



Southwest Corridor Plan Key Issues: Tigard Executive Summary, September 4, 2015

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 and Light Rail Transit travel modes for several potential route alignments to link Central Portland, Southwest Portland, Tigard and Tualatin.

The Plan is being researched and developed by a group of partners consisting of the 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.
- 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.

The project partners are working together to develop a Preferred Package by spring



What is a Southwest Corridor Key Issues memo?

The Southwest Corridor project partners are taking a place-based approach to understanding the key issues as they relate to local concerns and community aspirations. The Tigard Key Issues memo is part of a series of memos and technical information on key places throughout the corridor that the public and steering committee can review before giving input and making recommendations on major project decisions.

The full Tigard Key Issues memo is available at www.swcorridorplan.org and includes an overview of the decision-making process, description of the proposed high capacity transit alignments to serve Tigard, summary of technical information and description of key issues for decision-makers and the public to consider. Appendices contain supplemental information including maps and project lists of Shared Investment Strategy roadway, bike and pedestrian projects being considered for the Tigard area, a discussion of general transit mode considerations and maps highlighting demographic factors in the study area.

A summary of stakeholder feedback and findings from additional technical analysis will be incorporated into a draft recommendation document that will be available prior to the December 2015 steering committee decision.

2016 that addresses the needs and aspirations of Southwest Corridor residents and businesses. The Preferred Package will include the following components:

- **High Capacity Transit Preferred Alternatives:** Preferred high capacity transit alignments to study further in a Draft Environmental Impact Statement, including travel mode, alignments, terminus, and associated roadway, bicycle and pedestrian projects
- **Corridor Connections:** Potential funding source and timeframe for each of the roadway, bicycle, and pedestrian projects identified in the Shared Investment Strategy
- **Land use and development strategy:** Partnership agreements and other pre-development work to activate land use and place-making strategies identified in local land use visions.

Defining a Preferred Package

In December 2015, the steering committee will make recommendations for public review on continued study of high capacity transit alignment options in Tigard and Tualatin, the preferred high capacity transit terminus, and whether bus rapid transit or light rail is the preferred high capacity transit travel mode.

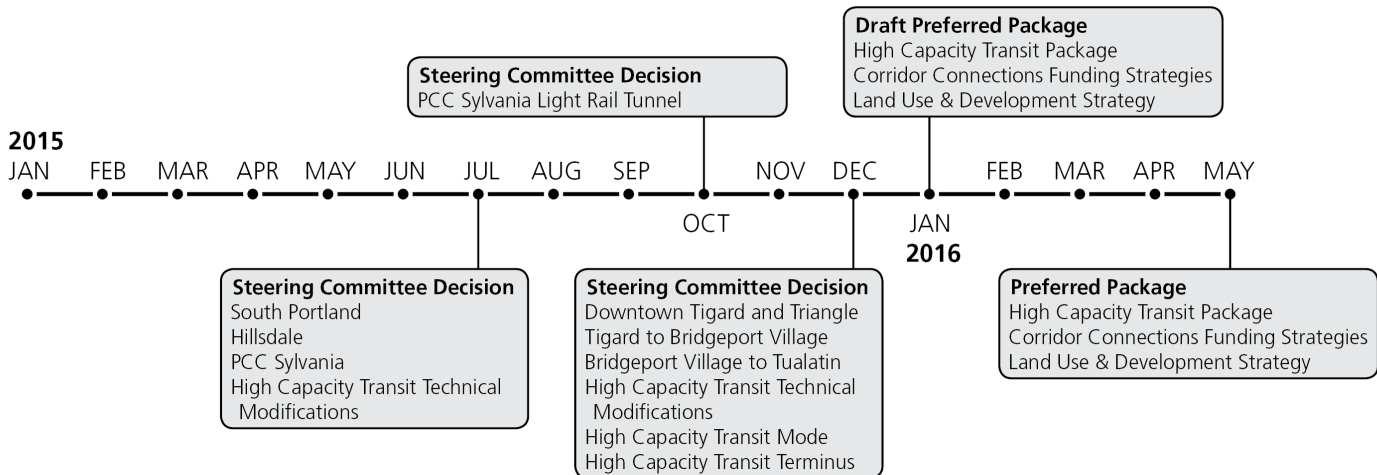
Steering committee members and the public will have several months in early 2016 to discuss the draft Preferred Package resulting from these 2015 decisions. The final Preferred Package is anticipated to be adopted in spring 2016. Comprehensive environmental review of the Preferred Package would likely begin in 2017; design and construction of the high capacity transit line could begin as early as 2021.

