

Southwest Corridor Plan

**Staff Recommendations for  
December 2015 Decisions**

November 13, 2015

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## Overview

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The Southwest Corridor Plan is a package of transit, roadway, bicycle and pedestrian solutions that can help reduce congestion, improve circulation and enhance quality of life in this corridor. The Southwest Corridor Plan defines investments to help realize the local land use visions adopted by each community in the area. These visions include the City of Portland's *Barbur Concept Plan*, the *Tigard High Capacity Transit Land Use Plan*, *Linking Tualatin* and the *Sherwood Town Center Plan*. A major component of the Southwest Corridor Plan is the analysis and evaluation of both Bus Rapid Transit (BRT) and Light Rail Transit (LRT) travel modes for several potential route alignments to link Central Portland, Southwest Portland, Tigard and Tualatin.

The Plan is being developed by a group of partners including agencies involved in funding, constructing and operating the transportation investments chosen and the jurisdictions in the project area. A steering committee consisting of elected leaders and appointees from these partners is leading the planning process. Past decisions of the Southwest Corridor Steering Committee include:

- In 2013, the committee recommended a Shared Investment Strategy that prioritizes key investments in transit, roadways, active transportation, parks, trails and natural areas to support the local land use visions.
- In 2014, the committee recommended a narrowed set of high capacity transit design options being considered and directed staff to develop a Preferred Package of transportation investments to support community land use goals.
- In July 2015, the committee recommended removal of tunnel alignments under Marquam Hill and Hillsdale from further consideration, continued study of a BRT direct connection to PCC Sylvania, and the adoption of several technical modifications to transit alignments.

On December 14, 2015, the Southwest Corridor Plan Steering Committee will consider whether several high capacity transit (HCT) alignments under consideration in Portland, Tigard, and Tualatin will continue to be studied as part of the project. Southwest Corridor project partner staff has developed the recommendations in this document to inform the steering committee and aid its deliberations and decision making. Staff formed these recommendations based upon direction from the committee, technical analysis and consideration of input from community groups and the general public.

## Staff Recommendation Summary

Staff proposes the following recommendations for steering committee consideration:

- Remove the Commercial Loop and Downtown Loop alignment options in Tigard from further consideration and look for ways to improve alignment connections within downtown Tigard.
- Remove the adjacent to I-5 segment north of SW 13th Avenue in Portland from further consideration.
- Remove the downtown Tualatin terminus option from further consideration, with an emphasis on strong local bus connections from Sherwood and downtown Tualatin to the HCT line.

# Public input

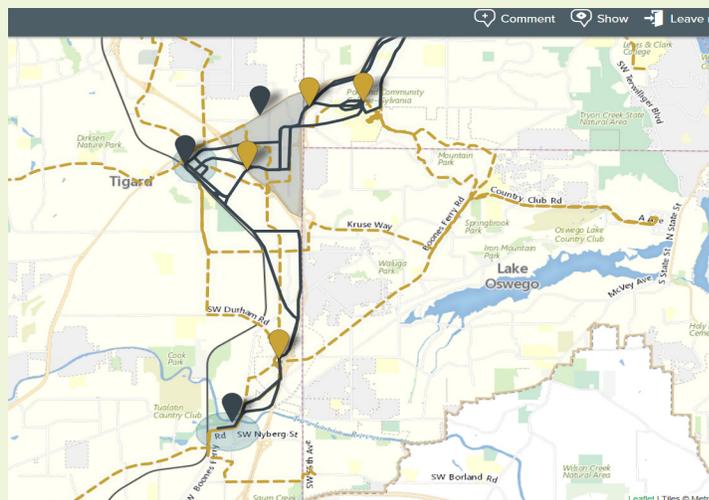
Throughout the last several months we've engaged with stakeholders in the Tigard and Tualatin areas and throughout the corridor in a variety of ways: in-person and online forums, informal discussions and survey feedback. Two online public comment periods in July and October/November generated hundreds of responses that lift up what people care about and questions they have about the choices facing the Tigard and Tualatin communities. Our current online comment period remains open until November 20th, updated public input results will be delivered to the Southwest Corridor Steering Committee members prior to their December 14th meeting.

