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MEMORANDUM

To: HCT Subcommittee

From: Thomas Brennan, HCT System Plan Consulting Team

Date: 2-6-09

Subject: HCT Screening Results

Introduction

Different evaluation criteria and performance measures will be used at different points in the HCT System Plan process to narrow and prioritize corridors and projects to those most beneficial in meeting regional mobility and land use goals. Figure 1 summarizes key phases of the process.

The first criteria needed for the HCT plan development (the Screening Criteria) are those used to "screen" the initial long list of potential HCT corridors and system enhancement projects into a more workable short list. The screened long list of corridors includes all the corridors modeled in Scenario B (RTP modeling) and several others identified in the HCT public workshops summarized by Metro and the Public Involvement consulting team or suggested by agency partners or jurisdictions. This step in the evaluation creates a "short list" that should include any corridor or system enhancement projects that could reasonably support any type of HCT investment.

Potential HCT investments include:

MAX light rail extensions

New MAX light rail lines

Commuter rail

High frequency, dedicated right-of-way streetcar

Bus Rapid Transit with mainly dedicated right of way

Other system enhancements (e.g., Rose Quarter, Steel Bridge, etc.)



Eight initial screening criteria were applied to the long list of corridors:

1) Ridership. A rough estimate of ridership potential was generated using the Transit Orientation Index (TOI), which focuses on the residential, total jobs and retail job densities around potential HCT stations. Two estimates of ridership were made:

Current (2005) ridership potential under existing land uses.

Future (2035) ridership potential under adopted regional land use projections.

Additional credit can be given through the System Connectivity assessment to corridors that would likely include park-and-ride capacity and/or regional bus feeder service, boosting ridership potential.

- 2) Corridor Availability and Cost. This qualitative assessment provides an order of magnitude ranking of cost and feasibility of constructing a dedicated right-of-way for each HCT line. Alignments or projects that require significant tunneling, bridge construction or new right-of-way acquisition are given low rankings when compared with projects that require less per mile capital investment.
- **3)** Environmental Constraints. HCT projects that would require valuable habitat destruction or significant mitigation are disfavored. A qualitative assessment was completed based on length of alignment in sensitive habitat areas, open space and environmental protection zones.
- 4) Equity. This criterion assesses potential for an alignment to serve communities of concern. Alignments that serve census block groups identified by Metro as having high concentrations of low-income, senior and disabled, and minority and/or Hispanic populations are favored. These are well documented in the background paper, "Environmental Justice in Metro's Transportation Planning Process: Implications for the 2035 RTP and the 2008-2007 MTIP."
- **5) Connectivity and System.** HCT lines that connect to important intermodal centers, key regional transit centers, other HCT lines, park-and-ride opportunities and regional intercity transit sevices are favored.
- 6) Congestion. HCT corridors that parallel arterials or throughways where high levels of congestion are forecasted receive higher rankings. This is based on predicted 2035 volume to capacity ratios for regional throughways and arterial streets.
- **7) 2040 Land Use.** Corridors that serve 2040 centers, main streets and corridors that are designated to accommodate future growth are given priority ranking.
- 8) Origin-Destination Transit Demand. Results from the 2035 Scenario B modeling outputs were used to gauge future demand between anchor points on proposed HCT alignments.

Figure 2 summarizes the eight criteria and their application. Following sections provide more detail on criteria analysis and ranking methods.

Figures 3 and 4 present the potential HCT corridors and corridor segments that were taken through the screening process.

Figure 2 Screening Criteria

CRITERION	MEASUREMENT	PROPOSED SC	REENING TARGET
		High	> 5.0 riders per acre
Existing	Transit	Medium-High	4.0-5.0 riders per acre
Potential		Medium	3.0-4.0 riders per acre
Ridership *	Onentation index	Low-Medium	1.5-3.0 riders per acre
		Low	< 1.5 rider per acre
		High	> 5.0 riders per acre
Future	Trancit	Medium-High	4.0-5.0 riders per acre
Potential	Oriontation Index	Medium	3.0-4.0 riders per acre
Ridership *	Onentation index	Low-Medium	1.5-3.0 riders per acre
		Low	< 1.5 rider per acre
	Qualitative assessment of right of way	High	Minimal right of way or few structures required
Corridor Availability and Cost	availability and associated access	Medium	Moderate right of way or structures required
and Cost	improvements (Includes geological hazards)	Low	Major land acquisition, tunneling, bridge work or extensive ROW required
	Origin- Destination Transit Trips	High	4500 +daily transit origins and destinations
		Medium-High	3001 - 4500
Transit		Medium	1501 – 3000
Demand		Low-Medium	501 – 1500
		Low	< 500
		High	Minimal potential negative impacts to natural resources
Environmental Constraints	Qualitative assessment of impact on natural resources	Medium	Moderate potential negative impacts to natural resources
		Low	Significant potential negative impacts to natural resources
		High	Directly serves low-income and minority communities
Equity	Qualitative assessment of social equity needs	Medium	Provides indirect access to low-income and minority communities
		Low	No access provided to low-income and minority communities
Connectivity and System *	Qualitative assessment of transit system	High	Strong connectivity and/or system benefits
	connectivity,		

	intermodal connectivity,	Medium	Moderate connectivity and/or system benefits						
	maintenance yard site or other transit system needs.	Low	Poor connectivity, and/or system benefits						
		High	LOS F (2035 PM Peak 2-Hour; Mid-Day 1-Hour); Vehicle/Capacity Ratio						
Congestion	Recognition of congestion parallel to proposed corridor	Medium-High	LOS E (2035 PM Peak 2-Hour; Mid-Day 1-Hour); Vehicle/Capacity Ratio						
		Medium	LOS D (2035 PM Peak 2-Hour; Mid-Day 1-Hour); Vehicle/Capacity Ratio						
		Low-Medium	LOS C (2035 PM Peak 2-Hour; Mid-Day 1-Hour); Vehicle/Capacity Ratio						
		Low	LOS A-B (2035 PM Peak 2-Hour; Mid-Day 1-Hour); Vehicle/Capacity Ratio						
		High	Central city Regional centers Industrial areas Freight and Passenger Intermodal facilities						
2040 Land Use	Support Region 2040 land use designations	Medium	Employment areas Town centers Station Communities Corridors Main Streets						
		Low	Inner neighborhoods Outer neighborhoods						

Figure 3 List of Corridors / Segments for Screening

Segment / Corridor ID	Segment / Corridor Name
6	(Amber Glen to Tanasbourne)
8	(CTC - OCTC) via I-205
9	(Park - OCTC) via McLoughlin
10	(Portland Mall - Gresham) via Powell
10A	(Portland Mall - I-205) via Powell
10B	(I-205 - Gresham) via Powell
11	(Portland to Sherwood) via Barbur Hwy 99w
11A	(Portland to Terwilliger) via Barbur Hwy 99W
11B	(Terwilliger to Multnomah) via Barbur Hwy 99w
11C	(Multnomah to Tigard) via Barbur Hwy 99w
11D	(Tigard -King City) via Barbur Hwy 99w
11E	(King City - Sherwood) via Barbur Hwy 99w
11T	(Portland to Multnomah) via TUNNEL Barbur hwy 99w
12	(Hillsboro - Forest Grove)
13	(Gresham - Troutdale MHCC) via Kane Dr
15	(Lents to Pleasant Valley) via Foster Road
16	(CTC - Damascus)
16A	(CTC - Damascas) via Sunnyside
16B	(Gresham - Damascus) via 232nd/242nd Ave
16C	(CTC - Damascas) via Hwy 212/224
17	(STC - Hillsboro)
17A	(Shute - St Vincent) via Evergreen/US26
17B	(Hillsboro -Shute) via Evergreen
17C	(Hillsboro-Shute) via Cornel/Shute
17D	(Tanasbourne - Blue Line)
18	Improvements to Steel Bridge
19	Bridge Improvements
27	(Oregon City - Clac CC) - via Hwy213/RRROW
28	(Oregon City - WSTC)
28A	(Oregon City - West Linn) via new bridge
28B	(West Linn - Tualatin) via I-205
28C	(Tualatin - Tigard) via WES
28D	(Tigard - WSTC) via WES
29	(CTC - Clackamas)
29A	(CTC - Milwaukie) via Hwy 224
29B	(Milwaukie - Lake O) via RR bridge
29C	(Lake O - Tigard TC) via RR ROW
29D	Tigard TC - WSTC) via WES ROW
29E	(Boones Ferry - Tualatin) via RR ROW
29F	(Milwaukie - Clackamas)
32	(Hillsboro - Hillsdale)
32A	(Hillsboro - Aloha - Beaverton) via TV Hwy
32B	(Barbur - Lake O connector)
320	(Beaverton - Kaleigh Hills - Hillsdale) via Beaverton Hillsdale
34	(Beaverton - Wilsonville)
34A	(Beaverton - Washington Sq) via Hall
34B	(Washington Sq - Ligard) via Hall

Segment / Corridor ID	Segment / Corridor Name
34C	(Tigard - Tualatin) via 217/I5
34D	(Tualatin - Wilsonville) via 15
38	(Tualatin - Sherwood) via Sherwood Rd
41	(Lake O - McLoughlin connector)
42	(Vancouver - Damascus)
42A	(Marine Drive - Vancouver) via 182nd
42B	(Marine Drive - Rockwood) via 182nd
42C	(Rockwood - Pleasant Valley) via 182nd
42D	(Pleasant Valley - Damascas) via Foster
43	(St. Johns - Vancouver/Union Station)
43A	(St. Johns to RR)
43B	(RR to Vancouver) via UPRR Railroad Bridge
43C	(Union Station - St. Johns) via RR Bridge
43D	(St. Johns - Vancouver) via Freight Corridor
46	(Cornell - St. Johns)
46A	(Cornell to UPRR) via Corn Pass Tunnel
46B	(UPRR - St. Johns) via Freight
46C	(Corn Pass - St. Johns) via Northern Bridge
48	(Murray Hill - Bethany)
49	Eastside Connector
50	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th
51	Downtown Jefferson/Columbia via 1st Ave
52	Downtown Everett/Glisan to 18th Ave
53	(Hillsboro - Tualatin)
54	(Troutdale - St. Johns)
55	(Sunset TC - St. Johns)
56	(Orenco - Clark Hill Rd)
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd
58	(Lake O – OCTC)
28A+28B	(Oregon City - Tualatin)
17C+46A+46B+43B	(Hillsboro - Vancouver)
41+32B+32C	(McLoughlin - Beaverton)



Summary and Methodology of Screening Process

All screening criteria play an important role in determining the viability of proposed HCT corridors. However, certain criteria naturally have a higher weight in determining the viability of a corridor or project for future advancement through local and federal planning and funding processes. In particular, ridership potential and supporting measures such as system connectivity are critical in ensuring that the HCT system investments provide the highest benefit in supporting regional economic, environmental and community development goals. Several other criteria are directly supported by the ridership potential measure and are therefore given lower weight in the evaluation. The following table describes the weighting given to each criteria for purposes of ranking projects and projects:

Criteria	Weighting	Description
Connectivity	Double	Key indicator of ability to access alignment by foot or bicycle; to make connections to existing HCT and frequent service transit lines; and to provide system access from park-and- rides/intercity transit feeders.
O-D	Single	High level indicator of transit demand not captured in the ridership (TOI) criteria.
2005 Ridership Potential	Double	Important indicator of corridor viability, but not as important as future (2035 TOI) ridership potential.
2035 Ridership Potential	Triple	Primary indicator of future ridership potential; ridership is fundamental indicator of HCT viability; all other benefits are diminished if ridership is low. Selecting highest ridership lines will maximize HCT system role in meeting regional economic, environmental and community development goals.
Cost and Corridor Availability	Double	Important factor in measuring cost effectiveness of project/corridor, particularly when matched with ridership potential.
Environmental	Single	High level environmental impact assessment; more detailed environmental impact assessment would be required for any project.
Equity	Single	Tracks very closely with TOI score, so is already given high priority.
Congestion	Single	Important criteria for measuring disincentive to driving, but spot level assessment does not account for complex travel patterns. Modeling work in next phase will more accurately represent relationship.
2040 Land Use	Single	Important indicator of compliance with RTP; supported by 2035 TOI score which accounts for future growth in 2040 Center.

The weightings were applied to a corridor or segment score calculated by assigning a numeric value to each high, medium and low rank as follows:

Rank	Score
High	5
Medium-High	4
Medium	3
Low-Medium	2
Low	1

Figures 5 and 6 provide a graphic and tabular summary of the screening results. Corridors are separated into four categories at this phase of the evaluation (1) Central City projects recommended for advancement, (2) Corridors recommended for advancement, (3) Corridors to

considered for advancement by Hillsboro, and (4) Corridors considered but not recommended for advancement. Corridors that exceed a threshold score of 30 points advance. There is no attempt to rank corridors beyond these four categories at this point in the evaluation. Corridors advancing beyond this phase will undergo modeling and conceptual engineering level cost analysis as well as a detailed evaluation as described in the HCT System Plan Evaluation Criteria Memo.

Figures 7 and 8 provide more detail summary of screening results.

Going places

REGIONAL HIGH CAPACITY TRANSIT SYSTEM PLAN

Hillsbord

26

Bethan

Murray Hill

Sherwood

Cedar Mill

Sunset ----Transit Center

Washington

Wilsonville

Tanasbor

17D

High Capacity Transit Plan: Corridor and Project Ranking Against Screening Criteria

DISCUSSION DRAFT 12/01/2008

LEGEND

Transit

Date: 11/24/2008 Location: HCT PlankGIS/Illustrator Maps/HCT_Overall_Ranks.ai Author: Alan Guun



HCT Corridors

Corridors Recommended For Advancement

219

- Corridors Not Recommended For Advancement
- Pending Agency Review
- Central City Improvements

----- Regional Trail
Parks/Open Space



Figure 6 Corridor and Project Ranking Against Screening Criteria

Not in priority order	
Segment / Corridor ID	Segment / Corridor Name
18	Improvements to Steel Bridge
19	Bridge Improvements
49	Eastside Connector
50	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th
52	Downtown Everett/Glisan to 18th Ave
51	Downtown Jefferson/Columbia via 1st Ave
8	(CTC - OCTC) via I-205
9	(Park - OCTC) via McLoughlin
10	(Portland Mall - Gresham) via Powell
11	(Portland to Sherwood) via Barbur Hwy 99w
12	(Hillsboro - Forest Grove)
13	(Gresham - Troutdale MHCC) via Kane Dr
16	(CTC - Damascus)
17	(STC - Hillsboro)
28	(Oregon City - WSTC)
29	(CTC - Clackamas)
32	(Hillsboro - Hillsdale)
34	(Beaverton - Wilsonville)
43	(St. Johns - Vancouver/Union Station)
54	(Troutdale - St. Johns)
6	(Amber Glen to Tanasbourne)
48	(Murray Hill - Bethany)
56	(Orenco - Clark Hill Rd)
17D	(Red Line extension to Tanasbourne)
15	(Lents to Pleasant Valley) via Foster Road
27	(Oregon City - Clac CC) - via Hwy213/RRROW
38	(Tualatin - Sherwood) via Sherwood Rd
41	(Lake O - McLoughlin connector)
42	(Vancouver - Damascus)
46	(Cornell - St. Johns)
53	(Hillsboro - Tualatin)
54	(Troutdale - St. Johns)
55	(Sunset TC - St. Johns)
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd
58	(Lake O - OCTC)
41+32B+32C	(McLoughlin - Beaverton)
17C+46A+46B+43B	(Hillsboro - Vancouver)

*Note: Corridors extending to neighboring cities were not considered in this analysis

LEGEND

Figure 7Screening Results by Corridor/Project

						Screenin	g Results				
		1-3	1-5	1-5	1-5	1-3	1-3	1-3	1-5	1-5	1-3
						Corridor					
		Connectivity and		Existing Potential	Future Potential	Availability and	Environmental		Congestion	Congestion	
Segment / Corridor ID	Segment / Corridor Name	System Score	O-D	Ridership	Ridership	Cost	Constraints	Equity	(Midday)	(Peak)	2040 Land Use
6	(Amber Glen to Tanasbourne)	Low	Low	Low	Low-Medium	Medium	High	Low	Low	Medium-High	Low
8	(CTC - OCTC) via I-205	High	Medium	Low	Low-Medium	Medium	Medium	Medium	Medium-High	High	Medium
9	(Park - OCTC) via McLoughlin	High	Low	Low	Low	Medium	Medium	Low	Low	High	Medium
10	(Portland Mall - Gresham) via Powell	Medium	Low-Medium	Low-Medium	Medium	Medium	Medium	High	High	High	High
11	(Portland to Sherwood) via Barbur Hwy 99w	Low	Low-Medium	Low-Medium	Medium	Medium	Medium	Low	High	High	High
12	(Hillsboro - Forest Grove)	Medium	Medium	Low	Low	High	Medium	High	Medium-High	High	Medium
13	(Gresham - Troutdale MHCC) via Kane Dr	Medium	Low	Low	Low-Medium	Medium	Medium	Low	Low	High	Medium
15	(Lents to Pleasant Valley) via Foster Road	Low	Low	Low	Low	Medium	Medium	Low	Medium-High	High	Low
16	(CTC - Damascus)	Medium	Low-Medium	Low	Low	High	Medium	High	High	High	Medium
17	(STC - Hillsboro)	Low	Low-Medium	Low	Low-Medium	High	Medium	Low	Medium-High	High	Medium
18	Improvements to Steel Bridge	High	High	High	High	High	High	Low	Low	Medium	High
19	Bridge Improvements	High	High	High	High	Medium	Low	Medium	Low	Medium	High
27	(Oregon City - Clac CC) - via Hwy213/RRROW	Low	Low	Low	Low	Medium	Low	Low	Medium-High	High	Low
28	(Oregon City - WSTC)	Low	Low	Low	Low-Medium	High	Medium	Low	High	High	Medium
29	(CTC - Clackamas)	Medium	Low	Low	Low-Medium	High	Medium	High	Medium-High	High	Medium
32	(Hillsboro - Hillsdale)	Low	Low	Low	Low-Medium	High	Medium	Medium	Medium-High	High	Medium
34	(Beaverton - Wilsonville)	Low	Low	Low	Low-Medium	Medium	Medium	Medium	High	High	Medium
38	(Tualatin - Sherwood) via Sherwood Rd	Low	Low	Low	Low	Medium	High	Low	Medium	High	Low
41	(Lake O - McLoughlin connector)	Medium	Low	Low	Low	Low	Medium	Low	High	High	Low
42	(Vancouver - Damascus)	Low	Low	Low	Low	Medium	Low	Medium	Medium-High	High	Medium
43	(St. Johns - Vancouver/Union Station)	Low	Medium-High	Low-Medium	Medium	High	Low	High	High	High	High
46	(Cornell - St. Johns)	Low	Low	Low	Low	High	Low	Low	High	High	Medium
48	(Murray Hill - Bethany)	Low	Low	Low	Low	Low	Medium	Low	Medium	High	Low
49	Eastside Connector	High	Medium	High	High	Low	Medium	High	Low	Medium	High
50	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th	High	Low-Medium	High	High	Low	Medium	High	Low	Low	High
51	Downtown Jefferson/Columbia via 1st Ave	Low	High	High	High	Low	Medium	Medium	Low	Medium	High
52	Downtown Everett/Glisan to 18th Ave	Low	High	High	High	Low	High	Medium	Medium	Medium	High
53	(Hillsboro - Tualatin)	Low	Low	Low	Low	Medium	Low	High	Low	High	Medium
54	(Troutdale - St. Johns)	Low	Low	Low	Low	High	Low	High	Low	Medium-High	Medium
55	(Sunset TC - St. Johns)	High	Low	Low	Low	Low	Low	Low	High	High	Low
56	(Orenco - Clark Hill Rd)	Low	Low	Low	Low	Medium	Low	Medium	Low	High	Low
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd	Low	Low	Low	Low	Medium	Low	Low	High	High	Low
58	(Lake O - OCTC)	Medium	Low	Low	Low	Low	Medium	Low	Medium-High	High	Medium
28A+28B	(Oregon City - Tualatin)	High	Low	Low	Low	Low	Medium	Low	Medium-High	High	Medium
17C+46A+46B+43B	(Hillsboro - Vancouver)	Low	Low	Low	Low	High	Low	High	Medium-High	High	High
41+32B+32C	(McLoughlin - Beaverton)	Medium	Low	Low	Low-Medium	Low	Medium	Low	Medium-High	High	Medium