October 2015: Major decisions for Tigard

- Will a high capacity transit tunnel to serve PCC Sylvania continue to be studied, which could include a tunnel exit portal in the Tigard Triangle?



Steering Committee decisions



December 2015: Major decisions for Tigard

- Which high capacity transit alignment options in downtown Tigard should be advanced for further study?
- Is bus rapid transit or light rail the preferred mode to be studied in the Draft Environmental Impact Statement?
- What is the timeframe for designing and implementing local transit service improvements to enhance connections to and through downtown Tigard to link to the high capacity transit project?
- What is the best implementation approach for roadway, bike and pedestrian projects that are not included as part of the high capacity transit project but are defined in the Shared Investment Strategy for Tigard?

Tigard findings

Deliberation and decision-making will be driven by how well each element of the proposed project meets the Southwest Corridor Plan’s overarching goals, including improved mobility and safety for all users and modes of transportation, efficient and reliable transportation choices, wise use of public resources, improved access to key places and equitable distribution of the benefits and burdens of

transportation and land use development.

Information in the Tigard Key Issues memo highlights data collected through technical analysis, community knowledge and discussions with partners that will influence this decision, including:

- **transit performance** ridership, travel time, reliability
- **community development** station access, redevelopment opportunities
- **mobility** connectivity, freight movement, safety, traffic, bike and pedestrian access
- **cost:** initial capital cost estimates
- **engineering complexity and risk** construction impacts, engineering risks
- **community impacts** distribution of benefits and burdens, property impacts.

A full copy of the Tigard Key Issues memo and appendices is available at www.swcorridorplan.org.

