Commission to gather input on the challenges to bicycle mobility in Downtown Bellevue and to explore opportunities to improve in infrastructure for bicyclists. The following list summarizes the significant issues:

- Lack of on-street bicycle facilities in Downtown Bellevue
Aside from the “sharrows” marked on 114th Avenue NE/SE, there are no marked on-street bicycle facilities in Downtown Bellevue. While this condition does not preclude bicyclists from riding on Downtown streets, it does not encourage it.
- East/west bicycle access through Downtown
Although providing for north/south bicycle access was considered to be important, east/west access was mentioned as being particularly problematic due to lack of bicycle facilities and steep topography on some streets between 108th Ave NE and 112th Ave NE .
- Access to planned light rail stations

The 2009 Pedestrian and Bicycle Transportation Plan did not consider bicycle (or pedestrian) access to East Link light rail stations. Sound Transit has six planned light rail stations in Bellevue, two of which are within the scope of the Downtown Transportation Plan Update.

- Bellevue Transit Center Station
 - Access to the planned bicycle parking at NE 6th Street/110th Avenue NE
- East Main Station
 - Access to the light rail station via Main Street, especially from the east
- Access across I-405 to east Bellevue neighborhoods
 - Freeway overpasses do not have bicycle facilities, but the new NE 12th Street overlap will have a 20-foot multi-purpose path on the north side when it opens this Spring. Explore ways to improve bicycle accommodations on existing bridges, focusing on Main Street and NE 10th Street.
- Access to regional bicycle facilities
 - On-street facilities
 - Streets leading to the I-90 Trail and the SR 520 Trail are important bicycle routes but there are minimal bicycle facilities.
 - Wayfinding
 - Bicycle wayfinding would be helpful within Downtown and along routes to regional bicycle facilities and to nearby neighborhoods.
- Bicycle Parking

Sidewalk bicycle racks are important for short-term bicycle parking. However since there is no requirement for bicycle parking in new structures, many potential bicycle commuters do not have a convenient and secure place to park their bicycles during the day.

BICYCLE FACILITY TOOLKIT

The unique circumstances of each roadway segment and the intended accommodations for bicyclists require a big box of bicycle facility tools to get the job done. The 2009 Pedestrian and Bicycle Transportation Plan included a number of tools available at the time to allocate or share what in most cases is a limited amount of roadway surface. Recently, new tools have become available that will help to more precisely define in the intended use of the roadway space. For the Downtown Transportation Plan Update, we will consider the set of tools adopted in the Pedestrian and Bicycle Transportation Plan, plus a few others that have become accepted practice.

Tools included in the Pedestrian and Bicycle Transportation Plan:

- Off-street Path (bicycles and pedestrians) - provides a completely separated right of way exclusively for non-motorized users.
- Bicycle Lane - a striped area parallel to the travel lane, solely designated for the use of one-way bicycle traffic.

- Bike shoulder w/fog line - A bike shoulder with fog line can vary in width and has no bicycle stenciling. Such a facility can provide enhanced conditions in areas where the standards for a bicycle lane cannot be achieved.
- Shared shoulder (bicycles and pedestrians) - a bike shoulder, also used by parked vehicles and/or pedestrians.
- Wide outside lane w/o fog line - traffic lane closest to the curb is an extra couple of feet wide, allowing a bicyclist to comfortably share the lane with vehicles.
- Wide shared outside lane w/o fog line – similar to the wide outside lane facility, differing only in that on-street parking might be present, and there are no sidewalks.

New bicycle facility tools available for the Downtown Transportation Update:

- Shared Lane Marking (Sharrow) – a bicycle+chevron symbol painted in the travel lane of a roadway to indicate the presence of bicycles, to provide wayfinding guidance, and often to mark the suggested position of the bicyclist in the lane.
- Buffered Bicycle Lane – bicycle lane separated from traffic using paint stripes, colored pavement, or a different paving material.
- Cycle Track – a one-way or two way bicycle facility separated from traffic using a physical barrier.
- Green Bicycle Lane – a bicycle lane that is painted green along its full length or at potential traffic conflict points such as driveways and intersections.
- Green Bike Box – a location at an intersection painted green that indicates the preferred location where bicyclists should wait for a signal change to better position bicyclists to continue through the intersection or to make a left turn.