Note: Methods for determining High, Medium, Low rankings are described in detail in the Screening Results Technical Memorandum Note: All High ratings indicate positive results as related to project viability; all low ratings indicated negative results

Figure 8 Screening Results by Segment/Project

						Screenin	g Results				
		1-3	1-5	1-5	1-5	1-3	1-3	1-3	1-5	1-5	1-3
						Corridor					
		Connectivity and		Existing Potential	Future Potential	Availability and	Environmental		Congestion	Congestion	
Segment / Corridor ID	Segment / Corridor Name	System Score	O-D	Ridership	Ridership	Cost	Constraints	Equity	(Midday)	(Peak)	2040 Land Use
6	(Amber Glen to Tanasbourne)	Low	Low	Low	Low-Medium	Medium	High	Low	Low	Medium-High	Low
8	(CTC - OCTC) via I-205	High	Medium	Low	Low-Medium	Medium	Medium	Medium	Medium-High	High	Medium
9	(Park - OCTC) via McLoughlin	High	Low	Low	Low	Medium	Medium	Low	Low	High	Medium
10	(Portland Mall - Gresham) via Powell	Medium	Low-Medium	Low-Medium	Medium	Medium	Medium	High	High	High	High
10A	(Portland Mall - I-205) via Powell	High	High	Medium	High	Low	Medium	Low	High	High	High
10B	(I-205 - Gresham) via Powell	Medium	Low-Medium	Low	Low	Medium	High	High	High	High	High
11	(Portland to Sherwood) via Barbur Hwy 99w	Low	Low-Medium	Low-Medium	Medium	Medium	Medium	Low	High	High	High
11A	(Portland to Terwilliger) via Barbur Hwy 99W	Medium	Medium-High	High	High	Low	Medium	Low	Low	High	High
11B	(Terwilliger to Multhomah) via Barbur Hwy 99w	Low	Medium	Low	Low	Low	Medium	Low	Low	High	High
110	(Multnomah to Tigard) via Barbur Hwy 99w	Low	Low	Low	Low-Medium	Medium	Medium	Low	Medium-High	High	High
11D	(Tigard -King City) via Barbur Hwy 99w	Low	Low	Low	Low	Medium	High	Low	High	High	High
11E	(King City - Sherwood) via Barbur Hwy 99w	Low	Low	Low	Low	Medium	High	Low	High	High	High
11T	(Portland to Multnomah) via TUNNEL Barbur hwy 99w	Medium	Medium-High	Medium	High	Low	Medium	Low	Low	High	High
12	(Hillsboro - Forest Grove)	Medium	Medium	Low	Low	High	Medium	High	Medium-High	High	Medium
13	(Gresham - Troutdale MHCC) via Kane Dr	Medium	Low	Low	Low-Medium	Medium	Medium	Low	Low	High	Medium
15	(Lents to Pleasant Valley) via Foster Road	Low	Low	Low	Low	Medium	Medium	Low	Medium-High	High	Low
16	(CTC - Damascus)	Medium	Low-Medium	Low	Low	High	Medium	High	High	High	Medium
16A	(CTC - Damascas) via Sunnyside	Medium	Low-Medium	Low	Low-Medium	Medium	High	Low	Medium	High	Medium
16B	(Gresham - Damascus) via 232nd/242nd Ave	Low	Low	Low	Low	High	High	Low	Medium	High	Medium
16C	(CTC - Damascas) via Hwy 212/224	Medium	Low-Medium	Low	Low	Medium	Medium	High	High	High	Medium
17	(STC - Hillsboro)	Low	Low-Medium	Low	Low-Medium	High	Medium	Low	Medium-High	High	Medium
17A	(Shute - St Vincent) via Evergreen/US26	Medium	Low-Medium	Low	Low-Medium	Medium	Medium	Low	Medium-High	High	Medium
17B	(Hillsboro -Shute) via Evergreen	Low	Medium	Low	Low	Medium	High	Low	Medium	High	Medium
17C	(Hillsboro-Shute) via Cornel/Shute	Low	Medium	Low	Low-Medium	High	Medium	Low	Medium	High	Medium
17D	(Tanasbourne - Blue Line)	Low	Medium	Low	Medium	Medium	Medium	Low	Low	Medium-High	Medium
18	Improvements to Steel Bridge	High	High	High	High	High	High	Low	Low	Medium	High
19	Bridge Improvements	High	High	High	High	Medium	Low	Medium	Low	Medium	High
27	(Oregon City - Clac CC) - via Hwy213/RRROW	Low	Low	Low	Low	Medium	Low	Low	Medium-High	High	Low
28	(Oregon City - WSTC)	Low	Low	Low	Low-Medium	High	Medium	Low	High	High	Medium
28A	(Oregon City - West Linn) via new bridge	Low	Low	Low	Low	Low	Low	Low	High	High	Medium
28B	(West Linn - Tualatin) via I-205	Low	Low-Medium	Low	Low	Medium	Medium	Low	Medium	High	Medium
28C	(Tualatin - Tigard) via WES	Medium	Low	Low-Medium	Low-Medium	High	High	Low	High	High	Medium
28D	(Tigard - WSTC) via WES	Low	Low-Medium	Low-Medium	Medium	High	High	Low	Low	High	Medium
29	(CTC - Clackamas)	Medium	Low	Low	Low-Medium	High	Medium	High	Medium-High	High	Medium
29A	(CTC - Milwaukie) via Hwy 224	Medium	Low-Medium	Low	Low-Medium	Medium	Medium	Medium	Medium	Medium-High	Medium
29B	(Milwaukie - Lake O) via RR bridge	High	Low	Low	Low-Medium	High	Medium	Medium	Medium-High	High	Medium
29C	(Lake O - Tigard TC) via RR ROW	Medium	Low	Low	Low-Medium	High	Medium	Low	Medium-High	High	Medium
29D	Tigard TC - WSTC) via WES ROW	Low	Low-Medium	Low-Medium	Medium	High	Medium	Low	Medium-High	High	Medium
29E	(Boones Ferry - Tualatin) via RR ROW	Low	Low-Medium	Low-Medium	Low-Medium	High	Medium	Low	Medium-High	High	Medium
29F	(Milwaukie - Clackamas)	High	Low-Medium	Low	Low-Medium	Medium	High	Low	Low	Low	Medium
32	(Hillsboro - Hillsdale)	Low	Low	Low	Low-Medium	High	Medium	Medium	Medium-High	High	Medium
32A	(Hillsboro - Aloha - Beaverton) via TV Hwy	Medium	Low-Medium	Low	Low-Medium	High	Medium	High	Medium-High	High	Medium
32B	(Barbur - Lake O connector)	Low	Low	Low	Low	Medium	Medium	Low	Medium-High	High	Medium
32C	(Beaverton - Raleigh Hills - Hillsdale) via Beaverton Hillsdale	Low	Low-Medium	Low	Low-Medium	Medium	Medium	Low	Medium	High	Medium

Figure 8Screening Results by Segment/Project (Continued)

						Screenin	g Results				
		1-3	1-5	1-5	1-5	1-3	1-3	1-3	1-5	1-5	1-3
						Corridor					
		Connectivity and		Existing Potentia	Future Potential	Availability and	Environmental		Congestion	Congestion	
Segment / Corridor ID	Segment / Corridor Name	System Score	O-D	Ridership	Ridership	Cost	Constraints	Equity	(Midday)	(Peak)	2040 Land Use
34	(Beaverton - Wilsonville)	Low	Low	Low	Low-Medium	Medium	Medium	Medium	High	High	Medium
34A	(Beaverton - Washington Sq) via Hall	Medium	Medium	Low-Medium	Medium	Medium	High	Low	Medium	High	Medium
34B	(Washington Sq - Tigard) via Hall	Low	Low-Medium	Low	Low-Medium	Medium	High	Low	Medium-High	High	Medium
34C	(Tigard - Tualatin) via 217/I5	Low	Low	Low-Medium	Medium	Medium	Medium	Low	High	High	Medium
34D	(Tualatin - Wilsonville) via 15	Low	Low	Low	Low	Medium	High	Low	High	High	Medium
38	(Tualatin - Sherwood) via Sherwood Rd	Low	Low	Low	Low	Medium	High	Low	Medium	High	Low
41	(Lake O - McLoughlin connector)	Medium	Low	Low	Low	Low	Medium	Low	High	High	Low
42	(Vancouver - Damascus)	Low	Low	Low	Low	Medium	Low	Medium	Medium-High	High	Medium
42A	(Marine Drive - Vancouver) via 182nd	Low	Low	Low	Low	Low	Low	Low	Low	Medium-High	Low
42B	(Marine Drive - Rockwood) via 182nd	Low	Low-Medium	Low	Low-Medium	Medium	Medium	Low	Low	Medium-High	Medium
42C	(Rockwood - Pleasant Valley) via 182nd	Low	Low	Low	Low	Medium	Medium	Medium	Low	High	Medium
42D	(Pleasant Valley - Damascas) via Foster	Low	Low	Low	Low	High	High	Low	Medium-High	High	Low
43	(St. Johns - Vancouver/Union Station)	Low	Medium-High	Low-Medium	Medium	High	Low	High	High	High	High
43A	(St. Johns to RR)	Low	Medium	Low	Low-Medium	High	Medium	Low	Low	Low	High
43B	(RR to Vancouver) via UPRR Railroad Bridge	Low	Low	Low	Low-Medium	High	Low	Medium	Low	Medium	High
43C	(Union Station - St. Johns) via RR Bridge	Medium	High	Low-Medium	High	High	Medium	Medium	High	High	High
43D	(St. Johns - Vancouver) via Freight Corridor	Medium	Low	Low	Low	High	Low	Low	Low	High	High
46	(Cornell - St. Johns)	Low	Low	Low	Low	High	Low	Low	High	High	Medium
46A	(Cornell to UPRR) via Corn Pass Tunnel	Low	Low	Low	Low	High	Low	Low	High	High	Medium
46B	(UPRR - St. Johns) via Freight	Low	Low	Low	Low	High	Low	Medium	High	High	Medium
46C	(Corn Pass - St. Johns) via Northern Bridge	Low	Low	Low	Low	High	Low	Low	Low	Low	Medium
48	(Murray Hill - Bethany)	Low	Low	Low	Low	Low	Medium	Low	Medium	High	Low
49	Eastside Connector	High	Medium	High	High	Low	Medium	High	Low	Medium	High
50	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th	High	Low-Medium	High	High	Low	Medium	High	Low	Low	High
51	Downtown Jefferson/Columbia via 1st Ave	Low	High	High	High	Low	Medium	Medium	Low	Medium	High
52	Downtown Everett/Glisan to 18th Ave	Low	High	High	High	Low	High	Medium	Medium	Medium	High
53	(Hillsboro - Tualatin)	Low	Low	Low	Low	Medium	Low	High	Low	High	Medium
54	(Troutdale - St. Johns)	Low	Low	Low	Low	High	Low	High	Low	Medium-High	Medium
55	(Sunset TC - St. Johns)	High	Low	Low	Low	Low	Low	Low	High	High	Low
56	(Orenco - Clark Hill Rd)	Low	Low	Low	Low	Medium	Low	Medium	Low	High	Low
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd	Low	Low	Low	Low	Medium	Low	Low	High	High	Low
58	(Orenco - Clark Hill Rd)	Medium	Low	Low	Low	Low	Medium	Low	Medium-High	High	Medium
28A+28B	(Oregon City - Tualatin)	High	Low	Low	Low	Low	Medium	Low	Medium-High	High	Medium
17C+46A+46B+43B	(Hillsboro - Vancouver)	Low	Low	Low	Low	High	Low	High	Medium-High	High	High
41+32B+32C	(McLoughlin - Beaverton)	Medium	Low	Low	Low-Medium	Low	Medium	Low	Medium-High	High	Medium

Note: Methods for determining High, Medium, Low rankings are described in detail in the Screening Results Technical Memorandum Note: All High ratings indicate positive results as related to project viability; all low ratings indicated negative results

Segments Excluded from Passing Corridors

In the course of the evaluation, some specific segments were eliminated from corridors that were advanced. These segments are listed below with the reason for elimination:

- 16B (Gresham Damascus) via 232nd/242nd Ave: Very low ridership potential and connectivity benefit.
- 16C (CTC Damascas) via Hwy 212/224: Duplicated by stronger segment 16A.
- 17B (Hillsboro-Shute) via Cornel/Shute: Duplicated by stronger segment 17C.
- 17D (Tanasbourne Blue Line): Very low ridership potential and connectivity benefit.
- 29F (Milwaukie Clackamas): Duplicated by stronger segment 29A.
- 43 B (RR to Vancouver) via UPRR Railroad Bridge: Technical feasibility issues due to single track tunnel.

Individual Criteria Application and Results

This section provides a detailed overview of criteria assessment methodology and outputs for each of the eight criteria. Data results that support the higher level screening are provided here to show how high, medium, low rankings were arrived at by the HCT team.

Ridership Potential Evaluation (2005 and 2035)

A rough estimate of ridership potential was generated using the Transit Orientation Index (TOI), which predicts the potential for land use mixes to generate transit ridership. Direct data inputs include residential, total jobs and retail job densities around potential HCT corridors. Estimates of ridership were made for the current year (2005) and future year (2035). This analysis was conducted in the following steps:

Step 1: Conduct GIS analysis

Calculate area of TAZs within a half mile of each alignment

Create a half mile buffer around alignments

For the segment analysis, split buffers into smaller segments

Join employment, household and retail data with TAZs in GIS. All TAZs are assigned 2005 and 2035 data

Clip TAZs using the half mile buffer

Calculate an area of the clipped TAZs

Calculate the percentage of TAZ area that falls within the half mile buffer

Export the output into Excel for further calculations

Step 2: Calculate TOI score in Excel

Multiply the area percentage of TAZs with employment, retail and household data for each TAZ

Sum the values to calculate a total employment, retail and households value for each alignment

Calculate a total area of TAZs for each alignment

Calculate densities of employment, retail, and household (per acre) for the entire alignment Apply the equation below to each alignment:

Ridership/acre	=	0.162648 * employment/acre
		+ 0.000185 * employment/acre, squared
		+ 0.046332 * households/acre, squared
		+ 0.001648 * retail employment/acre, cubed

Step 3: Categorize corridors/segments by the following scores

TOI Score (2005 and 2035)	Rank
> 5.0 riders per acre	High
4.0-5.0 riders per acre	Medium-High
3.0-4.0 riders per acre	Medium
1.5-3.0 riders per acre	Low-Medium
< 1.5 rider per acre	Low

Figure 9 presents the results of this analysis in tabular format. Figures 10 and 11 show the results graphically for 2005 and 2035 respectively.