CONNECT

www.swcorridorplan.org

@SWCorridor

swcorridorplan@oregonmetro.gov

503-797-1756

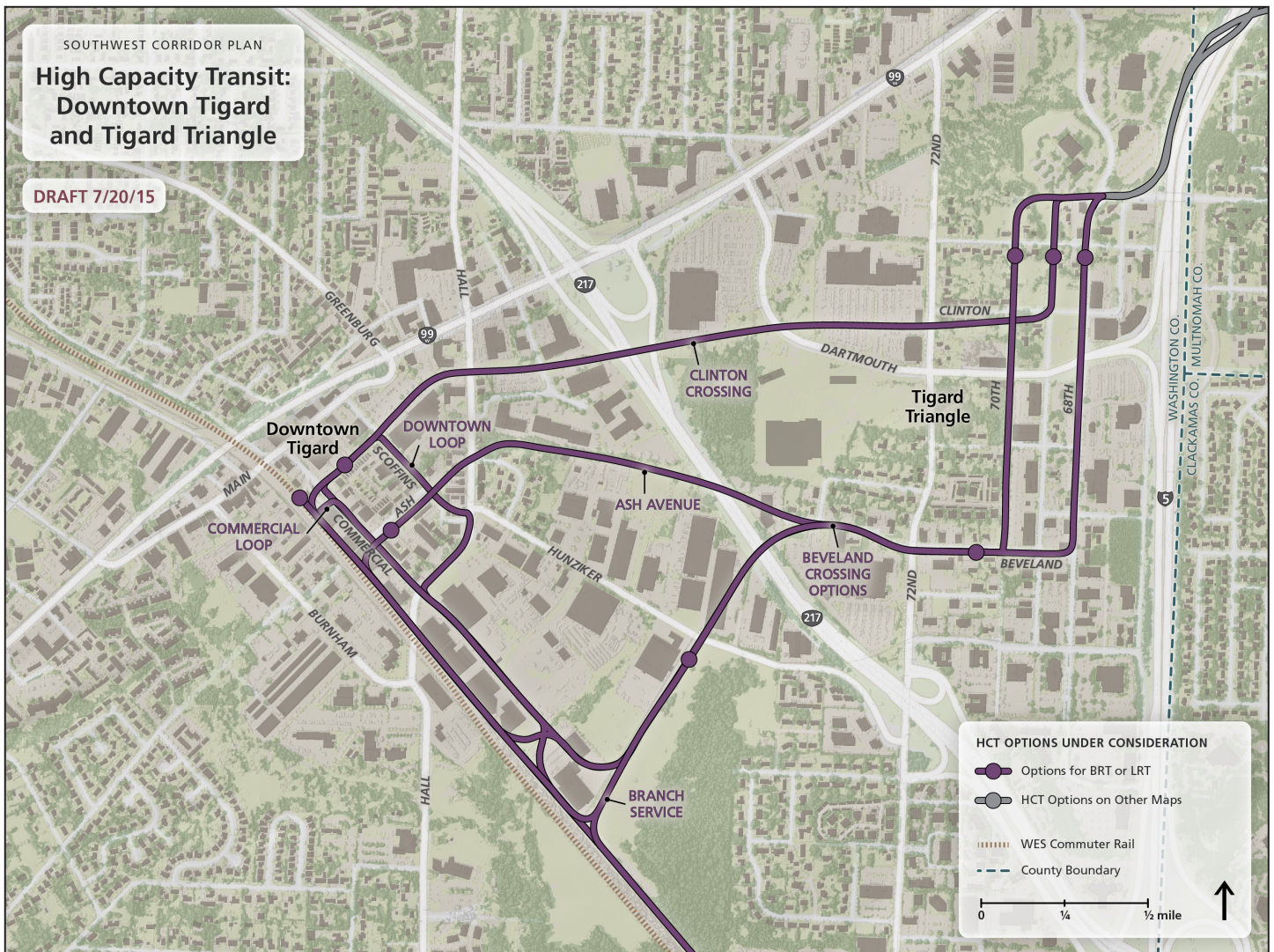


The downtown Tigard and Tigard Triangle areas include five high capacity transit options under consideration. Four options for the downtown Tigard area would include a couplet on 68th or 70th Aves. through the Tigard Triangle area and new crossings over OR-217 from Beveland St.

- **Downtown Loop** runs along Wall St. and in a one-way loop on streets through downtown Tigard
- **Commercial Loop** runs along Wall St. and in a one-way loop through downtown on a new street extending from and parallel to WES tracks
- **Ash Avenue** connects to Ash Ave., then runs southeast parallel to WES tracks
- **Branch Service** runs along Wall St., then alternating transit vehicles would continue parallel to WES tracks either north to downtown Tigard or south to Tualatin

Additionally there is one downtown Tigard option that bypasses the southern part of the Tigard Triangle.

- **Clinton Crossing** runs on a transit-only structure over OR-217 from Clinton St. in the Triangle to a new street downtown, then turns southeast to parallel the WES tracks



Downtown Tigard summary

The following table summarizes evaluation factors, key considerations, and analysis results for the downtown Tigard area.

Key considerations	Evaluation factors	DOWNTOWN LOOP	COMMERCIAL LOOP	CLINTON CROSSING	ASH AVENUE	BRANCH SERVICE
Transit Performance What are the tradeoffs to consider between transit performance of the downtown Tigard alignments and other factors such as cost, travel time, property impacts, auto access impacts and connectivity?	2035 new transit trips	- 14,500 (LRT) - 7,800* (BRT)	- 14,500* (LRT) - 7,800* (BRT)	- 15,600 (LRT) - 8,400* (BRT)	- 15,700 (LRT) - 8,400 (BRT)	- 16,700 (LRT) - 9,000* (BRT)
	2035 line riders	- 41,800 (LRT) - 29,600* (BRT)	- 41,800 (LRT) - 29,600* (BRT)	- 43,600 (LRT) - 30,900* (BRT)	- 43,500 (LRT) - 30,800 (BRT)	- 44,400 (LRT) - 31,400* (BRT)
	Travel time in minutes (from PSU)	LRT: - 24 to Tigard - 34 to Tualatin BRT: - TBD - TBD	LRT: - 24 to Tigard - 34 to Tualatin BRT: - TBD - TBD	LRT: - 21 to Tigard - 30 to Tualatin BRT: - TBD - TBD	LRT: - 22 to Tigard - 31 to Tualatin BRT: - 25 to Tigard - 34 to Tualatin	LRT: - 24 to Tigard - 30 to Tualatin BRT: - TBD - TBD
Community Development Do any of the alignment choices offer significantly different redevelopment opportunities? Are local plans supportive of an HCT investment?	Access	- 2 stations in Tigard Triangle - 1 or 2 stations west of OR-217	- 2 stations in Tigard Triangle - 1 or 2 stations west of OR-217	- Only 1 station in Tigard Triangle (north) - 1 station west of OR-217	- 2 stations in Tigard Triangle - 1 or 2 stations west of OR-217	- 2 stations in Tigard Triangle - 2 stations west of OR-217
	Redevelopment potential	Downtown access comparable across alignment choices. All options access the Tigard TC and WES.				
				Least redevelopment potential for the Tigard Triangle		
		Downtown redevelopment potential similar across all alignments				