PRELIMINARY BICYCLE FACILITY PROJECT IDEAS

Referring to community input, staff and consultants have worked together during the past two months to develop project ideas that would improve Downtown bicycle mobility. The approach taken included an inventory of existing roadway conditions, a review of existing bicycle facility plans from the 2009 Pedestrian and Bicycle Transportation Plan, a preliminary determination on whether the existing plan should be retained, modified or replaced, and ideas for early implementation or interim improvements to bicycle facilities.

Please see Attachment 2 for a complete documentation of proposed bicycle mobility project ideas. During the March 8 meeting, staff will provide a detailed presentation and discussion of projects for each roadway corridor. At this point we are not yet formally applying the “Measures of Effectiveness” criteria but simply identifying what appear to be reasonable project ideas for each corridor. However staff did consider the MOEs for bicycle mobility in making selections for bicycle facility typology (see Figures 1 and 2).

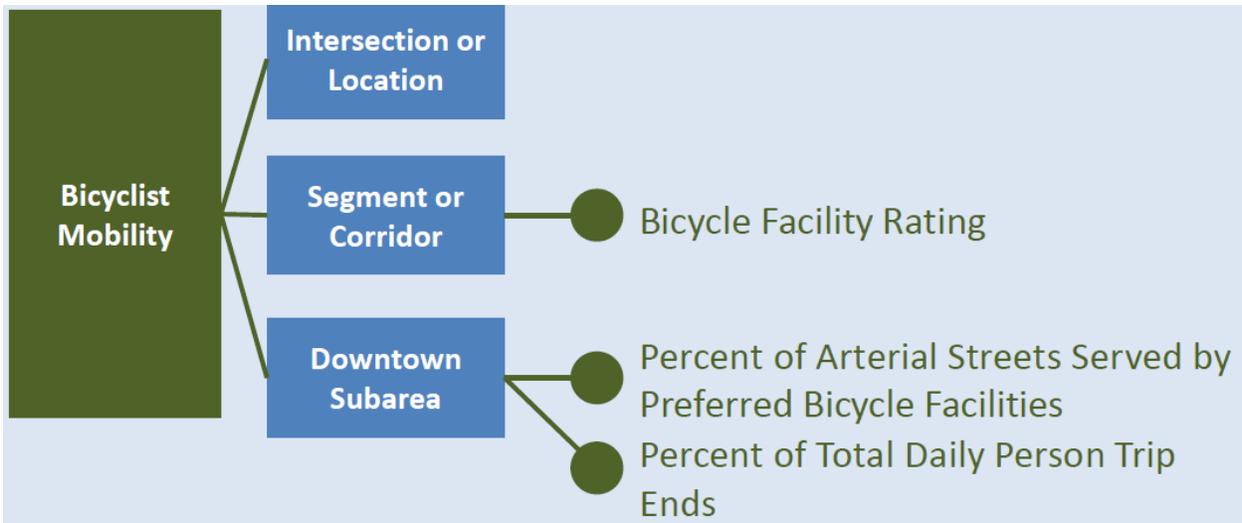


Figure 1. Measures of Effectiveness for Bicyclist Mobility

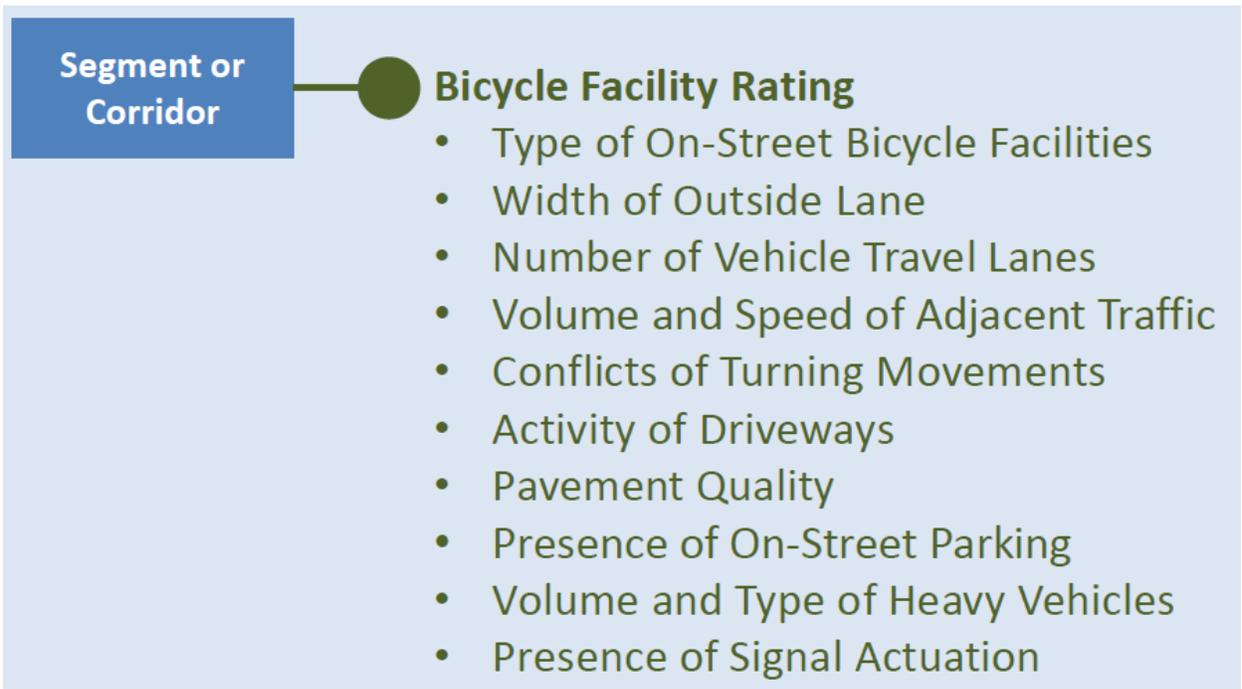


Figure 2. Bicycle Facility Rating Factors for Roadway Segments or Corridors