Figure 9Ridership Results (2005 and 2035)

SEGMENT	DESCRIPTION	Category	TOI 2005	Category	TOI 2035
6	(Amber Glen to Tanasbourne)	Low	0.81	Low-Medium	1.92
8	(CTC - OCTC) via I-205	Low	1.03	Low-Medium	1.91
9	(Park - OCTC) via McLoughlin	Low	0.84	Low	1.29
10	(Portland Mall - Gresham) via Powell	Low-Medium	2.02	Medium	3.42
10A	(Portland Mall - I-205) via Powell	Medium	3.55	High	6.29
10B	(I-205 - Gresham) via Powell	Low	0.89	Low	1.43
11	(Portland to Sherwood) via Barbur Hwy 99w	Low-Medium	1.75	Medium	3.12
11A	(Portland to Terwilliger) via Barbur Hwy 99W	High	9.14	High	26.93
11B	(Terwilliger to Multnomah) via Barbur Hwy 99w	Low	0.98	Low	1.48
11C	(Multnomah to Tigard) via Barbur Hwy 99w	Low	1.04	Low-Medium	1.72
11D	(Tigard -King City) via Barbur Hwy 99w	Low	0.96	Low	1.49
11E	(King City - Sherwood) via Barbur Hwy 99w	Low	0.41	Low	0.73
11T	(Portland to Multnomah) via TUNNEL Barbur hwy 99w	Medium	3.43	High	5.29
12	(Hillsboro - Forest Grove)	Low	0.61	Low	1.18
13	(Gresham - Troutdale MHCC) via Kane Dr	Low	0.84	Low-Medium	1.55
15	(Lents to Pleasant Valley) via Foster Road	Low	0.23	Low	0.63
16	(CTC - Damascus)	Low	0.45	Low	1.13
16A	(CTC - Damascas) via Sunnyside	Low	0.67	Low-Medium	1.64
16B	(Gresham - Damascus) via 232nd/242nd Ave	Low	0.21	Low	0.77
16C	(CTC - Damascas) via Hwy 212/224	Low	0.57	Low	1.21
17	(STC - Hillsboro)	Low	1.00	Low-Medium	2.15
17A	(Shute - St Vincent) via Evergreen/US26	Low	1.22	Low-Medium	2.51
17B	(Hillsboro -Shute) via Evergreen	Low	0.57	Low	1.26
17C	(Hillsboro-Shute) via Cornel/Shute	Low	0.85	Low-Medium	1.92
17D	(Tanasbourne - Blue Line)	Low	1.45	Medium	3.41
18	Improvements to Steel Bridge	High	7.97	High	24.81
19	Bridge Improvements	High	14.08	High	49.69
27	(Oregon City - Clac CC) - via Hwy213/RRROW	Low	0.41	Low	0.91
28	(Oregon City - WSTC)	Low	0.96	Low-Medium	1.56
28A	(Oregon City - West Linn) via new bridge	Low	0.63	Low	1.45
28B	(West Linn - Tualatin) via I-205	Low	0.39	Low	0.79
28C	(Tualatin - Tigard) via WES	Low-Medium	1.59	Low-Medium	2.31
28D	(Tigard - WSTC) via WES	Low-Medium	2.19	Medium	3.42
29	(CTC - Clackamas)	Low	1.31	Low-Medium	2.19
29A	(CTC - Milwaukie) via Hwy 224	Low	1.24	Low-Medium	1.83
29B	(Milwaukie - Lake O) via RR bridge	Low	0.89	Low-Medium	1.57