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Key considerations	Evaluation factors	DOWNTOWN LOOP	COMMERCIAL LOOP	CLINTON CROSSING	ASH AVENUE	BRANCH SERVICE
<p>Mobility Can high capacity transit be designed to minimize negative impacts to auto, freight, bicycle and pedestrian mobility and access? Do the alignments that including a roadway crossing of OR-217 provide a traffic benefit? Do the alignment options result in noteworthy differences for pedestrians, bicyclists, freight, or safety?</p>	<p><i>Accessibility</i></p> <hr/> <p><i>Mode considerations</i></p>	<p>Transit bridge over OR-217 could accommodate all modes. Business access impacts along Commercial, Hall, and Scoffins.</p>	<p>Transit bridge over OR-217 could accommodate all modes. Business access impacts along Commercial, Hall, and Scoffins.</p>	<p>Transit bridge over OR-217 could accommodate bikes and pedestrians, but not autos. Would not alter lanes on 68th Ave. Would not develop 70th Ave.</p>	<p>Transit bridge over OR-217 could accommodate bikes and pedestrians, but not autos.</p>	<p>Transit bridge over OR-217 could accommodate all modes.</p>
<p>Costs Are the trade-offs clear between cost and other factors such as reliability, safety, access and community development opportunities? How does cost impact the length of the final HCT alignment? How do operating costs compare between options?</p>	<p><i>Segment capital cost estimates in 2014 dollars</i></p> <hr/> <p><i>Operating cost</i></p>	<p>In one-way loop through downtown Tigard: – Up to 52 BRT vehicles per hour in the peak* – Up to 20 LRT vehicles per hour in the peak</p>	<p>In one-way loop along Commercial Street and WES: – Up to 52 BRT vehicles per hour in the peak* – Up to 20 LRT vehicles per hour in the peak*</p>	<p>In each direction: – Up to 26 BRT vehicles per hour in the peak* – Up to 10 LRT vehicles per hour in the peak</p>	<p>In each direction: – Up to 26 BRT vehicles per hour in the peak – Up to 10 LRT vehicles per hour in the peak</p>	<p>At Tigard TC station: – Up to 13 BRT vehicles per hour in the peak* – Up to 5 LRT vehicles per hour in the peak</p>
		<p>LRT: – \$442 million BRT: – TBD</p>	<p>LRT: – \$442 million BRT: – TBD</p>	<p>LRT: – \$353 million BRT: – TBD</p>	<p>LRT: – \$399 million BRT: – TBD</p>	<p>LRT: – \$388 million BRT: – TBD</p>
		<p>Slightly higher operating cost than Clinton and Ash options due to slower travel time</p>	<p>Slightly higher operating cost than Clinton and Ash options due to slower travel time</p>	<p>Lowest operating cost due to shortest travel time</p>	<p>Slightly higher operating cost than Clinton option due to slower travel time</p>	<p>Highest operating cost due to increased service north of Tigard; up to 50% more vehicle operating hours than other options</p>