## Key findings

- Overall support for HCT in general; slight preference for light rail
- Reliable, fast travel times are important
- Concern about removing auto lanes for transit capacity
- Support for protecting neighborhoods; concern about potential property impacts
- Support for new bike/pedestrian/car crossings over OR-217
- Support for strategies that relieve congestion by providing viable alternatives to driving
- High priority to support transit and pedestrian access for seniors and low-income communities
- Support for direct service between Tigard and Tualatin
- Questions about how HCT will interact with WES
- Questions about how a project can connect to and support important destinations not on the HCT alignment, including Sherwood, Beaverton, Wilsonville, Kruse Way, King City

### Thanks to these local groups and many individuals for sharing their input!

Tigard Downtown Alliance  
Tigard City Center Advisory Committee  
Tigard Youth Advisory Committee  
Tualatin Youth Advisory Committee  
Tigard Liberal Drinkers  
Concerned Citizens for Social Justice  
Residents at Greenburg Oaks apartments  
Youth Source Supa Fresh Farm  
Shoppers at Tualatin and Tigard farmers markets  
Participants at October 19 Tigard Community Forum  
Visitors to Southwest Corridor online map tool



## Southwest Corridor Map Tool

In May 2015 the project team launched an online map tool where users can click on various points throughout the corridor to learn more and provide feedback about HCT options being considered. During an 18-day comment period in May there were more than 3,700 visitors to the map tool; to date during this October/November comment period there have been more than 825 visitors. Most of the feedback about the Tigard and Tualatin areas has been in the form of open-ended comments. Fewer respondents have answered the embedded survey questions specifically about the alignment and terminus choices in these communities. We want to continue to better understand how our online map tool can be a useful resource for project stakeholders and an opportunity to provide feedback. Please let us know what you think and how we can continue to improve the map tool.

