Appendix A

Comparisons of the LPA, 2030 No Build, and DEIS Alternatives

This page left blank intentionally.

Appendix A. Comparisons of the LPA, 2030 No Build, and DEIS Alternatives.

The following tables can be found in Chapter three of the FEIS and have been included in this appendix without any changes to format or content. DEIS and FEIS alternatives are not comparable on an item by item basis as many of the background assumptions have changed. For a list of changes between the DEIS and FEIS Model runs please refer to Appendix C.

Systemwide Transit Vehicles and Platform Hours of Service – Existing and Year 2030

Transit Characteristic	Existing Conditions	LPA	2030 No Build Alternative[1]	BRT[2]	Light Rail[2]
CTRAN Standard 40-foot Buses[3]	120	106	121	150	126
CTRAN Articulated 60-foot Buses[3]	0	0	12	24	0
TriMet Yellow Line LRVs[4]	18	37	18	16	30
Total Transit Vehicles	138	143	151	166	156
Weekday C-TRAN Bus Platform Hours[3, 5]	651	991	1,159	1,446	1,266
Weekday TriMet North Portland Bus Platform Hours[6]	1,110	1,120	1,120	1,238	1,238
Weekday TriMet LRT Platform Hours[4, 5]	113	214	135	135	208
Total Weekday Transit Platform Hours[5]	1,874	2,325	2,414	2,819	2,712
Total Annual Transit Platform Hours[5]	584,000	720,000	738,000	851,000	823,000

Source: CRC, 2009; CRC DEIS, May 2008.

1 The definition of the 2030 No Build Alternative (Alternative 1 in the DEIS) was updated since the DEIS was published to reflect most current information (see Section 1.3 of the CRC Transit Technical Report for details).

2 Alternatives 2 (BRT) and 3 (LRT) were the Replacement Bridge with BRT and LRT in the DEIS, respectively (see Section 1.3 of the CRC Transit Technical Report for details).

3 Includes vehicles in service and spares. In general, the number of TriMet buses and platform hours would not change as a result of the alternatives under consideration.

4 Includes vehicles in service and spares.

5 Platform hours are the total scheduled time that a bus spends from pull out to pull in and includes dead head and layover times. Totals include only C-TRAN bus and TriMet LRT platform hours – TriMet bus platform hours would not change as a result of the alternatives under consideration. Platform hours for bus and light rail are annualized at different rates based on current annualization factors for the respective modes.

6 TriMet North Portland buses are lines: 4 – Fessenden, 6 – Martin Luther King Jr. Blvd, 8 – Middlefield/15th Avenue, 16 – Front Avenue/St. Johns, 33 – Fremont, 35 – Greeley, 44 – Mocks Crest, 72 – Killingsworth/82nd Avenue, and 75 – Lombard/39th Avenue

TriMet and C-TRAN Systemwide Numbers

TriMet 2005 systemwide busses	656
TriMet 2005 systemwide LRVs	115
C-TRAN 2007 systemwide buses	120
TriMet systemwide 2005 annual bus unlinked trips	68,764,800
TriMet systemwide 2005 annual LRT unlinked trips	34,755,100
C-TRAN systemwide 2005 annual bus unlinked trips	5,615,000
TriMet systemwide 2005 Annual Bus Revenue Hours	1,516,300
TriMet systemwide 2005 Annual LRT Revenue Hours	204,300
C-TRAN systemwide 2007 Annual Bus Platform Hours	247,300

Source: 2005 and 2007 National Transit Databases

Transit Average Weekday and Annual Transit Passenger Trips Crossing the I-5 Bridge – Year 2030

	LPA	2030 No Build Alternative[1]	BRT[2]	LRT[2]
Average Weekday Transit Passenger Trips Crossing the I-5 Bridge				
C-TRAN Express and Local Bus	1,900	10,200	11,300	2,200
High-Capacity Transit	18,700	0	5,400	18,600
Total	**20,600**	**10,200**	**16,800**	**20,800**
Annual Transit Passenger Trips Crossing the I-5 Bridge				
C-TRAN Express and Local Bus	479,000	3,043,000	3,227,300	552,000
High-Capacity Transit	6,133,000	0	1,600,800	6,121,000
Total	**6,612,000**	**3,043,000**	**4,828,100**	**6,673,000**

Source: CRC, 2009; CRC DEIS, May 2008.

[1] The definition of the 2030 No Build Alternative (Alternative 1 in the DEIS) was updated since the DEIS was published to reflect most current information (see Section 1.3 for details).

[2] Alternatives 2 (BRT) and 3 (LRT) were the Replacement Bridge with BRT and LRT in the DEIS, respectively (see Section 1.3 for details).

[3] Passenger trips for bus and light rail are annualized at different rates based on current annualization factors for the respective modes.

P.M. Peak Direction Passenger Vehicle Mode Split[1] over the I-5 Bridge – Existing and Year 2030

	Existing Conditions	LPA	2030 No Build Alternative[2]	BRT[3]	LRT[3]
SOV	67%	58%	62%	53%	50%
HOV	27%	26%	28%	31%	30%
Transit	6%	17%	9%	17%	19%

Source: CRC, 2009; CRC DEIS, May 2008.

Note: SOV = single-occupancy vehicle, HOV = high-occupancy vehicle. Totals may not sum to 100 percent due to rounding.

1 Mode split is calculated as a percentage of total person trips over the I-5 Columbia River Crossing in the P.M. Peak direction.

2 The definition of the 2030 No Build Alternative (Alternative 1 in the DEIS) was updated since the DEIS was published to reflect most current information (see Section 1.3 for details).

3 BRT and LRT were Alternative 2 (Replacement Bridge with BRT) and Alternative 3 (Replacement Bridge with LRT) in the DEIS, respectively (see Section 1.3 for details).

Average Weekday Transit Mode Split[1] for Home-Based Work Trips by Transit Market Area[2] – Year 2030

Transit Market[2]	Existing Conditions	LPA	2030 No Build Alternative[3]
Vancouver Central City to/from Oregon part of the Project Corridor	11%	39%	26%
Washington part of Project Corridor Residential Area to/from Portland Central City	15%	38%	22%
Portland Central City to/from Project Corridor Residential Area	21%	39%	31%

Source: CRC, 2009; CRC DEIS, May 2008.

1 Mode split is calculated as a percentage of total person trips over the I-5 Columbia River Crossing on an average weekday.

2 See Figure 3-1 in the CRC Transit Technical Report for an illustration of the transit market areas. The definition of these areas has changed since the DEIS, so the DEIS numbers are not comparable and therefore not reported here.

3 The definition of the 2030 No Build Alternative (Alternative 1 in the DEIS) was updated since the DEIS was published to reflect most current information (see Section 1.3 for details).

4 BRT and LRT were Alternative 2 (Replacement Bridge with BRT) and Alternative 3 (Replacement Bridge with LRT) in the DEIS, respectively (see Section 1.3 for details).

Average Weekday P.M. Peak Average Transit Speeds in the CRC Area and Downtown Vancouver– Year 2030

	LPA	2030 No Build Alternative[2]	BRT[3]	LRT[3]
CRC Project Area	19 mph	10 mph	16mph	17mph
Downtown Vancouver	15 mph	8 mph	10 mph	13mph

Source: CRC, 2009; CRC DEIS, May 2008.

Note: mph = miles per hour.

[1] Average transit speeds are calculated by taking a representative transit line in the Metro travel demand model and averaging the link speeds and weighing them by the link lengths

[2] The definition of the 2030 No Build Alternative (Alternative 1 in the DEIS) was updated since the DEIS was published to reflect most current information (see Section 1.3 for details).

[3] BRT and LRT were Alternative 2 (Replacement Bridge with BRT) and Alternative 3 (Replacement Bridge with LRT) in the DEIS, respectively (see Section 1.3 for details).

[4] See Exhibit 1.2-1 of the FEIS for an illustration of the CRC Project Area.

Average Weekday A.M. Peak Hour Transit Travel Time[1] between Select Locations – Year 2030 (minutes)

	LPA	2030 No Build Alternative[2]	BRT[3]	LRT[3]
Northern Terminus[4] to Expo Center	8	16	13	12
Northern Terminus[4] to Pioneer Square	38	50	43	40
Northern Terminus[4] to Lombard Transit Center	14	19	23	18
Downtown Vancouver (7th St. and Washington St.) to Pioneer Square	32	47	35	32
Pioneer Square to Salmon Creek (via Route 134)	32[5]	52[5]	32	32
Lombard Transit Center to Vancouver Mall (via Route 4L)	Not Applicable	Not Applicable	40	39
Hayden Island to 99th Street Transit Center (via 71L)	Not Applicable	Not Applicable	24	32
Salmon Creek to Pioneer Square (via Route 134)	53[5]	58[5]	51	51
Vancouver Mall to Lombard Transit Center (via Route 4L)	Not Applicable	Not Applicable	37	34
99th Street Transit Center to Hayden Island (via 71L)	Not Applicable	Not Applicable	24	19

Source: CRC, 2009; CRC DEIS, May 2008.

Note: SOV = single-occupancy vehicle, HOV = high-occupancy vehicle. Totals may not sum to 100 percent due to rounding.

[1] Transit travel time in this table includes in-vehicle time and wait time for transfers.

[2] The definition of the No-Build Alternative (Alternative 1 in the DEIS) was updated since the DEIS was published to reflect most current information (see see Section 1.3 for details).

[3] BRT and LRT were Alternative 2 (Replacement Bridge with BRT) and Alternative 3 (Replacement Bridge with LRT) in the DEIS, respectively (see Section 1.3 for details).

[4] The northern terminus would be located at proposed Clark College Station under the LPA and at the proposed Lincoln Station under the BRT and LRT alternatives (i.e., Alternatives 2 and 3).

[5] Travel time for LPA and 2030 No Build Alternative is from Pioneer Square to the 99th Street Transit Center via Route #199 – 99th Street Express

Transit Terminus Characteristics and Performance

Characteristic		FEIS	DEIS Alternative 3[1]			
		LPA	Kiggins Bowl terminus	Lincoln terminus	Clark College MOS	Mill Plain MOS
Average Weekday Transit Ridership over the I-5 Bridge		20,600	21,100	20,800	18,200	19,100
Annual Transit Ridership over the I-5 Bridge[2]		6,612,000	6,780,000	6,670,000	5,820,000	6,110,000
Peak/Peak Direction Vehicle Mode Split over the I-5 Bridge[3]	SOV	58%	50%	50%	52%	50%
	HOV	26%	29%	29%	29%	27%
	Transit	17%	21%	21%	19%	23%
Transit Accessibility	Clark County households within ½ mile of HCT station	4 %	5%	5%	4%	3%
	Clark County employment within ½ mile of HCT station	10 %	11%	11%	10%	9%
Increased Capital Cost[4]		**$931.7M**	**$1,068.8M**	**$879.3M**	**$674.9M**	**$615.8M**
Increase Annualized Capital Costs[4]		**$51.2M**	**$88.4M**	**$73.5M**	**$57.5M**	**$51.6M**
Increased Annual Operating Cost[5]		**$4,844,000**	**$4,240,000**	**$3,510,000**	**$2,950,000**	**$2,830,000**
Cost-Effectiveness[6]		**$8.47**	**$13.67**	**$11.55**	**$10.38**	**$8.91**

Source: CRC, 2009; CRC DEIS, May 2008.

Note: all data is based on 2030 operations and expressed in current dollars. HCT = high capacity transit; SOV = single-occupancy vehicle; HOV = high-occupancy vehicle. Totals may not sum to 100 percent due to rounding.

1 Alternative 3 from the DEIS is defined as the Replacement Bridge with LRT (see Chapter 2 of the DEIS) and was based on the Lincoln terminus.

2 Annual transit ridership is based on average weekday transit ridership multiplied by annualization factors for bus and high capacity transit based on current annualization for the respective modes.

3 Mode split is calculated as a percentage of total person trips over the I-5 Columbia River Crossing on an average weekday.

4 Capital costs are based on the transit fleet size in 2030 and do not include the cost of bicycle and pedestrian improvements that are included in the capital costs for the LPA reported in Chapter 4. Capital costs are annualized based on FTA's current guidance.

5 The increase in annual O&M costs for C-TRAN and TriMet compared to the 2030 No Build Alternative expressed in 2009 dollars for the DEIS alternatives and 2010 dollars for the LPA.

6 This cost-effectiveness measure is a local evaluation metric that differs from FTA's New Starts measure of cost effectiveness used to prepare a New Starts rating (see Chapter 4). Cost-effectiveness in this table is calculated as the change in annual O&M costs plus the change in annualized capital costs, divided by the change in annualized transit ridership across the I-5 bridge in 2030 (where the change is from the 2030 No Build Alternative). Note that the definition of the 2030 No Build Alternative (Alternative 1 in the DEIS) was updated for the LPA to reflect most current information (see Section 1.3 for details) – the changes in costs for the LPA are related to the current definition of the 2030 No Build Alternative; the changes in costs for the BRT and LRT alternatives from the DEIS are related to the definition of the 2030 No Build Alternative for the DEIS. Note that the cost effectiveness of the terminus options for Alternative 3 would be dependent on the configuration of park-and-ride lots and spaces (see Appendix D for details of how the Clark terminus was chosen for the LPA).

Average Weekday Transit Ridership and Transit Mode Split[1] for the LPA, 2030 No Build Alternative and Efficient and Increased Transit Operations Alternatives[2] – Year 2030

	LPA	2030 No Build Alternative	Efficient Operations[2]		Increased Operations[2]	
			BRT	LRT	BRT	LRT
Transit Ridership across the I-5 Bridge						
PM peak period[3]	6,850	3,800	4,900	6,100	5,600	6,700
Daily	20,600	10,200	16,800	20,800	19,800	23,100
Transit mode split across the I-5 Bridge						
PM peak period[3]	17%	9%	19%	21%	33%	37%
Daily	16%	12%	13%	15%	15%	16%

Source: CRC, 2009; CRC DEIS, May 2008.

1 Mode split is calculated as a percentage of total person trips over the I-5 Columbia River Crossing on an average weekday.

2 Efficient Operations were defined in the CRC DEIS as Alternative 2 (i.e., Replacement Bridge with BRT and transit service levels equilibrated to demand) and Alternative 3 (i.e. Replacement Bridge with LRT and transit service levels equilibrated to demand); Increased Operations were defined in the CRC DEIS as Alternative 4 (i.e., Supplemental Bridge with BRT and transit service levels increased by approximately 50 percent, compared to Alternative 2) and Alternative 3 (i.e. Supplemental Bridge with LRT and transit service levels increased by approximately 50 percent, compared to Alternative 3) – see Chapter 2 of the DEIS for details.

3 The PM peak period spans four hours for transit and autos. The mode split across the I-5 bridge does not include busses traveling on I-205.

Average Weekday P.M. Peak Average Transit Speeds[1] in the CRC Area and Downtown Vancouver for the LPA, 2030 No Build Alternative and Efficient and Increased Transit Operations Alternative – Year 2030

			Efficient Operations[2]		Increased Operations[2]	
	LPA	**2030 No Build Alternative[3]**	**BRT**	**LRT**	**BRT**	**LRT**
Transit Speeds[1]						
CRC Project Area[4]	19 mph	10 mph	15 mph	17 mph	13 mph	17 mph
Downtown Vancouver	15 mph	8 mph	10 mph	13 mph	8 mph	13 mph
Travel time from Expo Center to Northern Terminus[4]	8 min.	16 min.	13 min.	12 min.	19 min.	12 min.

Source: CRC, 2009; CRC DEIS, May 2008. Note: mph = miles per hour.
Note: N/A = not applicable.

1 Average transit speeds are calculated by taking a representative transit line in the Metro travel demand model and averaging the link speeds and weighing them by the link lengths.

2 Efficient Operations were defined in the CRC DEIS as Alternative 2 (i.e., Replacement Bridge with BRT and transit service levels equilibrated to demand) and Alternative 3 (i.e. Replacement Bridge with LRT and transit service levels equilibrated to demand); Increased Operations were defined in the CRC DEIS as Alternative 4 (i.e., Supplemental Bridge with BRT and transit service levels increased by approximately 50 percent, compared to Alternative 2) and Alternative 3 (i.e. Supplemental Bridge with LRT and transit service levels increased by approximately 50 percent, compared to Alternative 3) – see Chapter 2 of the DEIS for details.

3 The definition of the 2030 No Build Alternative (Alternative 1 in the DEIS) was updated since the DEIS was published to reflect most current information (see Section 1.3 for details).

4 Transit travel time in this table includes in-vehicle time and wait time for transfers. The northern terminus would be located at proposed Clark College Station under the LPA and at the proposed Lincoln Station under the Efficient Operations and Increased Operations alternatives (i.e., Alternatives 2/4 and 3/5, respectively).

This page left blank intentionally.

Appendix B

Metro's 2004 Regional Transportation Plan (RTP) Financially Constrained Project List and RTC's 2007 Metropolitan Transportation Plan (MTP) Financially Constrained Project List (amended July, 2008)

This page left blank intentionally.

Appendix B: Financially-Constrained Project List from Metro's 2004 Regional Transportation Plan and RTC's 2007 Metropolitan Transportation Plan (amended July, 2008)

RTP #	2040 Link	Jurisdiction	Project Name (Facility)	Project Location	Project Description	2020 RTP Priority System	2030 RTP Illustrative System	2030 RTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	RTP Program Years	Primary Modal Type	Primary Mode	2040 Category
1025	Central City	ODOT	I-5/North Macadam Access Improvements	NB I-5 to NB Macadam Avenue	Construct new off-ramp	X	X	X	$ 20,000,000	2016-25	13	mv	1
1027	Central City	Portland/ODOT	South Portland Improvements	South Portland sub-area	Redesign Naito Pkwy as a neighborhood collector and reconnect east-west local streets. Rebuild Ross Island Bridge Ramps to separate regional traffic from neighborhood streets and improve access to I-405 and I-5	X	X	X	$ 28,293,000	2010-15	13	mv	1
1028	Central City	Portland/ODOT	Kerby Street Improvements	Kerby Street at I-5	Improve I-405/Kerby Street interchange to calm traffic and improve local access	X	X	X	$ 515,000	2004-09	1	mv	1
1029	Central City	Portland	SE Water Avenue Extension	SE Water Avenue	Extend SE Water Avenue from Caruthers to Division Place	X	X	X	$ 288,750	2004-09	1	mv	2
1030	Central City	ODOT	Ross Island Bridge Interchange	East approach to Ross Island Bridge	Interchange improvement	X	X	X	$ 5,082,000	2016-25	13	mv	2
1032	Central City	Portland	Southern Triangle Circulation Improvements	Between the Ross Island Bridge - Hawthorne Bridge/ Willamette River - SE Grand-MLK	Improve local street network and regional access routes in the area. Improve highway access route from CEID to I-5 SB via the Ross Island Bridge	X	X	X	$ 2,887,500	2016-25	1	mv	2
1035	Central City	Portland	SW Columbia Street Reconstruction	18th Avenue to Naito Parkway	Rebuild street	X	X	X	$ 924,000	2004-09	1	mv	1
1036	Central City	Portland	Broadway/Flint Arena Access	Broadway/Flint at Rose Quarter	Intersection realignment	X	X	X	$ 358,050	2004-09	1	mv	1
1037	Central City	Portland	Bybee Boulevard Overcrossing	Bybee Boulevard/McLoughlin Boulevard	Replace substandard 2-lane bridge with 2-lane bridge with standard clearance	X	X	X	$ 4,042,500	2010-15	1	mv	1
1039	Central City	Portland	SE Belmont Ramp	Belmont ramp of Morrison Bridge, eastside	Reconstruction of the ramp to provide better access to the Central Eastside	X	X	X	$ 1,732,500	2010-15	1	mv	1
1047	Central City	Portland	SE Seventh-Eighth Avenue Connection	Central Eastside Industrial District	Construct new street connection from SE Seventh to Eighth Avenue at Division Street	X	X	X	$577,500	2010-15	1	mv	2
1051	Central City	Portland	W. Burnside Street Improvements	W 15th to NW 23rd	Boulevard design improvements including pavement reconstruction, wider sidewalks, curb extensions, safer crossings, traffic signals at W 20th Pl and W 22nd, and traffic management to limit motorist delays	X	X	X	$10,000,000	2004-09	4	blvd	1
1052	Central City	Portland	North Macadam Street Improvements	South Waterfront District of the central city	Implement street improvements identified in the South Waterfront Framework Plan, including Bancroft, Bond, Curry, River Parkway, Harrison connector, key access intersections and other street improvements	X	X	X	$20,501,250	2004-09	1	mv	1

