

APPENDIX A

Proposed Design Criteria for the Roadway Improvements in OLRT - Stage 2

Table 1 - Confederation Line West Design Criteria					
Criteria Description	Richmond Road (McEwen Ave. to Cleary Ave.)	SJAM Parkway (West of Cleary Ave. to east of Dominion Ave.)	SJAM Parkway (Profile modification at Churchill Ave.)	SJAM Parkway (At Kitchissippi Lookout Intersection)	Goldenrod Driveway (Yarrow Drvwy. to Scott St.)
Road Classification ¹	UAU	UAD	UAD	UAD	ULU
Posted Speed (km/hr) ²	50	50	50	50	40
Design Speed (km/hr)	60	60	60	60	50
Basic Lanes	2	4	4	4	2
Minimum Radius (m) ³	530	As Per Appendix C	As Per Appendix C ⁴	130	90
Min. K Factor Sag ⁵	9	As Per Appendix C	As Per Appendix C	9	6
Min. K Factor Crest	13	As Per Appendix C	As Per Appendix C	13	7
Max. Grade (%) ⁶	5%	3% ⁷	3% ⁷	3% ⁷	5%
Max. Superelevation (%) ⁸	4%	4%	4%	4%	NC
Minimum S.S.D. (m) ⁹	As Per TAC	As Per TAC	As Per TAC	As Per TAC	As Per TAC
Minimum D.S.D. (m) ¹⁰	As Per TAC	As Per TAC	As Per TAC	As Per TAC	As Per TAC
Lane Width (m) ¹¹	3.5	3.5	3.5	3.5 - 3.7	3.5 – 3.75
Aux. Lane Width (m) ¹²	3.3	N/A	N/A	3.5	3.5
Sidewalk Width (m)	2.0 - 3.0 ^{13, 14}	N/A	N/A	N/A	2.0
Boulevard Width (m)	0.6 – 1.2 ¹⁵	N/A	N/A	N/A	N/A
Shoulder (m) ¹⁶	N/A	N/A	N/A	N/A	N/A
Bike Lane(m) ¹⁷	2.0 - 3.0 ^{18, 19}	N/A	N/A	N/A	1.8
Median Width (m)	1.0	Varies (Min. 5.0) ²⁰	Varies (Min. 7.5) ²¹	Varies (Min. 1.5)	N/A
Side Slope / Back Slope	As Per TAC	6:1	2:1 (Min.) ²²	6:1	As Per TAC
Design Vehicle(s) ²³	WB-20, A-Bus and Emergency Vehicles	MSU, A-Bus and Emergency Vehicles	MSU, A-Bus and Emergency Vehicles	MSU, Maintenance and Emergency Vehicles	A-Bus and Emergency Vehicles
Two-Way AADT (vehicles/day) ²⁴	E. of Woodroffe = 15,300 W. of Woodroffe = 19,200 (1-Dec-2016)	40,600 (8-Dec-2015)	20,450 (3-Jul-2015)	20,450 (3-Jul-2015)	
8 Hour Heavy Vehicle % ^{24, 25}	E. of Woodroffe = 6.1% W. of Woodroffe = 5.7%	14.4% ²⁶	0.2% ²⁶	0.2% ²⁶	
Traffic Growth Rate Assumption ^{27, 28, 29}	0%	0%	0%	0%	