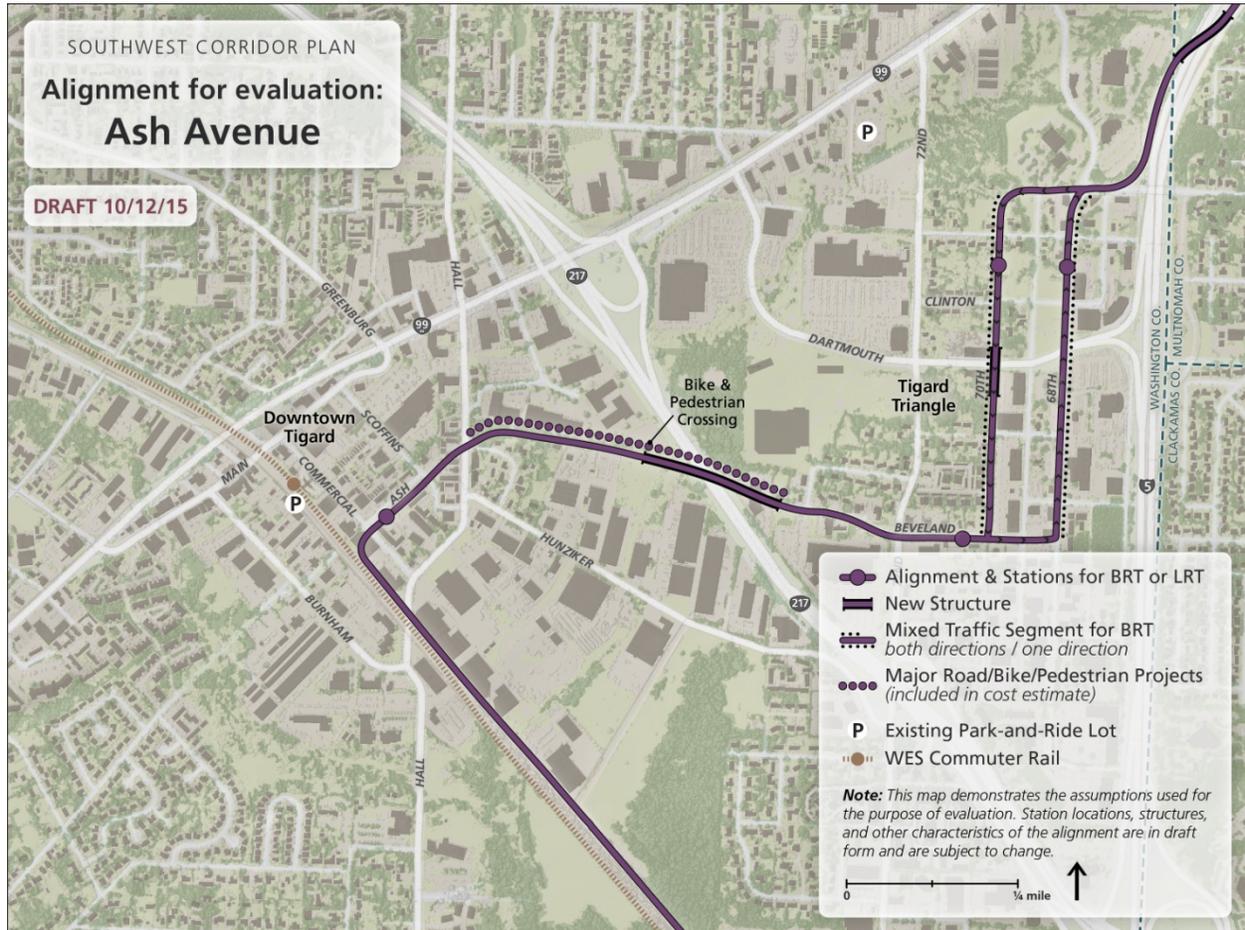
## Alignments under Consideration

The decisions in December 2015 will address HCT alignment options in downtown Tigard, along Central Barbur in Portland, and terminus options.

### Downtown Tigard

The committee is considering whether to continue the study of the following alignments:

#### *Ash Avenue via Beveland Street crossing (BRT or LRT)*



- This option would include two stations in the Tigard Triangle, in the northern and southern ends of the area, and a station near the Tigard Transit Center on Ash Avenue between Scoffins and Commercial streets. This alignment would not include a station in the vicinity of Hunziker and Wall streets (“Hunziker station”).
- The alignment would cross OR-217 on a new bridge extending westward from Beveland Street, passing behind the industrial properties fronting Hunziker and crossing Hall Boulevard at Knoll Drive. This new bridge could accommodate cars, but auto traffic may be better served by a second new bridge connecting Beveland to Hunziker near its intersection with Wall. Bikes and pedestrians could be served by one or both bridges.
- From Hall Boulevard, the alignment would run along Ash Avenue, cross Commercial, and then turn southeast to parallel the WES tracks heading toward Tualatin.

*Branch Service via Beveland Street crossing (BRT or LRT)*



- This option would include two stations in the Tigard Triangle, in the northern and southern ends of the area, and a station near the Tigard Transit Center. It would include a Hunziker station, at which HCT service would split with every other train heading toward the Tigard Transit Center or points south. A park and ride could be sited at the Hunziker station.
- The alignment would cross OR-217 on a new bridge, curving from Beveland to Wall, which would be fully multi-modal, accommodating transit, cars, bikes and pedestrians.
- This HCT alignment would split directions for travel where Wall intersects the WES alignment. The Tigard Branch would parallel the WES alignment on the east side of the existing tracks, crossing Hall to connect to the Tigard Transit Station. The Tualatin Branch would parallel the WES tracks to the east of the existing tracks, heading south toward Tualatin.

Clinton Street Crossing (BRT or LRT)



- This option would include one station in the Tigard Triangle, in the northern end of the area, and a station near the Tigard Transit Center.
- The alignment would cross OR-217 on a new 3/4-mile elevated structure extending from 70<sup>th</sup> Avenue and Clinton Street to Hall. The bridge could accommodate bikes and pedestrians but not cars.
- At Hall, the alignment would transition to center running in a new street connecting Hall to Commercial. The alignment would then turn southeast to parallel the WES tracks heading toward Tualatin.

*Commercial Loop via Beveland Street crossing (BRT or LRT)*



- This option would include two stations in the Tigard Triangle, in the northern and southern ends of the area, and a station near the Tigard Transit Center. It could include a Hunziker station as well. A park and ride could be sited at the Hunziker station.
- The alignment would cross OR-217 on a new bridge, curving from Beveland to Wall, which would be fully multi-modal, accommodating transit, cars, bikes and pedestrians.
- HCT would access downtown Tigard via an extension of Commercial, running in a one-way counter-clockwise loop along first Commercial, turning sharply left (southwest) near the existing Tigard Transit Center and returning south along the WES tracks.