The following is a brief summary of the intended roadway function and the staff ideas for bicycle facilities:

Within Downtown North/South Corridors

- 100th Avenue NE
 - Primary north/south bicycle route on west side of Downtown.
 - Connects Main Street (Lake to Lake route) to north Bellevue Neighborhoods
 - Bicycle lanes

- 106th Avenue NE
 - Secondary north/south bicycle access within Downtown
 - Shared roadway
- 108th Avenue NE
 - Primary north/south bicycle route through the center of Downtown
 - Enatai-Northtown Priority Bicycle Corridor
 - Connects to south Bellevue and north Bellevue neighborhoods
 - Connects to I-90 Trail and SR 520 Trail (via NE 24th Street and 112th Avenue NE)
 - Bicycle lanes/shared roadway
- 110th Avenue NE
 - Secondary north/south bicycle access within Downtown
 - Access to Bellevue Transit Center light rail station
 - Shared roadway
- 112th Avenue NE
 - Access through Downtown problematic due to intersection at NE 8th Street
 - Lake Washington Loop route
 - Future function and design options to be determined
- 114th Avenue NE
 - Primary north/south bicycle route on the east edge of Downtown south of NE 8th St. Connects to SE 8th St/118th Ave SE to provide a connection to the I-90 Trail
 - Lake Washington Loop route/Lake-to-Lake Trail route
 - Bicycle lanes (currently marked with sharrows)