Table 1 - Confederation Line West Design Criteria Cont'd

Criteria Description	Carling Avenue (SJAMP ramp terminals to Edgeworth Ave.)	Iris Street (Parkway Dr. to Adirondack Dr.)	Scott Street (Ross Ave. to Caroline Ave.)	Corkstown Road (Moodie Dr. to Abbott Point of Care Access)	
Road Classification ¹	UAD	UCU	UAU	UCU	
Posted Speed (km/hr) ²	60	50	50	40	
Design Speed (km/hr)	80	60	60	50	
Basic Lanes	5	2	3 ³⁰	1	
Minimum Radius (m) ³	Tangent	1290	150	As Per TAC	
Min. K Factor Sag ⁵	16	9	9	As Per TAC	
Min. K Factor Crest	36	11	13	As Per TAC	
Max. Grade (%) ⁶	5%	5% ³¹	5%	5% ³²	
Max. Superelevation (%) ⁸	NC	NC	4%	RC ³³	
Minimum S.S.D. (m) ⁹	As Per TAC	As Per TAC	As Per TAC	As Per TAC	
Minimum D.S.D. (m) ¹⁰	As Per TAC	As Per TAC	As Per TAC	As Per TAC	
Lane Width (m) ¹¹	3.3 – 4.0	5.5 ³⁴	3.5	3.5 – 4.8 ³⁵	
Aux. Lane Width (m) ¹²	3.5	2.6 ³⁶	3.5	N/A	
Sidewalk Width (m)	2.0 ³⁷	2.0 - 3.0 ³⁸	1.8	3.0 ³⁹	
Boulevard Width (m)	N/A	N/A	N/A	N/A	
Shoulder (m) ¹⁶	N/A	N/A	N/A	As Per TAC	
Bike Lane(m) ¹⁷	1.8 ³⁷	N/A	1.8 ⁴⁰	N/A	
Median Width (m)	Varies	N/A	N/A	N/A	
Side Slope / Back Slope	As Per TAC	As Per TAC	As Per TAC	As Per TAC	
Design Vehicle(s) ²³	WB-20, A-Bus and Emergency Vehicles	WB-20, A-Bus and Emergency Vehicles	WB-20, A-Bus and Emergency Vehicles	A-Bus and Emergency Vehicles	
Two-Way AADT (vehicles/day) ²⁴	31,150 (17-June-2015)	4,600 (2-July-2015)	12,250 (22-Sept-2015)	2900 (4-July-2016)	
8 Hour Heavy Vehicle % ^{24, 25}	2.3%	0.7%	4.4%	2%	
Traffic Growth Rate Assumption ^{27, 28, 29}	0%	0%	0%	0	

Table 1 - Confederation Line East Design Criteria

Criteria Description	OR174 (Blair Rd to Trim Rd.)	Blair Road (B/w OR174 off ramp terminals) ⁴¹	Trim Road (Trim Park and Ride West Access/ Egress to south of Dairy Dr.) (Existing)	Trim Road (B/w to Jeanne d'Arc Blvd N. (Realigned)	
Road Classification ¹	RFD	UAU	UAU	UAU	
Posted Speed (km/hr) ²	100	70	50	50	
Design Speed (km/hr)	120	80	60	60	
Basic Lanes	Refer to Table 3	4	4	2/3 ⁴²	
Minimum Radius (m) ³	650 ⁴³	As per TAC	Existing	As per TAC	
Min. K Factor Sag ⁵	62	As per TAC	As per TAC	As per TAC	
Min. K Factor Crest	66.5	As per TAC	As per TAC	As per TAC	
Max. Grade (%) ⁶	3.0% ⁴⁴	As per TAC	5%	5%	
Max. Superelevation (%) ⁸	6%	As per TAC	Existing	4%	
Minimum S.S.D. (m) ⁹	As Per MTO	As Per TAC	As Per TAC	As per TAC	
Minimum D.S.D. (m) ¹⁰	As Per MTO ⁴⁵	As Per TAC	As Per TAC	As per TAC	
Lane Width (m) ¹¹	3.75 - 4.75 ⁴⁶	3.5	3.5	3.5	
Aux. Lane Width (m) ¹²	3.5	3.5	3.5	3.5	
Sidewalk Width (m)	N/A	N/A	2.0 ⁴⁷	3.0 ⁴⁸	
Boulevard Width (m)	N/A	N/A	0.6	N/A	
Shoulder (m) ¹⁶	3.0 LT / 3.0 RT ⁴⁹	N/A	N/A	N/A	
Bike Lane(m) ¹⁷	N/A	1.5	1.8 ⁵⁰	N/A	
Median Width (m)	Varies	N/A	Existing	1.5 ⁵¹	
Side Slope / Back Slope	As Per TAC	As Per TAC	As Per TAC	As Per TAC	
Design Vehicle(s) ²³	WB-20	WB-20, A-Bus and Emergency Vehicles	WB-20, A-Bus and Emergency Vehicles	WB-20, A-Bus and Emergency Vehicles	
Two-Way AADT (vehicles/day) ²⁴	Montreal to Champlain = 71,400 (June-2016) Champlain to Trim = 26,200 (June-2012)	37,550 (Dec-2014)	S. of OR174 = 13,300 (Jun-2012) N. of Dairy Rd. = 15,250 (Jun-2012)	Same as Trim Road (Existing).	
8 Hour Heavy Vehicle % ^{24, 25}	Montreal to Champlain = 12% Champlain to Trim = 6%	2.6%	7.6% (Jun-2012) 4.6% (Jun-2012)	Same as Trim Road (Existing).	
Traffic Growth Rate Assumption ^{27, 28, 29}	1%	2%	2% ⁵²	Same as Trim Road (Existing).	