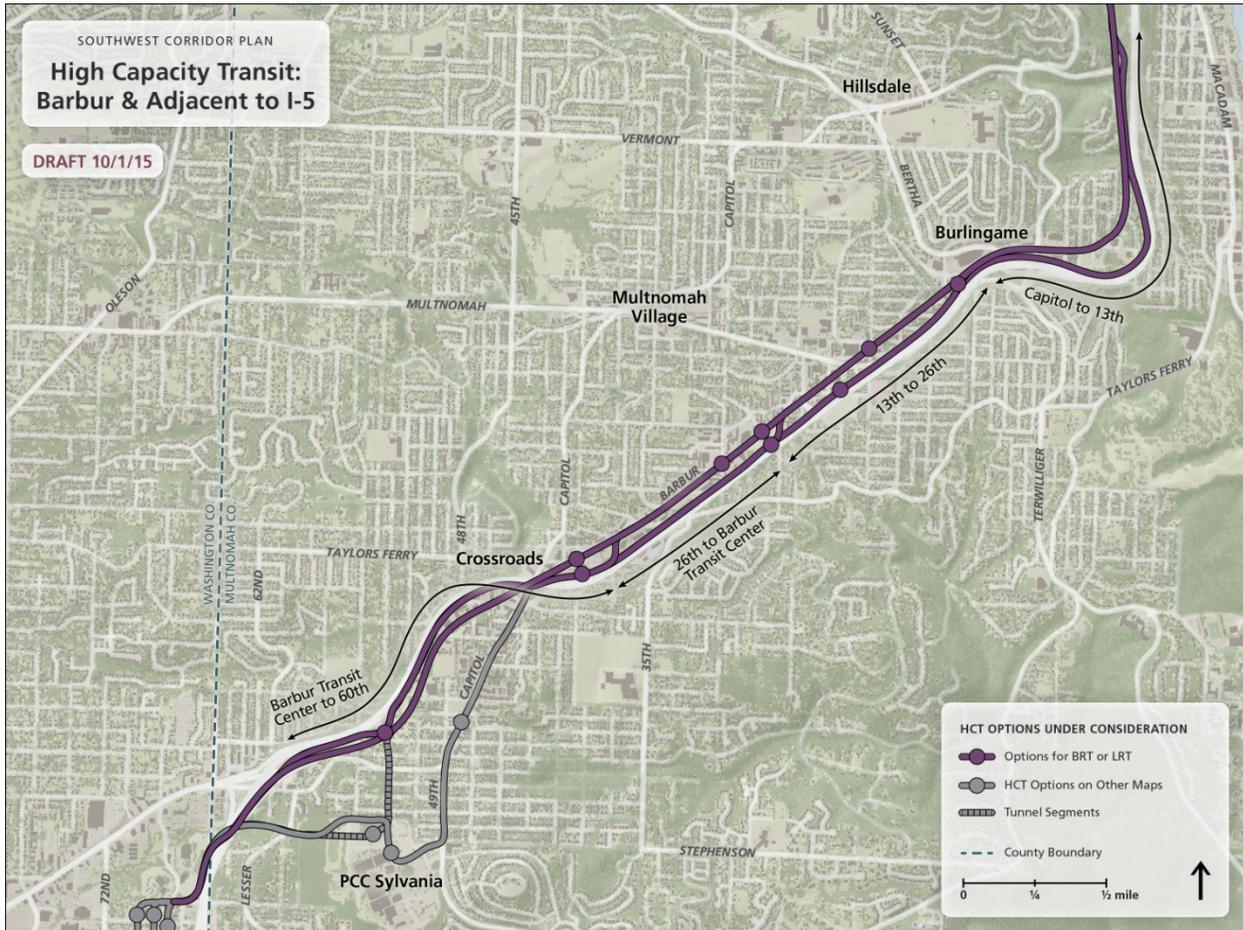
*Downtown Loop via Beveland Street crossing (BRT or LRT)*



- This option would include two stations in the Tigard Triangle, in the northern and southern ends of the area, and a station near the Tigard Transit Center. It could include a Hunziker station as well. A park and ride could be sited at the Hunziker station.
- The alignment would cross OR-217 on a new bridge, curving from Beveland to Wall, which would be fully multi-modal, accommodating transit, cars, bikes and pedestrians.
- HCT would access downtown Tigard via an extension of Commercial then run in a one-way counter-clockwise loop (in two-way streets) along Hall, then Scoffins and a new road south of Main, returning south on Commercial.