23C (Lake O - Tigard TO via RR ROW Low Low Medium 1.81 23D Tigard TO - WSTC yia WES ROW Low/Medium 2.27 Medium 3.69 29F (Boones Ferry - Tualain) via RR ROW Low/Medium 1.50 Low/Medium 2.27 32A (Milkoto- Clackamas) Low 1.10 Low/Medium 1.92 32A (Hillstoro - Naba - Beaveton) via TV Hwy Low 0.64 Low 1.13 32B (Barbur - Lake O connector) Low 0.64 Low 1.13 34C (Beaverton - Wissingion Sq) via Hall Low 0.64 Low 2.04 34A (Beaverton - Wissingion Sq) via Hall Low 0.67 Low Medium 3.14 344 (Beaverton - Washingion Sq) via Hall Low 0.67 Low 1.43 343 (Tualatin - Wissonylile) via 15 Low 0.86 Low 1.44 41 (Lake O - McLoughin connector) Low 0.84 Low 1.47 428 (Marine Drive	SEGMENT	DESCRIPTION	Category	TOI 2005	Category	TOI 2035
29D Tigard TC : WSTQ via WES ROW Low-Medium 2.27 Medium 3.69 29E (Boones Ferry - Tualatin) via RR ROW Low-Medium 2.72 29F (Milwaukie - Clackamas) Low 1.44 Low-Medium 2.80 32 (Hillsboro - Altoha - Beaverton) via TV Hwy Low 0.01 1.13 Low-Medium 2.13 328 (Barbur - Lake O connector) Low 0.04 Low 0.04 Low 0.11 32C (Beaverton - Neidon)(lie) Low 1.13 Low-Medium 2.46 Convertion 2.46 34A (Beaverton - Wisson)(lie) Low 1.14 Low-Medium 2.44 Medium 3.14 34B (Washington S_1 "rigard) via Hall Low 0.67 Low-Medium 3.36 34D Tualatin - Sherwood) via Sherwood Rd Low 0.67 Low 1.49 34D Tualatin - Sherwood Via Sherwood Rd Low 0.65 Low 1.47 42 (Vancouver - Jacouver) via 182nd Low 0.65	29C	(Lake O - Tigard TC) via RR ROW	Low	1.15	Low-Medium	1.81
29E (Boones Fery - Tualaitin) via RR ROW Low-Medium 1.50 Low-Medium 2.72 23F (Millsboro - Hildsale) Low 1.10 Low-Medium 2.80 32 (Hillsboro - Hildsale) Low 1.10 Low-Medium 2.13 32B (Barbur - Lake O connector) Low 0.64 Low-Medium 2.13 32C (Beaverton - Nilsionville) via Beaverton Hillsdale Low 0.64 Low-Medium 2.13 34C (Beaverton - Wilsionville) via Beaverton Hillsdale Low 1.40 Low-Medium 2.46 34A (Beaverton - Wilsionville) via Beaverton Hillsdale Low-Medium 2.04 Medium 3.14 34B (Washington Sg. Tigard) via Hall Low-Medium 2.00 Medium 3.35 34D (Tualain - Wilsonville) via 15 Low-Medium 2.00 Medium 3.36 34D (Tualain - Wilsonville) via 182nd Low 0.67 Low 1.47 42 (Marine Drive - Vancouver) via 182nd Low 0.64 Low-Medium 1.69 <td>29D</td> <td>Tigard TC - WSTC) via WES ROW</td> <td>Low-Medium</td> <td>2.27</td> <td>Medium</td> <td>3.69</td>	29D	Tigard TC - WSTC) via WES ROW	Low-Medium	2.27	Medium	3.69
29F (Milwakie - Clackamas) Low 1.44 Low-Medium 2.80 32 (Hillsbor - Hildsche) via TV Hwy Low 1.10 Low-Medium 1.92 32A (Hillsbor - Akbe Connector) Low 0.64 Low 1.01 32B (Bazverton - Hildsche) via Beaverton Hillsdale Low 0.64 Low-Medium 2.13 34C (Beaverton - Wissinvelle) Low 1.40 Low-Medium 2.46 34A (Beaverton - Washington Sq) via Hall Low-Medium 2.04 Medium 3.14 34B (Washington Sq) - Tigard) via Hall Low-Medium 2.00 Medium 3.14 34C (Tualatin - Wisson/lile) via 15 Low 0.67 Low 1.43 34I (Lake O - McLoughlin connector) Low 0.67 Low 1.44 424 (Washington Ski 200 B2nd Low 0.67 Low 1.47 424 (Washington Ski 200 Ski 200 Ski 200 Ski 200 1.34 41 Lake O - McLoughi	29E	(Boones Ferry - Tualatin) via RR ROW	Low-Medium	1.50	Low-Medium	2.72
32 (Hillsbor - Hillsdale) Low 1.10 Low-Medium 1.92 32A (Hillsbor - Aloha - Beaverton) via TV Hwy Low 0.64 Low 0.11 32B (Barbur - Lake O connector) Low 0.64 Low 0.64 Low 1.01 32C (Beaverton - Raigh Hills - Hillsdale) via Beaverton Hillsdale Low 0.64 Low-Medium 2.46 34A (Beaverton - Walsington SQ) via Hall Low-Medium 2.04 Medium 3.14 34B (Washington SQ) via Hall Low-Medium 2.00 Medium 3.35 34O (Tualatin - Wilsonville) via IS Low 0.67 Low 1.49 33G (Tualatin - Strewcood via Sherwood Rd Low 0.67 Low 1.47 44 (Lake O - McLoughin connector) Low 0.67 Low 1.47 42A (Wancouver - Varaascus) Low 0.64 Low 1.47 42A (Wancouver - Varaascus) Low 0.64 Low 1.77 42B	29F	(Milwaukie - Clackamas)	Low	1.44	Low-Medium	2.80
32A (Hillsbor - Aloha - Beaverton) via TV Hwy Low 1.13 Low-Medium 2.13 32B (Bazverton - Lake O connector) Low 0.64 Low 1.01 32C (Beaverton - Wisomille) Low 1.18 Low-Medium 1.83 34A (Beaverton - Wisomille) Low Medium 2.46 34A (Beaverton - Wisomille) Low-Medium 2.04 Medium 3.14 34B (Washington Sq Tigard) via Hall Low-Medium 2.00 Medium 3.35 34D (Tualatin - Wisonville) via 15 Low 0.67 Lbw 1.49 34B (Tualatin - Sherwood) via 3Enrood Rd Low 0.67 Lbw 1.34 41 (Lake O - McLoughlin connector) Low 0.68 Low 1.17 42A (Marine Drive - Nockwood) via 182nd Low 0.84 Low 1.67 42C (Rockwood - Pleasant Valley / Danascas) via 7RB Low 0.05 Low 0.75 43 (SL Johns to RR) Low <	32	(Hillsboro - Hillsdale)	Low	1.10	Low-Medium	1.92
32B (Barbur - Lake O connector) Low 0.64 Low 1.01 33C (Beaverton - Relight Hills - Hillsdale) via Beaverton Hillsdale Low 1.18 Low-Medium 2.34 34 (Beaverton - Washington Sq) via Hall Low-Medium 2.04 Medium 3.14 34B (Washington Sq, Tigard) via Hall Low-Medium 2.00 Medium 3.14 34D (Tugard - Tualatin) via 21715 Low-Medium 2.00 Medium 3.35 34D (Tugatin - Nisonville) via 15 Low 0.67 Low 1.49 38 (Tugatin - Sherwood) via Sherwood Rd Low 0.08 Low 1.47 42 (Vancouver - Damascus) Low 0.08 Low 1.27 428 Marine Drive - Vancouver) via 182nd Low 0.084 Low-Medium 1.67 420 (Pleasant Valley via 182nd Low 0.055 Low 1.28 421 (Pleasant Valley via 182nd Low 0.055 Low 1.28 4220 (Pleasant Va	32A	(Hillsboro - Aloha - Beaverton) via TV Hwy	Low	1.13	Low-Medium	2.13
32C Beaverton - Wlashington Sq) via Hall Low 1.18 Low-Medium 1.83 34A Beaverton - Washington Sq) via Hall Low-Medium 2.04 Medium 3.14 34A Beaverton - Washington Sq) via Hall Low-Medium 2.04 Medium 3.14 34B (Washington Sq) rigard) via Hall Low-Medium 2.00 Medium 2.70 34C (Tigard - Tualatin) via Sternood Rd Low 0.67 Low 1.34 34I (Lake O - McLoughlin connector) Low 0.80 Low 1.34 41 (Lake O - McLoughlin connector) Low 0.46 Low 1.17 42A (Marine Drive - Rackwood) via 182nd Low 0.84 Low-Medium 1.67 42C (Rokwood - Pleasant Valley) via 162nd Low 0.55 Low 1.28 42D (Pleasant Valley - Damascas) via Foster Low 0.51 Low 0.75 43 (St. Johns - Vancouver) via UPRR Raircad Bridge Low-Medium 1.06 Medium 1.09	32B	(Barbur - Lake O connector)	Low	0.64	Low	1.01
34 [Beaverton - Wilsonville] Low 1.40 Low-Medium 2.46 34A (Washington Sq) - Tigard) via Hall Low-Medium 2.04 Medium 3.14 34B (Washington Sq) - Tigard) via Hall Low-Medium 2.00 Medium 3.35 34C (Tigard - Tualatin - Wilsonville) via 15 Low-Medium 2.00 Medium 3.35 34D (Tualatin - Wilsonville) via 15 Low 0.67 Low 1.49 38 (Tualatin - Sherwood) via Sherwood Rd Low 0.60 Low 1.47 41 (Lake O - McLoughin connector) Low 0.66 Low 1.47 42 (Vancouver) - Damascus) Low 0.84 Low 1.29 428 (Marine Drive - Vancouver) via 182nd Low 0.65 Low 1.28 420 (Pleasant Valley - Damascus) via Foster Low 0.65 Low 1.28 430 (St. Johns - Vancouver/Union Station) Low-Medium 1.60 Medium 3.09 433 (St. John	32C	(Beaverton - Raleigh Hills - Hillsdale) via Beaverton Hillsdale	Low	1.18	Low-Medium	1.83
34A [Beaverton - Washington Sq. Tygardy via Hall Low-Medium 2.04 Medium 3.14 34B (Washington Sq. Tygardy via Hall Low 1.39 Low-Medium 2.00 Medium 3.35 34C (Tigard - Tualatin) via 217/15 Low 0.67 Low 1.49 34B (Tualatin - Sherwood Via Sherwood Rd Low 0.80 Low 1.34 41 (Lake O - McJoughlin connector) Low 0.80 Low 1.47 42 (Vancouver - Damascus) Low 0.84 Low 1.47 42A (Marine Drive - Nacouver) via 182nd Low 0.84 Low 1.28 42B (Marine Drive - Nacouver) via 182nd Low 0.55 Low 1.28 433 (St. Johns - Vancouver/Unin Station) Low-Medium 1.60 Medium 3.09 434 (St. Johns - Vancouver/Unin Station) Low-Medium 1.60 Medium 1.62 435 (Union Station - St. Johns) via R Bridge Low 0.015 Low 0.74	34	(Beaverton - Wilsonville)	Low	1.40	Low-Medium	2.46
34B (Washington Sq. Tigard) via Hall Low Medium 2.70 34C (Tigard - Tualatin) via 1217/15 Low-Medium 2.00 Medium 3.35 34D (Tualatin - Wilsonville) via 15 Low 0.07 Low 1.49 38 (Tualatin - Wilsonville) via 15 Low 0.60 Low 1.34 41 (Lake O - McLoughlin connector) Low 0.80 Low 1.47 42 (Vancouver - Damascus) Low 0.84 Low 1.17 42A (Marine Drive - Yancouver) via 182nd Low 0.84 Low-Medium 1.67 42C (Rockwood - Pleasant Valley) via 182nd Low 0.05 Low 0.75 43 (St. Johns - Vancouver/Union Station) Low-Medium 1.60 Medium 3.09 43A (St. Johns - Vancouver/Union Station) Low-Medium 1.66 Low 0.051 Low 0.07 43B (Rr to Vancouver) via IPRR Raifroad Bridge Low Modum 1.92 1.432 1.432 1.443 <td>34A</td> <td>(Beaverton - Washington Sq) via Hall</td> <td>Low-Medium</td> <td>2.04</td> <td>Medium</td> <td>3.14</td>	34A	(Beaverton - Washington Sq) via Hall	Low-Medium	2.04	Medium	3.14
34C (Tigard - Tualatin) via 21716 Low-Medium 2.00 Medium 3.35 34D (Tualatin - Sherwood) via Sherwood Rd Low 0.67 Low 1.49 38 (Tualatin - Sherwood) via Sherwood Rd Low 0.80 Low 1.34 41 (Lake O - McLoughlin connector) Low 0.80 Low 1.47 42 (Vancouver - Damascus) Low 0.46 Low 1.17 428 (Marine Drive - Vancouver) via 182nd Low 0.84 Low-Medium 1.67 420 (Rockwood - Pleasant Valley) via 182nd Low 0.55 Low 0.75 43 (St. Johns to RR) Low 0.05 Low 0.75 43 (St. Johns to RR) Low 0.09 Low-Medium 1.66 430 (Rr to Vancouver) via IPRR Rairoad Bridge Low 1.09 Low-Medium 1.92 431 (St. Johns to RR) RBridge Low 0.01 Low 0.74 432 (Unin Station - St. Johns) via R Bridge	34B	(Washington Sq - Tigard) via Hall	Low	1.39	Low-Medium	2.70
34D (Tualatin - Wilsonville) via 16 Low 0.67 Low 1.49 38 (Tualatin - Sherwood) via Sherwood Rd Low 0.80 Low 1.34 41 (Lake O - McLoughlin connector) Low 1.05 Low 1.47 42 (Warine Drive - Vancouver) via 182nd Low 0.84 Low 1.29 42B (Marine Drive - Rockwood) via 182nd Low 0.84 Low 1.29 42B (Marine Drive - Rockwood) via 182nd Low 0.84 Low 1.28 42D (Pleasant Valley - Damascas) via Foster Low 0.05 Low 0.75 43 (St. Johns - Vancouver/Vinin Station 1) Low Con-Medium 1.60 Medium 3.09 438 (Rr. to Vancouver) via UPRR Railroad Bridge Low 1.09 Low-Medium 1.92 43D (St. Johns - Vancouver) via Freight Corridor Low 0.51 Low 0.74 446 (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.27 <	34C	(Tigard - Tualatin) via 217/I5	Low-Medium	2.00	Medium	3.35
38 Tualatin - Sherwood Rd Low 0.80 Low 1.34 41 (Lake O - McLoughlin connector) Low 1.05 Low 1.47 42 (Vancouver - Damascus) Low 0.46 Low 1.17 42A (Marine Drive - Vancouver) via 182nd Low 0.84 Low 1.29 42B (Marine Drive - Rockwood) via 182nd Low 0.84 Low 0.55 Low 1.28 42C (Rockwood - Pleasant Valley) via 182nd Low 0.55 Low 1.28 430 (St. Johns - Vancouver/Linoi Station) Low-Medium 1.60 Medium 3.09 434 (St. Johns to RR) Low 1.09 Low-Medium 1.66 435 (RR to Vancouver) via IPRR Rairoad Bridge Low 0.51 Low 0.74 430 (St. Johns - Vancouver) via Freight Corridor Low 0.21 Low 0.24 46A (Cornell - St. Johns) via Rr Bridge Low 0.21 Low 0.27 46B (UP	34D	(Tualatin - Wilsonville) via I5	Low	0.67	Low	1.49
41 (Lake 0 - McLoughlin connector) Low 1.05 Low 1.47 42 (Vancouver - Damascus) Low 0.46 Low 1.17 42A (Marine Drive - Nancouver) via 182nd Low 0.84 Low 1.29 42B (Marine Drive - Rockwood) via 182nd Low 0.84 Low-Medium 1.67 42C (Rockwood - Pleasant Valley) via 182nd Low 0.55 Low 1.28 42D (Pleasant Valley - Damascas) via Foster Low 0.05 Low 0.75 43 (St. Johns - Vancouver)/Union Station) Low-Medium 1.60 Medium 3.09 43A (St. Johns - St. Johns) via RT Bridge Low 1.09 Low-Medium 1.92 43C (Union Station - St. Johns) via RT Bridge Low 0.51 Low 0.74 46 (Correll to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.27 46C (Correll to UPRR) via Corn Pass Tunnel Low 0.37 Low 0.74 48 (Murra	38	(Tualatin - Sherwood) via Sherwood Rd	Low	0.80	Low	1.34
42 (Vancouver - Damascus) Low 0.46 Low 1.17 42A (Marine Drive - Vancouver) via 182nd Low 0.84 Low 1.29 42B (Marine Drive - Rockwood) via 182nd Low 0.84 Low 1.67 42C (Rockwood - Pleasant Valley) via 182nd Low 0.55 Low 1.28 442D (Pleasant Valley - Damascas) via Foster Low 0.05 Low 0.75 43 (St. Johns + Vancouver/Juion Station) Low-Medium 1.60 Medium 3.09 434 (Re Vancouver) via UPRR Railroad Bridge Low 1.09 Low-Medium 1.92 430 (Rt Ovancouver) via PRR Railroad Bridge Low 0.51 Low 0.74 430 (St. Johns + Vancouver) via Freight Corridor Low 0.51 Low 0.74 431 (St. Johns) - Vancouver) via Freight Corridor Low 0.99 Low 0.28 446 (Cornell - St. Johns) Low 0.16 Low 0.27 466 (UPRR -	41	(Lake O - McLoughlin connector)	Low	1.05	Low	1.47
42A (Marine Drive - Vancouver) via 182nd Low 0.84 Low 1.29 42B (Marine Drive - Rockwood) via 182nd Low 0.84 Low-Medium 1.67 42C (Rockwood - Pleasant Valley - Damascas) via Foster Low 0.05 Low 0.75 43 (St. Johns - Vancouver/Union Station) Low-Medium 1.60 Medium 3.09 43A (St. Johns - Vancouver/Union Station) Low-Medium 1.60 Medium 1.92 43B (RR to Vancouver) via IPRR Rairoad Bridge Low 1.09 Low-Medium 1.92 43D (St. Johns - Vancouver) via Freight Corridor Low 0.51 Low 0.74 44A (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.44 46B (UPR - St. Johns) via Freight Low 0.16 Low 0.27 46C (Cornell to UPRR) via Corn Pass Tunnel Low 0.74 Low 0.74 46B (UPR - St. Johns) via Northern Bridge Low 0.74 Low 0.74 <	42	(Vancouver - Damascus)	Low	0.46	Low	1.17
42B (Marine Drive - Rockwood) via 182nd Low 0.84 Low-Medium 1.67 42C (Rockwood - Pleasant Valley) via 182nd Low 0.55 Low 1.28 42D (Pleasant Valley - Damascas) via Foster Low 0.05 Low 0.75 43 (St. Johns - Vancouver/Union Station) Low-Medium 1.60 Medium 3.09 43A (St. Johns to RR) Low Low 1.00 Low-Medium 1.66 43B (RR to Vancouver) via UPRR Raiiroad Bridge Low 1.09 Low-Medium 1.92 43C (Union Station - St. Johns) via RB Bridge Low-Medium 2.56 High 5.91 43D (St. Johns - Vancouver) via Freight Corridor Low 0.09 Low 0.74 46A (Cornel - St. Johns) via Corn Pass Tunnel Low 0.09 Low 0.27 46B (UPRR - St. Johns) via Northern Bridge Low 0.74 Low 0.74 476C (Corn Pass - St. Johns) via Northern Bridge Low 0.74 Low 0.74<	42A	(Marine Drive - Vancouver) via 182nd	Low	0.84	Low	1.29
42C (Rockwood - Pleasant Valley) via 182nd Low 0.55 Low 1.28 42D (Pleasant Valley - Damascas) via Foster Low 0.05 Low 0.75 43 (St. Johns - Vancouver/Ioino Station) Low-Medium 1.60 Medium 3.09 43A (St. Johns - Vancouver/) via UPRR Railroad Bridge Low 1.10 Low-Medium 1.92 43D (St. Johns - Vancouver/) via FR Bridge Low-Medium 2.56 High 5.91 43D (St. Johns - Vancouver) via FR Bridge Low-Medium 0.51 Low 0.74 46A (Cornell to LPRR) via Corn Pass Tunnel Low 0.09 Low 0.28 46B (UPRR - St. Johns) via Freight Low 0.16 Low 0.74 46 (Cornel to LPRR) via Corn Pass Tunnel Low 0.37 Low 0.74 46B (UPRR - St. Johns) via Northern Bridge Low 0.37 Low 0.74 47 48 (Murray Hill - Bethany) Low 0.37 Low 0.74 <tr< td=""><td>42B</td><td>(Marine Drive - Rockwood) via 182nd</td><td>Low</td><td>0.84</td><td>Low-Medium</td><td>1.67</td></tr<>	42B	(Marine Drive - Rockwood) via 182nd	Low	0.84	Low-Medium	1.67
42D (Pleasant Valley - Damascas) via Foster Low 0.05 Low 0.75 43 (St. Johns - Vancouver/Union Station) Low-Medium 1.60 Medium 3.09 43A (St. Johns to RR) Low-Medium 1.60 Medium 3.09 43B (RR to Vancouver) via UPRR Railroad Bridge Low 1.09 Low-Medium 1.92 43C (Union Station - St. Johns) via RR Bridge Low-Medium 2.56 High 5.91 446 (Cornell - St. Johns) vancouver) via Freight Corridor Low 0.21 Low 0.44 46A (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.28 46B (UPRR - St. Johns) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.74 Low 0.74 49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lioyd 11th to Goose Hollow 18th High 14.57 High 32.50 52 <td>42C</td> <td>(Rockwood - Pleasant Valley) via 182nd</td> <td>Low</td> <td>0.55</td> <td>Low</td> <td>1.28</td>	42C	(Rockwood - Pleasant Valley) via 182nd	Low	0.55	Low	1.28
43 (St. Johns - Vancouver/Union Station) Low-Medium 1.60 Medium 3.09 43A (St. Johns to RR) Low 1.10 Low-Medium 1.66 43B (RR to Vancouver) via UPRR Railroad Bridge Low 1.09 Low-Medium 1.92 43C (Union Station - St. Johns) via RR Bridge Low-Medium 2.56 High 5.91 43D (St. Johns - Vancouver) via Freight Corridor Low 0.51 Low 0.74 46A (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.44 46B (UPRR - St. Johns) via Northern Bridge Low 0.16 Low 0.27 46C (Cornell to UPRR) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.74 Low 1.41 49 Eastide Connector High 16.67 High 32.50 51 Downtown Everett/Glissa to 18th Ave High 14.57 High 32.50 52 Downtown Evere	42D	(Pleasant Valley - Damascas) via Foster	Low	0.05	Low	0.75
43A (St. Johns to RR) Low 1.10 Low-Medium 1.66 43B (RR to Vancouver) via UPRR Railroad Bridge Low 1.09 Low-Medium 1.92 43C (Union Station - St. Johns) via RR Bridge Low-Medium 2.56 High 5.91 43D (St. Johns - Vancouver) via Freight Corridor Low 0.51 Low 0.74 46 (Cornell - St. Johns) a Rreight Corridor Low 0.21 Low 0.44 46A (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.27 46C (Corn Pass - St. Johns) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.37 Low 1.41 49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 14.67 High 32.50 51 Downtown Everett/Glisan to 18th Ave High 14.67 High 32.50 53 </td <td>43</td> <td>(St. Johns - Vancouver/Union Station)</td> <td>Low-Medium</td> <td>1.60</td> <td>Medium</td> <td>3.09</td>	43	(St. Johns - Vancouver/Union Station)	Low-Medium	1.60	Medium	3.09
43B (RR to Vancouver) via UPRR Railroad Bridge Low 1.09 Low-Medium 1.92 43C (Union Station - St. Johns) via RR Bridge Low-Medium 2.56 High 5.91 43D (St. Johns - Vancouver) via Freight Corridor Low 0.51 Low 0.74 46 (Cornell - St. Johns) Low 0.21 Low 0.44 46A (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.28 46B (UPRR - St. Johns) via Freight Low 0.016 Low 0.27 46C (Corn Pass - St. Johns) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.74 Low 1.41 49 Eastside Connector High 8.40 High 19.03 51 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 14.57 High 32.50 52 Downtown Jefferson/Columbia via 1st Ave High 21.04 High 62.60 53 (Hillsbor	43A	(St. Johns to RR)	Low	1.10	Low-Medium	1.66
43C (Union Station - St. Johns) via RR Bridge Low-Medium 2.56 High 5.91 43D (St. Johns - Vancouver) via Freight Corridor Low 0.51 Low 0.74 46 (Cornell - St. Johns) Low 0.21 Low 0.44 46A (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.28 46B (UPR- St. Johns) via Freight Low 0.16 Low 0.27 46C (Corn Pass - St. Johns) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.74 Low 0.74 49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 14.57 High 32.50 51 Downtown Everett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.33 Low 0.60 54 (Troutdale - St. Johns) Low	43B	(RR to Vancouver) via UPRR Railroad Bridge	Low	1.09	Low-Medium	1.92
43D (St. Johns - Vancouver) via Freight Corridor Low 0.51 Low 0.74 46 (Cornell - St. Johns) Low 0.21 Low 0.44 46A (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.28 46B (UPRR - St. Johns) via Freight Low 0.16 Low 0.27 46C (Corn Pass - St. Johns) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.37 Low 0.74 49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 14.67 High 32.50 51 Downtown Severett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.33 Low 0.60 54 (Troutdale - St. Johns) Low 0.32 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32<	43C	(Union Station - St. Johns) via RR Bridge	Low-Medium	2.56	Hiah	5.91
46 (Cornell - St. Johns) Low 0.21 Low 0.44 46A (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.28 46B (UPRR - St. Johns) via Freight Low 0.16 Low 0.27 46C (Corn Pass - St. Johns) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.74 Low 0.74 49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 14.57 High 32.50 51 Downtown Everett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.33 Low 0.60 55 (Sunset TC - St. Johns) Low 0.33 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 <td>43D</td> <td>(St. Johns - Vancouver) via Freight Corridor</td> <td>Low</td> <td>0.51</td> <td>Low</td> <td>0.74</td>	43D	(St. Johns - Vancouver) via Freight Corridor	Low	0.51	Low	0.74
46A (Cornell to UPRR) via Corn Pass Tunnel Low 0.09 Low 0.28 46B (UPRR - St. Johns) via Freight Low 0.16 Low 0.27 46C (Corn Pass - St. Johns) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.74 Low 0.74 49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 16.67 High 49.32.50 51 Downtown Jefferson/Columbia via 1st Ave High 14.57 High 32.50 52 Downtown Everett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.33 Low 0.60 54 (Troutdale - St. Johns) Low 0.32 Low 0.96 55 (Sunset TC - St. Johns) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low<	46	(Cornell - St. Johns)	Low	0.21	Low	0.44
46B (UPRR - St. Johns) via Freight Low 0.16 Low 0.27 46C (Corn Pass - St. Johns) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.74 Low 1.41 49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 16.67 High 40.98 51 Downtown Jefferson/Columbia via 1st Ave High 21.04 High 32.50 52 Downtown Everett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.34 Low 0.60 54 (Troutdale - St. Johns) Low 0.32 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.25 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.47 Low 0.25 58 (Lake O - Oregon City) Low 0.	46A	(Cornell to UPRR) via Corn Pass Tunnel	Low	0.09	Low	0.28
46C (Corn Pass - St. Johns) via Northern Bridge Low 0.37 Low 0.74 48 (Murray Hill - Bethany) Low 0.74 Low 1.41 49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 16.67 High 40.98 51 Downtown Jefferson/Columbia via 1st Ave High 14.57 High 32.50 52 Downtown Everett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.33 Low 0.60 54 (Troutdale - St. Johns) Low 0.69 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.47 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low	46B	(UPRR - St. Johns) via Freight	Low	0.16	Low	0.27
48 (Murray Hill - Bethany) Low 0.74 Low 1.41 49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 16.67 High 40.98 51 Downtown Jefferson/Columbia via 1st Ave High 14.57 High 32.50 52 Downtown Everett/Clisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.34 Low 0.60 54 (Troutdale - St. Johns) Low 0.69 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	46C	(Corn Pass - St. Johns) via Northern Bridge	Low	0.37	Low	0.74
49 Eastside Connector High 8.40 High 19.03 50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 16.67 High 40.98 51 Downtown Jefferson/Columbia via 1st Ave High 14.57 High 32.50 52 Downtown Everett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.34 Low 0.60 54 (Troutdale - St. Johns) Low 0.69 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 Low 0.25 58 (Lake O - Oregon City) Low 0.47 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	48	(Murray Hill - Bethany)	Low	0.74	Low	1.41
50 Downtown Tunnel - Lloyd 11th to Goose Hollow 18th High 16.67 High 40.98 51 Downtown Jefferson/Columbia via 1st Ave High 14.57 High 32.50 52 Downtown Everett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.34 Low 0.60 54 (Troutdale - St. Johns) Low 0.69 Low 1.07 55 (Sunset TC - St. Johns) Low 0.33 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 Low 0.25 58 (Lake O - Oregon City) Low 0.47 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	49	Eastside Connector	Hiah	8.40	Hiah	19.03
51 Downtown Jefferson/Columbia via 1st Ave High 14.57 High 32.50 52 Downtown Everett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.34 Low 0.60 54 (Troutdale - St. Johns) Low 0.69 Low 1.07 55 (Sunset TC - St. Johns) Low 0.33 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 Low 0.25 58 (Lake O - Oregon City) Low 0.47 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	50	Downtown Tunnel - Llovd 11th to Goose Hollow 18th	Hiah	16.67	Hiah	40.98
52 Downtown Everett/Glisan to 18th Ave High 21.04 High 62.50 53 (Hillsboro - Tualatin) Low 0.34 Low 0.60 54 (Troutdale - St. Johns) Low 0.69 Low 1.07 55 (Sunset TC - St. Johns) Low 0.33 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 Low 0.25 58 (Lake O - Oregon City) Low 0.47 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	51	Downtown Jefferson/Columbia via 1st Ave	High	14.57	High	32.50
53 (Hillsboro - Tualatin) Low 0.34 Low 0.60 54 (Troutdale - St. Johns) Low 0.69 Low 1.07 55 (Sunset TC - St. Johns) Low 0.33 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 Low 0.25 58 (Lake O - Oregon City) Low 0.477 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	52	Downtown Everett/Glisan to 18th Ave	High	21.04	High	62.50
54 (Troutdale - St. Johns) Low 0.69 Low 1.07 55 (Sunset TC - St. Johns) Low 0.33 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 Low 0.25 58 (Lake O - Oregon City) Low 0.477 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	53	(Hillsboro - Tualatin)	Low	0.34	Low	0.60
55 (Sunset TC - St. Johns) Low 0.33 Low 0.81 56 (Orenco - Clark Hill Rd) Low 0.32 Low 0.96 57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 Low 0.25 58 (Lake O - Oregon City) Low 0.47 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	54	(Troutdale - St. Johns)	Low	0.69	Low	1.07
Solution Construction Construction <td>55</td> <td>(Sunset TC - St. Johns)</td> <td>Low</td> <td>0.33</td> <td>Low</td> <td>0.81</td>	55	(Sunset TC - St. Johns)	Low	0.33	Low	0.81
57 (Scholls Ferry - Sherwood) via Roy Rogers Rd Low 0.11 Low 0.25 58 (Lake O - Oregon City) Low 0.47 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	56	(Orenco - Clark Hill Rd)	Low	0.32	Low	0.96
S8 (Lake O - Oregon City) Low 0.47 Low 0.93 28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	57	(Scholls Ferry - Sherwood) via Roy Rogers Rd	Low	0.11	Low	0.25
28A+28B (Oregon City - Tualatin) Low 0.41 Low 0.85 17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	58	(Lake Q - Oregon City)	Low	0.47	Low	0.93
17C+46A+46B+43B (Hillsboro - Vancouver) Low 0.42 Low 0.84	28A+28B	(Oregon City - Tualatin)	Low	0.41	Low	0.85
	17C+46A+46R+43R	(Hillsboro - Vancouver)	Low	0.42	Low	0.84
1.78 Low 0.85 Low-Medium 1.78	41+32B+32C	(McLoughlin - Beaverton)	Low	0.85	Low-Medium	1.78





Origin-Destination Transit Demand Evaluation

Results from the 2035 Scenario B modeling outputs were used to gauge future demand between anchor points on proposed HCT alignments. Ranking of potential alignments was done by visually examining the data and determining the most appropriate natural breaks. The following breaks were used to rank the alignments:

OD Transit Demand	Rank
< 500	Low
501 – 1500	Low-Medium
1501 – 3000	Medium
3001 – 4500	Medium-High
4500 +	High

The origin-destination analysis focused primarily on the anchor ends of corridors, which may overlook some strong interim travel pairs. The analysis was conducted using the zones shown in the map below.



