APPENDIX D - DESIGN CRITERIA

Cycling Safety Review of High-Volume Intersections

Turning Radii (from Ottawa Traffic Calming Design Guidelines, 2019	
Intersection	**Min. Effective Radius**
Local-Local	5.0m
Local-Collector	5.0m
Local-Maj Collector/Arterial	9.0m
Collector-Collector/Maj Collector/Arterial	12.0m
Arterial-Arterial	15.0m

Lane Widths		
Type	**Lane Widths**	**Source**
Arterial	3.5m curb lane, 3.25m inside lane (3.5m inside lane if adjacent to me	Ottawa Arterial Road Cross Sections (2017)
Collector	3.5m curb lane, 3.25m inside lane, 3.0-3.25m turning lane	Ottawa Designing Neighbourhood Collector Streets Guidelines (2019)
Minimum pavement width, curb-to-curb	8.0m with no parking, 9.4 with on-street parking	Ottawa Designing Neighbourhood Collector Streets Guidelines (2019)
Parking	2.2-2.6m	Ottawa Designing Neighbourhood Collector Streets Guidelines (2019)
Sidewalk	2.0m desired, 1.8m min	Ottawa Designing Neighbourhood Collector Streets Guidelines (2019)
Tactile Delineation Strip Width	0.2m (when separating cycle track and sidewalk)	Ottawa Designing Neighbourhood Collector Streets Guidelines (2019)
Cycle Track	2.0m desired, 1.5m min	Ottawa Designing Neighbourhood Collector Streets Guidelines (2019)
Cycle Track buffer (from back of curb)	0.3m absolute min (excl. curb face) at pinchpoints, 1.0m desired for 50km/h or less, 1.5m+ desired for 60km/h or more	Draft OTM Book 18 Update

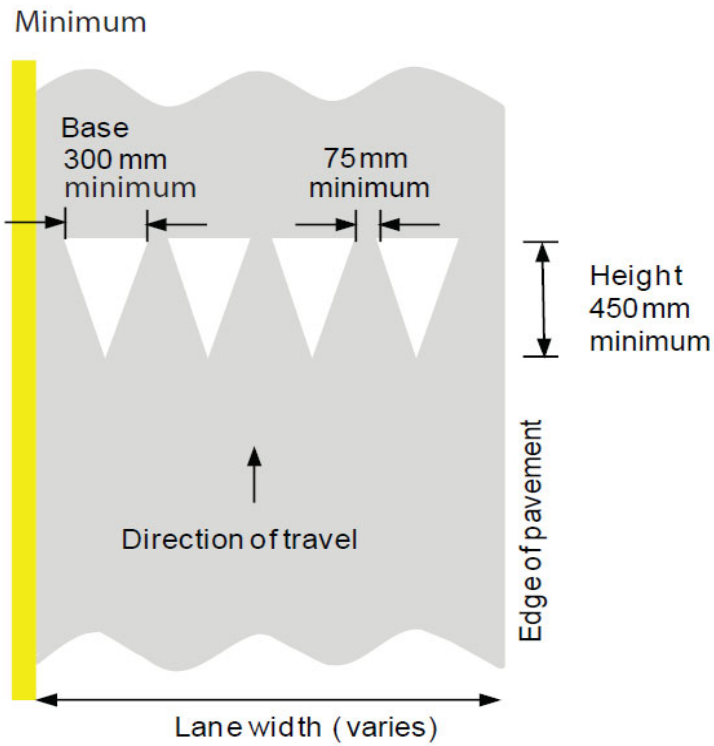
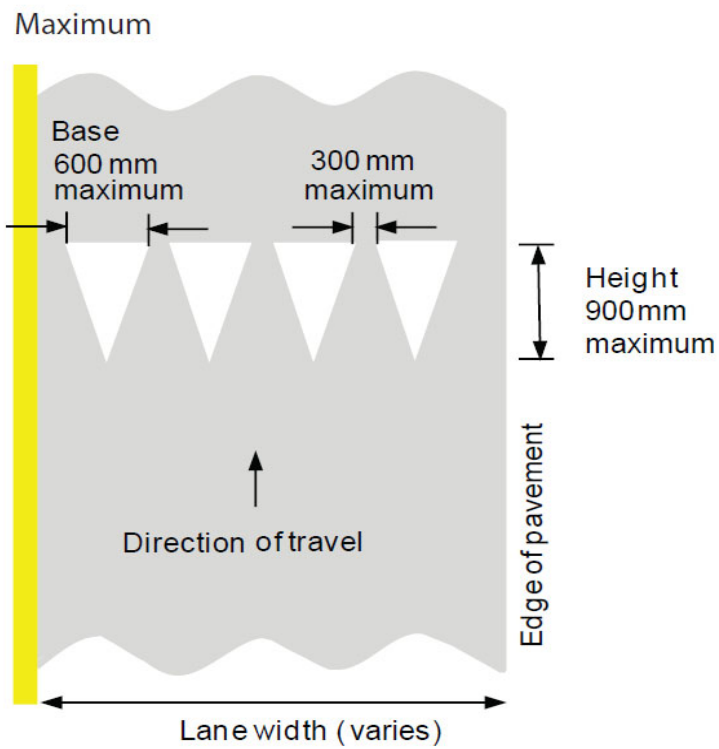
Other (from Ottawa Traffic Calming Design Guidelines, 2019)	
Minimum curb-to-curb width at pinch point, two-way street	7.0m
Minimum curb-to-curb width at pinch point, one-way street	4.0m
Assumed maximum length of a "pinch point"	20.0m
Vertical deflection not preferred on emergency response routes and routes with frequent transit but can be considered with justification	

Protected Intersection Plan, Draft Concept for Discussion, Apr 2018 AND Collector Guidelines, 2019)	
Crossride setback	5m desired, 3.7-6.0m allowable
Pedestrian refuge depth	2.7m minimum, 3.0m target
Crosswalk width	3.0m
Crossride width	Match incoming cycle track width
Crosswalk/crossride gap	1.0m desired, from edge of crossride to edge of crosswalk
Stop bar / crosswalk gap	1.0m typ. Set further back when bicycle stop bar is forward offset
Cycle track right turn radii	5m preferred, 3m min in constrained situations*
Cycle track transition tapers	1:7 taper when unconstrained, 10m reverse curbs when constrained, R3 reverse curbs when highly constrained
Corner CT diagonal dimension	3m target for unidirectional, 4m target for bidirectional
Bi-directional facility crossing	Requires fully protected left turn
Two-stage bike turn box	2.0 m wide by 3.5 m long, offset from crosswalk by 0.2m
Sharks teeth / Yield bars	See detail on right, offset from crosswalk by 0.5m
Smart channels - vehicle merge angle	70 deg desired, 50-70 deg allowable
Smart channels - channel throat width	6.0m, with 2.0m apron
Smart channels - min channel island width	10.0m to accommodate crossrides and crosswalks

rom Alta experience, based on maximum capacity, highly sensitive to context)**	
Permissive right turn	0-150 vph
Single fully protected right turn	100-300 vph (during at least one peak period)
Double protected right turn or smart channe	300+ vph/lane (during both peak periods)
Capacity of a single through lane	400-600 vph depending on context

**Consistent with draft Book 18 update*
***Modelling required to verify performance on a case-by-case basis.*

Yield bars for CYCLE TRACKS



Yield bars for VEHICLE LANES