## Central Barbur

The Barbur and adjacent to I-5 alignment options have been separated into the following four segments.



### *Capitol Highway to 13th Avenue*

For a Barbur alignment in this segment, HCT could be either center-running or on a structure adjacent to SW Barbur Boulevard. For an adjacent to I-5 alignment in this segment, HCT would depart from Barbur just north of SW Capitol Highway in "The Woods," and run along the northwest side of I-5 to SW 13th Avenue, near the Burlingame Fred Meyers. No stations are currently under consideration in this segment.

### *13th Avenue to 26th Way*

For a Barbur alignment in this segment, HCT would be center-running. For an adjacent to I-5 alignment in this segment, HCT could either continue running adjacent to I-5 from Capitol Highway (if it runs adjacent to I-5 in the Capitol to 13th segment) or depart from Barbur at 13th Avenue and then run along the northwest side of I-5 to SW 26th Way. Two stations are currently under consideration in this segment, around SW 13th and SW 19th avenues for a Barbur alignment, and SW 13th and SW Spring Garden Street for an adjacent to I-5 alignment.

*26th Way to Barbur Transit Center*

For a Barbur alignment in this segment, HCT would be center-running. For an adjacent to I-5 alignment in this segment, HCT would either continue running adjacent to I-5 (if it runs adjacent to I-5 in the 13th to 26th segment), or depart from Barbur at 26th Way and then run along the northwest side of I-5 to the Barbur Transit Center. To the south, HCT could cross over the Crossroads intersection (Barbur/Capitol/I-5) and continue running adjacent to I-5, drop into the center of Barbur from a structure over Crossroads, or turn south onto Capitol Highway to serve the PCC Sylvania campus directly with BRT. In addition to Barbur Transit Center, a station could be located either at SW 26th or SW 30th Avenue.

*Barbur Transit Center to 60th Avenue*

For a Barbur alignment in this segment, HCT would be center-running. For an adjacent to I-5 alignment in this segment, HCT would either continue running adjacent to I-5 (if it runs adjacent to I-5 in the 26th to Barbur TC segment), or depart from Barbur just north of the Barbur Transit Center and then run along the southeast side of I-5 until SW 60th Avenue, where it would turn southwest to cross over I-5 into the Tigard Triangle. Two stations are currently under consideration in this segment, at Barbur Transit Center and around SW 53rd Avenue.

**Terminus**

There are currently two terminus options under consideration:

*Downtown Tualatin*

This terminal station is the southernmost terminus option currently under consideration. The location would be on the north side of Boones Ferry Road, south of the Tualatin River and directly adjacent to the Tualatin central retail district.

*Bridgeport Village*

This terminal station would be located in the existing park-and-ride lots between Lower Boones Ferry Road/72<sup>nd</sup> Avenue and I-5, on either side of Bridgeport Road. The alignment crosses over Lower Boones Ferry, with a station sited on top of two multi-story parking garages linked by a vehicular connection, which would replace the existing surface parking lots. Alternatively, an at-grade station could be located on the northern parking lot to remove the need for an HCT bridge structure over Lower Boones Ferry, with the two parking structures linked by a pedestrian connection.

## Staff Recommendations – Downtown Tigard

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### Should the Ash Avenue alignment continue to be part of the project?

**Recommendation:** Continue further study and refinement of the Ash Avenue alignment option.

This alignment option would provide the second highest projected ridership of the Tigard options, a more direct route between the Tigard Triangle and downtown Tigard than the Branch Service and Loop options, strong redevelopment opportunities in downtown Tigard, and would provide two stations in the Tigard Triangle, as desired by the City of Tigard.

However, this alignment would result in more residential property impacts compared to other options as well as wetlands and park impacts. In addition, the location of the transit bridge over OR-217 is not conducive to accommodating autos and a separate auto bridge may not be eligible for federal New Starts funds. The downtown Tigard station on this alignment would also not be immediately adjacent to the existing WES/Tigard Transit Center station.