Figure 12 O-D Transit Demand Results

CODT	GEOMENT	DESCRIPTION		OD Transit	Denk		
SORT	SEGMENT	DESCRIPTION	End Dist 1	Demand 259	Rank		
2	8		28-34	2464	Low		
4	9	(Park - OCTC) via McLoughlin	25-34	215	Low		
5	10	(Portland Mall - Gresham) via Powell	15-1	1039	Low-Medium		
6	10A	(Portland Mall - I-205) via Powell	14-1	4699	High		
7	10B	(I-205 - Gresham) via Powell	14-15	1091	Low-Medium		
8	11	(Portland to Sherwood) via Barbur Hwy 99w	39-1	688	Low-Medium		
9	11A	(Portland to Terwilliger) via Barbur Hwy 99W	64-1	3126	Medium-High		
10	11B 11C	(Terwiniger to Multhoman) via Barbur Hwy 99w	02-02 46-62	1712	Low		
12	11D	(Tigard -King City) via Barbur Hwy 99w	40-02	279	Low		
13	11E	(King City - Sherwood) via Barbur Hwy 99w	39-45	173	Low		
14	11T	(Portland to Multnomah) via TUNNEL Barbur hwy 99w	64-1	3126	Medium-High		
15	12	(Hillsboro - Forest Grove)	52-54	1558	Medium		
16	13	(Gresham - Troutdale MHCC) via Kane Dr	15-17	245	Low		
17	15	(Lents to Pleasant Valley) via Foster Road	20-21	133	Low		
18	16	(CTC - Damascus)	28-31	585	Low-Medium		
20	16A 16B	(CTC - Damascas) via Sunnyside	28-31	285	Low-Medium		
20	166	(CTC - Damascas) via Hwy 212/224	28-31	585	Low-Medium		
22	17	(STC - Hillsboro)	54-59	784	Low-Medium		
23	17A	(Shute - St Vincent) via Evergreen/US26	55-59	1163	Low-Medium		
24	17B	(Hillsboro -Shute) via Evergreen	54-55	2613	Medium		
25	17C	(Hillsboro-Shute) via Cornel/Shute	54-55	2613	Medium		
26	17D	(Tanasbourne - Blue Line)	56-56	2181	Medium		
27	18	Improvements to Steel Bridge	1-2	12525	High		
28	19	Bridge Improvements	1-2	12525	High		
29	21	(Oregon City - Clac CC) - Via Hwy213/RRROW	34-33	201	Low		
31	28A	(Oregon City - West Linn) via new bridge	34-42	327	Low		
32	28B	(West Linn - Tualatin) via I-205	41-42	950	Low-Medium		
33	28C	(Tualatin - Tigard) via WES	41-46	451	Low		
34	28D	(Tigard - WSTC) via WES	46-47	670	Low-Medium		
35	29	(CTC - Wash Sq)	28-47	119	Low		
36	29A	(CTC - Milwaukie) via Hwy 224	24-28	958	Low-Medium		
37	29B	(Milwaukie - Lake O) via RR bridge	24-43	225	Low		
38	290	(Lake O - Tigard TC) via RR ROW	43-40 46-47	670	Low-Medium		
40	29E	(Boones Ferry - Tualatin) via RR ROW	41-44	1014	Low-Medium		
41	29F	(Milwaukie - Clackamas)	24-28	958	Low-Medium		
42	32	(Hillsboro - Hillsdale)	54-62	259	Low		
43	32A	(Hillsboro - Aloha - Beaverton) via TV Hwy	54-59	784	Low-Medium		
44	32B	(Barbur - Lake O connector)	63-63	336	Low		
45	32C	(Beaverton - Raleigh Hills - Hillsdale) via Beaverton Hillsdale	49-62	934	Low-Medium		
46	34	(Beaverton - Wilsonville)	49-38	112	LOW		
47	34A 34B	(Washington Sq. Tigard) via Hall	49-47 46-47	670	Low-Medium		
49	34C	(Tigard - Tualatin) via 217/I5	46-41	451	Low		
50	34D	(Tualatin - Wilsonville) via 15	38-41	184	Low		
51	38	(Tualatin - Sherwood) via Sherwood Rd	39-41	425	Low		
52	41	(Lake O - McLoughlin connector) -sellwood br	23-63	147	Low		
53	42	(Vancouver - Damascus)	65-31	3	Low		
54	42A	(Marine Drive - Vancouver) via 182nd	69-12	22	Low		
55	42B	(Marine Drive - Rockwood) via 182nd	13-12	905	Low-Medium		
57	420	(Rockwood - Pleasant Valley) via Tozho	20-31	207	Low		
58	420	(St. Johns - Vancouver/Union Station)	1-6	3311	Medium-High		
59	43A	(St. Johns to RR)	6-6	1557	Medium		
60	43B	(RR to Vancouver) via UPRR Railroad Bridge	65-6	237	Low		
61	43C	(Union Station - St. Johns) via RR Bridge	6-1	7301	High		
62	43D	(St. Johns - Vancouver) via Freight Corridor	65-6	237	Low		
63	46	(Cornell - St. Johns) from Orenco dist	55-6	88	Low		
64	46A	(Cornell to UPRR) via Corn Pass Tunnel	60-54	/4	Low		
66	46B	(OPRR - St. Johns) via Freight	60-65	330	Low		
67	48	(Murray Hill - Bethany)	48-57	43	Low		
68	49	Eastside Connector	2-3	1806	Medium		
69	50	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th	4-5	767	Low-Medium		
70	51	Downtown Jefferson/Columbia via 1st Ave	1-1	34961	High		
71	52	Downtown Everett/Glisan to 18th Ave	1-1	34961	High		
72	53	(Hillsboro - Tualatin)	54-41	70	Low		
73	54	(Troutdale - St. Johns)	17-6	23	Low		
75	55	(Sunset I C - St. Jonns)	59-6 51 52	167	Low		
75	57		51-33	/ 12	Low		
80	58	(Lake O - OCTC)	43-34	131	Low		
77	28A + 28B	OC - Tualatin	41-34	223	Low		
	17C+46A+				Low		
78	46B+43B	Hillsboro - Vancouver	65-54	7	LOW		
79	41+32B+32C	McLoughlin - Beaverton	23-49	190	Low		

Corridor Availability and Cost Assessment

This assessment is qualitative and focuses on the cost of construction for a HCT dedicated rightof-way. Alignments or projects that require significant tunneling, bridge construction or new rightof-way acquisition were disfavored. The analysis was conducted in the following steps:

Corridor segments were ranked subjectively into three categories: "high," "medium," and "low." In this case a "high" ranking suggests that project costs are low and vice a versa.

- **High** rankings are primarily on existing tracks or within railroad right-of-way. Construction cost would be minimal and no property acquisition would be needed.
- **Medium** rankings include segments in suburban or rural roadway corridors. New track would have to be constructed within or adjacent to the roadway. Some property acquisition may be needed. Construction would be at-grade with few if any structures required.
- Low rankings include urban segments where construction would be complex and property acquisition costs could be significant. Segments that require major bridges or tunnels were also scored high.

Objective, engineered cost estimates were not prepared as part of this scoring task; more detailed conceptual engineering cost estimates will be developed in the next phase of the project. Aerial photos available on-line through the "Windows Live Local" site were used to assess corridor characteristics.

Figure 13 presents the corridor availability and cost ranking for each potential HCT alignment.

Figure 13 Corridor Availability and Cost Results

SEGMENT	Description	MILES	Ranking	Notes
6	(Amber Glen to Tanasbourne)	4.86	Medium	On suburban arterial
9	(Park - OCTC) via McLoughlin	4.87	Medium	On suburban arterial (is a new bridge reg'd ?)
10	(Portland Mall - Gresham) via Powell		Medium	
10A	(Portland Mall - I-205) via Powell	6.26	Low	Includes urban corridor and new bridge
10B	(I-205 - Gresham) via Powell	7.41	Medium	On suburban arterial
114	(Portland to Sherwood) via Barbur Hwy 99W	1 52	Low	I Irban, Probable structure
11B	(Terwilliger to Multnomah) via Barbur Hwy 99w	1.32	Low	Urban, Probable structure
11C	(Multnomah to Tigard) via Barbur Hwy 99w	5.04	Medium	On suburban arterial
11D	(Tigard -King City) via Barbur Hwy 99w	2.23	Medium	On suburban arterial
11E	(King City - Sherwood) via Barbur Hwy 99w (Portland to Multagenab) via TUNNEL Barbur bury 90w	3.59	Medium	On suburban arterial
11	(Hillshoro - Forest Grove)	5.09	High	On Existing BR
13	(Gresham - Troutdale MHCC) via Kane Dr	4.56	Medium	Suburban
15F	(Lents to Pleasant Valley) via Foster Road	4.67	Medium	Suburban to rural, difficult topo at east end
16	(CTC - Damascus)	F 01	High	Coloradore de sural
16A 16B	(Cresham - Damascus) via 232nd/242nd Ave	5.91	High	Mostly rural
16C	(CTC - Damascas) via Hwy 212/224	6.35	Medium	Suburban to rural
17	(STC - Hillsboro)		High	
17A	(Shute - St Vincent) via Evergreen/US26	7.60	Medium	Assume use of Hwy R/W
17B	(Hillsboro -Shute) via Evergreen (Hillsboro Shute) via Corpol/Chute	4.63	Medium	Rural to suburban residential (possibly 1 ?)
170	(Tanashourne - Blue Line)	1.86	Medium	On suburban arterial
18	Improvements to Steel Bridge	0.14	High	
19	Bridge Improvements	0.17	Medium	
27	(Oregon City - Clac CC) - via Hwy213/RRROW	4.92	Medium	Topo issues in Oregon City
28	(Oregon City - WSTC) (Oregon City - West Linn) via new bridge	0.58	High	New bridge over Willamette
28B	(West Linn - Tualatin) via I-205	9.35	Medium	Assume within I-205 R/W, several structures reg'd
28C	(Tualatin - Tigard) via WES	4.11	High	On Existing RR
28D	(Tigard - WSTC) via WES	2.05	High	On Existing RR
29	(CTC - Clackamas) (CTC - Milwaukie) via Hww 224	4 34	High Medium	On suburban arterial
254		4.24	Weddin	
29B	(Milwaukie - Lake O) via RR bridge	2.74	High	On Existing RR
29C	(Lake O - Tigard TC) via RR ROW	6.59	High	On Existing RR
29D	Tigard TC - WSTC) via WES ROW	1.76	High	On Existing RR
29E 29E	(Boones Ferry - Tudiatin) via RR ROVV (Milwaukie - Clackamas)	1.84	Medium	On suburban arterial
32	(Hillsboro - Hillsdale)		High	
32A	(Hillsboro - Aloha - Beaverton) via TV Hwy	9.38	High	On Existing RR
32B	(Barbur - Lake O connector)	1.19	Medium	Suburban (Plan not shown on maps provided)
320	(Beaverton - Kaleign Hills - Hillsdale) Via Beaverton Hillsdale	5.72	Medium	Un sudurdan arterial
34A	(Beaverton - Washington Sg) via Hall	3.27	Medium	On suburban arterial
34B	(Washington Sq - Tigard) via Hall	1.56	Medium	On suburban arterial
34C	(Tigard - Tualatin) via 217/I5	4.27	Medium	Assume within 217/I-5 R/W, several structures req'd
34D	(Tualatin - Wilsonville) via IS	5.36	Medium	Assume within I-5 R/W, several structures req'd
41	(Take Q - McLoughlin connector)	1.47	Low	New bridge or retrofit to existing
42	(Vancouver - Damascus)		Medium	new brage of rearons to existing
42A	(Marine Drive - Vancouver) via 182nd	3.98	Low	New Columbia River crossing
42B	(Marine Drive - Rockwood) via 182nd	2.90	Medium	On suburban arterial
42C 42D	(Nockwood - Pleasant Valley) via 16200 (Pleasant Valley - Damascas) via Foster	4.42	High	Rural (possibly 2 due to topo)
43	(St. Johns - Vancouver/Union Station)	5.70	High	
43A	(St. Johns to RR)	1.13	High	On Existing RR
43B	(RR to Vancouver) via UPRR Railroad Bridge	7.20	High	On Existing RR
43C	(Union Station - St. Johns) via RR Bridge	5.49	High	On Existing RR
43U 26	(St. Johns - Vancouver) via Freight Corridor (Cornell - St. Johns)	2.15	High	Un existing 7 (rian not snown on maps provided)
46A	(Cornell to UPRR) via Corn Pass Tunnel	8.49	High	On Existing RR and rural roads
46B	(UPRR - St. Johns) via Freight	7.84	High	On Existing RR
46C	(Corn Pass - St. Johns) via Northern Bridge	9.04	High	On existing ? (Plan not shown on maps provided)
48	(Murray Hill - Bethany)	10.99	LOW	Significant takes of residential property at Murray Hill and Bethany
49 50T	Downtown Tunnel - Llovd 11th to Goose Hollow 18th	2.03	LOW	Tunnel under river
51	Downtown Jefferson/Columbia via 1st Ave	2.99	Low	Urban
52	Downtown Everett/Glisan to 18th Ave	2.41	Low	Urban
53	(Hillsboro - Tualatin)	21.59	Medium	Rural roadsand suburban arterials
54	(Troutdale - St. Johns)	17.37	High	Un Existing KK No defined corridor: crossec Forest Park
55	(Orenco - Clark Hill Rd)	4.62	Medium	no denned contdor, crosses Porest Park Rural roadsand suburban arterials
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd	4.6	Medium	Rural roadsand suburban arterials
58	(Lake O - Oregon City)	5.45	Low	On suburban / rural arterial; new bridge over Willamette
28A+28B	(Oregon City - Tualatin)	9.93	Low	New bridge over Willamette; Assume within I-205 RW, several structures req'd
17C+46A+46B+43B	(Hillsboro - Vancouver)	27.04	High	Crosses Hillsboro Airport; On Existing RR and rural roads
41+32B+32C	(iviceougniii) - Beaverton)	٥.٥٥	LOW	new bridge or retroitt to existing, On suburban afterial

Environmental Constraints Assessment

Potential HCT projects that would require valuable habitat destruction are disfavored. This qualitative assessment was conducted estimating the length of each potential alignment that falls within sensitive habitat areas, open space and environmental protection zones. This analysis was conducted in two steps:

Step 1: Calculation of corridor / segment length with an environmental constraint area

The table below identifies the data sources used to identify environmental constraints as well as the subset of the data used, if applicable.

Data Source	Data Subset (if applicable)
City of Portland Environmental Zone	None (both conservation and preservation zones)
	Park = 1 (Developed Park Site), 2 (Open Space or Natural
Parks	Area), 3 (Trail/Path)
Rivers	None
Metro Open Space Acquisitions	None
Metro National Wetlands Inventory	System = Riverine, Palustrine, or Lacustrine
Metro Exception Land	Zone_Class = FF (Agriculture or Forestry)
Metro Resource Land	Zone_Class = FF (Agriculture or Forestry)

HCT routes were clipped to the various features (without any buffer) and the length of overlap in miles was calculated for each matching route segment.

A union of all of the above features was created to determine the overall length of each segment with an area environmental constraint. Areas of overlap were not double counted. HCT routes were clipped to the union of the features and the length of overlap in miles was calculated.

Step 2: Scoring

In order to rank the corridors and segments based on corridor mileage and overlap with the multiple data sources identified above, the following method was used:

Scoring Methodology	Ranking
0 miles of the corridor in natural resources/preservation/conservation zones	High
Either 0.1 - 1.0 miles or 20% of total corridor length, in natural resources / preservation /	Medium
conservation zones	
Either 1.1+ Miles or 40% of total corridor length, in natural	Low
resources/preservation/conservation zones	

Figure 14 presents the results of the environmental constraints analysis for each potential HCT alignment.