Table 1 - Confederation Line East Design Criteria

Criteria Description	Montreal Road (B/w Shefford Rd. to OR174 WB Off Ramp Signal)	Montreal Road (B/w OR174 EB Off Ramp Signal to Tie-In Point)	Montreal Road (B/w OR174 on ramp terminals)		
Road Classification ¹	UAD	UAU	UAD		
Posted Speed (km/hr) ²	60	60	60		
Design Speed (km/hr)	80	80	80		
Basic Lanes	4	4	6 (including bus lanes)		
Minimum Radius (m) ³	N/A	N/A	N/A		
Min. K Factor Sag ⁵	22	22	22		
Min. K Factor Crest	35	35	35		
Max. Grade (%) ⁶	5%	5%	5%		
Max. Superelevation (%) ⁸	NC	NC	NC		
Minimum S.S.D. (m) ⁹	As Per TAC	As Per TAC	As Per TAC		
Minimum D.S.D. (m) ¹⁰	As Per TAC	As Per TAC	As Per TAC		
Lane Width (m) ¹¹	3.5 – 3.75 ⁵³	3.5 – 3.75 ⁵³	3.5 – 3.75 ⁵⁴		
Aux. Lane Width (m) ¹²	N/A	N/A	N/A		
Sidewalk Width (m)	2.5	2.5	2.0 ⁵⁵		
Boulevard Width (m)	N/A	N/A	0.5		
Shoulder (m) ¹⁶	N/A	N/A	N/A		
Bike Lane(m) ¹⁷	1.5	1.5	1.5 ⁵⁶		
Median Width (m)	Varies	Varies	1.5		
Side Slope / Back Slope	As Per TAC	As Per TAC	As Per TAC		
Design Vehicle(s) ²³	WB-20, A-Bus and Emergency Vehicles	WB-20, A-Bus and Emergency Vehicles	WB-20, A-Bus and Emergency Vehicles		
Two-Way AADT (vehicles/day) ²⁴	26,500 (Jan-2015)	26,500 (Jan-2015)	26,500 (Jan-2015)		
8 Hour Heavy Vehicle % ^{24, 25}	3.8%	3.8%	3.8%		
Traffic Growth Rate Assumption ^{27, 28, 29}	1%	1%	1%		