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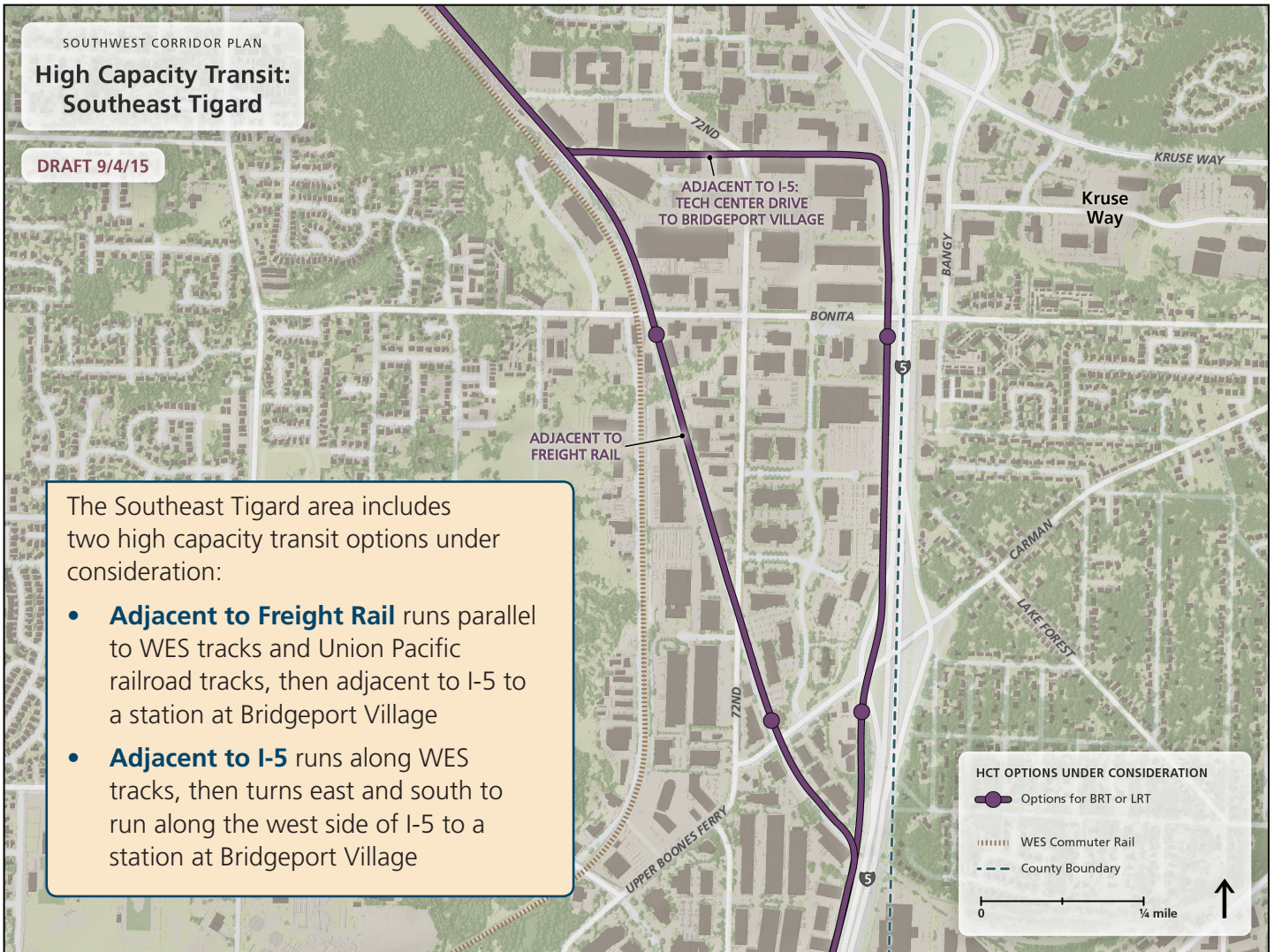
Key considerations	<i>Evaluation factors</i>	DOWNTOWN LOOP	COMMERCIAL LOOP	CLINTON CROSSING	ASH AVENUE	BRANCH SERVICE
<p>Engineering complexity/risk Complexity and risk add cost to the project and could result in the cost and schedule overruns. What aspects of each alignment add complexity to the project? What aspects of each alignment option present noteworthy risk?</p>	<p><i>Risk</i></p>	<ul style="list-style-type: none"> - Restricts left turn access to commercial businesses - Requires reconstruction of Tigard Transit Center 	<ul style="list-style-type: none"> - Restricts left turn access to commercial businesses - Requires reconstruction of Tigard Transit Center - Assumed setback from freight rail could be problematic 	<ul style="list-style-type: none"> - Long ¾-mile structure to cross OR-217 - OR-217 bridge would not accommodate autos - Could impact a wetland area 	<ul style="list-style-type: none"> - Beveland Crossing would not accommodate autos - New adjacent auto bridge might not be eligible for New Starts funding 	<ul style="list-style-type: none"> - Requires reconstruction of Tigard Transit Center - Challenges in including bike/ped facilities along most of HCT alignment in Tigard.
<p>Community impacts Can the benefits and burdens of a high capacity transit alignment be equally distributed among all population groups in the corridor?</p>	<p><i>Distribution of impacts</i></p>	<ul style="list-style-type: none"> - Bisects large tracts in industrial area - Commercial property impacts in downtown - Restricts turning movements of vehicles in downtown 	<ul style="list-style-type: none"> - Bisects large tracts in industrial area - Restricts turning movements of vehicles in downtown 	<ul style="list-style-type: none"> - Visual impact of long structure flying over properties and roadways - Commercial property impacts in downtown 	<ul style="list-style-type: none"> - Considerable impacts to residential and commercial properties 	<ul style="list-style-type: none"> - Some access impacts and commercial property impacts, but less than other options