Figure 14 Environmental Constraints Results

			City of P	ortland					Metro O	pen Space			Exceptio	on Farm &	arm &					
		Total	Environme	ntal Zone	Pa	arks	Ri	vers	Acqu	isition	Wet	lands	Fores	t Land	Farm & Forest Land		Overall			
SEGMENT	Corridor Name	Miles	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Categorie	Rating
6	(Amber Glen to Tanasbourne)	4.9	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	н
8	(CTC - OCTC) via I-205	5.6	0.0	0.0%	0.0	0.3%	0.0	0.5%	0.0	0.0%	0.0	0.5%	0.0	0.0%	0.0	0.0%	0.1	1.1%	3	M
9	(Park - OCTC) via McLoughlin	4.9	0.0	0.0%	0.0	0.0%	0.0	0.9%	0.0	0.0%	0.0	0.9%	0.0	0.0%	0.0	0.0%	0.1	1.2%	2	M
10	(Portland Mall - Gresham) via Powell	22.6	0.7	3.0%	0.3	1.5%	0.0	0.1%	0.1	0.6%	0.0	0.1%	0.0	0.0%	0.0	0.0%	0.8	3.7%	5	M
10A	(Portland Mall - I-205) via Powell	6.3	0.0	0.0%	0.0	0.0%	0.2	3.9%	0.0	0.0%	0.2	3.9%	0.0	0.0%	0.0	0.0%	0.2	3.9%	2	M
10B	(I-205 - Gresham) via Powell	7.4	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	Н
11	(Portland to Sherwood) via Barbur Hwy 99w	13.7	0.6	4.3%	0.3	2.5%	0.0	0.2%	0.1	1.0%	0.0	0.2%	0.0	0.0%	0.0	0.0%	0.7	5.3%	5	M
11A	(Portland to Terwilliger) via Barbur Hwy 99W	1.5	0.1	6.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	6.6%	1	M
11B	(Terwilliger to Multnomah) via Barbur Hwy 99w	1.3	0.5	36.8%	0.3	18.9%	0.0	0.0%	0.1	10.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.5	37.1%	3	M
11C	(Multnomah to Tigard) via Barbur Hwy 99w	5.0	0.0	0.0%	0.1	1.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	1.9%	1	M
11D	(Tigard -King City) via Barbur Hwy 99w	2.2	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	н
11E	(King City - Sherwood) via Barbur Hwy 99w	3.6	0.0	0.0%	0.0	0.0%	0.0	0.8%	0.0	0.0%	0.0	0.8%	0.0	0.0%	0.0	0.0%	0.0	1.2%	2	н
11T	(Portland to Multnomah) via TUNNEL Barbur hwy 99w	3.1	0.8	27.0%	0.5	16.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.9	29.7%	2	M
12	(Hillsboro - Forest Grove)	6.1	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.5%	0.0	0.2%	0.1	1.7%	0.1	2.4%	3	M
13	(Gresham - Troutdale MHCC) via Kane Dr	4.6	0.0	0.0%	0.1	1.7%	0.0	0.0%	0.0	0.0%	0.0	0.6%	0.0	0.0%	0.0	0.0%	0.1	2.3%	2	M
15F	(Lents to Pleasant Valley) via Foster Road	4.7	0.9	19.4%	0.0	0.0%	0.0	0.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.9	19.4%	2	M
16	(CTC - Damascus)	20.4	0.0	0.0%	0.1	0.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	0.4%	2	M
16A	(CTC - Damascas) via Sunnyside	5.9	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	н
16B	(Gresham - Damascus) via 232nd/242nd Ave	8.1	0.0	0.0%	0.0	0.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.3%	2	Н
16C	(CTC - Damascas) via Hwy 212/224	6.4	0.0	0.0%	0.1	1.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	1.0%	1	M
17	(STC - Hillsboro)	17.6	0.0	0.0%	0.5	2.9%	0.0	0.0%	0.0	0.0%	0.4	2.1%	0.0	0.0%	0.0	0.0%	0.9	4.9%	3	M
17A	(Shute - St Vincent) via Evergreen/US26	7.6	0.0	0.0%	0.1	1.6%	0.0	0.0%	0.0	0.0%	0.2	2.6%	0.0	0.0%	0.0	0.0%	0.3	3.7%	2	M
17B	(Hillsboro -Shute) via Evergreen	4.6	0.0	0.0%	0.0	0.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.7%	2	Н
17C	(Hillsboro-Shute) via Cornel/Shute	3.5	0.0	0.0%	0.1	1.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	1.7%	1	M
17D	(Tanasbourne - Blue Line)	1.9	0.0	0.0%	0.3	16.3%	0.0	0.0%	0.0	0.0%	0.2	9.4%	0.0	0.0%	0.0	0.0%	0.5	25.6%	2	М
18	Improvements to Steel Bridge	0.1	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	Н
19	Bridge Improvements	0.2	0.0	0.0%	0.0	0.0%	0.2	87.8%	0.0	0.0%	0.2	88.6%	0.0	0.0%	0.0	0.0%	0.2	89.4%	2	L
27	(Oregon City - Clac CC) - via Hwy213/RRROW	4.9	0.0	0.0%	1.0	20.0%	0.0	0.0%	0.7	14.5%	0.0	0.0%	0.0	0.0%	1.0	21.0%	1.5	29.8%	3	L
28	(Oregon City - WSTC)	16.1	0.0	0.0%	0.0	0.0%	0.3	1.9%	0.0	0.0%	0.3	2.0%	0.0	0.0%	0.0	0.0%	0.4	2.3%	3	M
28A	(Oregon City - West Linn) via new bridge	0.6	0.0	0.0%	0.0	1.3%	0.2	37.1%	0.0	0.0%	0.2	34.8%	0.0	0.0%	0.0	0.0%	0.2	40.2%	3	L
28B	(West Linn - Tualatin) via I-205	9.3	0.0	0.0%	0.0	0.0%	0.0	0.5%	0.0	0.0%	0.1	0.6%	0.0	0.0%	0.0	0.0%	0.1	0.6%	2	M
28C	(Tualatin - Tigard) via WES	4.1	0.0	0.0%	0.0	0.0%	0.0	0.8%	0.0	0.0%	0.0	0.7%	0.0	0.0%	0.0	0.0%	0.0	1.1%	2	Н
28D	(Tigard - WSTC) via WES	2.1	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	2.0%	0.0	0.0%	0.0	0.0%	0.0	2.0%	1	Н
29	(CTC - Clackamas)	21.7	0.0	0.0%	0.2	0.9%	0.2	0.8%	0.0	0.1%	0.6	2.6%	0.0	0.0%	0.0	0.0%	0.8	3.6%	4	М
29A	(CTC - Milwaukie) via Hwy 224	4.3	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	1.3%	0.0	0.0%	0.0	0.0%	0.1	1.3%	1	М
29B	(Milwaukie - Lake O) via RR bridge	2.7	0.0	0.0%	0.1	4.0%	0.1	4.9%	0.0	0.6%	0.2	6.2%	0.0	0.0%	0.0	0.0%	0.3	10.5%	4	М
29C	(Lake O - Tigard TC) via RR ROW	6.6	0.0	0.0%	0.1	1.0%	0.0	0.0%	0.0	0.0%	0.2	3.0%	0.0	0.0%	0.0	0.0%	0.3	3.9%	2	М
29D	Tigard TC - WSTC) via WES ROW	1.8	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	3.3%	0.0	0.0%	0.0	0.0%	0.1	3.3%	1	М
29E	(Boones Ferry - Tualatin) via RR ROW	1.8	0.0	0.0%	0.0	0.0%	0.0	1.7%	0.0	0.0%	0.1	4.2%	0.0	0.0%	0.0	0.0%	0.1	4.8%	2	М
29F	(Milwaukie - Clackamas)	4.4	0.0	0.0%	0.0	0.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.5%	1	Н
32	(Hillsboro - Hillsdale)	16.3	0.5	3.0%	0.2	1.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.6	3.7%	2	М
32A	(Hillsboro - Aloha - Beaverton) via TV Hwy	9.4	0.0	0.0%	0.1	1.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	1.2%	1	М
32B	(Barbur - Lake O connector)	1.2	0.2	14.7%	0.0	2.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.2	15.1%	2	М
32C	(Beaverton - Raleigh Hills - Hillsdale) via Beaverton Hillsdale	5.7	0.3	5.4%	0.0	0.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.3	5.4%	2	М

Figure 14 Environmental Constraints Results (Continued)

		Total	City of P Environme	ortland ntal Zone	Pa	arks	Riv	vers	Metro O Acqu	pen Space isition	Wet	lands	Exceptio Fores	n Farm & t Land	Farm & Fo	orest Land	Overall			
SEGMENT	Corridor Name	Miles	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Categorie	Rating
34	(Beaverton - Wilsonville)	14.5	0.0	0.0%	0.1	0.4%	0.0	0.1%	0.0	0.0%	0.1	0.4%	0.0	0.0%	0.0	0.0%	0.1	0.9%	3	M
34A	(Beaverton - Washington Sq) via Hall	3.3	0.0	0.0%	0.0	1.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	1.1%	1	н
34B	(Washington Sq - Tigard) via Hall	1.6	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	Н
34C	(Tigard - Tualatin) via 217/I5	4.3	0.0	0.0%	0.0	0.6%	0.0	0.5%	0.0	0.0%	0.1	1.5%	0.0	0.0%	0.0	0.0%	0.1	2.1%	3	M
34D	(Tualatin - Wilsonville) via 15	5.4	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	Н
38	(Tualatin - Sherwood) via Sherwood Rd	4.2	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	Н
41	(Lake O - McLoughlin connector)	1.5	0.0	1.7%	0.0	3.2%	0.2	13.6%	0.0	1.2%	0.2	14.3%	0.0	0.0%	0.0	0.0%	0.3	18.6%	5	M
42	(Vancouver - Damascus)	15.1	0.7	4.4%	2.0	13.4%	0.9	6.3%	0.0	0.0%	2.0	13.0%	0.0	0.0%	1.6	10.4%	3.1	20.5%	5	L
42A	(Marine Drive - Vancouver) via 182nd	4.0	0.0	0.6%	1.0	25.0%	0.9	23.6%	0.0	0.0%	1.4	36.4%	0.0	0.0%	1.6	39.3%	2.0	49.1%	5	L
42B	(Marine Drive - Rockwood) via 182nd	2.9	0.6	22.1%	0.6	20.7%	0.0	0.0%	0.0	0.0%	0.5	17.6%	0.0	0.0%	0.0	0.0%	0.7	24.4%	3	M
42C	(Rockwood - Pleasant Valley) via 182nd	4.4	0.0	0.0%	0.4	9.6%	0.0	0.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.4	9.6%	2	M
42D	(Pleasant Valley - Damascas) via Foster	3.8	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	Н
43	(St. Johns - Vancouver/Union Station)	16.0	3.1	19.3%	0.5	3.3%	1.1	6.7%	0.1	0.6%	1.1	7.1%	0.0	0.0%	0.0	0.0%	4.1	25.8%	5	L
43A	(St. Johns to RR)	1.1	0.1	11.8%	0.1	9.2%	0.0	0.0%	0.1	9.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.2	20.9%	3	M
43B	(RR to Vancouver) via UPRR Railroad Bridge	7.2	1.6	22.3%	0.4	4.9%	0.8	10.5%	0.0	0.0%	0.8	10.8%	0.0	0.0%	0.0	0.0%	2.1	29.6%	4	L
43C	(Union Station - St. Johns) via RR Bridge	5.5	0.2	3.2%	0.1	1.4%	0.3	5.1%	0.0	0.0%	0.3	5.9%	0.0	0.0%	0.0	0.0%	0.6	10.6%	4	M
43D	(St. Johns - Vancouver) via Freight Corridor	2.2	1.2	54.3%	0.0	0.0%	0.0	1.7%	0.0	0.0%	0.0	1.4%	0.0	0.0%	0.0	0.0%	1.2	54.3%	3	L
46	(Cornell - St. Johns)	25.4	0.0	0.0%	1.0	4.1%	1.1	4.3%	0.4	1.4%	2.5	9.8%	3.2	12.7%	9.8	38.6%	14.7	57.9%	6	L
46A	(Cornell to UPRR) via Corn Pass Tunnel	8.5	0.0	0.0%	0.4	4.2%	0.0	0.0%	0.4	4.2%	0.0	0.0%	0.7	8.0%	5.7	66.9%	6.4	75.0%	4	L
46B	(UPRR - St. Johns) via Freight	7.8	0.0	0.0%	0.2	2.6%	0.3	3.5%	0.0	0.0%	0.4	4.9%	1.5	18.9%	1.1	14.4%	2.9	37.6%	5	L
46C	(Corn Pass - St. Johns) via Northern Bridge	9.0	0.0	0.0%	0.5	5.3%	0.8	9.1%	0.0	0.0%	2.1	23.3%	1.1	11.7%	3.0	33.1%	5.4	59.5%	5	L
48	(Murray Hill - Bethany)	11.0	0.0	0.0%	0.7	6.0%	0.0	0.0%	0.1	0.9%	0.1	1.2%	0.0	0.0%	0.0	0.0%	0.7	6.5%	3	M
49	Eastside Connector	3.5	0.0	0.0%	0.1	4.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	4.2%	1	M
50T	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th	2.0	0.0	0.0%	0.0	1.8%	0.2	10.1%	0.0	0.0%	0.2	10.4%	0.0	0.0%	0.0	0.0%	0.2	11.9%	3	M
51	Downtown Jefferson/Columbia via 1st Ave	3.0	0.0	0.0%	0.1	3.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	3.1%	1	M
52	Downtown Everett/Glisan to 18th Ave	2.4	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	н
53	(Hillsboro - Tualatin)	21.6	0.0	0.0%	0.9	4.1%	0.0	0.2%	0.1	0.3%	0.2	0.9%	1.1	5.1%	5.3	24.5%	7.3	33.8%	6	L
54	(Troutdale - St. Johns)	17.4	0.7	4.0%	1.1	6.6%	0.2	1.2%	0.0	0.0%	0.4	2.5%	0.0	0.0%	0.0	0.0%	1.7	9.6%	4	L
55	(Sunset TC - St. Johns)	4.6	2.3	49.0%	1.1	23.4%	0.0	0.0%	0.0	0.0%	0.1	1.9%	0.0	0.0%	0.1	3.2%	2.4	52.4%	4	L
56	(Orenco - Clark Hill Rd)	11.1	0.0	0.0%	0.4	3.3%	0.0	0.0%	0.0	0.0%	0.2	1.8%	0.2	2.1%	4.9	44.0%	5.5	49.4%	4	L
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd	2.5	0.0	0.0%	0.2	8.0%	0.0	0.9%	0.0	0.0%	0.0	1.4%	0.0	0.0%	1.1	44.4%	1.3	51.2%	4	L
58	(Lake O - OCTC)	5.5	0.0	0.0%	0.4	6.9%	0.1	1.4%	0.0	0.0%	0.1	1.1%	0.0	0.0%	0.0	0.0%	0.5	8.3%	3	M
28A + 28B	(Oregon City - Tualatin)	9.9	0.0	0.0%	0.0	0.1%	0.3	2.7%	0.0	0.0%	0.3	2.6%	0.0	0.0%	0.0	0.0%	0.3	2.9%	3	M
C+46A+46B+4	(Hillsboro - Vancouver)	44.1	0.7	1.6%	2.1	4.9%	0.4	0.9%	0.1	0.2%	0.8	1.8%	1.1	2.5%	5.3	12.0%	9.3	21.0%	7	L
41+32B+32C	(McLoughlin - Beaverton)	24.1	0.7	2.9%	3.1	12.9%	1.9	7.8%	0.0	0.0%	3.4	14.1%	0.0	0.0%	3.1	13.0%	5.1	21.3%	5	M

Equity Assessment

This is a qualitative assessment of potential for an alignment to serve communities of concern. Potential alignments that serve census block groups identified by Metro as having high concentrations of three communities of concern would be favored: 1) low-income or very low income; 2) minority and/or Hispanic populations; and 3) disabled and senior populations. The analysis was conducted in the following steps:

Step 1: Calculate areas of concern within each corridor and segment

This analysis was based on the shapefiles previously created for Metro's Environmental Justice planning process. The GIS shapefiles contained census block groups with significant population of various racial groups, seniors, people with disabilities and low income populations. Significant population is defined as 2.5 times higher than the regional average. For this analysis, the shapefiles were grouped into three data categories:

- Minorities, including Hispanics, Asian, African-American, Hawaiian / and Pacific Islander
- Low income and very low income populations
- Seniors aged 65 year and older and people with disabilities

GIS was then used to calculate the total area of census block groups that overlap with a half mile buffer of all corridors and segments. The following steps were conducted for all alignments:

- 1. Create a half mile buffer around the corridors
- 2. Clip communities of concern census block groups using a half mile buffer
- 3. Calculate the area of the clipped census block groups
- 4. Sum the areas to calculate a total area of census block groups with significant population of communities of concern for each corridor and segment
- 5. Split corridors that have multiple segments

Step 2: Ranking the corridors

For each data category (minorities, low income and senior/disabled) three data ranges (based on acreage) were set by removing the two lowest and two highest outlier values and creating three equal value increments. The following table shows how this data is split:

	Data Category		
	Minority	Low Income	Senior / Disabled
High	2001 +	351 +	301 +
Medium	1001 - 2000	175 - 350	150 - 300
Low	0 -1000	0-175	0 - 150

For each data category, a Low, Medium and High ranking was applied in accordance with low, middle and high acreage ranges

The following table shows how the corridors were given a single High, Medium or Low ranking based on the three data categories:

Combination of	
Scores	Ranking
LLL	LOW
LLM	LOW
LLH	MEDIUM
LMM	MEDIUM
LHH	HIGH
LMH	MEDIUM
MMM	MEDIUM
MMH	HIGH
MHH	HIGH
ННН	HIGH

Figure 15 presents the results of the equity analysis for each potential HCT alignment.