Within Downtown East/West Corridors

- Main Street
 - Primary east/west bicycle route on south side of Downtown.
 - Lake-to-Lake Trail route
 - Bicycle lanes/shared roadway
- NE 2nd Street
 - Secondary east/west bicycle route
 - Shared roadway
- NE 6th Street
 - Multi-modal corridor between Bellevue Way and 120th Avenue NE
 - Bellevue Transit Center light rail station access
 - Short-term and long-term strategies to be determined
- NE 10th Street
 - Secondary east/west bicycle route on the north side of Downtown, with a good connection across I-405 to 116th Avenue NE
 - Shared roadway
- NE 12th Street
 - Primary east/west bicycle route on north side of Downtown.
 - Downtown-Overlake Primary Bicycle Corridor

- Significant improvement to pedestrian and bicycle facilities between 112th Avenue and 116th Avenue nearly complete
- Off-street path on north side and bicycle lanes on the south side

South of Downtown

- Bellevue Way
 - Secondary north/south corridor useful primarily to “fearless” bicycle commuters
 - Connection to Enatai/Northtown Priority Bicycle Corridor
 - Shared roadway facility Main Street to 112th Avenue SE
- 108th Avenue SE
 - Primary north/south corridor between Downtown and the I-90 Trail
 - Enatai/Northtown Primary Bicycle Corridor
 - Shared roadway with wayfinding
- 114th Avenue NE
 - Primary north/south bicycle route on the east edge of Downtown south of NE 8th St. Connects to SE 8th St/118th Ave SE to provide a connection to the I-90 Trail
 - Lake Washington Loop route/Lake-to-Lake Trail route
 - Bicycle lanes (currently marked with sharrows)

North of Downtown

- 100th Avenue NE
 - Neighborhood and regional bicycle connection
 - Shared roadway with wayfinding
- Bellevue Way
 - Secondary north/south corridor useful primarily to “fearless” bicycle commuters
 - Shared roadway
- 108th Avenue NE
 - Primary north/south corridor between Downtown, north Bellevue neighborhoods and the SR-520 Trail
 - Enatai/Northtown Primary Bicycle Corridor, connecting to NE 24th Street
 - Shared roadway with wayfinding
- 112th Avenue NE
 - Primary north/south corridor between Downtown, north Bellevue neighborhoods and the SR-520 Trail
 - Lake Washington Loop route
 - Shared roadway with wayfinding
- 116th Avenue NE
 - Primary north/south corridor on the east side of I-405
 - Connection to SR-520 Trail via Northup Way and NE 24th Street
 - Access to Hospital light rail station
 - Bicycle lanes
- NE 24th Street
 - Component of north/south corridor between Downtown and the SR-520 Trail, and points north

- Enatai-Northtown Priority Bicycle Corridor
- Shared roadway with wayfinding

West of Downtown

- Main Street/Lake Washington Boulevard
 - Primary connection between Downtown and SR-520 Trail via Lake Washington Boulevard
 - Lake-to-Lake Trail route
 - Shared roadway with wayfinding
- NE 8th Street
 - Secondary connection between Downtown and SR-520 Trail
 - Shared roadway north side, bicycle lane south side

East of Downtown

- NE 4th Street Extension
 - Link between Downtown and east Bellevue neighborhoods
 - Bicycle lanes
- NE 6th Street Extension
 - Link between Downtown and east Bellevue neighborhoods
 - Off-street path, with BNSF trail connection
- NE 12th /15th Street Corridor
 - Primary connection between Downtown Bellevue, Bel-Red and Overlake
 - Downtown-Overlake Priority Bicycle Corridor
 - Off-street path between 112th Avenue NE and 120th Avenue NE

NEXT STEPS

Refine bicycle mobility project ideas and begin to develop pedestrian mobility project ideas