RTP #	2040 Link	Jurisdiction	Project Name (Facility)	Project Location	Project Description	2020 RTP Priority System	2030 RTP Illustrative System	2030 RTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	RTP Program Years	Primary Modal Type	Primary Mode	2040 Category
1053	Central City	Portland	Naito Parkway Improvements	NW Davis to SW Market	Complete boulevard design improvements, including bike lanes, pedestrian crossings and pavement reconstruction	X	X	X	$ 7,400,000	2004-09	4	blvd	1
1054	Central City	Portland	Broadway/Weidler Improvements, Phase II and III	At Arena and 15th Avenue to 24th Avenue	Complete boulevard design improvements and ITS	X	X	X	$ 6,456,450	2004-09	4	blvd	1
1055	Central City	Portland/ODOT	MLK/Grand Improvements	Central Eastside and Lloyd districts	Complete boulevard design improvements	X	X	X	$ 3,465,000	2016-25	4	blvd	1
1082	Central City	Portland	SE Grand Avenue Bridgehead Improvements	Central Eastside Industrial District	Reconstruct west edge of SE Grand at bridgehead to provide sidewalks and urban standard turn lanes for vehicles and truck safety and access	X	X	X	$ 1,600,000	2004-09	6	ped	1
1084	Central City	Portland	Clay/Second Pedestrian/Vehicle Signal	SW Clay Street and SW Second Avenue	New signal installation	X	X	X	$ 115,500	2004-09	6	ped	1
1089	Central City	Portland	East Burnside/NE Couch Couplet and Street Improvements	East 12th Avenue to Burnside Bridge	Implement a one-couplet design including new traffic signals, widened sidewalks, curb extension, bike lanes, on-street parking and street trees	X	X	X	$ 7,500,000	2010-15	4	blvd	1
1090	Central City	Portland	W Burnside/NW Couch Couplet and Street Improvements	Burnside Bridge to West 15th Avenue	Implement a one-couplet design including new traffic signals, widened sidewalks, curb extension, bike lanes, on-street parking and street trees	X	X	X	$ 7,500,000	2010-15	4	blvd	1
1096	Central City	Portland	Barbur/I-5 Corridor Study	I-405 to Highway 217	Assess corridor improvement options	X	X	X	$ 1,732,500	2004-09	2	mmstudy	3
2109	Fairview/WV Transit Center (TC)	Multnomah Co.	Glisan Street Improvements	202nd Avenue to 207th Avenue	Complete reconstruction of Glisan Street to five lanes	X	X	X	$ 1,800,000	2004-09	1	mv	3
2110	Fairview/WV TC	Multnomah Co.	MKC Collector	Halsey Street to Arata Road	Construct new collector of regional significance	X	X	X	$ 1,100,000	2016-25	1	mv	3
1266	Gateway RC	Portland	NE/SE 99th Avenue Phases II and III	NE Glisan Street to SE Washington Street and SE Washington Street to SE Market Street	Reconstruct primary local main street in Gateway regional center	X	X	X	$ 4,042,500	2010-15	1	mv	1
2008	Gateway RC	Portland	102nd Avenue Boulevard and ITS/Safety Improvements, Phase 1	NE Weidler to NE Glisan Street	Implement Gateway regional center plan with boulevard design retrofit, new traffic signals, improved pedestrian facilities and crossings, street lighting, bicycle lanes and multimodal safety improvements	X	X	X	$ 3,234,000	2004-09	4	blvd	1
2010	Gateway RC	Portland	Halsey/Weidler Boulevard and ITS	within regional center between I-205 and NE 114th Avenue	Implement Gateway regional center plan with boulevard design retrofit, new traffic signals, improved pedestrian facilities and crossings, street lighting and new bicycle facilities	X	X	X	$ 12,127,500	2016-25	4	blvd	1
2011	Gateway RC	Portland	Glisan Street Boulevard and ITS	within regional center between I-205 and NE 106th Avenue	Implement Gateway regional center plan with boulevard design retrofit, new traffic signals, improved pedestrian facilities and crossings, street lighting and new bicycle facilities	X	X	X	$ 2,310,000	2010-15	4	blvd	1

RTP #	2040 Link	Jurisdiction	Project Name (Facility)	Project Location	Project Description	2020 RTP Priority System	2030 RTP Illustrative System	2030 RTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	RTP Program Years	Primary Modal Type	Primary Mode	2040 Category
2012	Gateway RC	Portland	SE Stark/Washington Boulevard and ITS/Safety Improvements	92nd Avenue to 111th Avenue	Implement Gateway regional center plan with boulevard design retrofit, new traffic signals, improved pedestrian facilities and crossings, street lighting, bicycle lanes and multimodal safety improvements	X	X	X	$ 4,389,000	2010-15	4	blvd	1
2015	Gateway RC	Portland	102nd Avenue Boulevard and ITS/Safety Improvements, Phase II	NE Glisan Street to SE Market Street	Implement Gateway regional center plan with boulevard design retrofit, new traffic signals, improved pedestrian facilities and crossings, street lighting, bicycle lanes and multimodal safety improvements	X	X	X	$ 7,091,700	2010-15	4	blvd	1
2029	Gresham RC	Multnomah Co.	242nd Avenue Reconstruction	Powell Boulevard to Burnside Road	Reconstruct 242nd Avenue to five lanes	X	X	X	$2,400,000	2016-25	1	mv	1
2032	Gresham RC	Multnomah Co.	Burnside/Hogan Intersection Improvement	Intersection of 242nd/Burnside Street	Improve intersection by adding a southbound through lane	X	X	X	$ 546,000	2016-25	1	mv	1
2041	Gresham RC	Multnomah Co.	257th Avenue Corridor Improvements	Division Street to Powell Valley Road	Reconstruct street to arterials standards, including bike lanes, sidewalks, drainage, lighting and traffic signals	X	X	X	$ 4,800,000	2004-09	1	mv	2
2044	Gresham RC	Multnomah Co.	Orient Drive Improvements	282nd Avenue to 257th Avenue	Improve Orient Drive	X	X	X	$4,158,000	2016-25	1	mv	2
2045	Gresham RC	Multnomah Co.	190th Avenue Improvements	Butler Road to Highland Drive and Powell Boulevard to 190th Avenue	Reconstruct and widen street to five lanes with sidewalks and bike lanes. Widen and determine the appropriate cross section for Highland Drive and Pleasant View Drive from Powell Boulevard to 190th Avenue based on the recommendations from Phase 2 of the Powell Boulevard/Foster Road Corridor Study	X	X	X	$ 12,500,000	2010-15	1	mv	3
2048	Gresham RC	Multnomah Co.	Burnside Street Improvements	NE Wallula Street to Hogan Road	Complete boulevard design improvements	X	X	X	$7,484,400	2004-09	4	blvd	1
1119	Hollywood TC	Portland	Sandy Boulevard/Burnside/12th Avenue Intersection	Sandy Boulevard/Burnside/12th Avenue Intersection	Redesign intersection	X	X	X	$ 4,620,000	2004-09	1	mv	3
1120	Hollywood TC	Portland	Sandy Boulevard Multimodal Improvements, Phase I	12th Avenue to 47th Avenue	Retrofit existing street with multimodal boulevard improvements including redesign of selected intersections to add turn lanes and improve pedestrian crossings, bike lanes, on-street parking, and safety improvements	X	X	X	$ 17,325,000	2004-09	4	blvd	3
1122	Hollywood TC	Portland	Sandy Boulevard Multimodal Improvements, Phase II	47th Avenue to 99th Avenue	Retrofit existing street with multimodal boulevard improvements including redesign of selected intersections to add turn lanes and improve pedestrian crossings, bike lanes, on-street parking, and safety improvements	X	X	X	$ 4,620,000	2010-15	4	blvd	3
1226	Interstate SC	Portland	Killingsworth Bridge Improvements	Killingsworth at I-5	Improvements to bridge to create a safe and pleasant crossing for pedestrians and bicyclists over I-5	X	X	X	$2,700,000	2016-25	15	bike/ped	3

RTP #	2040 Link	Jurisdiction	Project Name (Facility)	Project Location	Project Description	2020 RTP Priority System	2030 RTP Illustrative System	2030 RTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	RTP Program Years	Primary Modal Type	Primary Mode	2040 Category
1160	Lents TC	Portland	Foster-Woodstock, Phase I	87th-94th Avenues and 92nd Avenue within the Foster-Woodstock couplet	Implement Lent Town Center Business District Plan with new traffic signals, pedestrian amenities, wider sidewalks, pedestrian crossings, street lighting, increased on-street parking	X	X	X	$6,930,000	2004-09	6	ped	3
1161	Lents TC	Portland	Foster-Woodstock, Phase II	87th-94th Avenues and 92nd Avenue within the Foster-Woodstock couplet	Implement Lent Town Center Business District Plan with new traffic signals, pedestrian amenities, wider sidewalks, pedestrian crossings, street lighting	X	X	X	$5,775,000	2010-15	6	ped	3
1162	Lents TC	Portland	Foster Road Improvements	79th to 87th Avenues	Implement Lent Town Center Business District Plan with new traffic signals, pedestrian amenities, wider sidewalks, pedestrian crossings, street lighting, increased on-street parking, as appropriate	X	X	X	$ 2,310,000	2016-25	6	ped	3
2069	PDX IA	ODOT	I-205 Interchange Improvement	I-205 NB/Airport Way Interchange	New I-205 NB on-ramp at I-205/Airport Way interchange (Phase 1 in FC: modify signing, striping channelization and signal timing for NB on-ramp)	X	X	X	$23,100,000	2004-09	13	mv	2
2070	PDX IA	ODOT	I-205 Interchange Improvement	I-205 SB/Airport Way Interchange	Widen I-205 SB on-ramp at Airport Way; modify signing, striping channelization and/or signal timing for the I-205 NB on-ramp at Airport Way	X	X	X	$650,000	2004-09	13	mv	2
4017	PDX IA	Port	SW Quad Access	33rd Avenue	Provide street access from 33rd Avenue into SW Quad	X	X	X	$ 1,732,500	2004-09	1	mv	2
4021	PDX IA	Port	Airport Way Improvements, West	82nd Avenue to PDX terminal	Widen to three lanes in both directions	X	X	X	$11,550,000	2010-15	1	mv	2
4022	PDX IA	Portland/Port	East Columbia/Lombard Street Connector	Columbia/US 30 Bypass: NE 82nd Avenue to I-205	Provide free-flow connection from Columbia Boulevard/82nd Avenue to US 30 Bypass/I-205 interchange	X	X	X	$28,865,250	2004-09	1	mv	2
4026	PDX IA	Port/Portland	Cascades Parkway Connection	Cascades Parkway to Alderwood Road	Construct two-lane extension	X	X	X	$1,732,500	2004-09	1	mv	2
4028	PDX IA	Port	Airport Way/82nd grade separation	82nd Avenue/Airport Way	Construct grade separated overcrossing	X	X	X	$ 12,705,000	2010-15	1	mv	2
4031	PDX IA	Port	Airport Way return and Exit Roadways	Airport Way	Relocate Airport Way exit roadway and construct new return roadway	X	X	X	$16,170,000	2010-15	1	mv	2
4032	PDX IA	Port	Airport Way terminal entrance roadway relocation	PDX terminal	Relocate and widen Airport Way northerly at terminal entrance to maintain access and circulation	X	X	X	$4,620,000	2004-09	1	mv	2
4033	PDX IA	Port	Airport Way east terminal access roadway	PDX east terminal	Construct Airport Way east terminal access roadway	X	X	X	$9,240,000	2010-15	1	mv	2
4038	PDX IA	Port	82nd Avenue/Alderwood Road Improvement	82nd Avenue/Alderwood Road intersection	Construct new turn lanes, restripe and modify traffic signal	X	X	X	$ 790,000	2004-09	1	mv	2
4039	PDX IA	Port	NE 92nd Avenue	NE 92nd/Columbia Boulevard/Alderwood	Improvement to be defined	X	X	X	$ 1,732,500	2016-25	1	mv	2
4040	PDX IA	Portland	47th Avenue Intersection and Roadway Improvements	at Columbia Boulevard	Widen and channelize NE Columbia Boulevard to facilitate truck turning movements; add sidewalks and bike facilities	X	X	X	$ 2,800,000	2004-09	1	mv	2
4041	PDX IA	Portland	Columbia Boulevard/Alderwood Improvements	at Alderwood Road intersection	Widen and signalize intersection	X	X	X	$ 1,460,000	2004-09	1	mv	2

RTP #	2040 Link	Jurisdiction	Project Name (Facility)	Project Location	Project Description	2020 RTP Priority System	2030 RTP Illustrative System	2030 RTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	RTP Program Years	Primary Modal Type	Primary Mode	2040 Category
4042	PDX IA	Port	Cornfoot Road Intersection Improvement	Alderwood/Cornfoot intersection	Add signal, improve turn lanes at intersection	X	X	X	$ 730,000	2004-09	1	mv	2
4043	PDX IA	Portland	33rd/Marine Drive Intersection Improvement	NE 33rd and Marine Drive	Signalize 33rd/Marine Drive intersection for freight movement	X	X	X	$ 288,750	2010-15	1	mv	2
4044	PDX IA	Port/Portland	Columbia/82nd Avenue Improvements	Columbia Boulevard at 82nd Avenue southbound ramps	Add through lanes on Columbia Boulevard, a SB right turn lane and signalize	X	X	X	$ 1,130,000	2004-09	1	mv	2
4045	PDX IA	Port/Portland	Airport Way/122nd Avenue Improvements	Airport Way at 122nd Avenue	Add NB left-turn lane, modify traffic signal and reconstruct island	X	X	X	$ 490,000	2004-09	1	mv	2
7006	Pleasant Valley TC	Portland	SE Foster Improvements	SE 122nd Avenue to Jenne Road	Widen Foster Road to four lanes from SE 122nd to SE Barbara Welch Road. Widen and determine the appropriate cross section of Foster Road from SE Barbara Welch Road to Jenne Road by completing Phase 2 of the Powell Boulevard/Foster Road Corridor Study in order to meet roadway, transit, pedestrian and bike needs	X	X	X	$14,000,000	2010-15	1	mv	3
7007	Pleasant Valley TC	Portland/Gresham	SE 174th North/South Improvements	SE Foster to Powell Boulevard	Based on the recommendations from the Powell Boulevard/Foster Road Corridor Study (#1228), construct a new north-south capacity improvement project in the vicinity of SE 174th Avenue/Jenne Road between SE Powell Boulevard and Giese Road in Pleasant Valley. This replaces former project 7007 which widened Jenne Road to three lanes from Powell Boulevard to Foster Road	X	X	X	$ 13,000,000	2010-15	1	mv	3
1271	Portland Corridor	ODOT	Linnton Community Bike and Pedestrian Improvements	Harbor Avenue to 112th Avenue	Replace 2 traffic signals @ 105th & 107th Ave., curb bulb-outs, sidewalks, and possibly adding pedestrian crossings	X	X	X	$550,000	2016-25	15	ped/bike	4
1209	Portland Mainstreet	Portland	NW 23rd Avenue Reconstruction	Burnside Street to Lovejoy Street	Rebuild street	X	X	X	$ 1,810,000	2004-09	1	mv	3
1012	Region	Multnomah Co.	Sellwood Bridge Replacement	Multnomah County	Implement recommendations from South Willamette Study	X	X	X	$ 90,000,000	2004-09	10	mv	3
1163	Region	ODOT	I-205/Powell Boulevard/Division interchanges	I-205 and Powell Boulevard and Division Street	Construct improvements to allow full turning movements	X	X	X	$12,000,000	2016-25	1	mv	4
1164	Region	ODOT	I-205 Ramp Study - PE/EA	I-205/Powell to Division	Perform a design study to evaluate modifications to the existing overpass at I-205 and Powell Boulevard, including full access ramps to and from I-205. The study should also address impacts to the interchange influence area along Powell Boulevard, Division Street, and SE 92nd Avenue.	X	X	X	$1,000,000	2004-09	2	mv	4
1165	Region	ODOT	I-205 Ramp Right-of-way Acquisition	I-205/Powell to Division	Acquire ROW	X	X	X	$2,000,000	2004-09	2	mv	4
2000	Region	Multnomah Co.	Hogan Corridor Improvements	Stark Street to Palmquist (Stark to Powell in FC)	Interim capacity improvements and access controls	X	X	X	$ 13,860,000	2004-09	13	mv	1

RTP #	2040 Link	Jurisdiction	Project Name (Facility)	Project Location	Project Description	2020 RTP Priority System	2030 RTP Illustrative System	2030 RTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	RTP Program Years	Primary Modal Type	Primary Mode	2040 Category
3006	Region	ODOT	US 26 Improvements	US 26 between Sylvan and Highway 217	Complete interchange improvements by adding third through-lane and collector distributor system from Camelot Court to Sylvan Road (Phase 3)	X	X	X	$ 25,410,000	2004-09	13	mv	2
4004	Region	ODOT	Greeley Street Ramp Improvements	Greeley Street/I-5 ramps	Modernize Greeley Street ramps	X	X	X		2004-09	13	mv	1
4005	Region	ODOT	I-5 North Improvements	Lombard Street to Expo Center/Delta Park	Widen to six lanes	X	X	X	$ 41,000,000	2004-09	13	mv	1
4006	Region	ODOT	I-5/Columbia Boulevard Improvement	I-5/Columbia Boulevard interchange	Construct full direction access interchange based on recommendations from I-5 North Trade Corridor Study	X	X	X	$56,000,000	2010-15	13	mv	2
4009	Region	ODOT	I-5 Trade Corridor Study and Tier 1 DEIS	I-405 (OR) to I-205 (WA)	Plan improvements to I-5 to benefit freight traffic	X	X	X	$ 15,000,000	2004-09	2	mm study	2
5016	Region	ODOT	Highway 213 Grade Separation	Washington Street at Highway 213	Grade separate southbound Highway 213 at Washington Street and add a northbound lane to Highway 213 from just south of Washington Street to the I-205 on-ramp.	X	X	X	$ 10,395,000	2010-15	13	mv	1
5017	Region	ODOT	Highway 213 Intersection Improvements	Abernethy at Highway 213	Intersection improvements	X	X	X	$ 3,465,000	2010-15	13	mv	1
5021	Region	ODOT	Highway 224 Extension	I-205 to Highway 212/122nd Avenue	Construct new four-lane highway and reconstruct Highway 212/122nd Avenue interchange	X	X	X	$84,315,000	2010-15	13	mv	2
5023	Region	ODOT	I-205/Highway 213 Interchange Improvement	I-205 at Highway 213	Reconstruct I-205 southbound off-ramp to Highway 213 to provide more storage and enhance highway operations and safety	X	X	X	$1,155,000	2010-15	13	mv	1
5199	Region	ODOT	I-205 Auxiliary Lanes	I-5 to Stafford Road	Add auxiliary lanes as part of pavement preservation project	X	X	X	$ 8,000,000	2004-09	13	mv	1
4063	Rivergate IA	ODOT/Portland	N. Lombard Improvements	Lombard Street from Rivergate Boulevard (Purdy) to south of Columbia Slough bridge	Widen street to three lanes	X	X	X	$ 3,610,000	2004-09	1	mv	2
4065	Rivergate IA	Port/Portland	North Lombard Overcrossing	South Rivergate	Construct overpass from Columbia/Lombard intersection into South Rivergate entrance to separate rail and vehicular traffic. Project includes motor vehicle lanes, bike lanes, and sidewalks.	X	X	X	$24,453,660	2004-09	1	mv	2
4087	Rivergate IA	Port	Leadbetter Street Extension and Grade Separation	to Marine Drive	Extend street and construct grade separation	X	X	X	$ 8,000,000	2004-09	1	mv	2
4088	Rivergate IA	Port/Portland	Terminal 4 Driveway Consolidation	Lombard Street at Terminal 4	Consolidate two signalized driveways at Terminal 4	X	X	X	$ 1,000,000	2004-09	1	mv	2
2074	South Shore IA	Multnomah Co.	Sandy Boulevard Widening	122nd Avenue to 238th Avenue	Widens street to five lanes with sidewalks and bike lanes	X	X	X	$ 11,800,000	2016-25	1	mv	2
2051	Springwater IA	ODOT	US 26/Springwater Interchange Improvement	US 26 at Springwater	New interchange on US 26 to serve industrial area		X	X	$ 25,000,000	2004-09	13	mv	2

RTC Metropolitan Transporta-tion Plan	Jurisdiction (Not provided in MTP)	Project Name (Facility)	Project Location	Project Description	2018 Opening Year System	2030 MTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	MTP Program Years	Primary Mode	2040 Category
MTP	WSDOT	I-5	Columbia River Crossing (CRC). SR-500 in Vancouver, Washington to Columbia Boulevard in Portland, Oregon	Replacement I-5 river crossing and reconstructed interchanges. Light Rail Transit with terminus in Clark College vicinity.	X	X	N/A	2017		N/A
MTP	WSDOT	I-5	Salmon Creek to I-205	3 lanes each direction	X	X	N/A	2006	mv	N/A
MTP	WSDOT	I-5	SR-502 Interchange	New Interchange	X	X	N/A	2008	mv	N/A
MTP	WSDOT	I-5	Pioneer Street (Ridgefield)/ SR-501 Interchange	Replace Interchange	X	X	N/A	2009	mv	N/A
MTP	WSDOT	I-5	The Salmon Creek Interchange Project (SCIP) at 134th/139th Street	Construct NE 139th St. from NE 20th Ave. to NE 10th Ave. Reconstruct interchange with ramps added at 139th St. NE 10th Ave. Improve NE 10th Ave. from 134th to 149th St. with turn lanes	X	X	N/A	2010-2013	mv	N/A
MTP	WSDOT	I-5/I-205	Salmon Creek Interchange Phase II	Improve access to I-205 with flyover from 134th St to I-205 southbound		X	N/A	2013-2020	mv	N/A
MTP	WSDOT	I-5	319th Street Interchange	Rebuild Interchange	X	X	N/A	2011-2015	mv	N/A
MTP	WSDOT	I-5	I-205 to 179th Street	Auxiliary lane in each direction	X	X	N/A	2012-2013	mv	N/A
MTP	WSDOT	I-5	179th Street to SR-502	Auxiliary lane in each direction		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	I-5	179th Street Interchange	Reconstruct Interchange		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	I-205	Mill Plain Exit (112th Avenue connector)	Build direct ramp to NE 112th Avenue	X	X	N/A	2007	mv	N/A
MTP	WSDOT	I-205	Mill Plain to NE 18th St - Stage I	Ramps/Frontage Road between Mill Plain and 18th Streets	X	X	N/A	2011	mv	N/A
MTP	WSDOT	I-205	Mill Plain to NE 18th St - Stage II	Ramps/Frontage Road between Mill Plain and 18th Streets	X	X	N/A	2016	mv	N/A
MTP	WSDOT	I-205	Mill Plain to 28th Street	Ramps/frontage road between Mill Plain and 28th Streets		X	N/A	2020-2030	mv	N/A
MTP	WSDOT	I-205	I-205/SR14 Interchange	Rebuild Interchange		X	N/A	2020-2030	mv	N/A
MTP	WSDOT	I-205	SR-14 to Mill Plain	Ramp Separation		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	I-205	28th St to SR 500	North ramps		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	I-205	SR-500	WB SR-500 to SB I-205 Flyover		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	I-205	Padden Parkway Interchange	Rebuild interchange		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	I-205	SR-500 to Padden Parkway	3 general purpose and 1 auxiliary lanes each direction		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	I-205	Padden Parkway to 134th Street	3 lanes each direction		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	SR-14	I-205 to 164th Avenue	3 lanes ea. direction		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	SR-14	NW 6th Av. to SR-500/Union	2 lanes ea. direction w. interchange	X	X	N/A	2012	mv	N/A
MTP	WSDOT	SR-14	SE Union Street to 32nd Street	Add lanes and construct interchanges (for safety and capacity)		X	N/A	2016-2025	mv	N/A