Figure 15 Equity Results

									Low		Senior		
					Senior and		Minorities		LOW	Low	Disabled	Senior	
			Minorities	I ow Income	Disabled		Δrea	Minoritie	Δrea	Income		Disabled	
Segment	DESCRIPTION	ALL Area (soft)	Area (soft)	Area (soft)	Area (soft)	(Acret)	(Acret)	s RANK	(Acre)	RANK	(Acre)	RANK	SUMMARY RANK
6	(Amber Glen to Tanasbourne)	57808367	57808367.45			1327	1327	L	0	L	0	L	Low
8	(CTC - OCTC) via I-205	44726411		31857510.9	12868899.8	1027	0	L	731	Н	295	М	Medium
9	(Park - OCTC) via McLoughlin	4650348			4650347.63	107	0	L	0	L	107	L	Low
10	(Portland Mall - Gresham) via Powell	118020978	114112045.7	29888760	17410828.7	2709	2620	М	686	Н	400	Н	High
10A	(Portland Mall - I-205) via Powell	49112980.11	49112980.11	5652941.03	745188.718	1127.5	1127.5	М	129.8	L	17.1	L	Low
10B	(I-205 - Gresham) via Powell	68907998.25	64999065.54	24235819	16665640	1581.9	1492.2	М	556.4	Н	382.6	Н	High
11	(Portland to Sherwood) via Barbur Hwy 99w	94388194	74979767.3	9372370.01	14125326	2167	1721	L	215	L	324	М	Low
11A	(Portland to Terwilliger) via Barbur Hwy 99W	1229379.659	961075.4397	1229379.66	193820.766	28.2	22.1	L	28.2	L	4.4	L	Low
11B	(Terwilliger to Multnomah) via Barbur Hwy 99w					0.0	0.0	L	0.0	L	0.0	L	Low
11C	(Multnomah to Tigard) via Barbur Hwy 99w	50910770.95	50910770.95			1168.8	1168.8	М	0.0	L	0.0	L	Low
11D	(Tigard -King City) via Barbur Hwy 99w	19918721.72	14497587.34		5421134.39	457.3	332.8	L	0.0	L	124.5	L	Low
11E	(King City - Sherwood) via Barbur Hwy 99w	8492664.287			8492664.29	195.0	0.0	L	0.0	L	195.0	М	Low
11T	(Portland to Multnomah) via TUNNEL Barbur hwy 99w	13836657.77	8610333.577	8142990.35	17706.5878	317.6	197.7	L	186.9	М	0.4	L	Low
12	(Hillsboro - Forest Grove)	153983678	153983677.8	38432746.1		3535	3535	Н	882	Н	0	L	High
13	(Gresham - Troutdale MHCC) via Kane Dr	29695709	27909666.73	19216603.1	1786042.41	682	641	L	441	М	41	L	Low
15	(Lents to Pleasant Valley) via Foster Road	26484303	26484303.03			608	608	L	0	L	0	L	Low
16	(CTC - Damascus)	109088333	53734225.43	31049894.9	27588782.1	2504	1234	L	713	Н	633	Н	High
16A	(CTC - Damascas) via Sunnyside	38306274.24	31694664.53	6611609.72		879.4	727.6	L	151.8	L	0.0	L	Low
16B	(Gresham - Damascus) via 232nd/242nd Ave	7434767.271	7434767.271	3284569.77		170.7	170.7	L	75.4	L	0.0	L	Low
16C	(CTC - Damascas) via Hwy 212/224	63347291.13	14604793.63	21153715.4	27588782.1	1454.3	335.3	L	485.6	Н	633.4	Н	High
17	(STC - Hillsboro)	135907805	135907805.2	9999582.8		3120	3120	M	230	L	0	L	Low
17A	(Shute - St Vincent) via Evergreen/US26	74911074.42	74911074.42			1719.7	1719.7	M	0.0	L	0.0	L	Low
17B	(Hillsboro -Shute) via Evergreen	17217688.34	17217688.34			395.3	395.3	L	0.0	L	0.0	L	Low
17C	(Hillsboro-Shute) via Cornel/Shute	26745205.16	26745205.16	9999582.8		614.0	614.0	L	229.6	M	0.0	L	Low
17D	(Tanasbourne - Blue Line)	17033837.27	17033837.27			391.0	391.0	L	0.0	L	0.0	L	Low
18	Improvements to Steel Bridge	21414225	21414224.97	13450835	6752284.96	492	492	L	309	M	155	L	Low
19	Bridge Improvements	22042076	22042076	16537393.8	10812870	506	506	L	380	M	248	M	Medium
27	(Oregon City - Clac CC) - via Hwy213/RRROW	2011165	100030050 5	2011164.95	150300.035	46	0	L	46	L	0	L	Low
28	(Oregon City - WSTC)	133731082	133272353.5		458728.375	3070	3060	M	0	L	11	L	Low
28A	(Oregon City - West Linn) via new bridge	00000 400 75	00000400 75			0.0	0.0	L	0.0	L	0.0	L	LOW
28B	(West Linn - Lualatin) via I-205	29622488.75	29622488.75			680.0	680.0		0.0	L	0.0	L	Low
280		60877169.04	60418440.66			1397.5	1387.0	IVI	0.0	L	0.0	L	Low
28D	(Tigard - WSTC) via WES	43231424.14	43231424.14	40044400.0	45040407 7	992.5	992.5	L	0.0		0.0	L	LOW
29	(CTC - Clackamas)	149599677	117669866.9	16011402.2	15918407.7	3434	2701	M	308	IM LI	365	<u> </u>	High
29A	(CTC - Milwaukie) via Hwy 224	13/03034.01	1707000 100	15/05054.0	15010407 7	301.9	0.0	L	361.9		0.0	L	Medium
290	(Initiwaukie - Lake O) via RR bildge	17040210.9	1727009.193		15916407.7	405.1	1029.2	L 	0.0	L.	305.4		low
290	(Lake O - Tigard TC) via KK KOW	43220432.07	43220432.07			1036.3	1036.3	171	0.0	<u> </u>	0.0	L	Low
29D	(Reepos Form, Tupletin) via PR POW	20600629 72	20600629 72			943.9	943.9	L	0.0		0.0	L	Low
295	(Milwaukia - Clackamas)	23000030.73	23000030.73	245767 270		019.5	019.5		0.0		0.0	L	Low
291	(Hilleboro - Hilledala)	182/11/015	170266854.0	240101.319	2786112 27	0.0 /100	1115	 Ц	5.0		0.0	L	Medium
32	(Hillsboro - Aloba - Requerton) via T\/ Hwy	152851/66 7	152854466 7	2000200.2	2755147.26	3500.1	3500 1	П	040 175 5	IVI Ц	62.2	L 	High
32R	(Barbur - Lake O connector)	177347 6037	177347 6037	20713113.3	2133141.30	/ 1	J1		72.0		03.2		Low
320	(Beaverton - Raleigh Hills - Hillsdale) via Reaverton Hillsdale	20370200 11	26235040 58	5175124.07	30965 0126	674.5	602.3		12.9		0.0		Low
520	The average in the open of the peaker of the beaker of the	20010200.44	202000-0.00		55565.0120	014.0	002.0	L .	0.0		J.1	L	LOW

Figure 15 Equity Results (Continued)

											Senior		
									Low		and		
					Senior and		Minorities		Income	Low	Disabled	Senior	
			Minorities	Low Income	Disabled	ALL Area	Area	Minoritie	Area	Income	Area	Disabled	
Segment	DESCRIPTION	ALL Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	(Acret)	(Acret)	s RANK	(Acre)	RANK	(Acre)	RANK	SUMMARY RANK
34	(Beaverton - Wilsonville)	163772483	163772483.5	5305600.14	2786112.37	3760	3760	Н	122	L	64	L	Medium
34A	(Beaverton - Washington Sq) via Hall	53188468.67	53188468.67	5305600.14	2786112.37	1221.0	1221.0	М	121.8	L	64.0	L	Low
34B	(Washington Sq - Tigard) via Hall	19280738.92	19280738.92			442.6	442.6	L	0.0	L	0.0	L	Low
34C	(Tigard - Tualatin) via 217/I5	77111899.23	77111899.23			1770.2	1770.2	М	0.0	L	0.0	L	Low
34D	(Tualatin - Wilsonville) via I5	14191376.66	14191376.66			325.8	325.8	L	0.0	L	0.0	L	Low
38	(Tualatin - Sherwood) via Sherwood Rd	46041198	46041198.08			1057	1057	L	0	L	0	L	Low
41	(Lake O - McLoughlin connector)	5654380	5654380.288			130	130	L	0	L	0	L	Low
42	(Vancouver - Damascus)	84778647	84400343.19	33046932.6		1946	1938	М	759	Н	0	L	Medium
42A	(Marine Drive - Vancouver) via 182nd					0.0	0.0	L	0.0	L	0.0	L	Low
42B	(Marine Drive - Rockwood) via 182nd	13773044.24	13468316.23	9298745.17		316.2	309.2	L	213.5	М	0.0	L	Low
42C	(Rockwood - Pleasant Valley) via 182nd	68894221.19	68820645.35	23748187.4		1581.6	1579.9	М	545.2	Н	0.0	L	Medium
42D	(Pleasant Valley - Damascas) via Foster	2111381.607	2111381.607			48.5	48.5	L	0.0	L	0.0	L	Low
43	(St. Johns - Vancouver/Union Station)	272522414	270198911.7	34846138.4	4317163.13	6256	6203	Н	800	Н	99	L	High
43A	(St. Johns to RR)	26742079.97	26742079.97	967528.577		613.9	613.9	L	22.2	L	0.0	L	Low
43B	(RR to Vancouver) via UPRR Railroad Bridge	85412058.36	83723283.73	17214300.8		1960.8	1922.0	М	395.2	Н	0.0	L	Medium
43C	(Union Station - St. Johns) via RR Bridge	122341266	122341266	12763311.3	4317163.13	2808.6	2808.6	Н	293.0	М	99.1	L	Medium
43D	(St. Johns - Vancouver) via Freight Corridor	38027009.33	37392282.06	3900997.62		873.0	858.4	L	89.6	L	0.0	L	Low
46	(Cornell - St. Johns)	132975008	132975008			3053	3053	М	0	L	0	L	Low
46A	(Cornell to UPRR) via Corn Pass Tunnel					0.0	0.0	L	0.0	L	0.0	L	Low
46B	(UPRR - St. Johns) via Freight	131586406.5	131586406.5			3020.8	3020.8	Н	0.0	L	0.0	L	Medium
46C	(Corn Pass - St. Johns) via Northern Bridge	1388601.501	1388601.501			31.9	31.9	L	0.0	L	0.0	L	Low
48	(Murray Hill - Bethany)	134180956	134180956.4	6174741.61		3080	3080	М	142	L	0	L	Low
49	Eastside Connector	44463478	35510232.39	36114962.6	18705995.2	1021	815	L	829	Н	429	Н	High
50	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th	51915468	42018244.49	35724471	22502719.2	1192	965	L	820	Н	517	Н	High
51	Downtown Jefferson/Columbia via 1st Ave	28578263	16862479.93	26236542.2	7569975.33	656	387	L	602	H	174	L	Medium
52	Downtown Everett/Glisan to 18th Ave	29055265	23540540.04	27266846	13849391.2	667	540	L	626	Н	318	M	Medium
53	(Hillsboro - Tualatin)	129725978	102587101.1	12665041.9	27138876.7	2978	2355	М	291	М	623	Н	High
54	(Troutdale - St. Johns)	341630475	340996702.7	27668376.5	6937369.82	7843	7828	Н	635	Н	159	L	High
55	(Sunset TC - St. Johns)	39246228	39246227.9			901	901	L	0	L	0	L	Low
56	(Orenco - Clark Hill Rd)	30713620	30713619.79			705	705	Н	0	L	0	L	Medium
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd					0	0	L	0	L	0	L	Low
58	(Lake O - OCTC)	3249021	3235064		13957	75	74	Ĺ	0	Ĺ	0.3	L	Low
28A + 28B	(Oregon City - Tualatin)	29622488.75	29622488.75			680.0	680.0	Ĺ	0.0	Ĺ	0.0	L	Low
17C+46A+46B+43B	(Hillsboro - Vancouver)	270850044	269004041	28840840.9		6218	6175	Н	662	Н	0	L	High
41+32B+32C	(McLoughlin - Beaverton)	43768351	40624191	5930272.23	2786112.37	1005	933	L	136	L	64	L	Low

Connectivity and System Benefit Assessment

A qualitative assessment of intermodal connectivity, availability of a maintenance yard site or other transit system needs was conducted for all corridors and corridor segments. This criterion is more closely related to operations than land use. A group of TriMet and Metro planners were assembled to discuss and concur on scoring. The following methodology was used to develop scores:

- 1. First, corridors were broken into logical segments for analysis. Segments were then added together to score various termini.
- 2. Corridors that connect logically to terminus were ranked higher than those that connect in the middle, or would not make sense for operation. Corridors that connect two existing HCT corridors were ranked higher than those that only connect to one existing HCT corridor. Corridors that make new, difficult connections between two existing HCT corridors were also ranked higher than corridors that do not make these connections.
- A score of "High", "Medium" and "Low" was assigned to each corridor and corridor segment. A score of "High" indicates a corridor with good connectivity and system benefits, whereas a "Low" score indicates a corridor with generally poor connectivity and system benefits.

Figure 16 Connectivity and System Results

SEGMENT	Description	MILES	Ranking
6	(Amber Glen to Tanasbourne)	4.86	Low
8	(CTC - OCTC) via I-205 (Park - OCTC) via McLoughlin	5.62	High High
10	(Portland Mall - Gresham) via Powell	13.67	Medium
10A	(Portland Mall - I-205) via Powell	6.26	High
10B	(I-205 - Gresham) via Powell	7.41	Medium
11	(Portland to Sherwood) via Barbur Hwy 99w	13.72	Low
11A 11B	(Portiand to Terwilliger) via Barbur Hwy 99W	1.52	low
110	(Multhomah to Tigard) via Barbur Hwy 99w	5.04	Low
11D	(Tigard -King City) via Barbur Hwy 99w	2.23	Low
11E	(King City - Sherwood) via Barbur Hwy 99w	3.59	Low
<u>11T</u>	(Portland to Multnomah) via TUNNEL Barbur hwy 99w	3.09	Medium
12	(Hillsboro - Forest Grove) (Gresham - Troutdale MHCC) via Kane Dr	6.06	Medium
15F	(Lents to Pleasant Valley) via Foster Road	4.67	Low
16	(CTC - Damascus)	20.35	Medium
16A	(CTC - Damascas) via Sunnyside	5.91	Medium
16B	(Gresham - Damascus) via 232nd/242nd Ave	8.09	Low
16C	(CTC - Damascas) via Hwy 212/224	6.35	Medium
17	(STC - HIIISDORO) (Shuta - St Vincent) via Evergroop/US26	7.60	Low
17B	(Hillsboro -Shute) via Evergreen	4.63	Low
17C	(Hillsboro-Shute) via Cornel/Shute	3.51	Low
17D	(Tanasbourne - Blue Line)	1.86	Low
18	Improvements to Steel Bridge	0.14	High
19	Bridge Improvements	0.17	High
27	(Oregon City - Clac CC) - via Hwy213/RRROW	4.92	Low
284	(Oregon City - WSTC) (Oregon City - West Linn) via new bridge	0.58	LOW
28B	(West Linn - Tualatin) via I-205	9.35	Low
28C	(Tualatin - Tigard) via WES	4.11	Medium
28D	(Tigard - WSTC) via WES	2.05	Low
29	(CTC - Clackamas)	21.69	Medium
29A	(CTC - Milwaukie) via Hwy 224	4.34	Medium
29B	(IVIIIWaukie - Lake O) via RR bridge	2.74	Medium
230 29D	Tigard TC - WSTC) via WES ROW	1.76	Low
29E	(Boones Ferry - Tualatin) via RR ROW	1.84	Low
29F	(Milwaukie - Clackamas)	4.42	High
32	(Hillsboro - Hillsdale)	16.29	Low
32A	(Hillsboro - Aloha - Beaverton) via TV Hwy	9.38	Medium
32B	(Barbur - Lake O connector) (Beaverten - Baleigh Hills - Hillsdale) via Beaverten Hillsdale	1.19	Low
34	(Beaverton - Wilsonville)	14.47	Low
34A	(Beaverton - Washington Sq) via Hall	3.27	Medium
34B	(Washington Sq - Tigard) via Hall	1.56	Low
34C	(Tigard - Tualatin) via 217/I5	4.27	Low
34D	(Tualatin - Wilsonville) via 15	5.36	Low
	(Tualatin - Sherwood) via Sherwood Ru	4.19	Low
42	(Vancouver - Damascus)	15.07	Low
42A	(Marine Drive - Vancouver) via 182nd	3.98	Low
42B	(Marine Drive - Rockwood) via 182nd	2.90	Low
42C	(Rockwood - Pleasant Valley) via 182nd	4.42	Low
42D	(Pleasant Valley - Damascas) via Foster	3.76	Low
43 43A	(St. Johns - Vancouver/Onion Station)	1 13	Low
43B	(RR to Vancouver) via UPRR Railroad Bridge	7.20	Low
43C	(Union Station - St. Johns) via RR Bridge	5.49	Medium
43D	(St. Johns - Vancouver) via Freight Corridor	2.15	Medium
46	(Cornell - St. Johns)	25.37	Low
46A	(Lornell to UPRR) via Corn Pass Tunnel	8.49	Low
40D 46C	(OrR - St. Johns) via Northern Bridge	9.04	LOW
48	(Murray Hill - Bethany)	10.99	Low
49	Eastside Connector	3.47	High
50	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th	2.03	High
51	Downtown Jefferson/Columbia via 1st Ave	2.99	Low
52	Downtown Everett/Glisan to 18th Ave	2.41	Low
53	(Hillsboro - Tualatin) (Troutdale - St. Johns)	21.59	LOW
55	(Sunset TC - St. Johns)	4 62	High
56	(Orenco - Clark Hill Rd)	11.8	Low
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd	4.6	Low
58	(Lake O - OCTC)	5.45	Medium
28A+28B	(Oregon City - Tualatin)	9.93	High
1/C+46A+46B+43B	(Milisboro - Vancouver) (McLoughlin - Beaverton)	27.04 9.39	Low
TITJZUTJZC	(incloaghin beaverion)	0.30	MCUIUIT

Congestion Assessment

Potential HCT alignments that parallel arterials or throughways where high levels of congestion are forecasted are favored. This assessment was conducted using predicted 2035 levels of congestion using the regional travel demand model. This analysis was conducted in the following steps:

Step 1: Identify worst level of congestion along potential alignments.

The highest volume-to-capacity (V/C) ratio for HCT corridors or segments during the 2035 twohour PM peak period and one-hour midday period was obtained by overlaying a map of the routes on a map of the V/C ratio for the Portland Metro area. Level of service (LOS) designations were assigned to these figures based on the Metro 2035 RTP^1

Step 2: Rank corridors and segments

Both the midday and PM peak corridor ratings were assigned a rank of "Low", "Low-Medium", "Medium," "Medium-High," and "High" based on the worst LOS designations along that corridor or segment.

The midday and PM peak are presented separately by potential HCT alignment in Figure 17.