- ¹ Roadway classifications are identified in the City of Ottawa Official Plan – Schedule E. DB Co shall confirm all roadway classifications with the City of Ottawa.
- ² All posted speed limits and advisory speed signs shall be maintained for all design elements.
- ³ Minimum radius corresponds to maximum superelevation values for road classification and design speed.
- ⁴ The minimum radius and K factors (sag and crest) for the eastbound lanes shall be per the requirements of Schedule 15-2, Part 2, Appendix C. For the westbound lanes, the minimum radius shall be 220m, including associated spiral parameters as necessary, to feasibly tie into existing conditions at the limits of construction. The minimum K factors (sag and crest) for the westbound lane shall meet the requirements of the TAC GDGCR.
- ⁵ The minimum K factor for sag vertical curves shall meet the minimum comfort controls based on the presence of illumination.
- ⁶ Maximum longitudinal grade assumes a rolling terrain, unless otherwise specified.
- ⁷ NCC requirements for longitudinal grades shall not exceed 3%.
- ⁸ Maximum roadway superelevation corresponds to road classification (L – Local, C – Collector, A – Arterial, F – Freeway). NC denotes normal crown. RC denotes reverse crown.
- ⁹ The stopping sight distance parameters referenced as per TAC GDGCR, or MTO GDSOH, are minimum typical values. Additional sight distance may be required under certain constrained conditions. In all cases, DB Co's design shall meet the requirements of Schedule 15-2, Part 2, Clause 6.5.
- ¹⁰ Minimum decision sight distances shall be based on Avoidance Manoeuvre E, unless otherwise specified.
- ¹¹ General lane width requirements shall meet the minimum lane widths as prescribed in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads based on the corresponding road classification. For Roadways with a design speed less than 60km/h or less, the median lane width shall be a minimum of 3.25m wide.
- ¹² Auxiliary lanes with high transit volumes shall be a minimum of 3.5m.
- ¹³ DB Co shall design and construct pedestrian facilities to have a standard width of 3.0m. Only under constrained conditions, where the available right-of-way limits the width of the pedestrian facilities (i.e. bus stop locations), may DB Co reduce the pedestrian facilities to a minimum width of 2.0m. DB Co's geometric design shall satisfy the minimum design criteria requirements for Richmond Road and maximize the space available for the Byron Linear Park improvements of Schedule 15-2, Part 6 – Urban Design, Landscape Architecture and Connectivity Requirements, such that the cross sectional elements, including but not limited to 3.0m sidewalk on the north side of Richmond Road, are not compromised for the inclusion of street furniture and other streetscaping features (trees, municipal infrastructure (i.e. hydrants)). Side streets sidewalk connections shall be between 1.8m – 2.0m wide.
- ¹⁴ DB Co shall provide a typical 300mm wide delineator strip to segregate adjacent pedestrian and cycling facilities. A 200mm wide delineator strip will be accepted only under constrained conditions, where the available right-of-way is limited.
- ¹⁵ The boulevard on the north and south side of Richmond Road shall be 0.75m and 0.60m wide, respectively. These represent the absolute minimum design values in constrained conditions. Typical boulevard widths shall be minimum 1.2m, where applicable.
- ¹⁶ All shoulders shall be paved to meet the City's Standard Tender Package Standard Detail Drawings and Specifications.
- ¹⁷ Cycling facilities shall be a minimum of 1.5m. The type of bike lane facility (on-road, shared, raised cycle track, paved shoulder) are to be confirmed by DB Co with the City of Ottawa.
- ¹⁸ Cycling facility for this roadway segment has been considered as a raised cycle track.
- ¹⁹ 3.0m wide cycling facilities shall accommodate bi-directional cycling lanes.
- ²⁰ The minimum 5.0m wide median was developed to accommodate a median bioswale.