RTC Metropolitan Transporta-tion Plan	Jurisdiction (Not provided in MTP)	Project Name (Facility)	Project Location	Project Description	2018 Opening Year System	2030 MTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	MTP Program Years	Primary Mode	2040 Category
MTP	WSDOT	SR-500	at I-205	Extend westbound auxiliary lane	X	X	N/A	2009	mv	N/A
MTP	WSDOT	SR-500	St. Johns Interchange	New Interchange	X	X	N/A	2011	mv	N/A
MTP	WSDOT	SR-500	42nd Avenue	Grade Separation		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	SR-500	54th Avenue	Interchange with collector-distributor connecting to Andresen		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	SR-500	at SR-503/ Fourth Plain	Construct turn lanes	X	X	N/A	2011-2016	mv	N/A
MTP	Port of Ridgefield/ WSDOT	SR-501, Port of Ridgefield Rail Crossing, vicinity of Pioneer Street, Ridgefield	Extend Pioneer St to Port of Ridgefield Rail Overcrossing to Port of Ridgefield	Grade separated crossing of mainline railway. Feasibility study and environmental impacts review	X	X	N/A	2010-2013	mv	N/A
MTP	WSDOT	SR-502	NE 10th Avenue to Battle Ground	2 lanes each direction	X	X	N/A	2013	mv	N/A
MTP	WSDOT	SR-503	at SR-502	Intersection improvement	X	X	N/A	2011-2016	mv	N/A
MTP	Clark County/ WSDOT	SR-503	at Padden Parkway	Add Interchange		X	N/A	2016-2025	mv	N/A
MTP	WSDOT	SR-503	Padden to SR-502	Add Lanes, 3 lanes each direction			N/A	2025-2030	bus	N/A
MTP	WSDOT	SR-503	SR-502 to Gabriel Road	Add Lanes, 2 lanes each direction			N/A		bus	N/A
MTP	WSDOT	SR-503	East Fork Lewis River	Northbound and southbound climbing lane	X	X	N/A	2011	bus	N/A
MTP	WSDOT	Vancouver Rail and 39th Street	RR at 39th Street	Vancouver Rail Bypass and W. 39th Street	X	X	N/A	2010	bus	N/A
MTP	C-TRAN	Fleet Expansion and Replacement	System Wide	Fleet expansion and replacement for fixed route, demand response, and vanpool, including vehicles with alternative fuel technology	X	X	N/A	Ongoing	bus	N/A
MTP	C-TRAN	Transit Enhancements	System Wide	Improvements/amenities at bus stops, super stops, and transit centers - new and existing	X	X	N/A	Ongoing	bus	N/A
MTP	C-TRAN	Administration, Operations, and Maintenance Facility	65th Street & 18th Street	Expansion/redevelopment	X	X	N/A	2010-2015	bus	N/A
MTP	C-TRAN	7th Street Passenger Service	7th Street & Washington	Redevelopment of C-TRAN property at 7th Street		X	N/A		bus	N/A
MTP	C-TRAN	Central County Park & Ride	I-205 & Padden Parkway	Develop Park & Ride	X	X	N/A	2010-2015	bus	N/A
MTP	C-TRAN	Evergreen Park & Ride	18th Street & 136th Avenue	Replacement or expansion of existing facility		X	N/A	2014-2023	bus	N/A
MTP	C-TRAN	219th Street Park & Ride	I-5 & SR-502	Park & Ride facility at new interchange		X	N/A	2020-2030	bus	N/A
MTP	C-TRAN	Salmon Creek Park & Ride	I-5 & 134th/ 139th Streets	Relocate existing park & ride as part of interchange project	X	X	N/A	2008-2010	bus	N/A
MTP	C-TRAN	179th/ Fairgrounds Park & Ride	I-5 & NE 179th Street	Develop Park & Ride		X	N/A	2020-2030	bus	N/A
MTP	C-TRAN	Fisher's Landing Transit Center	SR-14 & 164th Avenue	Expansion of park & ride facility		X	N/A	2014-2023	bus	N/A
MTP	C-TRAN	Vancouver Mall Transit Center	SR-500 & Thurston Way	Upgrades/improvements to transit center	X	X	N/A	2008-2010	bus	N/A

RTC Metropolitan Transporta-tion Plan	Jurisdiction (Not provided in MTP)	Project Name (Facility)	Project Location	Project Description	2018 Opening Year System	2030 MTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	MTP Program Years	Primary Mode	2040 Category
MTP	C-TRAN	High Capacity Transit	TBD	Alternatives Analysis for recommended corridor(s) from HCT Study (New Starts and/or Small Starts)	X	X	N/A	2008-2009	bus	N/A
MTP	C-TRAN	ITS Deployment	System Wide	Deploy ITS Phase 2 and 3, including digital radio system	X	X	N/A	Ongoing	bus	N/A
MTP	Clark County	119th Street	72nd Avenue to SR-503 (117th Av.)	2 lanes ea. direction, w/turn lane	X	X	N/A	2012	mv	N/A
MTP	Clark County	119th Street	Salmon Creek Av. to 72nd Avenue	1 lane ea. direction, w/turn lane	X	X	N/A	2016	mv	N/A
MTP	Clark County	119th Street	NW 7th Av to NW 16th Av	1 lane ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Clark County	179th Street	NE 10th to NE 29th Avenue	2 lanes ea. direction, w/turn lane		X	N/A	2010-2013	mv	N/A
MTP	Clark County	179th Street	NE 29th Avenue to NE 72nd Av.	2 lanes ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Clark County	179th Street	NE 72nd Avenue to Cramer Road	1 lane ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Clark County	179th Street	Cramer Road to NE 112th Av.	1 lane ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Clark County	179th Street	I-5 to NW 11th Avenue	2 lanes ea. direction, w/turn lane		X	N/A	Completion will be by frontage improve-ments 2013 to 2030	mv	N/A
MTP	Clark County	72nd Avenue	N. of 88th Street to 110th St	2 lane ea. direction, w/turn lane	X	X	N/A	2008	mv	N/A
MTP	Clark County	Andresen	Padden Parkway	Add Interchange		X	N/A	2013-2030	mv	N/A
MTP	Clark County	Highway 99	NE 99th Street to NE 119th Street	2 lanes ea. direction, w/turn lane	X	X	N/A	2016	mv	N/A
MTP	Clark County	Highway 99	122nd to 129th Street	2 lanes each direction w/ turn lane		X	N/A	2013-2030	mv	N/A
MTP	Clark County	Highway 99	South RR Bridge (Ross Street) to NE 63rd Street	2 lane ea. direction, w/turn lane (rail bridge)		X	N/A	2013-2030	mv	N/A
MTP	Clark County	NE 119th Street	SR-503 to NE 172nd Avenue	1 lane ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Clark County	NE 182nd Avenue	NE 159th to NE 174th St	Intersection improvements		X	N/A	2013-2030	mv	N/A
MTP	Clark County	NE 72nd Avenue	119th to 133rd Street	2 lanes each direction w/ turn lane		X		2023	mv	N/A
MTP	Clark County	NE 72nd Avenue	NE 133rd to NE 219th St	2 lanes ea. direction, w/turn lane		X		2013-2030	mv	N/A
MTP	Clark County	NE Ward Rd.	NE 88th Street to NE 172nd Ave	2 lanes ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Clark County	NE Ward Rd.	NE 172nd Avenue to Davis Rd	2 lanes ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Clark County	NE Ward Rd.	NE Davis Rd to NE 182nd Avenue	2 lanes ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Clark County	Padden Parkway	SR-503	Add Interchange		X	N/A	2013-2030	mv	N/A
MTP	Clark County	St. John's Blvd.	NE 50th Avenue to 72nd Avenue	2 lanes ea. direction, w/turn lane	X	X	N/A	2008	mv	N/A
MTP	Clark County	St. John's Blvd.	NE 68th St to NE 50th Av.	2 lanes ea. direction, w/turn lane	X	X	N/A	2013-2020	mv	N/A

RTC Metropolitan Transporta-tion Plan	Jurisdiction (Not provided in MTP)	Project Name (Facility)	Project Location	Project Description	2018 Opening Year System	2030 MTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	MTP Program Years	Primary Mode	2040 Category
MTP	Clark County	Ward/ 172nd Av.	S. 99th Street to 119th St.	Realignment	X	X	N/A	2009	mv	N/A
MTP	Clark County	Grace Avenue	Grace Av/ East Main St	Align S Grace and N Grace	X	X	N/A	2009	mv	N/A
MTP	Clark County	NE 199th Street	SE Grace to East City Limits	1 lane ea. direction, w/turn lane, bicycle and pedestrian facilities	X	X	N/A	2011-2015	mv	N/A
MTP	Clark County	SE Grace Avenue	East Main St to NE 199th St	1 lane ea. direction, w/turn lane, bicycle and pedestrian facilities	X	X	N/A	2007-2010	mv	N/A
MTP	Clark County	SR-502/ 12th Avenue	Reconfigure roadway system and signal removal	1 lane ea. direction, w bicycle and pedestrian facilities	X	X	N/A	2009	mv	N/A
MTP	Clark County	SR-503 and NE 199th St.		Improve intersection - add turn lanes	X	X	N/A	2011-2015	mv	N/A
MTP	Clark County	38th Avenue	Bybee Road to Astor	1 lane ea. direction, w/turn lane	X	X	N/A	2010-2016	mv	N/A
MTP	Clark County	NW 6th Av	Ivy to Division	1 lane ea. direction, w/turn lane	X	X	N/A	2010-2016	mv	N/A
MTP	Clark County	E 4th Street	Highland to E. City Limits	Urban upgrade	X	X	N/A	2007	mv	N/A
MTP	Clark County	E 4th Street		Culvert/bridge replacement	X	X	N/A	2010-2016	mv	N/A
MTP	Clark County	La Center Road	at Timmen Road	Construct left turn lanes	X	X	N/A	2010-2016	mv	N/A
MTP	Ridgefield	SR-501 Deceleration Lane	SR-501 and NW 26th Street	Add deceleration lane on north side of SR-501	X	X	N/A	2009	mv	N/A
MTP	Ridgefield	West Vancouver Freight Access	5 Schedules (stages) - Schedule 1 new access to BNSF mainline/spurs to LaFarge and Albina Fuel; Schedules 2 - 4 internal rail improvements; Schedule 5 new access to Columbia Gateway	Cost estimates are in the range of $77 million to $100 million	X	X	N/A	Phased, 2007-2020	mv	N/A
MTP	Ridgefield	Hillhurst Road	Royle to 229th extension	Upgrade to 5 lane principal arterial	X	X	N/A	2012	mv	N/A
MTP	Vancouver	Hillhurst Road	SR-501 to Royle Road	1 lane each direction w/ turn lane	X	X	N/A	2013	mv	N/A
MTP	Vancouver	Hillhurst Road	Realign and connect to 8th Ave.	Extend existing road	X	X	N/A	2015	mv	N/A
MTP	Vancouver	I-5	219th St. to SR-501	NB auxiliary lane along I-5		X	N/A		mv	N/A
MTP	Vancouver	I-5	SR-501 to 219th St.	SB auxiliary lane along I-5		X	N/A		mv	N/A
MTP	Vancouver	Pioneer Street Bridge	over Gee Creek	Bridge Replacement	X	X	N/A	2015	mv	N/A
MTP	Vancouver	Pioneer Street/ SR-501	I-5 NB Ramps to S 10th Street	2 lanes each direction w/ turn lane	X	X	N/A	2008	mv	N/A
MTP	Vancouver	Pioneer Street/ SR-501	.5 mile west of S 45th to I-5 NB ramps	2 lanes each direction w/ turn lane	X	X	N/A	2010	mv	N/A
MTP	Vancouver	Pioneer Street/ SR-501	.5 miles west of S 45th to W of Reiman Road	Widen, 1-2 lanes each direction	X	X	N/A	2015	mv	N/A
MTP	Vancouver	112th Avenue	Mill Plain to 49th Street	2 lanes ea. direction, w/turn lane		X	N/A	2016-2025	mv	N/A
MTP	Vancouver	137th Avenue	49th Street to Vancouver City Limits	2 lanes ea. direction, w/turn lane	X	X	N/A	2007-2012	mv	N/A
MTP	Vancouver	138th Avenue	28th Street to 39th Street	2 lanes ea. direction, w access management	X	X	N/A	2007-2012	mv	N/A
MTP	Vancouver	164th Avenue	SE 1st to SE 34th St	Reconstruct intersections to improve traffic flow	X	X	N/A	2007-2012	mv	N/A
MTP	Vancouver	18th Street	162nd Avenue to 192nd Avenue	2 lanes ea. direction, w/turn lane	X	X	N/A	2012	mv	N/A

RTC Metropolitan Transporta-tion Plan	Jurisdiction (Not provided in MTP)	Project Name (Facility)	Project Location	Project Description	2018 Opening Year System	2030 MTP Financially Constrained System	Est. Project Cost in 2003 dollars ("*" indicates phasing in financially constrained system)	MTP Program Years	Primary Mode	2040 Category
MTP	Vancouver	18th Street	97th Avenue to NE 138th Avenue	2 lanes ea. direction, w/turn lane	X	X	N/A	2007-2012	mv	N/A
MTP	Vancouver	18th Street	138th Avenue to 162nd Avenue	2 lanes ea. direction, w/turn lane	X	X	N/A	2007-2012	mv	N/A
MTP	Vancouver	18th Street	87th Avenue to 97th Avenue	Extend existing street 1 lane ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Vancouver	192nd Avenue	SE 1st Street to NE 18th Street	2 lanes ea. direction, w/turn pockets	X	X	N/A	2010	mv	N/A
MTP	Vancouver	49th Street	122nd to 137th Avenue	1 lane ea. direction, w/turn lane		X	N/A	2013-2030	mv	N/A
MTP	Vancouver	E. Mill Plain	136th Ave. Intersection	Intersection improvement	X	X	N/A	2010	mv	N/A
MTP	Vancouver	Fourth Plain	I-5 to Railroad Bridge	2 lanes each direction	X	X	N/A	2013-2030	mv	N/A
MTP	Vancouver	Fourth Plain Boulevard/ Andresen	Intersection Influence Area	Reconstruct Fourth Plain in vicinity of 65th/66th Avenue to Andresen	X	X	N/A	2007-2013	mv	N/A
MTP	Vancouver	Fruit Valley Rd	Whitney to 78th Street	1 lane ea. direction, w/turn lane		X	N/A	2013-2020	mv	N/A
MTP	Vancouver	Grand Blvd.	Columbia House Way Intersection	Intersection improvement	X	X	N/A	2008	mv	N/A
MTP	Vancouver	MacArthur Blvd.	Lieser Rd. Intersection	Intersection improvement	X	X	N/A	2012	mv	N/A
MTP	Vancouver	Main Street	5th Street to McLoughlin	Convert to two-way street	X	X	N/A	2008	mv	N/A
MTP	Vancouver	Main Street	5th Street to Columbia Way	Re-connect to waterfront S. of rail berm	X	X	N/A	2011	mv	N/A
MTP	Vancouver	NE 28th Street	142nd Avenue to 162nd Avenue	1 lane ea. direction, w/turn lane	X	X	N/A	2013-2030	mv	N/A
MTP	Vancouver	SE 15th Street	164th to 192nd Ave.	Upgrade to collector arterial	X	X	N/A	2013-2030	mv	N/A
MTP	Vancouver	SE 1st Street	164th Avenue to 192nd Ave.	2 lanes ea. direction, w/turn lane	X	X	N/A	2007-2012	mv	N/A
MTP	Vancouver	E Street/ D Street	West City Limits (Lechner/6th) to 32nd St	Boulevard Design Improvement (1 lane each direction with left turn, sidewalks and bikelanes)	X	X	N/A	2009	mv	N/A
MTP	Vancouver	County-wide	County Wide	Walkway & Bicycle Programs	X	X	N/A	Continuing	mv	N/A
MTP	Vancouver	County-wide	County Wide	Demand Management	X	X	N/A	Continuing	mv	N/A
MTP	Vancouver	Various	System Wide	Intelligent Transportation System (ITS) Additions	X	X	N/A	Continuing	mv	N/A

This page left blank intentionally.

Appendix C

Comparison of Transit Networks for DEIS Alternative 3 and the LPA

This page left blank intentionally.

List of changes from DEIS to FEIS No Build Alternative model runs

- DEIS used a 2,029 zone network including Columbia County, and parts of Yamhill and Marion Counties; FEIS is based on a 2,041 zone system in just Clark, Washington, Multnomah, and Clackamas Counties; The DEIS used the HUGO version of the demand model, whereas FEIS used the IVAN version. There are very slight differences between the two models, but nothing within the actual model code that would change the results of the model runs in any significant way. DEIS contained 599 more park-and-ride spaces in Clark County due to the presence of 219th and Central County facilities. Fewer park-and-ride spaces in the FEIS No-Build results in less park-and-ride transit users, and additional traffic.

FEIS PnR Spaces	
99th St.	600
Salmon Creek	513
BPA	175
Fishers Landing	836
18th St.	500
Total PnR spaces	**2,624**

DEIS PnR Spaces	
99th	600
Salmon Creek	493
BPA	175
Fisher's Landing	586
Evergreen	269
Central County	480
219th	620
Total PnR spaces	**3,223**

- DEIS had unconstrained demand at all park-and-ride facilities in Oregon (this is not unusual for a study which focuses on a specific corridor). The result is that park-and-ride ridership was not limited by the number of available spaces in Oregon, and thus, regional MAX ridership was higher than it would otherwise be. This does not apply to the CRC corridor, where an effort to properly constrain demand at park-and-ride facilities was ubiquitous throughout the DEIS. The FEIS constrains all park-and-ride facilities throughout the region, and therefore regional park-and-ride demand (and MAX ridership) will be lower than in the DEIS.
- FEIS had some land use changes to South Waterfront, downtown Portland, and the Lloyd District in the form of employment and household reallocation to these areas from the rest of Portland. Portland land use control totals did not change from the DEIS to the FEIS.
- DEIS Yellow Line headways were 10 minutes peak / 15 minutes off-peak; FEIS headways are 12 min. / 15 min.