¹ Metro RTP, Table 3.16, which states that: "LOS C = .8 or better; LOS D = .8 to .9; LOS E = .9 to 1.0; and LOS F = 1.0 to 1.1"

Figure 17 Congestion Results

Corridor ID	Corridor Name	Miles	MD LOS	S Example Segment	PM LOS	Example Segment	MD Rating	PM Rating
6	(Amber Glen to Tanasbourne)	4.9	С		E		Low	Medium-High
8	(CTC - OCTC) via I-205	5.6	E		F	Hwy 224-99E SB	Medium-High	High
9	(Park - OCTC) via McLoughlin	4.9	С		F	Several sections of 99E	Low	High
10		13.7	F		F		High	High
10A	(Portland Mall - I-205) via Powell	6.3	F	Ross Island Br	F	Portland Mall to 52nd EB	High	High
10B	(I-205 - Gresham) via Powell	7.4	F	at 182nd	F	122nd to 172nd	High	High
11		13.7	F		F		High	High
11A	(Portland to Terwilliger) via Barbur Hwy 99W	1.5	С		F	I-5/99W	Low	High
11B	(Terwilliger to Multnomah) via Barbur Hwy 99w	1.3	С		F	I-5/99W	Low	High
11C	(Multnomah to Tigard) via Barbur Hwy 99w	5.0	Е		F	I-5/99W	Medium-High	High
11D	(Tigard -King City) via Barbur Hwy 99w	2.2	F		F	I-5/99W	High	High
11E	(King City - Sherwood) via Barbur Hwy 99w	3.6	F		F	I-5/99W	High	High
11T	(Portland to Multnomah) via TUNNEL Barbur hwy 99w	3.1	С		F	I-5/99W	Low	High
12	(Hillsboro - Forest Grove)	6.1	Е		F		Medium-High	High
13	(Gresham - Troutdale MHCC) via Kane Dr	4.6	С		F		Low	High
15F	(Lents to Pleasant Valley) via Foster Road	4.7	Е	at 182nd	F	122nd to 172nd	Medium-High	High
16		20.4	F		F		High	High
16A	(CTC - Damascas) via Sunnyside	5.9	D		F		Medium	High
16B	(Gresham - Damascus) via 232nd/242nd Ave	8.1	D		F	Sections from US 26 to Tillstro	Medium	High
16C	(CTC - Damascas) via Hwy 212/224)	6.4	F		F		High	High
17		17.6	Е		F		Medium-High	High
17A	(Shute - St Vincent) via Evergreen/US26	7.6	Е		F	At Cornell	Medium-High	High
17B	(Hillsboro -Shute) via Evergreen	4.6	D		F		Medium	High
17C	(Hillsboro-Shute) via Cornel/Shute	3.5	D		F		Medium	High
17D	(Tanasbourne - Blue Line)	1.9	С		E		Low	Medium-High
18	Access improvements to Steel Bridge	0.1	С		D		Low	Medium
19	Steel Bridge Improvements	0.2	С		D		Low	Medium
27	(Oregon City - Clac CC) - via Hwy213/RRROW	4.9	Е		F	I-205 SB, Hwy 224-99E	Medium-High	High
28		16.1	F		F		High	High
28A	(Oregon City - West Linn) via new bridge	0.6	F		F	At Cornell	High	High
28B	(West Linn - Tualatin) via I-205	9.3	D		F	Stafford - Hwy 43 EB	Medium	High
28C	(Tualatin - Tigard) via WES	4.1	F		F	I-5/99W	High	High
28D	(Tigard - WSTC) via WES	2.1	С		F	I-5/99W	Low	High
29		21.7	Е		F		Medium-High	High
29A	(CTC - Milwaukie) via Hwy 224	4.3	D		E	One small section at Harmony	Medium	Medium-High
29B	(Milwaukie - Lake O) via RR bridge	2.7	Е	Hwy 43; Taylors Ferry/Terwilliger	F	Hwy 43	Medium-High	High
29C	(Lake O - Tigard TC) via RR ROW	6.6	Е	Boones Ferry	F	Kruse Way/Boones Ferry	Medium-High	High
29D	LRT (Tigard TC - WSTC) via WES ROW	1.8	Е	,	F	, ,	Medium-High	High
29E	(Boones Ferry - Tualatin) via RR ROW	1.8	Е		F		Medium-High	High
29F	(Milwaukie - Clackamas)	4.4	С		С		Low	Low
32	, , , , , , , , , , , , , , , , , , ,	16.3	Е		F		Medium-Hiah	High
32A	(Hillsboro - Aloha - Beaverton) via TV Hwy	9.4	Е		F	At 185th	Medium-High	High
32B	(Barbur - Lake O connector)	1.2	Е		F		Medium-High	High
32C	(Beaverton - Raleigh Hills - Hillsdale) via BH Hwy	5.7	D		F	OR-217 to Scholls Ferry EB	Medium	High

Figure 17 Congestion Results (Continue
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Corridor ID	Corridor Name	Miles	MD LO	S Example Segment	PM LOS	Example Segment	MD Rating	PM Rating
34		14.5	F		F		High	High
34A	(Beaverton - Washington Sq) via Hall	3.3	D		F		Medium	High
34B	(Washington Sq - Tigard) via Hall	1.6	Е		F		Medium-High	High
34C	(Tigard - Tualatin) via 217/I5	4.3	F		F		High	High
34D	(Tualatin - Wilsonville) via I5	5.4	F		F	e.g. S. of I-205 Jcn	High	High
38	(Tualatin - Sherwood) via Sherwood Rd	4.2	D		F	At Boones-Ferry	Medium	High
41	(Lake O - McLoughlin connector)	1.5	F		F	e.g. Sellwood Bridge	High	High
42		15.1	E		F		Medium-High	High
42A	(Marine Drive - Vancouver) via 182nd	4.0	С		E		Low	Medium-High
42B	(Marine Drive - Rockwood) via 182nd	2.9	С		E		Low	Medium-High
42C	(Rockwood - Pleasant Valley) via 182nd	4.4	С		F		Low	High
42D	(Pleasant Valley - Damascas) via Foster	3.8	E		F		Medium-High	High
43		16.0	F		F		High	High
43A	(St. Johns to RR)	1.1	С		С		Low	Low
43B	(RR to Vancouver) via UPRR Railroad bridge	7.2	С		D		Low	Medium
43C	(Union Station - St. Johns) via RR Bridge	5.5	F	St. Johns Bridge	F		High	High
43D	(St. Johns - Vancouver) via Freight Corridor	2.2	С		F	St John's Bridge	Low	High
46		25.4	F		F		High	High
46A	(Cornell to UPRR) via Corn Pass Tunnel	8.5	F	Before Germantown/Cornelius Pas	F	Union to Bendemeer	High	High
46B	(UPRR - St. Johns) via Freight	7.8	F	St. Johns Bridge	F	US 30 @ St. Johns Bridge	High	High
46C	(Corn Pass - St. Johns) via Northern Bridge	9.0	С		С		Low	Low
48	(Murray Hill - Bethany)	11.0	D		F	TV Hwy to Walker	Medium	High
49	Eastside Connector	3.5	С		D		Low	Medium
50T	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th	2.0	С		С		Low	Low
51	Downtown Jefferson/Columbia via 1st ave	3.0	С		D		Low	Medium
52	Downtown Everett/Glisan to 18th ave	2.4	D		D		Medium	Medium
53	(Hillsboro - Tualatin)	21.6	С		F	Roy Roger's Rd, 99W to Scho	Low	High
54	(Troutdale - St. Johns)	17.4	С		E		Low	Medium-High
55	(Sunset TC - St. Johns)	4.6	F		F	St. Johns Bridge	High	High
56	(Orenco - Clark Hill Rd)	11.8	С		F		Low	High
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd	4.6	F		F		High	High
58	(Lake O - Oregon City)	5.45	Е		F	Evergreen to Hidden Springs,	Medium-High	High
28A+28B	(Oregon City - Tualatin)	4.4	Е		F		Medium-High	High
17C+46A+46B+43B	(Hillsboro - Vancouver)	44.1	Е		F		Medium-High	High
41+32B+32C	(McLoughlin - Beaverton)	24.1	Е		F		Medium-High	High

2040 Land Use

Corridors that serve 2040 centers, main streets and corridors that are designated to accommodate future growth are given priority ranking. This analysis was conducted in the following steps:

Step 1: Intersection of alignments with 2040 centers

Potential HCT alignments intersecting polygons of City Center, Regional Centers, Industrial Centers, etc. from the RLIS Applied Concept areas shapefile were flagged in the attribute table. Additional segments of an alignment were also flagged.

Since a buffer was not used, routes that clearly served a land use design type were also flagged by visual inspection.

Step 2: Identification of 2040 Main Streets and Corridors

HCT routes were clipped to main street and corridor polygons from the RLIS Applied Concept areas shapefile.

Matching routes were flagged in the attribute table and the length of overlap in miles was calculated for each matching route segment.

Since a buffer was not used, routes that clearly followed main streets or corridors were also flagged by visual inspection.

Routes that only crossed main streets or corridors were manually eliminated.

Step 3: Rank corridors and segments

Each of the land use categories was given a point score based on their relative importance compared to other land use types:

Screening Category	Land Use Designation	Points for Ranking
High	City Center	40
	Regional Center	15
	Industrial Areas	5
Medium	Employment Areas	3
	Town Centers	3
	Station Communities	3
	Corridors	3
	Main Streets	3
Low	Inner Neighborhoods	1
	Outer Neighborhoods	1

For each potential HCT alignment, a total score was then calculated based on how many land use types were served by the alignment.

The following breaks were then used to rank the alignments. This results of this analysis is shown in Figure 18.

Rank	Score
High	40 +
Medium	20 – 40
Low	< 20

Figure 18 2040 Land Use Results

					High						Medi	L	ow		
					Central	Regiona In	dustri	Intermodal	Employment	Town	Station		Main	Inner	Outer
Segment/Corridor ID	Corridor Name	Miles	Rating	Score	City	l Center al	Area	Facility	Area	Center	Community	Corridor	Street	Neighborhood	Neighborhood
6	(Amber Glen to Tanasbourne)	4.9	Low	16.0			~		~	\checkmark	\checkmark			~	\checkmark
8	(CTC - OCTC) via I-205	5.6	Medium	28.0		\checkmark	~		~		\checkmark			~	\checkmark
9	(Park - OCTC) via McLoughlin	4.9	Medium	26.0		\checkmark	~		~			\checkmark			
10		13.7	High	68.0	✓	✓			~		~	✓	✓.	~	
10A	(Portland Mall - I-205) via Powell	6.3	High	68.0	✓	✓			~		~	✓	✓.	~	
10B	(I-205 - Gresham) via Powell	7.4	High	68.0	✓	\checkmark			~		~	✓	✓.	✓ 	
11		13.7	High	61.0	✓		✓.		~	✓.	~	✓	\checkmark	✓ 	
11A	(Portland to Terwilliger) via Barbur Hwy 99W	1.5	High	58.0	✓		✓.		~	✓	~	✓		✓ 	
11B	(Terwilliger to Multnomah) via Barbur Hwy 99w	1.3	High	58.0	✓		✓.		~	✓.	~	✓		✓ 	
11C	(Multnomah to Tigard) via Barbur Hwy 99w	5.0	High	61.0	✓		✓.		~	✓.	~	✓	✓.	✓ 	
11D	(Tigard -King City) via Barbur Hwy 99w	2.2	High	61.0	✓		✓.		~	✓.	~	✓	\checkmark	✓ 	
11E	(King City - Sherwood) via Barbur Hwy 99w	3.6	High	58.0	✓		✓.		~	✓.	~	✓		✓ 	
11T	(Portland to Multnomah) via TUNNEL Barbur hwy 99w	3.1	High	58.0	\checkmark	,	v		~	~	\checkmark	√	,	✓	,
12	(Hillsboro - Forest Grove)	6.1	Medium	31.0		~	v			~	,	√	v	×	\checkmark
13	(Gresham - Troutdale MHCC) via Kane Dr	4.6	Medium	36.0		\checkmark	v		× .	~	\checkmark	~	v	✓	
15	(Lents to Pleasant Valley) via Foster Road	4./	Low	17.0		,	v		~	v	,	v	v	,	,
16		20.4	Medium	37.0		~	v		~	v	~	v	~	× .	~
16A	(CTC - Damascas) via Sunnyside	5.9	Medium	30.0		~	v		~	v	,	v	,	× .	
16B	(Gresham - Damascus) via 232nd/242nd Ave	8.1	Medium	36.0		~	v		~	v	v	v	~	× .	,
16C	(CTC - Damascas) via Hwy 212/224)	6.4	Medium	34.0		•	*		*	*	~	×		×	V
17		17.6	Medium	37.0		•	*		×.	•	v	~	~	v,	V
1/A	(Shute - St Vincent) via Evergreen/US26	/.6	Medium	31.0		~	v		~	v	v		,	× .	v
178	(Hillsboro -Snute) via Evergreen	4.6	Medium	34.0		•	*		*	*	~	,	•	×	V
170	(Hillsboro-Snute) via Cornel/Snute	3.5	Medium	37.0		v	*		*	*	~	~	~	×	V
17D	(Tanasbourne - Blue Line)	1.9	Medium	31.0	/	V	~		~	~	~			v	V
18	Access improvements to Steel Bridge	0.1	High	40.0	•										
19	(Oregon City Clac CC) via Hum 212/PPROM	0.2	High	40.0	v	./									./
27	(Oregon City - Ciac CC) - Via Hwyz T3/RROVV	4.9	LOW	19.0		•			· ·			./	./		v
20	(Oragon City, West Linn) via new bridge	0.0	Medium	29.0			•		· ·	•		•	•	•	•
20A 20P	(Most Linp, Tualatin) via L205	0.0	Modium	20.0		• -/	•		· ·	*				· ·	v
200	(Tualatin Tigard) via WES	9.5	Modium	20.0					·	•		1		· ·	• •
280	(Tigard - WSTC) via WES	7.1	Medium	31.0		· ·						•	1		
200		2.1	Medium	36.0		· ·					1	1	· ·		·
20	(CTC - Milwaukie) via Hww 224	13	Medium	33.0		·	✓		· ·	✓		✓		1	
20A 20B	(Milwaukie - Lake O) via RR bridge	4.J 2.7	Medium	36.0		·	✓		· ·	✓		✓	~	1	
290	(Lake O - Tigard TC) via RB ROW	6.6	Medium	33.0		1	~		1	1	1	1	-	1	
29D	LRT (Tigard TC - WSTC) via WES ROW	1.8	Medium	36.0		1	~		1	1	1	1	~	1	
29E	(Boones Ferry - Tualatin) via RR ROW	1.8	Medium	33.0		~	~		✓	~	✓	~		✓	
29F	(Milwaukie - Clackamas)	4.4	Medium	36.0		1	1		1	1	1	1	~	1	
231	characterize characterizes,			50.0	 1				I					1	,

Figure 18 2040 Land Use Results (Continued)

						High					Medi	Low			
					Central	Regiona	Industri	Intermodal	Employment	Town	Station		Main	Inner	Outer
Segment/Corridor ID	Corridor Name	Miles	Rating	Score	City	l Center	al Area	Facility	Area	Center	Community	Corridor	Street	Neighborhood	Neighborhood
32		16.3	Medium	37.0		√	✓		✓	✓	✓	✓	✓	✓	✓
32A	(Hillsboro - Aloha - Beaverton) via TV Hwy	9.4	Medium	37.0		\checkmark	✓		✓	\checkmark	✓	\checkmark	\checkmark	✓	✓
32B	(Barbur - Lake O connector)	1.2	Medium	31.0		\checkmark	✓		✓	\checkmark	✓			✓	✓
32C	(Beaverton - Raleigh Hills - Hillsdale) via BH Hwy	5.7	Medium	37.0		\checkmark	✓		✓	\checkmark	✓	\checkmark	\checkmark	✓	✓
34		14.5	Medium	34.0		\checkmark	✓		✓	\checkmark		\checkmark	\checkmark	✓	✓
34A	(Beaverton - Washington Sq) via Hall	3.3	Medium	34.0		\checkmark	✓		✓	\checkmark		\checkmark	\checkmark	✓	✓
34B	(Washington Sq - Tigard) via Hall	1.6	Medium	31.0		\checkmark	✓		✓	\checkmark		\checkmark		✓	✓
34C	(Tigard - Tualatin) via 217/I5	4.3	Medium	31.0		✓	\checkmark		✓	\checkmark		✓		~	✓
34D	(Tualatin - Wilsonville) via 15	5.4	Medium	31.0		✓	\checkmark		✓	\checkmark		✓		~	✓
38	(Tualatin - Sherwood) via Sherwood Rd	4.2	Low	12.0			\checkmark		✓	\checkmark				✓	
41	(Lake O - McLoughlin connector)	1.5	Low	6.0							\checkmark		\checkmark		
42		15.1	Medium	21.0			\checkmark		✓	\checkmark	\checkmark	\checkmark	\checkmark	✓	
42A	(Marine Drive - Vancouver) via 182nd	4.0	Low	15.0			\checkmark		✓	\checkmark	\checkmark			✓	
42B	(Marine Drive - Rockwood) via 182nd	2.9	Medium	21.0			✓		✓	\checkmark	✓	\checkmark	\checkmark	✓	
42C	(Rockwood - Pleasant Valley) via 182nd	4.4	Medium	21.0			✓		✓	✓	✓	\checkmark	\checkmark	✓	
42D	(Pleasant Valley - Damascas) via Foster	3.8	Low	18.0			~		✓	\checkmark	✓	\checkmark		✓	
43		16.0	High	70.0	✓	✓	✓		✓	✓		\checkmark		✓	
43A	(St. Johns to RR)	1.1	High	70.0	✓	✓	✓		✓	✓		\checkmark		✓	
43B	(RR to Vancouver) via UPRR Railroad bridge	7.2	High	67.0	✓	✓	✓		✓	✓				✓	
43C	(Union Station - St. Johns) via RR Bridge	5.5	High	70.0	✓	\checkmark	✓		✓	\checkmark		\checkmark		✓	
43D	(St. Johns - Vancouver) via Freight Corridor	2.2	High	67.0	✓	✓	✓		✓	✓				✓	
46	_	25.4	Medium	28.0		✓	✓		✓			\checkmark		✓	✓
46A	(Cornell to UPRR) via Corn Pass Tunnel	8.5	Medium	25.0		✓	✓		✓					✓	✓
46B	(UPRR - St. Johns) via Freight	7.8	Medium	28.0		✓	✓		✓			\checkmark		✓	✓
46C	(Corn Pass - St. Johns) via Northern Bridge	9.0	Medium	25.0		✓	✓		✓					✓	✓
48	(Murray Hill - Bethany)	11.0	Low	11.0						✓	✓	\checkmark		✓	✓
49	Eastside Connector	3.5	High	40.0	✓										
50	Downtown Tunnel - Lloyd 11th to Goose Hollow 18th	2.0	High	40.0	✓										
51	Downtown Jefferson/Columbia via 1st ave	3.0	High	47.0	✓						✓	\checkmark		✓	
52	Downtown Everett/Glisan to 18th ave	2.4	High	46.0	✓						✓		\checkmark		
53	(Hillsboro - Tualatin)	21.6	Medium	37.0		\checkmark	✓		✓	\checkmark	✓	\checkmark	\checkmark	✓	✓
54	(Troutdale - St. Johns)	17.4	Medium	21.0			✓		✓	\checkmark	✓	\checkmark	\checkmark	✓	
55	(Sunset TC - St. Johns)	4.6	Low	7.0						\checkmark	✓				✓
56	(Orenco - Clark Hill Rd)	4.6	Low	19.0			✓		✓	\checkmark	✓			✓	✓
57	(Scholls Ferry - Sherwood) via Roy Rogers Rd	11.8	Low	5.0						\checkmark				~	\checkmark
58	(Lake O - Oregon City)	5.5	Medium	26.0		✓				\checkmark		\checkmark	\checkmark	~	\checkmark
28A+28B	(Oregon City - Tualatin)	15.9	Medium	34.0		\checkmark	✓		✓	\checkmark		\checkmark	\checkmark	~	✓
17C+46A+46B+43B	(Hillsboro - Vancouver)	28.9	High	77.0		\checkmark	~		✓	✓	\checkmark	\checkmark	\checkmark	✓	✓
41+32B+32C	(McLoughlin - Beaverton)	8.4	Medium	37.0		✓	✓		✓	✓	✓	✓	✓	~	✓