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- ²¹ The minimum 7.5m wide median width has been measured between opposing edge of inside (median) lanes.
- ²² For side slope/ back slopes steeper than 3:1, the warrant for roadside safety measures shall be assessed per the MTO Roadside Safety Manual.
- ²³ All A-Bus and B-12 design transit vehicles shall meet the dimensions and specifications per OC Transpo's transit vehicle fleet as per the requirements of Schedule 15-2, Part 2, Clause 6.9(c)(vi).
- ²⁴ Traffic information (AADT and Heavy Truck %) based on 8-hour turning movement counts provided by the City of Ottawa.
- ²⁵ For the purpose of pavement design of all Roadways, DB Co shall assume 2% as the minimum percentage of heavy vehicles to be applied on all non-truck routes even though a lower percentage is specified in the Design Criteria Table.
- ²⁶ The proposed SJAM corridors will not need to accommodate the bus rapid transit service ultimately, in the post construction or post commissioning stage. Buses only need to be accommodated on the SJAM corridor during the temporary conditions, or staged construction.
- ²⁷ Traffic growth rates are based on 'EMME' model outputs comparing 2011 and 2031 volumes provided by the City of Ottawa.
- ²⁸ Traffic projection horizon shall be year 2031 for all transportation impact assessments and traffic and transit analysis studies, unless otherwise noted.
- ²⁹ For the purpose of determining projected traffic volumes in traffic and transit analysis, DB Co shall reference the traffic growth rates specified in the design criteria, accordingly. Where the growth rates are used for the purpose of calculating pavement design requirements, DB Co shall use a minimum of 1.0% or the traffic growth rates specified in the design criteria, whichever is greater.
- ³⁰ Proposed Improvements on Scott Street involves widening the existing pavement to the north side so that Scott Street will have 3 basic lanes (2 travel lanes in the westbound and one a single lane in the eastbound direction of traffic) through the Goldenrod intersection, which transitions to 2 basic lanes (one travel lane in each direction of traffic) approaching Ross Avenue (Sir Frederick Banting Driveway) intersection.
- ³¹ DB Co's profile design shall meet the requirements of Schedule 15-2, Part 2, Article 6, Clause 6.19 (j).
- ³² DB Co shall design the vertical profile for Corkstown Road above the floodplain elevation of a 1:100 year flood event.
- ³³ DB Co shall design the realigned section of Corkstown Road to have a consistent reverse crown slope (2%).
- ³⁴ Lane widths shall match existing conditions.
- ³⁵ The westbound one-way general traffic lane on Corkstown Road shall be 4.8m wide, with the exception of where the lane is adjacent to another travel lane or bus lane, in which case the lane width can be reduced to 3.5m.
- ³⁶ The width of curbside pick-up and drop-off parking spaces on Iris Street shall be a minimum of 2.6m.
- ³⁷ A 0.3m wide buffer separates the cycle track from the roadway and the sidewalk from the cycle track.
- ³⁸ DB Co shall provide a 2.0m wide sidewalk on both sides of Iris Street. In addition to the sidewalk on the south side of Iris Street, DB Co shall provide a 3.0m wide multi-use pathway adjacent to the sidewalk separated by a 0.3m wide buffer.
- ³⁹ DB Co shall construct a 3.0m wide MUP on the north side of Corkstown Road to maintain the connection between Moodie Drive and the Watts Creek pathway.
- ⁴⁰ DB Co shall provide a 1.8m wide raised cycle track in the eastbound direction and a 1.8m wide bike lane in the westbound direction.
- ⁴¹ DB Co shall preserve a 4m space on the shoulder of the southbound lanes along Blair Road for a future cycling and pedestrian facility as per the requirements of Schedule 15-2, Part 7.
- ⁴² Along the section of realigned Trim Road south of the OR174, the roadway cross section shall have 2 northbound lanes and 1 southbound lane. Approaching the intersection of the realigned Trim Road and OR174 intersection, one of the northbound lanes shall transition into the northbound left turn auxiliary lanes, as required. For the section of realigned Trim Road north of the OR174, Trim Road shall have a single northbound and southbound travel lane.