- TriMet North Portland routes had changes to numbering and/or headways for the lines listed in the table below:

TriMet N. Portland Routes with changes from DEIS to FEIS in the No-Build Alternative	DEIS (H0/T0) headways	FEIS (NB-30.1) headways
6 – MLK Jr. Blvd (06H in DEIS; 06M703 in FEIS)	7.5/12	20/20
6 – MLK Jr. Blvd (06M707 in FEIS)	N/A	20/30
16 – Front Avenue/ St. Johns/ Rivergate	30/0	30/120
2 – Greeley (35 – Greeley in FEIS)	7.5/30	10/30
40 – Mocks Crest (44 – Mocks Crest in FEIS)	12/15	15/15
Yellow Line MAX	10/15	12/15

- C-TRAN system-wide platform hours estimated for the DEIS at 358,400 and for the FEIS at 349,100
- C-TRAN route and/or headway changes are in the table below:

C-TRAN Routes with changes from DEIS to FEIS in the No-Build Alternative	DEIS (H0/T0) headways	FEIS (NB-30.1) headways
#1 – Fruit Valley (#25 – Fruit Valley in FEIS)	30/30	45/45
#2 - Lincoln	60/60	45/45
#3A – City Center Circulator	30/30	45/45
#3B – City Center Circulator	30/30	45/45
#4 – Fourth Plain (with Plomondon Loop)	15/15	N/A
#4 – Fourth Plain (no Plomondon Loop)	N/A	15/15
#4X (#44 in FEIS) – Fourth Plain Limited	30/0	20/0
#6 – Hazel Dell (#32 –Hazel Dell in FEIS)	30/30	45/45
#7 – Battle Ground via Van Mall Dr / Andresen Rd / 78th St / Central Co. P&R / 117th Ave (SR-503)	60/60	N/A
#7 – Battle Ground via 4th Plain Blvd / 102nd Ave / Covington / 76th St / 117th Ave (SR-503)	N/A	45/45
#9 – Salmon Creek Shuttle	N/A	30/60
#19A – Felida Loop	30/60	N/A
#19B – Felida Loop	30/60	N/A
#25 – St. Johns / Fruit Valley	30/30	25/25
#30 – Burton	30/30	20/20
#32 – Evergreen	30/60	45/45
#37 – Mill Plain via Clark College and Hudson Bay HS (Ft Vanc. Wy to McLoughlin Blvd to Reserve St)	15/15	N/A
#37 – Mill Plain with no service on McLoughlin Blvd	N/A	15/15
#37 – Highway 99 via 99th St TC (99TC), Salmon Cr P&R (SCPR), and WSUV	N/A	15/15
#71 – Highway 99 via 99TC and SCPR	15/15	N/A
#39 – Medical Center	N/A	60/60
#80 – Van Mall/Fishers via 18th Street P&R	N/A	60/60
#80 – Van Mall/Fishers via 28th Street and Evergreen P&R	60/60	N/A
#92 – Camas	30/30	60/60
#105 – I-5 Express via 99TC	30/60	N/A
#105 – I-5 Express via SCPR and 99TC	N/A	30/60
#105S – I-5 Express Shortline (VCBD to PCBD)	N/A	12/120
#118 – 18th Street P&R Express	N/A	30/0
#177 – Evergreen Express	60/0	N/A
#134 – Salmon Creek Express	12/0	25/0
#157 – Lloyd District Express via Van Mall/BPA	60/0	N/A
#157 – Lloyd District Express via 99TC	N/A	60/0
#165 – Parkrose Express (#65 in FEIS)	15/30	20/30

#173 – Battle Ground Limited via Kiggins Bowl P&R and Main Street	120/0	N/A
#47 – Battle Ground Limited via I-5 and Mill Plain	N/A	120/0
#183 – Central County Express	15/0	N/A
#190 – Marquam Hill Express via Central County P&R, Van Mall, and BPA/Ross P&R	60/0	N/A
#190 – Marquam Hill Express via BPA/Ross P&R	N/A	60/0
#199 – 99th Street Express	15/0	20/0
#219 – 219th Street Express	15/0	N/A
#301 – Ridgefield	60/0	120/0
#302 – La Center	90/0	120/0

This page left blank intentionally.

Appendix D

Columbia River Crossing Project Costs, Ridership and Environmental Consequences of Potential Light Rail Park-and-Ride Lot Configurations (Using Alternative 3 as an illustration of the differences in configuration and impact)

May 2008

This page left blank intentionally.

Columbia River Crossing Project
Costs, Ridership and Environmental Consequences of
Potential Light Rail Park-and-Ride Lot Configurations
(Using Alternative 3 as an illustration of the differences in configuration and impact)

This technical memorandum provides a summary of the costs, ridership and environmental consequences of potential light rail park-and-ride lot configurations for Alternative 3 for the Columbia River Crossing (CRC) Project. This memorandum illustrates, using Alternative 3 as an example (i.e., a replacement bridge with light rail), how various configurations of park-and-ride lots would affect the costs, ridership estimates and environmental consequences for Alternative 3 that are documented in the CRC Draft Environmental Impact Statement (DEIS – Washington State Department of Transportation: May 2008, FHWA-WA-EIS-08-01-D). Table 1 provides a summary of how capital costs, transit ridership and one measure of cost effectiveness would change as a result of differing configurations of park-and-ride lots for Alternative 3. This memorandum documents how those changes were calculated and how other environmental consequences would change as a result of changes in park-and-ride lot configurations.

Table 1
Summary of Capital Cost, Transit Ridership and Cost-Effectiveness Differences
Example Park-and-Ride Lot Configurations for Alternative 3

	Lincoln Terminus	Kiggins Bowl Terminus	Mill Plain MOS	Clark College MOS
Example A Configuration[1]				
Park-and-Ride Spaces	2,410	2,500	3,220	1,250
Capital Cost (millions)[2]	$879.3	$1,068.8	$615.8	$674.9
Transit Ridership[3]	20,800	21,100	19,100	18,200
Cost Effectiveness[4]	$11.55	$13.67	$8.91	$10.38
Example B Configuration[5]				
Park-and-Ride Spaces	1,960	3,560	1,060	2,460
Capital Cost[2]	$828.3	$1,115.2	$556.0	$723.3
Transit Ridership[3]	19,630	23,860	13,480	21,350
Cost Effectiveness[4]	$11.58	$12.64	$11.45	$9.44

Note: MOS = minimum operable segment. Table 5 provides information on how other environmental consequences would vary by park-and-ride lot configuration.

1 Example A is based on the park-and-ride lot configurations for Alternatives 3 as described in the CRC DEIS. See tables 3, 4 and 5 for a description of the DEIS park-and-ride lot configurations and the underlying data used to prepare the data within this table.

2 Capital costs are in millions of year-of-expenditure dollars and only reflect the cost of transit components of Alternative 3. Costs reflect a 60 percent confidence. See the *Cost Risk Assessment Final Report* for a detailed description of the methods used to prepare the capital cost estimates.

3 Transit ridership is the number of person trips (linked trips) passing over the Columbia River in the Bridge Influence Area on an average weekday in 2030 on light rail under Alternative 3.

4 Annualized cost divided by the annual transit guideway river crossings. See tables 4, 5 and 6 for annualized costs and annual transit ridership data.

5 See Table 6 for a description of the Example B configurations.

Alternative 3 is described in Chapter 2 of the DEIS, which also notes that "all build alternatives include a representative combination of both physical and operational components" (page 2-2) – park-and-ride lots and their capacities make up one aspect of the alternatives' physical components. Example A in Table 1 is based on one possible configuration of park-and-ride lots for the Alternative A terminus and minimum operable segment (MOS) options. Other

combinations of park-and-ride lots are also feasible and reasonable; and those possible alternate configurations would measurably affect the performance of Alternative 3. This technical memorandum documents how alternate configurations would change the capital cost, transit ridership and other environmental consequences of the terminus and MOS options for Alternative 3, using Example B in Table 1 for illustrative purposes. This technical memorandum is based on data included in the DEIS and/or the DEIS's supporting documents listed in Appendix I of the DEIS.

Alternative 3, as with the other build alternatives, includes various terminus options for the proposed high capacity transit guideway. Alternative 3 in the DEIS includes two "full length" terminus options (i.e., Kiggins Bowl Terminus and Lincoln Terminus) and two shorter "minimum operable segment" (MOS) options (i.e., Clark College MOS and Mill Plain MOS). These four terminus options and the light rail alignments associated with them are illustrated in Figure 1.

For Alternative 3, the DEIS (i.e., Example A) includes five potential park-and-ride lot locations, which are also illustrated in Figure 1. Each park-and-ride lot location could be configured to provide alternate capacities, depending on how the lot would be designed and how it would function. Table 2 summarizes the various potential designs, capacities and functions of the five park-and-ride lots under consideration in the DEIS. In general, the design of a park-and-ride lot could be either a surface or structured lot; and in the case of the SR-14 Park-and-Ride Lot, it could be either a single structure or a combination of surface and structured sub-lots. Relative to the proposed light rail stations, the various park-and-ride lots could function either as a direct access lot (which would generally be within walking distance of a light rail station) or as a satellite lot (which would generally be greater than a half-mile from a light rail station, requiring a connecting bus trip between the lot and the station). How the lot would function would be dependant on the alignment and terminus options for the light rail facility. Further, for all of the alignment and terminus options under consideration, each park-and-ride facility could be omitted altogether. The result is that there are a wide number of combinations of park-and-ride lots, functions and capacities (or no lot at all) for each terminus and MOS option making up Alternative 3.

The CRC DEIS is based on a single configuration of the park-and-ride lots for each of the four terminus/MOS options for Alternative 3 (i.e., Example A). Those "representative" combinations and their resulting park-and-ride lot capacities and functions are summarized in Table 3. Again, the costs, transit ridership estimates and environmental consequences documented in the DEIS for the terminus and MOS options for Alternative 3 are all based on those representative park-and-ride lot configurations. Table 4 summarizes the capital costs and transit ridership of Alternative 3 based on the four terminus/MOS options and the park-and-ride lot configuration used the DEIS. The environmental consequences of Alternative 3 are documented in Chapter 3 of the DEIS and footnotes in Table 5 cite the location of the environmental consequences data in Chapter 3 for those environmental disciplines that could be noticeable affected by the various park-and-ride lot configurations.

Figure 1
Terminus and MOS Options and Potential Park-and-Ride Lot Locations
For Alternative 3 of the CRC DEIS

Table 2
Potential Size and Function (Direct Access or Satellite) of Park-and-ride Lots For Alternative A by DEIS Terminus and MOS Option

	Capacity (spaces)		Possible Access Function[1]	
	Surface	Structured	Termini/MOS with potential Direct Access[2]	Termini/MOS with potential Satellite[3] Access
SR 14	NA	500 1,150[4]	Lincoln Kiggins Bowl Clark College Mill Plain	NA
Mill Plain	NA	460 560	Lincoln Kiggins Bowl Clark College Mill Plain	NA
Clark College	460	1,100 1,400	Kiggins Bowl Clark College	Lincoln Mill Plain
Lincoln	900	1,800	Lincoln Mill Plain	Kiggins Bowl Clark College
Kiggins Bowl	150	1,400	Kiggins Bowl Clark College	Lincoln[5] Mill Plain

MOS = minimum operable segment.

1 Table shows the terminus and alignment options that could provide direct or satellite park-and-ride access. In general, direct access park-and-rides would be within a short walking distance of a HCT station; satellite park-and-rides would generally be more than ½-mile from a HCT station and access between the park-and-ride and HCT station would be via a local bus route.

2 A park-and-ride lot providing direct access to a light rail station could be either surface or structured. The lower number is for a single structured lot. The higher number is for a mix of structured and surface at three sub-lots within several hundred feet of each other.

3 A satellite park-and-ride lot would only be designed as a surface lot.

4 The SR 14 Park-and-Ride Lot could be located on one to three parcels using one or two structures, with varying capacities.

5 These spaces were modeled as direct access via a long walk link, but would not be "directly" served by a light rail station.

Table 5 illustrates how the cost, transit ridership and environmental consequences[10] would change for Alternative 3 if the park-and-ride lot configurations were to change. The table assesses the changes that would occur for each design (e.g., surface vs. structured) for each lot. If a particular park-and-ride lot's design and capacity is included as a part of the representative configuration of a terminus/MOS option described in Table 3, then the values for costs, transit ridership and environmental consequences in Table 5 would be deducted from the cumulative costs, transit ridership and environmental consequences for that terminus MOS option for Alternative 3 (Table 5 sites the references to those cumulative totals in the DEIS). Conversely, if a particular park-and-ride lot's design and capacity is not included as a part of the representative configuration of a terminus/MOS option described in Table 3, then the values for costs, transit ridership and environmental consequences in Table 5 would be added to the cumulative costs, transit ridership and environmental consequences for that terminus MOS option for Alternative 3.

[10] Note that Table 5 only addresses environmental consequences that would measurably change as a result of a change in the park-and-ride lot configuration for Alternative 3. If an environmental discipline is omitted from Table 5 that means that there would be no measurable change for that discipline resulting from a change in the park-and-ride lot configuration for Alternative 3.

Table 3
Park-and-ride Configurations and Capacity
by Example A (DEIS) Terminus and Alignment Option

Park-and-Ride Facility	Lincoln Terminus		Kiggins Bowl Terminus		Mill Plain MOS		Clark College MOS	
	Direct	Satellite	Direct	Satellite	Direct	Satellite	Direct	Satellite
SR 14	0	0	0	0	1,150[1]	0	0	0
Mill Plain	0	0	0	0	560	0	0	0
Clark College	0	460	1,100	0	0	460[2]	1,100	0
Lincoln	1,800	0	0	0	0	900	0	0
Kiggins Bowl	0	150[2]	1,400	0	0	150	0	150
Total by Type	***1,800***	***610***	***2,500***	***0***	***1,710***	***1,510***	***1,100***	***150***
Total[3]	**2,410**		**2,500**		**3,220**		**1,250**	

[1] Under the DEIS's configuration for the Mill Plain MOS, the design of the SR14 Park-and-Ride Lot would include the SR14 Loop and BNSF lots combined as one modeled lot.

[2] These spaces were modeled as direct access via a long walk link, but would not be "directly" served by a light rail station.

[3] Note that the park-and-ride lot totals for the Alternative 3 terminus and MOS options in Exhibit 22 of the CRC Project DEIS differ from the totals in Table 3 due to errors in Exhibit 22. In addition, Exhibit 22 of the DEIS mistakenly lists the Expo Center Park-and-Ride Lot (existing); while its spaces (300) were not included in the total spaces (Table 3 does not include the Expo Center Park-and-Ride Lot). Finally, the Mill Plain Park-and-Ride lot is mistakenly not listed in Exhibit 22 of the DEIS for the Mill Plain MOS option.

Table 4
Example A Transit Cost and Ridership For Alternative 3
Based on the Park-and-Ride Lot Configurations of the CRC Project DEIS

Measure	Lincoln Terminus	Kiggins Bowl Terminus	Mill Plain MOS	Clark College MOS
Capital Cost[1]	$879.3	$1,068.8	$615.8	$674.9
Annualize Capital Cost[2]	$73.51	$88.39	$51.54	$57.43
Annual Operating Cost[2]	$3.51	$4.24	$2.83	$2.95
Annualized Cost[2]	$77.02	$92.63	$54.37	$60.38
Transit Ridership[3]	20,800	21,100	19,100	18,200
Annualize Transit Ridership	6,670,000	6,780,000	6,110,000	5,820,000
Cost per Transit Ride[4]	$11.55	$13.67	$8.91	$10.38

[1] Capital costs are in millions of year-of-expenditure dollars and only reflect the cost of transit components of Alternative 3. Costs reflect a 60 percent confidence. See the *Cost Risk Assessment Final Report* for a detailed description of the methods used to prepare the capital cost estimates.

[2] See Exhibit 3.1-39 of the DEIS

[3] Transit ridership is the number of person trips (linked trips) passing over the Columbia River in the Bridge Influence Area on an average weekday in 2030 on light rail under Alternative 3.

.[4] Annualized cost divided by the annual transit guideway river crossings.

Table 6 provides examples of how costs, transit ridership and cost effectiveness are calculated for other potential configurations of park-and-ride lots for Alternative 3, using Examples A and B for illustration. Following is a summary of the results of those calculations for the Example B configuration:

This page left blank intentionally.

Table 5
Cost, Transit Ridership and Environmental Effects by Park-and-Ride Lot – Surface and Structured (spaces)[1]

Measure	SR 14		Mill Plain[2]		Clark College			Lincoln		Kiggins	
	Structured 500	Structured 1,150	Structured 460	Structured 560	Surface 460	Structured 1,100	Structured 1,400	Surface 900	Structured 1,800	Surface 150	Structured 1,400
Capital Cost[3] (millions)											
60% Confidence YOE	$20.40	$29.50	$22.4	$26.00	$11.30	$67.90	$78.5	$30.80	$108.30	$8.60	$41.90
Transit Ridership[4]											
Average Weekday	1,300	2,990	1,196	1,456	1,196	2,860	3,640	2,340	4,680	390	3,640
Annual	416,000	956,800	382,720	465,920	382,720	915,200	1,164,800	748,800	1,497,600	124,800	1,164,800
Traffic[5]											
Auto Trips	275/250	635/575	255/230	310/280	255/230	725/715	925/910	600/590	1,200/1,200	85/75	925/850
Property Acquisition											
Residential	0	0	0	0	0	0	0	1	7	0	1
Commercial	0	3	1	1	0	0	0	0	2	0	2
Acres	0	1.23	0.92	0.92	5.48	5.48	5.48	12.20	17.00	2.81	3.15
Neighborhoods	0	0	1[6]	1[6]	0	0	0	0	0	0	0
Major Utility Relocate	0	0	0	0	0	0	0	1[7]	1[7]	0	0
Section 4(f) Uses	0	0	0	0	0	1[8]	1[8]	0	0	0	0
Visual	0	0	1[9]	1[9]	0	0	0	0	1[10]	0	0
Ecosystems	0	0	0	0	0	0	0	0	0	1[11]	1[11]
Wetlands	0	0	0	0	0	0	0	0	0	1[12]	1[12]
Hydrology	0	0	0	0	0	0	0	0	0	0	0
Impervious Acres[13]	1.2	6.2	0.9	0.9	5.1	5.4	5.4	9.1	12.9	2.2	2.7
HazMat	0	0	0	0	0	0		1[14]	1[14]	0	0

Note: YOE = year of expenditure; MOS = minimum operable segment.

1 This table summarizes how costs and environmental affects would change as a result of park-and-ride lots under consideration in the CRC DEIS for the range of LRT terminus and alignment options under consideration. If the park-and-ride is included in the DEIS terminus and alignment option (see Table 3), then the removal of the lot from that alternative would reduce the costs and impacts for that alternative by the amount indicated in this table; conversely, If the park-and-ride lot is not included in the DEIS terminus and alignment option (see Table 3), then the addition of the lot from that alternative would increase the costs and impacts for that alternative by the amount indicated in the table (see Table 4 for examples). There would be no noticeable consequences for those environmental disciplines not included in this table or upon operating costs.

2 A 650-space structured Mill Plain park-and-ride lot would: cost approximately $29.1 million: generate approximately 1,690 average weekday and 540,800 annual transit rides; and generate approximately 360 and 325 automobile trips in the a.m. and p.m. peak periods (see notes 4 and 5 on transit ridership and automobile trip generation rates) – all other factors in this table would be the same as for the 560-space lot).

3 In millions.

4 Trips generated are estimated as a proportion of spaces (approximately 2.6 transit person trips per space). Average weekday in 2030 that would cross the Columbia River in the project area by transit. Annual transit trips are calculated by multiplying average weekday rides by 320, the factor used for the annual ridership data in Exhibit 3.1-39 of the DEIS.

5 One-way and drop-off automobile trips generated in the a.m. and p.m. peak periods, entering and exiting the park-and-ride facilities, respectively.

6 Displacement of a US Bank branch office.

7 Potential need to relocate one water main.

8 Potential use of one public park resource (1.24 acres).

9 Five-story building would modify the aesthetics of the surrounding area.

10 Could add visual change for surrounding homes.

11 Less than 200 square feet of Burnt Bridge Creek buffer impacted; 0.2 acres WA Priority Habitat impacted; 0.4 acres Vancouver CAO impacted. I-5 lies between site and Burnt Bridge Creek.

12 Minor impact to Burnt Bridge Creek wetland and minor impact wetland at Kiggins Bowl.

13 New and reconstructed impervious surfaces.

14 WSDOT maintenance facility, which has the potential for discovery of contamination.

Table 6
Example B Park-and-Ride Lot Configurations for CRC Alternative 3 – Illustration of Calculations[1]

Clark College MOS		**DEIS**			**Add**			**Subtract**			**Result**	
Park-and-Ride Facility	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**
SR 14	0			500	$20.4	1,300				500		
Mill Plain	0			560	$26.0	1,456				560		
Clark College	1,100			1,400	$78.5	3,640	1,100	$67.9	2,860	1,400		
Lincoln	0									0		
Kiggins Bowl	150						150	$8.6	390	0		
Total	**1,250**	**$674.9**	**18,200**	**2,460**	**$124.9**	**6,396**	**1,250**	**$76.5**	**3,250**	**2,460**	**$723.3**	**21,346**
Annualized											$64.5	6,830,720
Mill Plain MOS		**DEIS**			**Add**			**Subtract**			**Result**	
Park-and-Ride Facility	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**
SR 14	1,150			500	$20.4	1,300	1,150	$29.5	2,990	500		
Mill Plain	560									560		
Clark College	460						460	$11.3	1,196	0		
Lincoln	900						900	$30.8	2,340	0		
Kiggins Bowl	150						150	$8.6	390	0		
Total	**3,220**	**$615.8**	**19,100**	**500**	**$20.4**	**1,300**	**2,660**	**$80.2**	**6,916**	**1,060**	**$556.0**	**13,484**
Annualized											$49.4	4,314,880
Lincoln Terminus		**DEIS**			**Add**			**Subtract**			**Result**	
Park-and-Ride Facility	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**
SR 14	0			500	$20.4	1,300				500		
Mill Plain	0			560	$26.0	1,456				560		
Clark College	460						460	$11.3	1,196	0		
Lincoln	1,800			900	$30.8	2,340	1,800	$108.3	4,680	900		
Kiggins Bowl	150						150	$8.6	390	0		
Total	**2,410**	**$879.3**	**20,800**	**1,960**	**$77.2**	**5,096**	**2,410**	**$128.2**	**6,266**	**1,960**	**$828.3**	**19,630**
Annualized											$72.8	6,281,600
Kiggins Bowl Terminus		**DEIS**			**Add**			**Subtract**			**Result**	
Park-and-Ride Facility	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**	**Spaces**	**Cost**	**Ridership**
SR 14	0			500	$20.4	1,300				500		
Mill Plain	0			560	$26.0	1,456				560		
Clark College	1,100									1,100		
Lincoln	0									0		
Kiggins Bowl	1,400									1,400		
Total	**2,500**	**$1,068.8**	**21,100**	**1,060**	**$46.4**	**2,756**	**0**	**$0.0**	**0**	**3,560**	**$1,115.2**	**23,856**
Annualized											$96.5	7,633,920

Note: DEIS = draft Environmental Impact Statement; MOS = minimum operable segment.