Staff finds that the above information, as reported in the *Tigard Key Issues Memo*, provides adequate reasons to include the Ash Avenue alignment for further study. On balance, the Ash Avenue alignment would provide some desirable benefits and perform relatively better than other options, but contains some notable disadvantages. To address these disadvantages, staff recommends studying whether:

- The Ash Avenue alignment can be adjusted to reduce impacts to wetlands, parks and residences.
- Alignment modifications near Hall, Ash and Commercial could minimize property impacts.
- The Tigard Transit Center could be modified to improve connections to the downtown HCT station location.
- Cars could be better accommodated on the proposed OR-217 transit bridge with adjustments in alignment or design.
- The Federal Transit Administration (FTA) would consider providing New Starts funding for a separate auto bridge over OR-217 if it would reduce environmental impacts and costs compared to a single, multi-modal bridge.

### Should the Branch Service alignment continue to be part of the project?

**Recommendation:** Continue further study of the Branch Service alignment option.

This alignment option would provide the fastest travel times between Bridgeport Village and points north of Tigard, and would result in the fewest residential property impacts in downtown Tigard. It would provide two stations in Tigard Triangle as desired by the City of Tigard, and the OR-217 bridge would accommodate cars. The Hunziker station would provide the opportunity for a new park and ride near downtown Tigard; the Ash Avenue and Clinton Crossing alignments do not include this option.

However, this alignment would result in higher operating costs—due to peak level service from the Hunziker station northward at all times—and require a transfer for HCT trips between downtown Tigard and Bridgeport Village. This option would also have reduced peak hour service south of the Hunziker

station, with service only every 15 minutes at all times at the Tigard Transit Center and Bridgeport Village.

Staff finds that the above information, as reported in the *Tigard Key Issues Memo*, provides adequate reasons to include the Branch Service alignment for further study. On balance, the Branch Service would provide many desirable benefits with reduced environmental and property impacts, although with aspects of service which may be challenging to TriMet and system users. To address these disadvantages, staff recommends studying alternative operational options on this alignment, which would reduce costs.

### **Should the Clinton Crossing alignment continue to be part of the project?**

**Recommendation:** Continue further study of the Clinton Crossing alignment option.

This alignment option would provide the most direct route between downtown Tigard and points north, resulting in the shortest travel times to downtown Portland. This option would also have the fewest property impacts in downtown Tigard and the Tigard Triangle.

However, this alignment would only include one station in the Tigard Triangle and would require a long, tall and visible structure to cross OR-217. In addition, this bridge would not accommodate autos, and a separate auto bridge may not be eligible for federal matching funds. This alignment may also result in wetlands impacts.

Staff finds that the above information, as reported in the *Tigard Key Issues Memo*, provides adequate reasons to include the Clinton Crossing alignment for further study. On balance, the Clinton Crossing alignment would provide some desirable benefits and perform relatively better than other options, but contains some notable disadvantages. To address these disadvantages, staff recommends studying:

- Potential design approaches for the OR-217 crossing that would have reduced visual impacts.
- Whether the FTA would consider providing New Starts matching funds for a separate auto bridge over OR-217 if it would reduce environmental impacts and costs compared to a single, multi-modal bridge.

### **Should the Commercial Loop alignment continue to be part of the project?**

**Recommendation:** Remove the Commercial Loop alignment from further study.

This alignment option would provide two stations in the Tigard Triangle, as desired by the City of Tigard, and the OR-217 bridge would accommodate cars. A Hunziker station, if included, would provide the opportunity for a new park and ride near downtown Tigard.

However, this alignment would result in slow travel times and subsequent reductions in ridership resulting from the loop route. It would also limit access to businesses in downtown Tigard and require reconstruction of the Tigard Transit Center. Finally, the sharp curve at the northern end of the loop might be difficult for light rail vehicles and would likely result in squealing wheels; it could also be problematic for articulated BRT vehicles.

Staff finds that the above information, as reported in the *Tigard Key Issues Memo*, provides adequate reasons to remove the Commercial Loop alignment for further study. On balance, the Commercial Loop would provide few additional benefits beyond other alignment options and would have reduced performance and questions of logistical feasibility.