- ⁴³ The minimum radius of 650m is for the tie-in of the Roadway Works associated with the OR174 to existing conditions, east of Trim Road where the design speed shall be 110 km/h with a posted speed of 90km/h. DB Co shall reference the requirements from the TAC GDGCR for the minimum radius for the Roadway Works west of Trim Road.
- ⁴⁴ Any deviations from the maximum grades on the OR174 profile shall meet the requirements of the MTO GDSOH Clause C4.2.1.
- ⁴⁵ Minimum decision sight distance for rural roadways shall be based on Manoeuvre C.
- ⁴⁶ Where there are only 2 general purpose lanes required along OR174 (+ speed change lanes, where applicable), the lane width of general purpose Lane No. 1 (next to the median) and Lane No. 2 (the outside general purpose lane) both shall be 3.75m typical. The width of speed change lane shall be 3.5m typical. The width of interchange ramps shall be 4.75m. Where provisions for the future High Occupancy Vehicle (HOV) lanes are to be considered in the Design and Construction of Stage 2 Works on OR174 from Blair Road to Montreal Road and under Trim Road new bridge structure, DB Co shall follow the following lane widths criteria:
- Median (left) shoulder shall be 3.0m wide typical.
 - Lane No. 1, next to the median shoulder, shall be 3.75m wide. Lane No. 1 will become the future HOV lane.
 - Lane No. 2, right of Lane No. 1, shall be 4.75m wide. The width of Lane No. 2 is sized to provide a 1.25m buffer between Lane No. 1 and Lane No. 2 and a 3.5m wide general purpose lane as future lane No. 2 upon conversion of Lane No. 1 to an HOV lane.
 - Lane No. 3, the outside general purpose lane, to be 3.75m wide.
 - Outside (right) shoulder to be 3.0m wide typical, except in the presence of 3.5m wide speed change lanes where the outside shoulder shall be 2.5m wide typical.
- ⁴⁷ The proposed sidewalk on Trim Road shall be raised by no more than 50mm in comparison to the adjacent cycle track in order to provide a physical separation. DB Co shall coordinate and develop the design for the raised treatment to the satisfaction of the City of Ottawa.
- ⁴⁸ A 3.0m wide asphalt MUP shall be provided adjacent to the outside northbound lane.
- ⁴⁹ The minimum median (left) and outside (right) shoulder width is 3.0m typical but may be reduced to an absolute minimum of 1.0m to accommodate Physical Constraints. Where physical constraints are less than 160m apart, DB Co is permitted to continue the minimum 1.0m shoulder between the physical constraints. Where physical constraints are more than 160m apart and less than 200m apart, the City may consider relaxing the requirement to restore a 3.0m shoulder between the physical constraints.
- ⁵⁰ The bike lanes on the existing Trim Road shall be raised cycle tracks adjacent to outside (curbside) lane on either side of the roadway, separated by a 0.6m wide boulevard, so that that total raised cycle track section including the boulevard is 2.4m wide. The proposed cycle track shall be raised by 150mm in comparison to the adjacent roadway.
- ⁵¹ DB Co shall design and construct raised concrete medians adjacent to auxiliary lanes.
- ⁵² Traffic projection horizon shall be year 2036 for all transportation impact assessments and traffic and transit analysis studies related to Trim Road/ OR174 Interchange, including Trim Park and Ride facility.
- ⁵³ The median lane shall be 3.75m wide and the curbside lane shall be 3.5m wide along Montreal Road.
- ⁵⁴ The median lane shall be 3.75m wide and the curbside lane shall be 3.5m wide along Montreal Road. Bus lanes shall be a minimum of 3.5m wide.
- ⁵⁵ The full width between abutment face to curb shall be 8.0m, consisting of a 2.0m sidewalk, 2.0m wide bus shelter (where applicable), 2m width for bus staging/access, 1.5m width for cycle track and 0.5m width for cycle track buffer. Cycle track shall be discontinued from the bus shelters to the station entrance.
- ⁵⁶ The bike lanes on Montreal Road shall be unidirectional raised cycle tracks adjacent to outside (curbside) lane one either side of the roadway, separated by a 0.5m wide hard surface boulevard, so that the total raised cycle track section including the boulevard is 2.0m wide.