[1] See notes in Table 5 for a description of how costs and ridership differences are calculated. Costs are in millions of year-of-expenditure dollars. Ridership is average weekday person trips across the Columbia River on light rail in 2030. Annualized cost effectiveness is calculated by dividing annual (transit) ridership by the annualized cost: Lincoln Terminus = $11.58; Kiggins Terminus = $12.64; Mill Plain MOS = $11.45; Clark College MOS = $9.66. See Table 5 for how environmental consequences of Alternative 3 would change as a result of these example park-and-ride lot configurations.

- **Lincoln Terminus.** Based on the Example B configuration of park-and-ride lots in Table 6 for the Lincoln Terminus, there would be: a surface Lincoln Park-and-Ride Lot (900 spaces); a structured Mill Plain Park-and-Ride Lot (560 spaces); a single structured SR-14 Park-and-Ride Lot (500 spaces); and no satellite park-and-ride lot at Clark College. As a result, there would be a total of 1,960 direct-access park-and-ride spaces and no satellite park-and-ride spaces. Based on the alternate configuration for the Lincoln Terminus: capital costs would decrease by approximately $51.0 million; average weekday transit ridership in 2030 would decrease by approximately 1,170; and the annualized cost per annual new transit trip crossing the Columbia in the project area would increase from $11.55 to $11.58 (compared to the Lincoln Terminus option's results documented in the DEIS).

- **Kiggins Bowl Terminus.** Based on the Example B configuration of park-and-ride lots in Table 6 for the Lincoln Terminus, there would be: a structured Kiggins Bowl Park-and-Ride Lot (1,400 spaces); a structured lot at Clark College (1,100); a structured Mill Plain Park-and-Ride Lot (560 spaces); a single structured SR-14 Park-and-Ride Lot (500 spaces); and no satellite park-and-ride lot at Lincoln. As a result, there would be a total of 3,560 direct-access park-and-ride spaces and no satellite park-and-ride spaces. Based on the alternate configuration for the Kiggins Bowl Terminus: capital costs would increase by approximately $46.4 million; average weekday transit ridership in 2030 would increase by approximately 2,756; and the annualized cost per annual new transit trip crossing the Columbia in the project area would decrease from $13.67 to $12.64 (compared to the Kiggins Bowl Terminus option's results documented in the DEIS).

- **Clark College MOS.** Based on the Example B configuration of park-and-ride lots in Table 6 for the Clark College MOS, there would be: a structured Clark College Park-and-Ride Lot (1,400 spaces); a structured Mill Plain Park-and-Ride Lot (560 spaces); a single structured SR-14 Park-and-Ride Lot (500 spaces); and no satellite park-and-ride lot at Lincoln. As a result, there would be a total of 2,460 direct-access park-and-ride spaces and no satellite park-and-ride spaces. Based on the alternate configuration for the Clark College Terminus: capital costs would increase by approximately $48.4 million; average weekday transit ridership in 2030 would increase by approximately 3,150; and the annualized cost per annual new transit trip crossing the Columbia in the project area would decrease from $10.38 to $9.44 (compared to the Clark College MOS's results documented in the DEIS).

- **Mill Plain MOS.** Based on the Example B configuration of park-and-ride lots in Table 6 for the Mill Plain MOS, there would be: a structured Mill Plain Park-and-Ride Lot (560 spaces); a single structured SR-14 Park-and-Ride Lot (500 spaces); and no satellite park-and-ride lots at Lincoln, Clark College or Kiggins Bowl. As a result, there would be a total of 1,060 direct-access park-and-ride spaces and no satellite park-and-ride spaces. Based on the alternate configuration for the Clark College Terminus: capital costs would decrease by approximately $59.8 million; average weekday transit ridership in 2030 would decrease by approximately 5,620; and the annualized cost per annual new transit trip crossing the Columbia in the project area would increase from $8.91 to $11.45 (compared to the Mill Plain MOS's results documented in the DEIS).

In summary, there are a few items of note:

- First, the capital cost of a park-and-ride lot may include just the cost to construct that lot; or it may include additional costs needed to avoid or mitigate impacts. In particular, the structured Lincoln Park-and-Lot would include substantial roadway improvements needed to avoid or mitigate local congestion impacts to Main Street resulting from relatively high traffic volumes in the peak periods due to automobiles accessing the park-and-ride lot. Therefore, the per-space capital cost of the structured Lincoln Park-and-Lot would be greater than the per space cost for other structured lots under consideration.

- Second, for all alternatives and options under consideration, there would be a relatively high demand for park-and-ride trips in Clark County in 2030, which would not be fully met under any of the park-and-ride lot configurations under consideration. As a result, each park-and-ride lot would generally be full in 2030 and each park-and-ride space, regardless of its location, would generate approximately the same number of average weekday transit trips. Therefore, the total park-and-ride capacity and the capital cost to provide that capacity would be the most important factors affecting the cost effectiveness of a terminus/MOS option (as opposed to the differing locations of the park-and-ride lots). And as noted in the first bullet, the cost per space could be dependent upon the park-and-ride lot location.

- Third, a project's competiveness for Federal New Starts funding is affected by the cost effectiveness of the project, as defined by the FTA. While in the past, FTA used transit ridership as the measure of effectiveness, as was used in this DEIS, FTA now uses transit travel time savings (i.e. "user benefit" – relative to a baseline alternative) as the effectiveness measure. In general, the use of user benefits, especially in an environment where there would be a greater demand for park-and-ride spaced that would be supplied, accentuates the differences between alternatives, compared to using transit ridership. That is to say, that the general ranking of projects based on their cost effectiveness would tend to stay constant using either cost effectiveness measure, but the gaps in cost effectiveness between the alternatives tends to widen using a user benefit based cost effectiveness measure. Therefore, the use of a ridership-based cost-effectiveness measure is a general indicator of how well different alternatives would compete for Federal New Starts funds, especially in terms or ranking.

Appendix E

2030 No Build and LPA Transit Networks (T-Nets)

This page left blank intentionally.

Columbia River Crossing		2030 No Build			2030 LPA		
		2030 CRC NB-30.1			2030 CRC T-31.2		
Transit Line Listing		2030 CRC New Starts multimodal No-Build based on reduced C-TRAN Alt 2&3 w/ #44 at 20 min. peak only (349k network)			2030 CRC New Starts multimodal Build LRT to Clark College based on NB-30.1		
LIGHT RAIL		peak headway		off-peak headway	peak headway		off-peak headway
01HGAP - Blue Line	LRT - (Hillsboro-Gresham) via cross-mall	6		15	6		15
01PDXB - Red Line	LRT - (PIA-BTC) via cross-mall	15		15	15		15
01I205 - Green Line	LRT - (PCBD / PSU-CTC) via mall	7.5		15	7.5		15
01EXPO-Yellow MAX	LRT-(PCBD / PSU-Expo Center Station) via mall - no Milwaukie extension included	12		15	N/A		N/A
01MAIN-Yellow MAX	LRT-(PCBD / PSU-VAIC Lincoln P&R via Main Street) via mall - no Milwaukie extension included	N/A		N/A	N/A		N/A
01VMOS-Yellow MAX	LRT-(PCBD / PSU-VAIC Clark College P&R via Washington Street and McLoughlin Blvd) via mall - no Milwaukie extension included	N/A		N/A	7.5		15
01MALL	Off-peak circulator ondowntown Portland transit mall	0		15	0		15
COMMUTER RAIL							
01COMR	Commuter Rail (BTC-Wilsonville)	30		N/A	30		N/A
STREETCAR							
01SCNW	Streetcar (NW 23rd-Gibbs / N. Macadam)	N/A		N/A	N/A		N/A
01SCLW	Streetcar (NW 23rd-Gibbs / N. Macadam)	10		10	10		10
01SCOM	Streetcar - Eastside wth OMSI terminus	10		15	10		15
TRAM							
01TRAM	Tram (North Macadam-OHSU)	5		5	5		5
TRIMET BUSES							
02GREE	Greeley - (PCBD - UofP)	N/A		N/A	N/A		N/A
02V-PV	Vermont - (PCBD - Vermont / Shattuck)	N/A		N/A	N/A		N/A
02VCBD	Vermont - (PCBD - Vermont / Shattuck)	15		30	15		30
03I-205	I205 - (Gateway to CTC via I205)	N/A		N/A	N/A		N/A
04D-P148D	Division - (PCBD - 148th / Division)	N/A		N/A	N/A		N/A
04D148	Division - (PCBD - 148th / Division)	10		20	10		20
04D-PGL	Division Limited - (PCBD - Gresham TC)	N/A		N/A	N/A		N/A
04DGL	Division Limited - (PCBD - Gresham TC)	10		0	10		0
04D-PGTC	Division - (PCBD - Gresham TC) FB	N/A		N/A	N/A		N/A
04DGTC	Division - (PCBD - Gresham TC) FB	15		20	15		20
04F-PSTJ	Fessenden - (PCBD - St. Johns) FB	8		12	8		12
O6MLKH- Hayd Is via Steel Bridge/MLK	(Collins Cir / Mall / Steel Br. / RQ / MLK / Lombard /Denver / Hayd Isld) QJ Hayden SB to I-5 in Portland (PCBD-Hayden Island)	N/A		N/A	N/A		N/A
O6M703	(Collins Cir / Mall / Steel Br. / RQ / MLK / Lombard / Denver / Hayd Isld on I-5 in Portland (PCBD-Hayden Island)	20		20	20		20
O6M707	(Collins Cir / Mall / Steel Br. / RQ / MLK / Lombard / Denver / Hayd Isld on I-5 in Portland (PCBD-Hayden Island)	20		30	20		30

Columbia River Crossing		2030 No Build			2030 LPA		
		2030 CRC NB-30.1			2030 CRC T-31.2		
Transit Line Listing		2030 CRC New Starts multimodal No-Build based on reduced C-TRAN Alt 2&3 w/ #44 at 20 min. peak only (349k network)			2030 CRC New Starts multimodal Build LRT to Clark College based on NB-30.1		
07THES-OGCTC	Thiessen - (O.Grove / Concord-CTC)	N/A		N/A	N/A		N/A
08NE15-MID	NE 15th / MLK / Middlefield (PCBD - Middlefield) FB	N/A		N/A	N/A		N/A
08M15	NE 15th / MLK / Middlefield (PCBD - Middlefield) FB	10		12	10		12
08JPVA-PVA	Jackson Park / VA Hospital - (PCBD - VA Hospital) - Only with Tram, otherwise, go to 6/15 FB	N/A		N/A	N/A		N/A
08JVA	Jackson Park / VA Hospital - (PCBD - VA Hospital)	10		12	10		12
09B-P27TH	Broadway - (PCBD - 27th / Saratoga) - via Rose Quarter TC	N/A		N/A	N/A		N/A
09BWY	Broadway - (PCBD - 27th / Saratoga) - via Rose Quarter TC	10		15	10		15
09P98T-P98PWL	Powell/98th - (PCBD - 98th / Powell)	20		30	20		30
09PGL-PGR	Powell/Gresham Limited all the way to Gresham- (PCBD-GreshamTC)	30		0	30		0
09PGTC	Powell/Gresham TC - (PCBD - Gresham TC) FB	20		30	20		30
09PGX-PGR	Powell/Gresham Express - (PCBD - Gresham TC)	N/A		N/A	N/A		N/A
09PGX	Powell/Gresham Express - (PCBD - Gresham TC)	60		0	60		0
10H-P122FSTR	Harold - (PCBD - 122nd / Foster)	N/A		N/A	N/A		N/A
10H	Harold - (PCBD - 122nd / Foster)	12		15	12		15
10T-P33	NE 33rd - (PCBD - 33rd / Sutherland)	N/A		N/A	N/A		N/A
10T	NE 33rd - (PCBD - 33rd / Sutherland)	12		15	12		15
12BARB-PSWDX - Current Line 94(PSWDX (PCBD-	Barbur/Sherwood Express - (PCBD - Sherwood)	N/A		N/A	N/A		N/A
12BARB-PTI	Barbur/Tigard - (PCBD - Tigard TC) FB	N/A		N/A	N/A		N/A
12BARB	Barbur/Tigard - (PCBD - Tigard TC) FB	7.5		0	7.5		0
12BTIG	Barbur/Tigard - (PCBD - Tigard TC)	30		30	30		30
12BSHR	Barbur/Sherwood Local (PCBD - Sherwood)	30		30	30		30
12SG-Gresham	Sandy - (PCBD - Gresham) FB	30		30	30		30
12SP-Parkrose	Sandy - (PCBD - Parkrose)	15		15	15		15
14HS-P94F	Hawthorne Short - (PCBD - 94th / Foster) Not on 172nd FB	7.5		10	7.5		10
14HL - 14HX to Dam. (use route from P/F Study)	Hawthorne Long - (PCBD - Damascus) Not on 172nd	N/A		N/A	N/A		N/A
14HDX	Hawthorne Long - (PCBD - Damascus) Not on 172nd	20		30	20		30
154WILL-OC	Willamette - (Willamette / W. Linn - Oregon City)	N/A		N/A	N/A		N/A
154WLN	Willamette - (Willamette / W. Linn - Oregon City)	60		60	60		60
155S-OTCTC/DAM	Sunnyside/Damascus - (147th / OregonTrail - CTC)	N/A		N/A	N/A		N/A
155S	Sunnyside/Damascus - (147th / OregonTrail - CTC)	30		30	30		30
156MR-OTCTC	Mather Rd. - (147th / OregonTrail - CTC)	N/A		N/A	N/A		N/A
156MR	Mather Rd. - (147th / OregonTrail - CTC)	30		30	30		30
157HV-OTCTC	Happy Valley - (147th / Oregon Trail - CTC)	N/A		N/A	N/A		N/A
157HV	Happy Valley - (147th / Oregon Trail - CTC)	60		60	60		60
15MTAB-PRKRS	Belmont / Mt.Tabor / Parkrose via Adventist (PCBD - Parkrose TC) FB	N/A		N/A	N/A		N/A
15BELP	Belmont / Mt.Tabor / Parkrose via Adventist (PCBD - Parkrose TC) FB	4		10	4		10
15TMPK-P27MPK	NW 23rd / Montgomery Park - (PCBD - 27th / Mont. Park) FB	N/A		N/A	N/A		N/A
15TMPK	NW 23rd / Montgomery Park - (PCBD - 27th / Mont. Park) FB	8		10	8		10

Columbia River Crossing		2030 No Build			2030 LPA		
		2030 CRC NB-30.1			2030 CRC T-31.2		
Transit Line Listing		2030 CRC New Starts multimodal No-Build based on reduced C-TRAN Alt 2&3 w/ #44 at 20 min. peak only (349k network)			2030 CRC New Starts multimodal Build LRT to Clark College based on NB-30.1		
164MT-OHSUTI	Tigard / Marquam Hill - (OHSU - Tigard)	N/A		N/A	N/A		N/A
164MT	Tigard / Marquam Hill - (OHSU - Tigard)	15		N/A	15		N/A
166MH-OHSUHLYWD	Hollywood / Marquam Hill - (OHSU - Hollywood TC)	N/A		N/A	N/A		N/A
166MH	Hollywood / Marquam Hill - (OHSU - Hollywood TC)	15		N/A	15		N/A
16FMID Off-Mall JJ/RP	Front Ave / St. Johns / Marine Dr-(PCBD-Middlefield) via	N/A		N/A	N/A		N/A
16FHI Off-Mall JJ/RP	Front Ave / St. Johns / Hayden Island / Marine Dr - (PCBD-Middlefield) via Fess / Col / Hayden Is Off-Mall JJ/RP	N/A		N/A	N/A		N/A
16FASJ	Front Ave / St. Johns / Marine Dr-(PCBD-Middlefield) via Fess / Col Off-Mall JJ/RP	30		120	30		120
17H136-P136PWL	Holgate - (PCBD - 136th Powell)	10		15	10		15
1721SI-PSI (SLIN)	NW 21st / Sauvie Island - (PCBD - Sauvie Is.)	N/A		N/A	N/A		N/A
17SLIN	NW 21st / Sauvie Island - (PCBD - Sauvie Is.)	20		60	20		60
1721MP-PMPK (SMPK)	NW 21st / Montgomery Park - (PCBD - Montgomery Park)	N/A		N/A	N/A		N/A
17SMPK	NW 21st / Montgomery Park - (PCBD - Montgomery Park)	20		60	20		60
Mall	Hillside - (PCBD - Maclay / Burnside) Off-Mall	N/A		N/A	N/A		N/A
18HILL	Hillside - (PCBD - Maclay / Burnside) Off-Mall	60		N/A	60		N/A
19GLIS-PGT	Glisan - (PCBD - GatewayTC)	N/A		N/A	N/A		N/A
19G	Glisan - (PCBD - GatewayTC)	10		15	10		15
19WRHV	Woodstock/Rex - (PCBD - Rex / Extended to Happy Valley)	10		15	10		15
20BBTC-Gresham	Burnside / Beaverton TC - (BTC - Gresham)	N/A		N/A	N/A		N/A
20BSTB	Burnside / Beaverton TC - (BTC - Gresham)	12		15	12		15
22ROSE-PRGT	Parkrose - (Parkrose - GatewayTC)	N/A		N/A	N/A		N/A
22ROSE	Parkrose - (Parkrose - GatewayTC)	45		45	45		45
23SR223-GTGR	San Rafael / 223rd - (Gateway TC - Gresham TC)	N/A		N/A	N/A		N/A
23S223	San Rafael / 223rd - (Gateway TC - Gresham TC)	60		60	60		60
25GLIS-GTRWD	Glisan / Rockwood - (Gateway TC - Rockwood TC)	N/A		N/A	N/A		N/A
25G	Glisan / Rockwood - (Gateway TC - Rockwood TC)	60		60	60		60
27MKTM-GTRWD	Market / Main - (Gateway TC - Rockwood TC)	N/A		N/A	N/A		N/A
27M	Market / Main - (Gateway TC - Rockwood TC)	60		60	60		60
2829LW	28 Linwood interline w/ 29Lake / Webster - (CTC - CTC)	20		30	20		30
30JC-MCTC	Johnson Creek - (MTC via 32nd - CTC)	N/A		N/A	N/A		N/A
30MJC	Johnson Creek - (MTC via 32nd - CTC)	60		60	60		60
30CTCO	Holcomb Rd - (CTC - OC) via Holcomb / Bradley / Gronlund / 212 / 224 / I-205	20		30	20		30
31DAM-MTC	Damascus - (DAM / CTC - MTC) via 212 / 224 / 82nd / King	20		30	N/A		N/A
31MDAM	Damascus - (DAM / CTC - MTC) via 212 / 224 / 82nd / King	N/A		N/A	20		30
31EST-MTC	Estacada - (EST / CTC / MTC) via 212 / 224 / 82nd / King Rd.	20		60	N/A		N/A
31MEST	Estacada - (EST / CTC / MTC) via 212 / 224 / 82nd / King Rd.	N/A		N/A	20		60
32OC-PCBD	Oatfield - (OC - PCBD)	N/A		N/A	N/A		N/A
32OCCC	Oatfield - (OC - PCBD)	20		0	20		0
32OC-MTC	Oatfield - (MTC - OC - Oatfield)	N/A		N/A	N/A		N/A
32OM	Oatfield - (MTC - OC - Oatfield)	0		30	0		30

Columbia River Crossing		2030 No Build			2030 LPA		
		2030 CRC NB-30.1			2030 CRC T-31.2		
Transit Line Listing		2030 CRC New Starts multimodal No-Build based on reduced C-TRAN Alt 2&3 w/ #44 at 20 min. peak only (349k network)			2030 CRC New Starts multimodal Build LRT to Clark College based on NB-30.1		
33PM	McLoughlin - (PCBD - MTC)	N/A		N/A	N/A		N/A
33PMOC	McLoughlin - (PCBD - OC)	0		30	0		30
33PMCC	McLoughlin - (PCBD - CCC)	7.5		30	7.5		30
33F-PGTC	Fremont - (PCBD - GTC)	N/A		N/A	N/A		N/A
33FRE	Fremont - (PCBD - GTC)	12		15	12		15
34R152	34 River Rd. interline w/ 152 Milwaukie Shuttle - (OC - CTC)	20		30	20		30
35GREE	Greeley - (PCBD - U of Portland via Greeley)	10		30	10		30
35MAC-POC	Macadam - (PCBD - OC) FB (no service to Canby)	N/A		N/A	N/A		N/A
35MAC	Macadam - (PCBD - OC) FB (no service to Canby)	15		15	15		15
36SS-LOTU	South Shore - (LakeO - Tual - PCBD) to PCBD per JC Equil.	N/A		N/A	N/A		N/A
36TCBD	South Shore - (LakeO - Tual - PCBD) to PCBD	30		N/A	30		N/A
37NS-LBF - New Routing	North Shore - (LakeO - Tual PNR) via Cclub/LowerBoones	N/A		N/A	N/A		N/A
37N SHR	North Shore - (LakeO - Tual PNR) via Cclub/LowerBoones	45		45	45		45
38BOON-PTU (See Line 50TIGTUAL) Term. @ Tigard NOT Tual.	Boones Ferry - (PCBD - Tigard TC) via Kruse / 72nd / Hunziker / Hall	N/A		N/A	N/A		N/A
38BOON	Boones Ferry - (PCBD - Tigard TC) via Kruse / 72nd / Hunziker / Hall	20		30	20		30
39LNC-LCBU	Lewis and Clark - (L&C College - BurlingameTC)	N/A		N/A	N/A		N/A
39L	Lewis and Clark - (L&C College - BurlingameTC)	45		45	45		45
40MOCK-PSTJ	Mocks Crest - (PCBD - St.Johns)	N/A		N/A	N/A		N/A
40TAC-PMOff-Mall stay on Macadam/ Moody	Tacoma - (PCBD - MTC) Off-Mall stay on Macadam/Moody	N/A		N/A	N/A		N/A
41TACS	Tacoma - (PCBD - MTC) Off-Mall stay on Macadam/Moody	30		45	30		45
42CMS	Cedar Mill Shuttle - (SunsetTC - CM) - Saltzman / Thompson / 143rd / 107th	N/A		N/A	N/A		N/A
43TFN-PWSQN	Taylors Ferry Nimbus - (PCBD - Wash Sq. / Nimbus)	N/A		N/A	N/A		N/A
43TFN	Taylors Ferry Nimbus - (PCBD - Wash Sq. / Nimbus)	60		N/A	60		N/A
43TF-PWSQ	Taylors Ferry - (PCBD - Wash Sq.)	N/A		N/A	N/A		N/A
43TF	Taylors Ferry - (PCBD - Wash Sq.)	60		30	60		30
44CHWY-PPCCC (formally known as 41CHWY)	Capital Hwy. - (PCBD - PCC Sylvania)	N/A		N/A	N/A		N/A
44CHWY	Capital Hwy. - (PCBD - PCC Sylvania)	10		15	10		15
44M	Mocks Crest - (PCBD - Williams - Willamette - Pier Park)	15		15	15		15