**estimated based on related model runs*

Southeast Tigard summary

The following table summarizes evaluation factors, key considerations, and analysis results for consideration in the study area.

Key considerations	<i>Evaluation factors</i>	Adjacent to freight rail	Adjacent to I-5
Transit Performance What are the tradeoffs to consider between transit performance of the alignments and other factors such as cost, travel time, property impacts, auto access impacts and connectivity?	<i>2035 new transit trips</i>	– 15,700 (LRT) – 8,400 (BRT)	– 16,000 (LRT) – 8,600* (BRT)
	<i>2035 line riders</i>	– 43,500 (LRT) – 30,800 (BRT)	– 43,600 (LRT) – 30,900* (BRT)
	<i>Travel time (PSU to Tualatin)</i>	LRT: – 31 minutes BRT: – 34 minutes	LRT: – 34 minutes BRT: – 37 minutes*
Community Development What are the main access issues in the area? Are there significant land use implications between alignment choices?	<i>Access</i>	– Better access for neighborhoods – Need for improved connections – Better access to 72nd Avenue employment area	– Too far from existing neighborhoods for walk/bike access – Better access to Kruse Way employment area
	<i>Redevelopment potential</i>	No major difference between options	
Mobility Can high capacity transit be designed to minimize negative impacts to auto, freight, bicycle and pedestrian mobility and access? Do the alignment options result in noteworthy differences for pedestrians, bicyclists, freight, or safety?	<i>Accessibility</i>	No major difference between options or modes Future traffic operations in this area will perform better with the HCT project than without it	
	<i>Mode considerations</i>	In each direction: – Up to 26 BRT vehicles per hour in the peak – Up to 10 LRT vehicles per hour in the peak	
Capital Costs Are the trade-offs clear between cost and other factors such as reliability, safety, access and community development opportunities? How does cost impact the length of the final HCT alignment?	<i>Segment cost estimates in 2014 dollars</i>	LRT: – \$233 million BRT: – TBD	LRT: – \$238 million BRT: – TBD



The Southeast Tigrad area includes two high capacity transit options under consideration:

- **Adjacent to Freight Rail** runs parallel to WES tracks and Union Pacific railroad tracks, then adjacent to I-5 to a station at Bridgeport Village
- **Adjacent to I-5** runs along WES tracks, then turns east and south to run along the west side of I-5 to a station at Bridgeport Village

Key considerations	Evaluation factors	Adjacent to freight rail	Adjacent to I-5
<p>Engineering complexity/risk Complexity and risk add cost to the project and could result in the cost and schedule overruns.</p> <p>What aspects of each alignment add complexity to the project?</p> <p>What aspects of each alignment option present noteworthy risk?</p>	<p><i>Risk</i></p>	<p>Both options require negotiations with right-of-way owners and comparable risks related to alignment adjustments to avoid impacts to I-5 access.</p>	
<p>Community impacts Can the benefits and burdens of a high capacity transit alignment be equally distributed among all population groups in the corridor?</p>	<p><i>Distribution of impacts</i></p>	<ul style="list-style-type: none"> – Few business access impacts – No residential property impacts – Fewer commercial property impacts 	<ul style="list-style-type: none"> – Few business access impacts – No residential property impacts – More commercial property impacts

*estimated based on related model runs