Table 2 – Confederation Line Left Turn Storage Length Requirements at Signalized Intersections			
Primary Roadway	Intersecting Roadway	Intersection Approach	Storage Length (Min.)
Richmond Road	McEwen Avenue	Eastbound	35m
	New Orchard Avenue	All	N/A
	Woodroffe Avenue	Eastbound	30m
		Westbound	70m
		Northbound	50m
		Southbound	30m
Scott Street	Cleary Avenue	Southbound	15m
	Goldenrod Driveway	Eastbound	20m
		Westbound	15m
		Southbound	60m

Table 3 – Confederation Line East: OR174 Lane Configuration		
Roadway Segment	Westbound	Eastbound
From east of Blair Road to west of Montreal Road interchange	3 general purpose lanes (+ speed change lanes, where applicable) ^A	3 general purpose lanes (+ speed change lanes, where applicable) ^B
From west of Montreal Road interchange to west of Green's Creek	3 general purpose lanes (+ speed change lanes, where applicable) ^B	3 general purpose lanes (+ speed change lanes, where applicable) ^{B, C}
From west of Green's Creek to west of realigned Trim Road	2 General Purpose Lanes (+ speed change lanes, where applicable) ^D	2 General Purpose Lanes (+ speed change lanes, where applicable) ^D
From west of realigned Trim Road to east of realigned Trim Road	1 General Purpose Lanes (+ speed change lanes, where applicable) ^{E, F}	2 General Purpose Lanes (+ speed change lanes, where applicable) ^{E, G}

^A Along the section from east of Blair Road through to west of Montreal Road interchange, DB Co shall maintain the existing lane configuration, which includes 3 general purpose lanes (and speed change lanes, where applicable). The width of general purpose Lane 1 (next to the median shoulder) is 3.75m, Lane 2 (right of Lane 1) is 3.75m, and Lane 3 (outside general purpose lane) is 3.5m.

^B DB Co shall construct the proposed pavement wide enough in this section so that it will accommodate the provision for a (High Occupancy Vehicle) HOV lane including a buffer and 2 general purpose lanes (and speed change lanes, where applicable) without a need for additional widening in the future when the HOV lane is implemented along OR174 corridor. For the width of general purpose Lane 1 (next to the median shoulder), Lane 2 (right of Lane 1), and Lane 3 (outside general purpose lane), see the endnote associated with OR174 lane width in this Design Criteria.

^C Lane 3 (outside general purpose lane) shall be constructed in the ultimate location but not open to traffic until HOV is implemented for the OR174. Related interchange on-ramps (i.e. N-E and S-E ramps) shall be constructed to their ultimate location considering future HOV widening requirements without the need to reconstruct the S-E ramp. In order to accommodate the improvements, it is acceptable to terminate the 3rd lane with appropriate line painting to tie-in with Lane 2 between the bullnose for the N-E ramp through to the bullnose of the S-E ramp.

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- ^D For the width of general purpose lanes 1 and 2, see the endnote associated with OR174 lane width in this Design Criteria.
- ^E DB Co shall accommodate for the provision of a (High Occupancy Vehicle) HOV lane including a buffer and 1 general purpose lane (and speed change lanes, where applicable) and appropriate shoulder widths in the future when the HOV lane is implemented along the OR174 corridor. For the width of the HOV lane and general purpose lanes, see the endnote associated with OR174 lane widths in this Design Criteria.
- ^F The general purpose lane will be the continuation of the existing OR174 westbound general purpose lane that extends from the east to west of the realigned Trim Road and OR174 signalized intersection and constitutes one of the 2 continuous general purpose lanes in the section west of the intersection. On the westbound approach and departure of the proposed realigned Trim Road and OR174 signalized intersection, DB Co shall accommodate three westbound through lanes per Schedule 15-2, Part 2, Appendix B. DB Co shall design and construct appropriate diverging and merging transitions for the westbound through lanes from the east to west of the realigned Trim Road and OR174 signalized intersection as per the requirements of Schedule 15-2, Part 2, Article 6.19.
- ^G The general purpose Lane 1 (next to the median shoulder) will continue further east and tie into the existing general purpose lane east of the realigned Trim Road and OR174 signalized intersection and the Lane 2 (right of Lane 1 or outside lane) will terminate with an appropriate transition east of the realigned Trim Road and OR174 signalized intersection. For added clarity, when the HOV lane is implemented along OR174 corridor in the future, the pavement in this section will be widened by others to accommodate the provision for a (High Occupancy Vehicle) HOV lane including a buffer and 1 general purpose lane (and speed change lanes, where applicable).