Columbia River Crossing		2030 No Build			2030 LPA		
		2030 CRC NB-30.1			2030 CRC T-31.2		
Transit Line Listing		2030 CRC New Starts multimodal No-Build based on reduced C-TRAN Alt 2&3 w/ #44 at 20 min. peak only (349k network)			2030 CRC New Starts multimodal Build LRT to Clark College based on NB-30.1		
45G-PTI	Garden Home - (PCBD - Tigard)	N/A		N/A	N/A		N/A
45G	Garden Home - (PCBD - Tigard)	15		30	15		30
46NH-FHI	North Hillsboro - (WashCo Fairgrounds - Hillsboro)	N/A		N/A	N/A		N/A
46NH	North Hillsboro - (WashCo Fairgrounds - Hillsboro)	45		45	45		45
47BLEV-WC185	Baseline/Evergreen - (Willow Crk / 185th - Hillsboro)	N/A		N/A	N/A		N/A
47BLEV	Baseline/Evergreen - (Willow Crk / 185th - Hillsboro)	30		30	30		30
48CORN-WC185	Cornell Rd. - (Willow Crk. / 185th - Hillsboro)	N/A		N/A	N/A		N/A
48CORN	Cornell Rd. - (Willow Crk. / 185th - Hillsboro)	30		30	30		30
50TIGTUAL (see map)	Tigard - Tualatin (TigTC - Tual Mhwk) via Com Rail / Lboones / 72nd / Hwy 99W	N/A		N/A	N/A		N/A
51V-PCCPL	Vista - (PCBD - Council Crest - Patrick Place)	N/A		N/A	N/A		N/A
51CCPL	Vista - (PCBD - Council Crest - Patrick Place)	30		N/A	30		N/A
51V-PCCDSH	Vista - (PCBD - Council Crest - Dosch)	N/A		N/A	N/A		N/A
51CDSH	Vista - (PCBD - Council Crest - Dosch)	30		60	30		60
52FARM-F185	Farmington - 185th (ETC - PCC Rock Crk.)	N/A		N/A	N/A		N/A
52FARM	Farmington - 185th (ETC - PCC Rock Crk.)	15		15	15		15
52ORENCO	Orenco	N/A		N/A	N/A		N/A
53ALLN-BA	Artic / Allen - (BTC - Allen / Mercer Ind.)	30		N/A	30		N/A
54BH-PB	Beaverton - Hillsdale Hwy (PCBD - BTC) FB	N/A		N/A	N/A		N/A
54B	Beaverton - Hillsdale Hwy (PCBD - BTC) FB	15		15	15		15
55HAML-PRH	Hamilton - (PCBD - Scholls / Hamilton)	N/A		N/A	N/A		N/A
55HAML-PRH Off-Mall JJ/RP	Hamilton - (PCBD - Scholls / Hamilton) Off-Mall JJ/RP	N/A		N/A	N/A		N/A
55HAMJ	Hamilton - (PCBD - Scholls / Hamilton) Off-Mall JJ/RP	30		N/A	30		N/A
56SF-PWSQ	Scholls Ferry - (PCBD - Wash Sq.) FB	N/A		N/A	N/A		N/A
56S	Scholls Ferry - (PCBD - Wash Sq.) FB	20		30	20		30
57FFGV-BFG	Forest Grove - (BTC - Forest Gr.) FB	N/A		N/A	N/A		N/A
57FFGV	Forest Grove - (BTC - Forest Gr.) FB	10		15	10		15
58CANY-PB	Canyon Rd. - (PCBD - BTC)	15		30	15		30
59WPCH-WCSUN	Walker / Parkway / Cedar Hills - (Willow Crk. / 185th -	N/A		N/A	N/A		N/A
59WP	Walker / Parkway / Cedar Hills - (Willow Crk. / 185th -	60		60	60		60
60L	Leahy - (Cornell - SusetTC)	45		N/A	45		N/A
61XMAR-MHB	BTC - Beav. - Hillsdale Hwy - (Marquam Hill/OHSU-BTC)	N/A		N/A	N/A		N/A
61X	BTC - Beav. - Hillsdale Hwy - (Marquam Hill/OHSU-BTC)	30		N/A	30		N/A
62MRBV	Murray Blvd - (Wash Sq. - Sunset TC)	N/A		N/A	N/A		N/A
62MURR	Murray Blvd - (Wash Sq. - Sunset TC)	15		30	15		30
63ZOO	Washington Park (PCBD - Zoo)	60		60	60		60
67J158-BPCC	Jenkins / 158th - (BTC - PCC Rock Crk.)	N/A		N/A	N/A		N/A
67J158	Jenkins / 158th - (BTC - PCC Rock Crk.)	30		30	30		30
68CMH-POHSU Off-Mall	Collins Circle - (PCBD - OHSU / VA Hospital) Off-Mall	N/A		N/A	N/A		N/A
68CMH	Collins Circle - (PCBD - OHSU / VA Hospital) Off-Mall	10		N/A	10		N/A
70T13	12th Ave. - (Rose Qtr. - MTC) via 13th	N/A		N/A	N/A		N/A
70T17	12th Ave. - (Rose Qtr. - MTC) via 17th	N/A		N/A	N/A		N/A

Columbia River Crossing		2030 No Build			2030 LPA		
		2030 CRC NB-30.1			2030 CRC T-31.2		
Transit Line Listing		2030 CRC New Starts multimodal No-Build based on reduced C-TRAN Alt 2&3 w/ #44 at 20 min. peak only (349k network)			2030 CRC New Starts multimodal Build LRT to Clark College based on NB-30.1		
71P122	60th / 122nd - (Woodstock / 94th - CTC) via Parkrose LRT	15		15	15		15
72K82	82nd / Killingsworth - (Swan Is. - CTC) FB	10		12	10		12
74X	SE Portland / Lloyd - (Lloyd Cntr / RoseQtr - Woodstock / 52nd)	30		N/A	30		N/A
75T MTC	39th / Lombard - (St. Johns - MTC) FB	15		15	15		15
76B VTU	Beaverton / Tualatin - (BTC - Tualatin TC) FB	12		15	12		15
77N TRDL	Broadway / Lovejoy - (Troutdale - Montgomery Park)	N/A		N/A	N/A		N/A
77B HTR	Broadway / Lovejoy - (Troutdale - Montgomery Park)	12		15	12		15
78LOTIG (same as today's 78 but terminates at Tigard	Tigard / LakeO - (Tigard TC - Lake Oswego)	N/A		N/A	N/A		N/A
78LOTG	Tigard / LakeO - (Tigard TC - Lake Oswego)	30		60	30		60
79OC (should be same route as today)	CTC / OC - (CTC - Or. City) via Gladstone - South End Loop FB	N/A		N/A	N/A		N/A
79C SOR	CTC / OC - (CTC - Or. City) via Gladstone - South End Loop FB	15		15	15		15
80T TRT	Kane Rd. - (Gresham TC - Troutdale) via Springwater	20		30	20		30
84B OR	Boring	60		N/A	60		N/A
84K EL	Kelso	N/A		N/A	N/A		N/A
84K BOR	Kelso	60		N/A	60		N/A
85SG	Swan Island from Rose Quarter via Interstate/Greeley	20		60	20		60
87R181 - New Routing	181st Ave. - (Alderwood / Damascus) via Airport / 181st /	N/A		N/A	N/A		N/A
87R182	181st / 182nd - (Sandy - Damascus)	30		120	30		120
88H198	198th / Hart - (Willow Crk. / 185th TC - BTC)	30		30	30		30
89R KN	Tanasbourne / North - (Tanasbourne - Sunset TC)	N/A		N/A	N/A		N/A
89T ANB	Tanasbourne / North - (Tanasbourne - Sunset TC)	40		60	40		60
89R KS	Tanasbourne / South - (Tanasbourne - Sunset TC)	N/A		N/A	N/A		N/A
89T ANC	Tanasbourne / South - (Tanasbourne - Sunset TC)	40		60	40		60
92X	South Beaverton Express - (Murray Hill - PCBD)	N/A		N/A	N/A		N/A
92XJC	South Beaverton Express - (Murray Hill - PCBD)	20		N/A	20		N/A
96T UAL	Tualatin / I-5 - (PCBD - Tualatin)	N/A		N/A	N/A		N/A
96T COM	Tualatin / I-5 - (PCBD - Tualatin)	20		60	20		60
96WIL S	N. Wilsonville / I-5 - (PCBD - N. Wilsonville)	N/A		N/A	N/A		N/A
96T MOH	N. Wilsonville / I-5 - (PCBD - N. Wilsonville)	20		60	20		60
99MX	McLoughlin Express - (PCBD - OC / CCC)	N/A		N/A	N/A		N/A
99PX	McLoughlin Express - (PCBD - OC / CCC)	12		0	12		0
201WILS	SMART / BARBUR	N/A		N/A	N/A		N/A
201WIL	SMART / BARBUR	30		60	30		60
202WIL	SMART / Oregon City	10		30	10		30
203WIL	SMART / Wilsnvle. Rd.	10		30	10		30

Columbia River Crossing		2030 No Build			2030 LPA		
		2030 CRC NB-30.1			2030 CRC T-31.2		
Transit Line Listing		2030 CRC New Starts multimodal No-Build based on reduced C-TRAN Alt 2&3 w/ #44 at 20 min. peak only (349k network)			2030 CRC New Starts multimodal Build LRT to Clark College based on NB-30.1		
204WIL	SMART / Wilsnvle. Rd.	N/A		N/A	N/A		N/A
204CRS	SMART / Wilsnvle. Rd.	10		30	10		30
205CAN	SMART / Canby	60		60	60		60
300SES	Sandy - Estacada	120		120	120		120
300SGR	Sandy - Gresham	30		60	30		60
300SME	Sandy - Rhododendron	60		60	60		60
302MCC	Molalla / CCC	60		60	60		60
302MCN	Molalla / Canby	60		60	60		60
400CAN	Canby (Canby - OCTC)	30		30	30		30
C-TRAN Buses							
C002NS	Lincoln (99TC / 99th / 9th / 78th / Bernie / Lincoln / 39th / Columbia / 16th / Washington / 6th / Return to 99TC via Broadway in VCBD)	45		45	45		45
C003NSA	Clockwise Downtown Circulator (6th / Broadway / Evergreen / Columbia / 8th / Franklin / 11th / Jefferson / 13th / Kauffman / 33rd / Grand / Col House / Col Wy / Columbia / 6th)	45		45	45		45
C003NSB	Counterclockwise Downtown Circulator (Broadway / 6th / Columbia / Col Wy / Col House / Grand / 33rd / Kauffman / 11th / Franklin / 8th / Washington / Evergreen)	45		45	45		45
C004NS	Fourth Plain w/ no Plomondon Loop to Delta Park MAX (Van Mall / Fourth Plain / Main St / McLoughlin / Washington / I-5 / Hayden Is / Delta Park LRT Sta / return via Broadway in VCBD)	15		15	N/A		N/A
C004NSV	Fourth Plain w/ no Plomondon Loop to VCBD (Van Mall / Fourth Plain / Main St / McLoughlin / Washington / 8th / Broadway / return)	N/A		N/A	15		15
C006	Hazel Dell (99TC / Hazel Dell / KigPR / LincPR / Mill DistPR /	N/A		N/A	N/A		N/A
C007BG	Battleground (Van Mall / 4th Plain / 102nd / Covington / 76th / SR503 / 199th / 20th / Main / BGPR / BG Library)	45		45	45		45
C009NS	Felida (99TC / 7th / 101st / 9th / 105th / Hazel Dell / 99th / 21st / 119th / 36th / Seward / Bliss / Hathaway / 139th / Salmon Creek P&R / return via same route)	30		60	30		60
C025NS	St Johns / Fruit Valley (99TC / 99th / Hwy 99 / 88th / 25th / 99th / 50th / St Johns / Ft Vanc Wy / Evergreen / Broadway / 15th / Mill Plain / 4th Pl / Fruit Valley / 61st / return via Washington in VCBD)	25		25	25		25
C030NS	Burton (FLTC / 164th / Tech Ctr / Mill Plain / 192nd / Mill Plain / 172nd / 1st / 162nd / 39th / 138th / 28th / Burton / 25th / Andresen / 18th / Grand / McLoughlin / Washington / 8th / Broadway / return to FLTC)	20		20	20		20
C032NS	Evergreen / Andresen (Van Mall / Van Mall Dr / Andresen / Evergreen / Broadway / Main / Hazel Dell / 94th / 99TC / return via Washington in VCBD)	45		45	45		45

Columbia River Crossing		2030 No Build			2030 LPA		
		2030 CRC NB-30.1			2030 CRC T-31.2		
Transit Line Listing		2030 CRC New Starts multimodal No-Build based on reduced C-TRAN Alt 2&3 w/ #44 at 20 min. peak only (349k network)			2030 CRC New Starts multimodal Build LRT to Clark College based on NB-30.1		
C037HWS	Highway 99 to Washington State U. Vancouver (Interlines w/ C037M) (8th / Broadway / Main / Highway 99 / 99th / 7th / 99TC / 7th / 99th / Hwy 99 / 139th / SCPR / 139th / 29th / Salmon Creek / WSUV / return via Washington in VCBD)	15		15	15		15
C037M	Mill Plain (Interlines w/ C037HWS or C037SC) (FLTC / 164th / Mill Plain / 15th / Washington / 8th / Broadway / return)	15		15	15		15
C039NS	Medical Center (VA Hospital / 4th Plain / Grand / 18th / Brandt / Mill Plain / MacArthur / Lieser / Mill Plain / 87th / 12th / Garrison / return)	60		60	60		60
C041NS	Camas / Washougal Limited to Delta Park MAX Station (Washougal / Camas / SR14 / FLTC / SR14 / 6th / Broadway / Evergreen / Washington / I5 / Delta Park LRT Station / return via I5 / 6th / Broadway / Evergreen / Washington / SR14)	120		0	N/A		N/A
C041NSV	Camas / Washougal Limited to VCBD (Washougal / Camas / SR14 / FLTC / SR14 /6th / Broadway / Evergreen / Washington / return)	N/A		N/A	120		0
C044NS	Fourth Plain Limited to Delta Park MAX (Ward / 4th Pl / Van Mall / 4th Pl / Ft Vanc Wy / McLoughlin / Washington / I-5 / Delta Park LRT Station / I-5 / return via Broadway in VCBD)	20		0	N/A		N/A
C044NSV	Fourth Plain Limited to VCBD (Ward / 4th Pl / Van Mall / 4th Pl / Ft Vanc Wy / McLoughlin / Washington / 8th / Broadway / return)	N/A		N/A	20		0
C047NS	Battle Ground Limited to Delta Park MAX (Yacolt / BG / SR502 / I5 / Mill Plain / Washington / I5 / Delta Park LRT Station / return via Broadway in VCBD)	120		0	N/A		N/A
C047NSV	Battle Ground Limited to VCBD (Yacolt / BG / SR502 / I5 / Mill Plain / Washington / 8th / Broadway / return)	N/A		N/A	120		0
C065	Parkrose - Fisher's Limited (FLTC / SR-14 / I-205 / Parkrose TC / return)	20		30	20		30
C072E	Orchards (Van Mall / 4th Plain / Ward / Orchards Loop)	60		60	60		60
C078NN	78th St (99PR / Hwy 99 / 78th / Andresen / Van Mall)	60		60	60		60
C080NS	Van Mall to Fishers via 18th Street P&R (Van Mall / 4th Plain / 112th / 18th Street P&R / 18th / 136th / Mill Plain / Park Crest / Blairmont / McGillivary / Village Loop / FLTC)	60		60	60		60
C092	Camas/Washougal (FLTC / Camas / Washougal)	60		60	60		60
C105S	I-5 Express Shortline VCBD to PCBD using 60-ft articulated buses (SB: Evergreen / Washington / I-5 / I-405 / PCBD) (NB: PCBD / I-405 / I-5 / 6th / Broadway / Evergreen)	12		120	N/A		N/A
C105NS	I-5 Express (SB: SCPR / I-5 / 99TC / I-5 / Mill Plain / Washington / I-5 / I-405 / PCBD) (NB: PCBD / I-405 / I-5 / 6th / Broadway / Mill Plain / I-5 / 99TC / I-5 / SCPR)	30		60	N/A		N/A

Columbia River Crossing		2030 No Build			2030 LPA		
		2030 CRC NB-30.1			2030 CRC T-31.2		
Transit Line Listing		2030 CRC New Starts multimodal No-Build based on reduced C-TRAN Alt 2&3 w/ #44 at 20 min. peak only (349k network)			2030 CRC New Starts multimodal Build LRT to Clark College based on NB-30.1		
C105NSV	I-5 Express terminating in VCBD (SB: SCPR / I-5 / 99TC / I-5 / Mill Plain / 15th / Mill DistPR / Washington) (NB: 8th / Broadway / Mill Plain / I-5 / 99TC / I-5 / SCPR)	N/A		N/A	30		60
C118NS	18th Street Express (SB: 18th Street PR / I-205 / I-84 / Rose Quarter / PCBD) (NB: PCBD / I-5 / SR-14 / I-205 / 18th Street PR)	30		0	30		0
C134P	Salmon CreekExp PRM to PCBD	25		0	25		0
C157P	BPA to Lloyd Center PRM (Van Mall / BPA / Lloyd Ctr)	60		0	60		0
C164P	Fishers PR Exp PRM to PCBD (return via I-5)	15		0	15		0
C190BPA	Marquam Hill Exp from BPA P&R (BPA P&R / I-5 / Marquam Hill)	60		0	60		0
C199P	99th Express to PCBD	20		0	20		0
C219X	219th Express to PCBD	N/A		N/A	N/A		N/A
C265X	Fishers-Pk Rose Exp.	N/A		N/A	N/A		N/A
C301RQJ	Ridgefield - 99th Street P&R SHRL w/QJ (99PR / Ridgfld)	120		N/A	120		N/A
C302LCQ	La Center-99th PR SHTL w/ QJs (99PR / LaCenter)	120		N/A	120		N/A
C304RLQ	Ridgefield-99th P&R SHRL w/ QJ (99PR / Ridgfld)	N/A		120	N/A		120

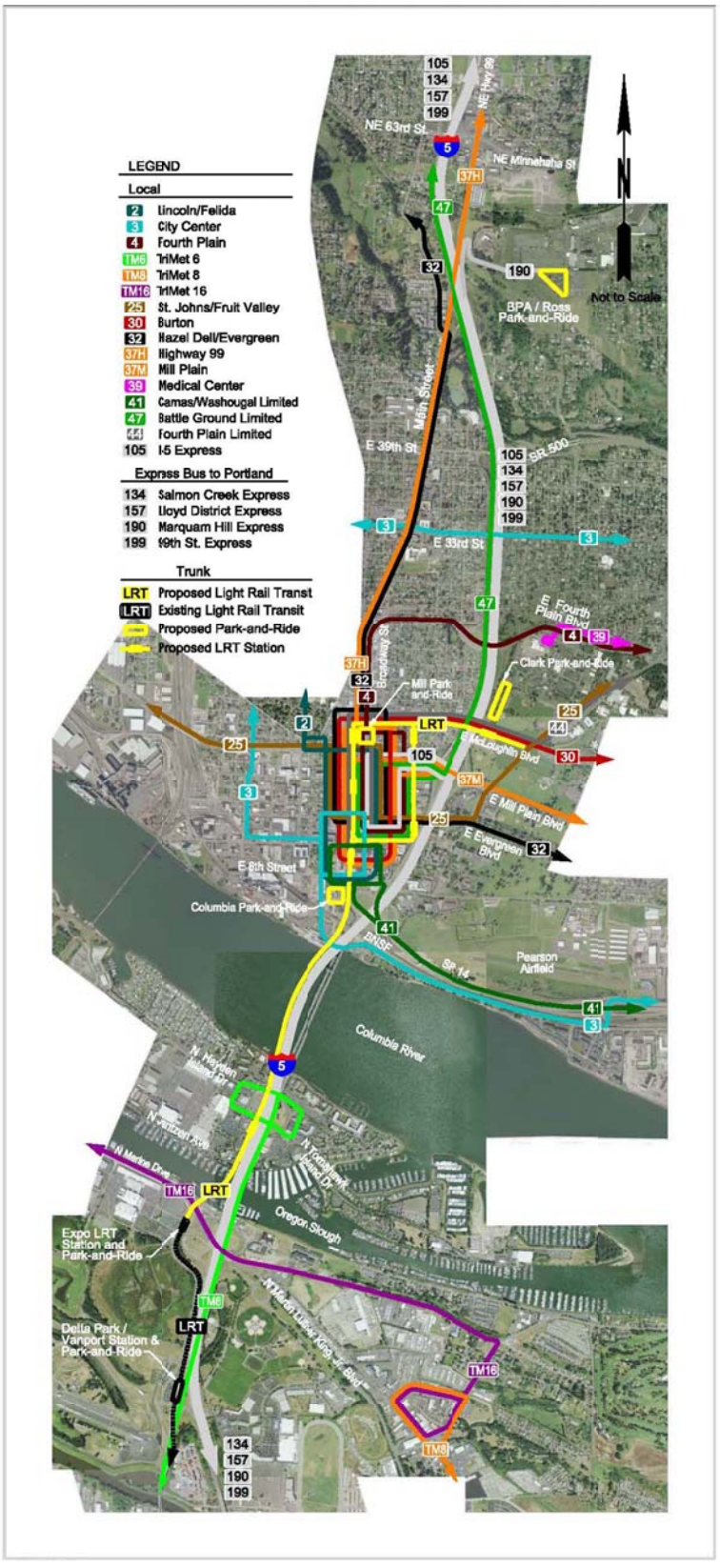
This page left blank intentionally.