ATTACHMENT 2

Bicycle Facility Project Idea Matrix

Downtown Bellevue North/South Corridors			
Roadway	Planned Bicycle Facility	Staff Proposed Bicycle Facility	Early/Interim Improvements
100th Av NE	<ul style="list-style-type: none"> • Wide shoulder Main St. to NE 8th St. • Wide shoulder NE 8th St. to NE 24th St. 	Bicycle lanes from Main Street to NE 12 th St.	<ul style="list-style-type: none"> • Shared lane markings • Bicycle route and/or wayfinding signage
106th Ave NE	No bicycle facilities planned	Shared roadway bicycle facility between Main St. and NE 12 th St	Bicycle route and/or wayfinding signage
108th Ave NE	<p>Enatai-Norhtown Connection</p> <ul style="list-style-type: none"> • Bicycle lanes both sides 	<ul style="list-style-type: none"> • Retain existing project description • Determine feasibility of bicycle lanes between NE 4th St. and NE 8th St. 	<ul style="list-style-type: none"> • Shared lane markings • Bicycle route and/or wayfinding signage
110th Ave NE	No bicycle facilities planned	Shared roadway bicycle facility between Main St. and NE 12 th St.	Bicycle route and/or wayfinding signage
112th Ave NE	<p>Lake Washington Loop</p> <ul style="list-style-type: none"> • 5-foot bicycle lanes both sides from NE 6th St to NE 12th St. • Continuing bicycle lanes as north of Downtown to Northup Way 	TBD	TBD
114th Ave NE	<p>Lake Washington Loop</p> <ul style="list-style-type: none"> • 5-foot bicycle lanes both sides from NE 6th St to SE 8th St. 	Retain existing project description	Shared lane markings

Downtown Bellevue East/West Corridors			
Roadway	Planned Bicycle Facility	Staff Proposed Bicycle Facility	Early/Interim Improvements
Main Street	<p>Lake-to-Lake Trail</p> <ul style="list-style-type: none"> Wide shoulder on both sides from 100th Ave NE to Bellevue Way 5 foot bicycle lane on north side from Bellevue Way to 116th Ave NE 10-14 foot path on south side from Bellevue Way to 116th Ave NE 	<ul style="list-style-type: none"> Shared roadway 100th Ave NE to Bellevue Way Bicycle lanes both sides from Bellevue Way to 116th Ave NE 10-14 foot path south side from 110th Ave NE to 114th Ave NE, branching at 112th Ave NE to 114th Ave NE 	Bicycle route and/or wayfinding signage
NE 1 st St./ NE 2 nd St.	Wide outside lane on both sides from 102 nd Ave NE to 114 th Ave NE	Shared roadway bicycle facility between 100 th Ave NE and 114 th Ave NE	<ul style="list-style-type: none"> Bicycle route and/or wayfinding signage Shared roadway markings
NE 6 th St. Pedestrian Corridor	<ul style="list-style-type: none"> Implement Pedestrian Corridor Bellevue Way to 110th Ave NE 10-14 foot path on south side of NE 6th St. extension across I-405 from 112th Ave NE to 116th Ave NE 	<ul style="list-style-type: none"> Pedestrian Corridor - TBD 10-14 foot path on south side of NE 6th St. extension from 112th Ave NE to 116th Ave NE 	Wayfinding signage on NE 6 th St. Pedestrian Corridor
NE 10 th St.	No bicycle facilities planned	Shared roadway bicycle facility between 100 th Ave. NE and 116 th Ave. NE	Bicycle route and/or wayfinding signage
NE 12 th St.	<p>Downtown-Overlake Connection</p> <ul style="list-style-type: none"> 10-14 foot wide shared path north side 100th Ave NE to 112th Ave NE Bicycle lane south side 102nd Ave NE to 112th Ave NE 	Retain existing plan. Modify O-101-N to include short segment of shared-roadway bicycle facility. Connect on the east to the new shared path.	Bicycle route and/or wayfinding signage