### **Should the Downtown Loop alignment continue to be part of the project?**

**Recommendation:** Remove the Downtown Loop alignment from further study.

This alignment option would provide two stations in the Tigard Triangle, as desired by the City of Tigard, and the OR-217 bridge would accommodate cars. A Hunziker station, if included, would provide the opportunity for a new park and ride near downtown Tigard.

However, this alignment would result in slow travel times and subsequent reductions in ridership resulting from the loop route. It would also limit access to businesses in downtown Tigard, restrict auto turns, and require reconstruction of the Tigard Transit Center. This alignment also has a large physical footprint and could thereby limit redevelopment opportunities.

Staff finds that the above information, as reported in the *Tigard Key Issues Memo*, provides adequate reasons to remove the Downtown Loop alignment for further study. On balance, the Downtown Loop would provide few additional benefits beyond other alignment options and would constrain travel into and through downtown Tigard and future development greater than under other alignments.

### **Further Refinement**

Staff recommends that further investigation of both existing and potential alignment options to serve downtown Tigard and the Tigard Triangle be undertaken as part of the Southwest Corridor project. In particular, staff recommends refining the alignments in order to provide as many of these characteristics as possible:

- Connection to the Tigard Transit Center and WES
- Two stations in the Tigard Triangle
- Improved connections between the Tigard Triangle and downtown Tigard across OR-217 for all modes: transit, bikes, pedestrians, and autos
- Reduced operating costs for a branch service
- Reduced impacts to wetlands and residences

## Staff Recommendation – Central Barbur

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In October 2015, project staff released a technical modifications memo related to high capacity transit (HCT) alignment options in the area along Barbur Boulevard and I-5 between South Portland and the Portland/Tigard city limits. Staff focused on station locations, capital cost, travel time and reliability, intersection performance for autos, property impacts, park impacts and engineering complexity.

As a result of this technical work, staff proposed one modification to the list of Central Barbur alignment segments options under consideration: to remove from further study the segment of the adjacent to I-5 alignment north of 13th Avenue.

This segment provides little to no benefit over the Barbur alignment in terms of transit performance while resulting in higher construction cost, impacts and risk. The main advantage of running adjacent to I-5 in this segment would be avoiding the traffic bottleneck at Terwilliger Boulevard. However, a structure over this intersection could also be incorporated in the Barbur Boulevard alignment, likely at a lower cost than being adjacent to I-5 in this segment.

The Barbur alignment in the segment north of 13th Avenue could be either center-running or on a structure adjacent to the roadway.

Project staff recommends further study of the adjacent to I-5 segments south of 13th Avenue. These alignments and those within Barbur Boulevard will require more detailed analysis that will be performed as part of the Draft Environment Impact Statement (DEIS).

## Staff Recommendation – Terminus

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In November 2015, concurrent with this document, project staff released a *Terminus Options Memo* to aid the steering committee in deciding which terminus options are most promising and should advance into the DEIS for further analysis. The memo focused on key factors for which data exists or which are inherently qualitative: logistics, existing/future transit connections, accessibility, ridership, cost effectiveness, total cost, HCT performance, freeway congestion, potential for future HCT expansion, relationship with project goals, and viable alternatives.

Based on this analysis, staff found that the downtown Tualatin station location is notably less promising than Bridgeport Village as a terminus location, although it may serve as a good station on a future HCT extension. As a result, staff recommends removing downtown Tualatin from further consideration as a terminus option.

## Next Steps

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Project staff will share feedback regarding these recommendations and report any adjustments for steering committee consideration one week prior to the December 14, 2015 meeting. A final report documenting the steering committee actions will be produced after the December meeting.

- In December 2015, staff will produce a report evaluating the mode options for the Southwest Corridor Plan.
- In January 2016, staff will report on its progress analyzing alternative connections options to the PCC Sylvania campus and issue its recommendations on mode and a light rail tunnel alignment to PCC Sylvania.
- In February 2016, the committee will deliberate on mode and a light rail tunnel to PCC Sylvania, and discuss funding strategy for bicycle, pedestrian and roadway projects in the Shared Investment Strategy and land use and development strategies. These decisions will constitute the draft Preferred Package for the Southwest Corridor Plan.
- In April or May 2016, after public review and input, the steering committee will adopt a final Preferred Package.