Appendix F

LPA Transit Routing Map

This page left blank intentionally.

APPENDIX F: Locally Preferred Alternative Transit Routing Map



This page left blank intentionally.

Appendix G

2005 TriMet and C-TRAN Transit Networks (T-Net)

This page left blank intentionally.

Transit Line	Route Description	Peak Headway	Off-Peak Headway	Line Group
01HGAP	LRT HILLS/GRESHAM	6.5	12	Blue MAX
01NRTH	RQ-EXPO LRT PIR	10	15	Yellow MAX
01PDXB	PDX/BEAVERTON LRT	15	15	Red MAX
01SCRP	SCAR RIVERPLACE-NW	13	13	Other Rail
02GREE	GREELEY	15	30	North Portland TM Bus
02VCBD	VERMONT (TO CBD)	20	30	Other TM Bus
04DGL	DIVISION-GRESHAM LTD	13	0	Other TM Bus
04DGTC	DIVISION	9	15	Other TM Bus
04F	FESSENDEN	13	15	North Portland TM Bus
06MLKV	MLK JR BLVD VANC	10	15	North Portland TM Bus
08JVA	JACKSON PARK/VA	7	15	Other TM Bus
08M15	NE 15TH MIDDLEFIELD	7	15	Other TM Bus
09BWY	BROADWAY	12	15	Other TM Bus
09P98T	POWELL 98TH	30	30	Other TM Bus
09PGL	POWELL GRESHAM LTD	20	0	Other TM Bus
09PGTC	POWELL GRESHAM	18	15	Other TM Bus
10H	HAROLD	11	30	Other TM Bus
10T	NE 33RD AVE.	15	30	Other TM Bus
12BKC	BARBUR/KC TC	30	30	Other TM Bus
12BSHR	BARBUR/SHERWOOD	30	30	Other TM Bus
12SG	SANDY BLVD-GRESHAM	22	30	Other TM Bus
12SP	SANDY BLVD-PARKROSE	17	30	Other TM Bus
14H	HAWTHORNE	5	12	Other TM Bus
14HX	HAWTHORNE EXP	30	0	Other TM Bus
152MCT	MILWSHTL(MTC/CTC)	30	60	Other TM Bus
154WLN	WILL/WLINN SHUTTLE	30	60	Other TM Bus
155S	SUNNYSIDE	60	60	Other TM Bus
156MR	MATHER RD.	60	60	Other TM Bus
157HV	HAPPY VALLEY	60	60	Other TM Bus
15B60	BELMONT TO 60TH AVE	30	0	Other TM Bus
15B92	BELMONT TO 92ND AVE	30	0	Other TM Bus
15BELP	BELMONT TO PARKROSE	6	15	Other TM Bus
15THUR	23RD THURMAN/GORDON	30	30	Other TM Bus
15TMPK	23RD AVE MONTG PARK	30	30	Other TM Bus
16FA	FRONT AVE.	30	0	North Portland TM Bus
17H136	HOLGATE	10	15	Other TM Bus
17S35Y	NW 21ST/35TH YEON	20	0	Other TM Bus
17SLIN	NW 21ST/LINNTON	30	30	Other TM Bus
17SMPK	NW 21ST/MONTG PARK	30	30	Other TM Bus
18HILL	HILLSIDE	60	0	Other TM Bus
19G	GLISAN GATEWAY	10	15	Other TM Bus
19W	WOODSTOCK	30	30	Other TM Bus
19WR	WOODSTOCK/REX	20	30	Other TM Bus
201BAR	SMART/WILS BARBUR	0	60	Other TM Bus
201BTC	WILS-COM-TUAL-BARBUR	30	0	Other TM Bus
203COM	SMART/WILS COMMERCE	30	0	Other TM Bus
204CRS	SMART/WILS CROSSTOWN	30	60	Other TM Bus
205CAN	SMART/WILS CANBY	60	60	Other TM Bus
20BSTB	BURNSIDE-STARK/BEAV	15	30	Other TM Bus
20BSTN	BURNSIDE-STARK/23RD	0	30	Other TM Bus

22ROSE	PARKROSE	30	30	Other TM Bus
23SRAF	SAN RAFAEL/148TH	60	60	Other TM Bus
25G	GLISAN-ROCKWOOD	60	60	Other TM Bus
27M	MARKET-MAIN	60	60	Other TM Bus
28LINW	LINWOOD	30	60	Other TM Bus
29LAKE	LAKE-WEBSTER	30	60	Other TM Bus
300SES	SANDY-ESTACADA	60	60	Other TM Bus
300SGR	SANDY-GRESHAM	30	60	Other TM Bus
300SME	SANDY-RHODODENDRON	60	60	Other TM Bus
301COC	CANBY/OREGON CITY	20	30	Other TM Bus
302MCC	MOLALLA/CCC	60	60	Other TM Bus
302MCN	MOLALLA/CANBY	60	60	Other TM Bus
31CM	MILW TC/CLACKTC	0	60	Other TM Bus
31CTC	CLACKAMAS TC	30	0	Other TM Bus
31E	ESTACADA LOCAL	60	0	Other TM Bus
31EL	ESTACADA LTD	60	0	Other TM Bus
31EM	MILW-ESTACADA LOCAL	0	60	Other TM Bus
31EX	ESTACADA EXP	60	0	Other TM Bus
32CCOC	CCC-OREGON CITY	0	60	Other TM Bus
32OCCC	OATFIELD/CCC	15	0	Other TM Bus
32OMIL	OATFIELD/CCC-MILW	0	60	Other TM Bus
33FRE	FREMONT/GATEWAY	15	30	North Portland TM Bus
33MCCC	MCLOUGHLIN CLACK CC	30	0	Other TM Bus
33MGCC	MCL-CCC VIA GLADSTN	30	30	Other TM Bus
33MGLD	MCLOUGH ORC-CBD-GLD	0	30	Other TM Bus
34CH	CLACKAMAS HEIGHTS	60	60	Other TM Bus
34RCBD	RIVER ROAD	60	60	Other TM Bus
35MAC	MACADAM/OREGON CITY	15	30	Other TM Bus
36TCBD	TUAL/PTLD CBD	30	0	Other TM Bus
36TULO	TUAL/LAKE OSWEGO	0	60	Other TM Bus
37NSHR	TUALATIN	45	45	Other TM Bus
38BK	BOONES FRY_KRUSE	30	0	Other TM Bus
39L	LEWIS & CLARK	30	30	Other TM Bus
40M	MOCKS CREST	15	30	North Portland TM Bus
41TACM	TACOMA/MCLOUGHLIN	30	45	Other TM Bus
43TFJL	TAYLOR FY/JOHNS LAND	30	30	Other TM Bus
43TFNM	TAYLOR FY/NIM-CBD-WS	30	0	Other TM Bus
43TFWS	TAYLOR FY/WS-CBD-WS	0	60	Other TM Bus
44CHWY	CAPITOL HWY	12	15	Other TM Bus
45G	GARDEN HOME	30	30	Other TM Bus
45GX	GARDEN HOME EXP	60	0	Other TM Bus
46NH	NORTH HILLSBORO	44	40	Other TM Bus
47BLEV	BASELINE /EVERGREEN	30	30	Other TM Bus
48CORN	CORNELL	30	30	Other TM Bus
51CCPL	COUNCIL CREST/PAT PL	0	60	Other TM Bus
51CDPD	COUNCIL CR/PAT-DOSCH	30	0	Other TM Bus
51CDSH	COUNCIL CREST/DOSCH	0	60	Other TM Bus
52O	FARMINGTON (185TH)	17	17	Other TM Bus
53ALLN	ARCTIC/ALLEN SHUTTLE	35	0	Other TM Bus
54B	B-H HWY	20	30	Other TM Bus
55HAML	HAML/78TH/BRENTWD	30	0	Other TM Bus
56S	SCHOLLS FERRY RD.	15	30	Other TM Bus

57FFGV	FOREST GROVE	15	15	Other TM Bus
58CANY	CANYON ROAD/BVTC	17	30	Other TM Bus
59WP	WALKER/PARK WAY	30	60	Other TM Bus
60L	LEAHY RD	30	0	Other TM Bus
61X	MH/BVTN	33	0	Other TM Bus
62MURR	MURRAY BLVD	20	30	Other TM Bus
63WSYL	CBD-WASH PARK-SYLVAN	60	60	Other TM Bus
64MT	MARQ HILL TIGARD	33	0	Other TM Bus
65MBAR	MARQ HILL BARBUR	30	0	Other TM Bus
66MH	MARQ HILL HOLLYWOOD	33	0	Other TM Bus
67J158	BVTC/JENKINS/PCC	30	30	Other TM Bus
68CMH	COLLINS CIR/MAR HL	15	0	Other TM Bus
70T13	12TH AVE VIA 13TH	27	30	Other TM Bus
70T17	12TH AVE VIA 17TH	27	30	Other TM Bus
71T122	60TH-122ND	15	15	Other TM Bus
72K82	KILLINGSWORTH/82ND	8	10	North Portland TM Bus
74X	LLOYD/SE WOODSTK	30	0	Other TM Bus
75TMTC	39TH/LOMBARD (MTC)	11	14	North Portland TM Bus
76BVTU	BEAV/TUALATIN	30	30	Other TM Bus
77BHTR	BWAY/HALSEY TROUTDL	17	17	Other TM Bus
78BVLO	BEAV/LAKE OSWEGO	30	30	Other TM Bus
79CORC	CLACK TC-OREGON CITY	0	60	Other TM Bus
79CSOR	CLACK TC-SOUTH END	30	60	Other TM Bus
80TTRT	GRESHAM-TROUTDALE RD	60	60	Other TM Bus
81T257	TROUTDALE VIA 257TH	60	60	Other TM Bus
82E183	EASTMAN PKWY/182ND	60	60	Other TM Bus
83PARK	PARK BLOCKS	30	30	Other TM Bus
84BOR	BORING	60	0	Other TM Bus
84KEL	KELSO	60	0	Other TM Bus
85SG	SWANISL GREELEY/RQ	20	20	Other TM Bus
86ALD	ALDERWOOD	30	0	Other TM Bus
87A181	AIRPORT WAY/181ST	30	0	Other TM Bus
88H198	HART/198TH	30	30	Other TM Bus
89TANB	TANASBOURNE BRONSON	40	60	Other TM Bus
89TANC	TANASBOURNE CORNELL	40	60	Other TM Bus
92X	S BVTN EXP	24	0	Other TM Bus
94X	SHERWOOD PACIFIC EXP	10	0	Other TM Bus
95X	TIGARD EXP	25	0	Other TM Bus
96TCOM	TUAL/COMMERCE CIR	13	60	Other TM Bus
96TMOH	TUAL/MOHAWK	30	60	Other TM Bus
99PX	PCBD-MCLOUGHLIN EXP	12	0	Other TM Bus
C001	Fruit Valley	30	30	CTRAN Local
C002	Lincoln/Felida	45	45	CTRAN Local
C003A	Kauffman-Columbia	40	40	CTRAN Local
C003B	Columbia-Kauffman	40	40	CTRAN Local
C004	Fourth Plain	15	15	CTRAN Local
C006	Hazel Dell	35	35	CTRAN Local
C007	Battle Ground	45	45	CTRAN Local
C025	St. Johns	30	30	CTRAN Local
C030	Burton	30	30	CTRAN Local
C032	Evergreen	30	30	CTRAN Local
C037	Mill Plain	15	15	CTRAN Local

C039	Clark Col/Med Center	60	60	CTRAN Local
C071	Highway 99	15	15	CTRAN Local
C072	Orchards	48	48	CTRAN Local
C076	NE 63RD Eastridge	48	48	CTRAN Local
C078	78th St	60	60	CTRAN Local
C080	Van Mall/Fishers	38	38	CTRAN Local
C092	Camas/Washougal	30	30	CTRAN Local
C105X	I5 EXP	12	50	CTRAN I-5
C114X	Camas/Washougal Exp	60	0	CTRAN I-5
C134X	Salmon Creek Express	14	0	CTRAN I-5
C157L	BPA/Lloyd Cntr LTD	45	0	CTRAN I-5
C164X	Fishers Landing Exp	13	0	CTRAN I-205
C165X	Parkrose Exp	18	30	CTRAN I-205
C173L	Battle Ground LTD	60	0	CTRAN I-5
C177X	Evergreen Exp	25	0	CTRAN I-205
C190X	Marquam Hill Exp	60	0	CTRAN I-5

Appendix H

2008 C-TRAN Bus Network (T-Net)

This page left blank intentionally.

Columbia River Crossing Project 2008

C-TRAN System

Transit Line Listing		Updated to match Feb., 2008 Service Change and No-Build Highway		
C-TRAN Buses				
C001LMI	Fruit Valley (Mill Dist / Fruit Vly Rd / Lakeside Mobile Estates) Interline w/ #25NN for NA-3 Only	30		30
C002NN	Lincoln (Columbia/ 39th / Lincoln / Bernie / 78th / 9th / 99PR)	40		40
C003C	Kauffman-Columbia (Clockwise Grand / 33rd / Kauffman) No	40		40
C003CC	Columbia- Kauffman (Counterclockwise of C003C Route)	40		40
C004PIR	Fourth Plain Service Redesign (Van Mall / 4th Plain / Main/Broadway / Mill D/7th St / I-5 / Hayden Is. / PIR)	15		15
C004PIRX	Fourth Plain Ltd Service Redesign (Ward Rd / Van Mall / 4th Plain / Ft Vanc Wy / McLoughlin / WA / I-5 / PIR)	25		0
C006NN	Service Redesign: Hazel Dell to Evergreen (99TC / 94th / Hazel Dell / Main / Mill Dist / Broadway / Evergreen / Interline w/ #32 at Evergreen&C St)	30		30
C007LIB	Battleground (Van Mall / Central Co / SR503 / BGPR / BG Library)	45		45
C009BY	Felida Circulator	60		60
C019BY	99th Street - WSU	30		30
C025NN	St. Johns (Evergreen&Broadway / CCPR / St. Johns / 99PR) Interline w/ #1LMI in NA-3 Only	30		30
C030M	Burton (FLTC / 164th / Columbia Tech Ctr / 162nd / 39th / 28th / Burton / Andresen / 18th / McLoughlin / Clk Col PR / Mill Dist / Evergreen / Ft Vanc Wy)	30		30
C032	Evergreen/Andresen (Van Mall / Van CBD) Interline with #6	30		30
C037CC	Mill Plain (7th Street / Broadway / Mill Plain / CCPR / Hudson Bay HS / 164th / FLTC) Interline w/ #71NN	20		20
C039	Clark College / Medical Center (Evergreen / Washington / 8th / Broadway / Evergreen / Ft Vanc Wy / VA Hosp / 4th Plain / Grand / 18th / Brandt / Mill Plain / MacArthur / Lieser / Mill Plain / 87th / 12th / Garrison)	60		60
C071NN	Highway 99 (7th Street / Broadway / Main / Hwy 99 / KigPR / 99PR / SCPR) Interline w/ #37CC	20		20
C072E	Orchards (Van Mall / 4th Plain / Ward / Orchards Loop)	60		60
C078NN	w/ #80E	60		60
C080E	Van Mall to Fishers (VanMall / 4th Plain / 112th / 28th / Evgrn PR / Mt. View HS / FLTC) Interline w/ #78NN	30		30
C092	Camas/Washougal (FLTC / Camas / Washougal)	30		30

Columbia River Crossing Project 2008

C-TRAN System

Transit Line Listing		Updated to match Feb., 2008 Service Change and No-Build Highway		
C105CP	I-5 Express w/99th St QJ and DT couplet (SB: SCPR / I-5 / 99TC / I-5 / Mill Plain / Mill DistPR / Washington / I-5 / I-405 / PCBD) (NB: PCBD / I-405 / I-5 / 6th / Broadway / Mill DistPR / 16th / Main / Mill Plain / I-5 / 99TC / I-5 / SCPR)	15		45
C114PIR	Camas/Washougal LTD to PIR (SR14 / FLTC / 7th Street / PIR) QJ	120		0
C134P	Salmon CreekExp PRM to PCBD	10		0
C157P	BPA to Lloyd Center PRM (Van Mall / BPA / Lloyd Ctr)	60		0
C164P	Fishers PR Exp PRM to PCBD (return via I-5)	15		0
C173PIR	Battle Ground Express to PIR via VCBD (Yacolt / BG / 219PR / KigPR / Mill Dist / 7th Street / PIR)	120		0
C177P	Evergreen PR to PCBD (return via I-5, SR 14)	30		0
C190P	Marquam Hill Express PRM (Kmart / BPA / Marq Hill)	30		0
C199P	99th Express to PCBD	10		0
C265X	Fishers-Pk Rose Exp.	20		30
C301RDG	Ridgefield - 99th Street P&R SHRL (99PR / Ridgfld)	90		N/A
C302LC	La Center - 99th Street P&R SHTL (99PR / LaCenter)	90		N/A
C304RLC	Ridgefield - 99th Street P&R SHRL (99PR / Ridgfld)	N/A		240

Appendix I

District to District Travel Demand Reference Map and Travel Demand Tables for the 2030 No Build and the LPA

This page left blank intentionally.

Appendix I:
District to District Travel Demand Reference Map and Tables for the 2030 No Build and the 2030 LPA

The Metro travel demand model forecasts trips between the districts in the corridor to determine travel demand differences for different alternatives in the year 2030. On the following page, the CRC Project Corridor District Reference Map shows the districts analyzed.

The following six tables summarize the Metro travel demand model district to district travel for the 2030 No Build and the 2030 LPA. Table A-1 and Table A-2 show the total person trip demand for the two alternatives, Table A-3 and Table A-4 show the transit work trip demand, and Table A-5 and Table A-6 show the total transit trip demand.

Total Person Trip Demand

Total person trip demand indicates the total number of people wanting to travel by automobile, transit, bike and walk between two areas. The person trip demand Table A-1and Table A-2 compare the total demand for trips in 2030 with the No Build scenario versus if the LPA is implemented.

Transit Work Trip Demand

Transit work trips are those transit trips that begin or end at work. Table A-1 and Table A-2 show the trip tables for transit work trips by district for the 2030 No Build Alternative and the LPA.

Total Transit Trip Demand

Total transit trips included both work- and non-work trips using transit. Table A-5 and Table A-6 show total transit trips for the 2030 No Build Alternative and for the LPA.