South of Downtown			
Roadway Corridor	Planned Bicycle Facility	Staff Proposed Bicycle Facility	Early/Interim Improvements
108 th Avenue SE	<p>Enatai-Northtown Connection</p> <ul style="list-style-type: none"> • 5-foot bicycle lane both sides from Bellevue Way to SE 34th St. • Wide shoulder both sides SE 16th St • Wide outside lane on Bellevue Way 	<ul style="list-style-type: none"> • Shared roadway bicycle facility (where there are no bicycle lanes) between Main St. and the I-90 Trail at SE 34th St. • Alternate (steep hill avoidance) southbound route using SE 16th St., Bellevue Way and 104th Ave SE. per existing plans 	<ul style="list-style-type: none"> • Bicycle route and/or wayfinding signage • Shared roadway markings
114 th Ave NE	<p>Lake Washington Loop Lake-to-Lake Trail</p> <p>5-foot bicycle lanes both sides from NE 6th St to SE 8th St.</p>	Retain existing project description	Shared lane markings
Bellevue Way	Wide outside lanes on Bellevue Way	Shared roadway bicycle facility between Main St. and 108 th Avenue SE	Bicycle route and/or wayfinding signage

North of Downtown			
Roadway Corridor	Planned Bicycle Facility	Staff Proposed Bicycle Facility	Early/Interim Improvements
100 th Avenue NE/ 108 th Ave NE/ NE 24 th St	Enatai-Northtown Connection <ul style="list-style-type: none"> • Wide bicycle shoulder on 100th Avenue NE • Wide bicycle shoulder on 108th Avenue NE • Wide bicycle shoulder on NE 24th Street 	Shared roadway bicycle facility on 100 th Ave NE, 108 th Ave SE. and NE 24 th Street	N/A
Bellevue Way	<ul style="list-style-type: none"> • Bicycle lanes both sides north of NE 24th Street • Bicycle lanes both sides from NE 12th Street to NE 24th Street 	<ul style="list-style-type: none"> • Provide alternate N/S bicycle connections on 100th Ave NE, 108th Ave NE, and 112th Ave NE • Wide outside climbing lane s/b from SR-520 to NE 20th St 	N/A
112 th Avenue NE	Lake Washington Loop <ul style="list-style-type: none"> • Bicycle lanes both sides north of NE 12th Street 	<ul style="list-style-type: none"> • Bicycle lanes both sides, consistent with plan. • Connect to planned Northup Way bicycle lanes • Connect to future BNSF trail crossing north of Northup Way 	<ul style="list-style-type: none"> • Bicycle route and/or wayfinding signage • Lake Washington Loop route wayfinding signage
116 th Avenue NE	Bicycle lanes both sides north of Main Street to Northup Way	<ul style="list-style-type: none"> • Bicycle lanes both sides, consistent with plan. • Connect to planned Northup Way bicycle lanes 	Bicycle route and/or wayfinding signage

West of Downtown			
Roadway Corridor	Planned Bicycle Facility	Staff Proposed Bicycle Facility	Early/Interim Improvements
NE 8 th Street	<ul style="list-style-type: none"> Bicycle lane south side west of 96th Ave NE to city limits Bicycle shoulder on north side west of 96th Ave NE to city limits 	<ul style="list-style-type: none"> Retain existing project descriptions Extend planned bicycle facility types to connect with the planned bicycle lanes on 100th Avenue NE 	Bicycle route and/or wayfinding signage
Lake Washington Boulevard	<p>Lake to Lake Trail</p> <p>Wide shoulders for bicycles both sides</p>	Retain existing project description - provide wide bicycle shoulders both sides	Bicycle route and/or wayfinding signage
East of Downtown			
Roadway Corridor	Planned Bicycle Facility	Staff Proposed Bicycle Facility	Early/Interim Improvements
NE 4 th St. Extension	Bicycle lanes both sides between 116 th Ave NE and 120 th Ave NE when NE 4 th St is extended	Retain existing project description	N/A
NE 6 th St. Extension	10-14 foot off street path when 6 th St is extended	Retain existing project description	N/A
NE 12 th /NE 15 th St.	<p>Downtown-Overlake Connection</p> <ul style="list-style-type: none"> O-108-N. Off-street path on north side B-218-S. Bicycle lane south side west of 120th Ave NE 	<ul style="list-style-type: none"> Modify O-108-N per current NE 12th St design and NE 15th/16th St corridor plan Terminate B-218-S at 112th Ave NE – bicycle lanes do not continue across bridge 	N/A