CRC Project Corridor District Reference Map

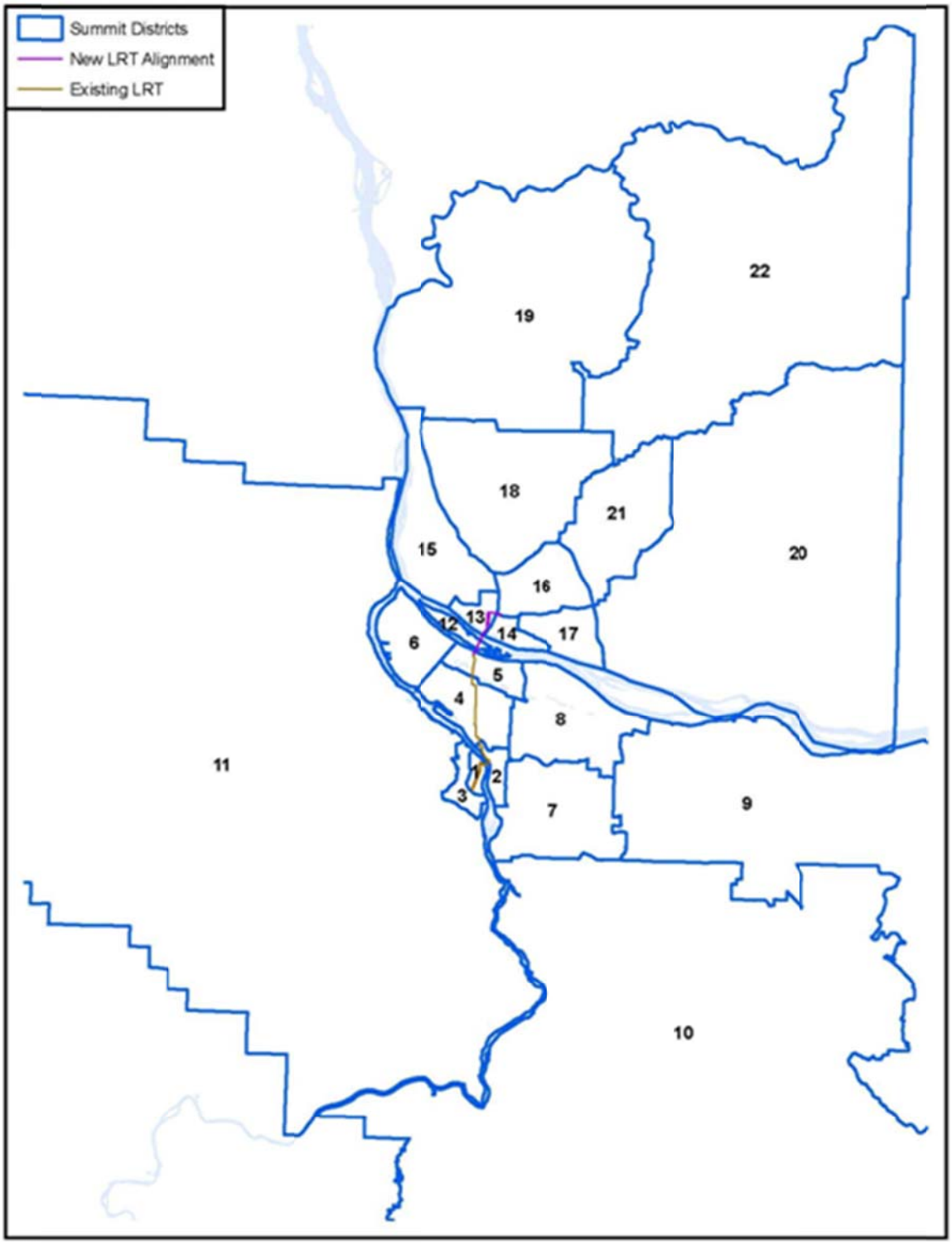


Table A-1. No-Build Total Person Trip Demand by District, 2030 Average Weekday

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Sum
1	269626	36701	58713	10280	941	1147	23015	10579	3931	5695	51579	706	956	454	165	563	674	793	169	1203	642	157	478687
2	35240	59427	13500	9496	891	797	26427	12309	3905	5171	17918	710	627	310	116	418	480	559	118	913	471	114	189918
3	83702	17800	81908	6453	691	871	14934	6657	2644	4269	60576	604	660	331	133	462	567	680	144	914	540	134	285675
4	32878	35287	17824	76239	7042	8994	20873	25288	6476	5401	30260	4446	1830	913	399	1375	1403	1553	299	1772	1148	271	281972
5	1341	1993	1101	3397	2245	431	1708	2539	905	526	1996	690	569	265	105	408	476	477	80	515	344	78	22190
6	3339	4120	2858	10951	1203	12853	2981	3693	1414	963	7799	1279	797	400	161	593	601	710	145	817	539	138	58356
7	63460	68363	30164	18261	2897	2700	285767	69336	53341	83559	55022	1316	933	574	234	928	1938	1337	315	4153	1839	364	746801
8	34696	42460	17637	26395	4858	3365	72037	131369	42522	20100	28820	2131	1573	1029	360	1931	4099	2260	552	8564	3556	671	450986
9	23374	27044	13509	13405	3688	3223	95156	84571	673704	105471	24554	1447	1304	1103	353	1552	3367	2288	537	7354	3289	629	1090923
10	30831	30109	18476	10982	2470	2238	122207	44344	168221	188308	136393	847	830	554	224	907	1878	1204	296	4144	1902	337	1767702
11	163353	57613	154919	34674	4179	9147	61021	28608	14797	94540	3876111	2305	2589	1345	642	1885	2397	2745	576	3998	2285	507	4520237
12	751	1420	852	2239	589	423	1012	1299	490	298	1426	5273	999	436	152	654	674	660	88	635	467	87	20924
13	831	798	562	1292	340	324	647	954	491	281	1073	1006	30590	6079	3583	6721	5487	6666	758	5336	3928	642	78390
14	544	552	397	887	218	242	492	774	425	233	784	482	7959	8606	1247	6336	4387	3804	528	4438	2921	443	46700
15	493	481	380	809	220	256	429	665	360	191	811	391	8336	2400	5438	3680	3129	7429	846	3119	3133	601	43599
16	1822	1568	1241	2751	723	878	1642	2835	1637	825	2642	1156	13440	10930	3404	43697	21977	13628	1782	14260	15211	1640	159689
17	1222	1156	930	1971	520	642	2090	3877	2443	1206	2022	669	7805	5564	1985	16752	61614	10066	1674	31772	18379	1762	176121
18	4520	3701	3186	5580	1776	2275	3895	6888	3969	1886	6666	2106	27985	10945	11085	20713	22856	212579	24545	29950	51929	19985	479021
19	1011	953	792	1471	492	614	1099	2188	1213	520	1476	545	7008	2929	2859	4757	6782	38973	118885	11495	14609	21940	242614
20	5697	5255	3811	7975	1934	2427	10397	20367	12213	5756	7615	1912	20946	18810	6107	25502	55184	35863	11247	502637	79960	25778	867391
21	2066	1923	1540	2892	887	1124	3234	6163	3880	1844	3215	984	12077	6913	4287	19041	37978	45643	7404	54325	138862	26746	383029
22	760	698	571	1043	365	460	1017	2162	1232	522	1064	352	4277	1885	1742	4026	6113	26432	17561	17806	32603	127780	250469
Sum	761557	399423	424871	249443	39170	55433	752080	467465	1000214	1527567	4319820	31359	154089	82776	44781	162901	244064	416349	188551	710119	378557	230805	**12641394**

Table A-2. LPA Total Person Trip Demand by District, 2030 Average Weekday

DISTRICT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Sum
1	274599	36567	57765	9975	908	1105	21882	10109	3722	5426	49801	895	1041	472	174	593	694	838	182	1127	645	165	478686
2	35217	60821	13331	9403	857	790	26065	12028	3755	4996	17751	708	669	321	121	433	486	590	126	869	451	118	189918
3	83451	17783	82489	6489	699	871	14724	6545	2565	4219	60483	687	676	338	138	479	580	728	157	872	559	144	285675
4	31568	35588	17900	77168	6927	9019	20197	25051	6310	5158	30525	4907	2120	1028	423	1420	1451	1700	316	1732	1184	283	281972
5	1309	1956	1107	3346	2282	428	1682	2513	894	503	2018	809	589	277	106	401	469	498	83	495	344	80	22190
6	3141	4075	2860	10687	1178	13515	2861	3599	1377	910	7929	1267	831	416	163	591	596	743	149	782	546	142	58356
7	60387	68126	29740	17947	2839	2685	290858	69149	53707	82401	54783	1493	988	632	245	937	1934	1359	309	4110	1816	355	746801
8	32721	42397	17146	26182	4866	3377	71460	135459	42450	19266	28459	2298	1677	1132	376	1958	4132	2314	539	8565	3550	663	450985
9	21235	25310	12760	12744	3620	3157	92855	83384	681744	106291	23929	1663	1405	1299	376	1571	3379	2404	523	7369	3284	620	1090923
10	28180	28841	17920	10498	2372	2153	118399	42977	168902	1200491	133979	941	857	586	231	892	1828	118	281	4030	1840	321	1767702
11	155926	57350	152222	34874	4240	9270	59560	28081	14287	92736	3889581	2762	2658	1449	673	1933	2398	2957	629	3763	2347	540	4520236
12	1134	1262	949	2234	585	410	1020	1331	525	307	1606	5215	900	416	140	552	563	624	83	559	430	81	20924
13	914	848	595	1332	367	322	656	967	478	271	1126	913	29726	5996	3580	6787	5618	6972	787	5465	4068	664	78390
14	563	577	412	889	233	233	483	762	408	220	810	444	7420	8572	1265	6410	4519	3970	551	4519	2987	461	46700
15	636	589	432	964	259	266	469	712	361	194	898	418	7224	2451	5417	3941	3532	6895	805	3345	3184	604	43599
16	2201	1771	1358	3057	797	883	1655	2808	1531	766	2848	1073	12832	10782	3340	43629	22747	12596	1743	14398	15234	1646	159689
17	1646	1369	1019	2405	599	656	2144	3899	2363	1157	2138	719	6433	5654	1925	17139	62285	8880	1550	31879	18487	1773	176121
18	5102	4376	3663	6685	1967	2472	4038	6987	3766	1787	7778	2053	25457	11106	10745	20842	23156	210005	24418	29880	52437	20302	479021
19	1209	1158	951	1782	552	694	1098	2113	1103	468	1820	509	6633	2983	2761	4621	6442	37804	120195	11073	14463	22179	242613
20	5553	5088	3801	8308	1949	2464	9866	19474	11619	5319	7711	1686	20434	18421	6216	24883	54304	36610	11366	505042	81146	26130	867390
21	2723	2277	1791	3747	1044	1233	3270	6126	3695	1731	3711	1077	11785	6873	4032	19838	40098	40599	6933	54563	138881	27003	383028
22	912	820	681	1239	403	518	999	2108	1155	478	1302	323	4064	1875	1681	3878	5971	25779	17690	17680	32587	128323	250469
Sum	750326	398950	420892	251942	39545	56520	746243	466182	1006717	1535096	4330986	32863	146418	83081	44130	163729	247182	406039	189414	712116	380421	232599	**12641391**

Table A-3. No-Build Transit Work Trip Demand by District, 2030 Average Weekday

DISTRICT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Sum
1	8214	1049	2039	507	81	99	640	406	213	291	3246	18	19	7	3	6	7	5	1	9	4	0	16863
2	2342	1055	538	301	53	54	493	309	152	199	879	16	5	2	1	2	2	2	0	3	1	0	6409
3	5163	551	1278	242	40	48	315	212	106	136	2178	11	9	3	1	3	3	3	1	4	2	0	10310
4	5061	1237	988	827	127	166	466	441	198	218	1183	47	15	4	1	5	5	3	1	5	3	0	11001
5	109	23	21	14	6	4	8	8	5	5	22	1	1	0	0	0	0	0	0	0	0	0	229
6	554	133	117	90	14	56	40	43	17	18	122	6	2	0	0	0	1	0	0	0	0	0	1213
7	13037	3929	2768	915	165	160	3330	1751	1187	2055	3112	46	23	6	2	7	10	6	1	17	5	1	32533
8	6984	1962	1320	553	110	100	1020	1099	644	599	1484	27	11	3	1	3	5	3	1	11	2	0	15942
9	8030	2989	1761	478	104	90	1451	1446	2277	1076	1249	29	14	3	1	3	5	3	1	10	2	0	21022
10	8291	2287	1788	340	67	52	1508	864	609	2909	1815	16	11	2	1	2	3	2	0	7	1	0	20574
11	25330	2513	7454	607	95	102	946	556	252	563	24749	22	31	6	2	6	7	5	1	7	3	0	63257
12	100	29	20	14	3	3	8	8	4	4	20	2	1	0	0	0	0	0	0	0	0	0	218
13	319	74	63	36	7	8	22	20	10	12	56	8	31	24	11	29	38	27	5	30	14	2	846
14	206	45	39	21	4	5	14	13	6	8	34	4	56	28	6	18	23	13	3	22	8	1	578
15	176	34	37	12	3	3	9	7	3	4	24	3	54	11	9	13	16	19	4	13	6	1	461
16	742	173	166	85	18	18	53	47	21	28	125	20	261	70	25	97	114	61	13	82	49	7	2275
17	323	69	90	29	7	6	21	22	10	12	48	8	141	30	11	45	76	33	7	58	22	3	1074
18	1137	205	326	58	16	10	57	37	18	23	143	15	369	63	31	80	84	148	33	72	32	5	2962
19	266	55	104	12	4	2	14	9	4	5	29	4	127	19	9	25	23	50	13	19	9	1	803
20	1943	445	434	90	22	16	181	205	100	102	278	22	530	119	36	148	196	69	12	418	58	8	5434
21	496	97	159	33	9	6	24	19	8	12	60	8	166	29	13	47	51	38	12	34	47	12	1382
22	211	45	82	15	4	3	12	8	3	5	24	4	115	16	9	26	28	33	3	18	23	18	706
Sum	89035	18998	21592	5279	960	1009	10633	7529	5847	8282	40880	339	1994	447	173	566	701	522	112	840	292	62	216093

Table A-4. LPA Transit Work Trip Demand by District, 2030 Average Weekday

DISTRICT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Sum
1	8635	1026	1951	472	77	91	604	393	201	271	3054	28	29	10	4	9	10	7	2	9	5	1	16889
2	2431	1098	526	290	49	52	477	298	144	187	849	18	9	3	1	2	3	2	0	3	2	0	6445
3	5306	539	1261	236	40	47	309	208	101	131	2085	16	14	5	2	4	5	4	1	4	2	0	10317
4	5107	1282	1029	836	129	166	481	464	201	216	1229	69	41	9	3	9	11	8	1	8	4	1	11305
5	115	24	23	15	8	4	9	9	5	5	25	2	2	0	0	0	0	0	0	0	0	0	250
6	542	134	119	85	14	59	40	43	17	17	126	8	5	1	0	1	1	1	0	1	0	0	1213
7	12729	3865	2752	898	166	156	3357	1753	1183	1988	3075	70	43	11	4	10	15	9	2	20	7	1	32112
8	6797	1926	1308	542	110	99	1017	1127	635	575	1448	43	29	7	2	6	9	5	1	13	4	0	15703
9	7431	2794	1701	470	107	88	1433	1425	2285	1059	1196	49	33	6	2	6	8	5	1	12	3	0	20114
10	7702	2188	1754	332	68	50	1495	860	619	2911	1784	28	23	4	1	4	5	3	0	8	2	0	19842
11	24481	2503	7353	601	99	103	937	557	246	552	24310	44	51	10	4	9	10	9	1	8	4	0	61892
12	159	34	32	21	4	5	13	11	6	6	32	3	2	0	0	1	1	0	0	1	0	0	332
13	398	126	92	72	16	15	39	35	16	17	90	13	31	29	13	34	45	35	7	37	17	3	1180
14	261	78	56	38	8	8	22	19	9	10	53	7	57	31	7	21	27	17	4	25	10	2	770
15	340	94	66	42	9	8	23	19	9	11	59	7	47	12	9	16	23	20	4	22	8	2	851
16	1247	360	262	180	39	37	97	80	37	48	241	31	288	73	28	102	122	67	15	94	54	9	3513
17	903	237	177	130	28	26	52	42	22	33	161	22	141	37	16	50	79	38	9	63	24	5	2297
18	1878	506	472	233	51	44	128	96	43	54	329	38	379	77	33	98	113	156	44	109	38	7	4928
19	265	62	114	24	6	4	13	9	3	4	30	5	83	13	6	16	15	34	13	12	6	1	737
20	2046	467	482	179	45	35	175	194	92	95	319	38	520	113	36	140	189	73	13	402	57	9	5719
21	1561	437	328	236	51	45	96	73	37	57	278	39	371	53	28	75	71	39	12	55	52	14	4007
22	236	61	95	29	8	5	13	10	4	5	29	6	85	13	7	21	24	23	2	15	22	18	732
Sum	90570	19841	21954	5962	1135	1147	10830	7729	5914	8252	40803	585	2281	517	206	635	786	553	133	922	321	72	221149

Table A-5. No-Build Total Transit Trip Demand by District, 2030 Average Weekday

DISTRICT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Sum
1	28735	4338	7730	1334	146	154	2325	1409	561	831	7660	51	72	15	6	24	29	24	2	32	8	1	56747
2	8066	4484	1677	898	102	86	2451	1265	480	616	2025	64	25	6	2	10	11	8	1	14	4	0	22294
3	16031	2003	5232	551	65	70	1194	640	257	327	5357	29	32	8	3	12	14	12	1	13	5	0	31857
4	10486	4410	2254	4847	369	530	1987	1964	531	555	2433	278	78	20	6	39	41	21	1	25	11	1	30887
5	288	130	67	132	35	11	63	69	23	20	74	15	14	3	1	7	8	4	0	4	2	0	368
6	1004	429	252	642	43	437	183	183	52	49	284	44	12	3	1	5	5	3	0	3	1	0	3637
7	24352	9385	5260	2102	242	214	18716	5432	3447	6569	5195	99	54	23	5	22	36	26	2	56	13	1	82508
8	13003	5400	2620	2003	200	162	4637	6069	2031	1632	2431	80	32	14	2	16	27	13	1	57	9	1	40620
9	11035	4744	2486	1059	131	106	4078	3269	3818	2272	1640	44	26	17	2	10	16	15	1	30	6	1	40805
10	10825	3511	2372	566	80	61	4122	1547	1449	14680	2674	24	22	6	1	7	12	8	1	18	4	0	41931
11	46064	5023	14307	1525	136	174	2494	1288	499	1263	75688	43	76	17	6	24	30	28	2	28	8	1	148723
12	169	126	47	115	17	10	49	44	14	12	44	45	31	8	2	20	23	11	0	9	3	0	798
13	409	117	87	91	14	10	44	39	18	19	75	49	175	144	64	300	344	289	9	214	64	7	2582
14	240	63	49	43	6	6	24	22	10	11	42	16	271	132	21	149	163	97	5	120	31	3	1524
15	190	42	43	25	4	3	13	11	5	5	27	9	213	62	35	71	75	165	6	46	21	3	1074
16	801	205	185	156	23	19	71	65	29	34	138	48	698	294	58	513	578	239	17	276	139	14	4663
17	343	78	98	57	9	6	30	32	14	15	52	16	346	135	26	240	501	181	9	305	81	8	2643
18	1159	217	336	78	19	11	65	43	21	25	150	26	754	197	82	226	213	1476	52	162	91	17	5419
19	267	55	105	13	4	2	15	9	4	5	29	5	148	26	12	32	30	193	153	26	13	12	1159
20	2035	467	456	153	23	16	206	240	112	109	286	28	771	667	43	313	512	271	16	1844	131	27	8733
21	504	101	163	48	9	7	27	22	9	13	61	11	242	111	20	115	160	177	14	98	223	44	2185
22	211	45	82	16	4	3	12	9	3	5	24	5	126	20	10	33	42	95	11	31	52	159	993
Sum	176878	46575	45906	16454	1682	2098	43405	23730	19445	29129	106449	1032	4219	1986	413	2189	2871	3415	304	3410	924	302	532816

Table A-6. LPA Total Transit Trip Demand by District, 2030 Average Weekday

DISTRICT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Sum
1	31959	5089	7930	1286	142	145	2731	1338	525	778	7298	123	173	35	11	46	53	40	3	37	13	1	59756
2	9222	4788	1748	886	97	84	2368	1217	446	578	1971	73	67	16	4	19	21	15	1	16	5	1	23644
3	17852	2051	5694	553	66	69	1162	622	244	320	5237	53	59	14	4	18	22	16	1	14	6	1	34079
4	11380	4723	2473	4974	383	539	1966	1979	525	540	2529	426	223	75	14	66	76	63	3	46	17	2	33020
5	352	144	80	138	40	12	66	73	25	21	82	30	31	9	2	9	13	9	0	7	2	0	1145
6	1061	446	274	631	43	462	175	178	50	47	292	56	35	10	2	10	10	9	0	7	2	0	3801
7	25594	10135	5416	2060	244	210	18810	5452	3414	6381	5147	147	105	59	8	34	51	42	2	59	15	1	83385
8	13248	5557	2671	1963	202	161	4593	6185	2045	1606	2423	123	92	55	6	29	42	33	2	61	12	1	41108
9	10402	4516	2430	1007	134	103	3959	3170	9870	2223	1569	77	66	71	4	17	25	34	1	32	8	1	39716
10	10336	3425	2382	551	81	59	4005	1505	1452	14734	2629	43	47	17	3	13	19	12	1	19	5	0	41341
11	46523	5122	14660	1536	143	176	2425	1260	480	1238	74902	98	139	37	9	36	44	38	2	30	11	1	148908
12	390	134	95	152	23	13	65	60	21	19	87	46	45	16	3	14	18	15	0	11	3	0	1231
13	593	214	142	194	30	21	78	74	31	29	128	68	166	173	72	336	393	341	11	251	73	8	3427
14	325	111	75	88	13	10	37	34	15	15	65	23	266	142	24	163	183	116	6	135	34	4	1883
15	386	116	78	85	12	10	31	28	12	13	66	18	182	77	37	90	104	157	6	67	25	4	1604
16	1386	422	300	334	48	40	125	112	48	56	263	60	745	302	62	543	628	297	19	304	149	17	6261
17	982	265	196	237	33	27	68	62	28	39	171	35	330	235	30	263	532	169	10	321	87	10	4131
18	1937	540	496	315	56	46	143	113	48	58	342	56	792	236	86	264	266	1541	64	211	181	20	7731
19	266	64	115	27	6	4	13	10	4	5	31	5	100	20	8	22	21	151	153	19	10	11	1065
20	2130	494	508	305	48	36	200	233	104	103	328	47	757	667	49	294	490	286	16	1791	130	27	9044
21	1605	452	339	295	53	46	104	82	40	60	283	46	495	139	35	177	226	164	14	134	243	47	5082
22	236	62	95	31	8	6	13	11	4	5	30	6	95	16	7	28	38	68	10	28	51	159	1007
Sum	188167	48869	48197	17648	1905	2279	43139	23797	19431	28870	105873	1658	5009	2421	480	2491	3275	3615	326	3599	1003	317	552368

This page left blank intentionally.