



c: Aaron Burden, Unsplash

APPENDIX A DESIGN CHECKLIST

A

Use Design Checklists to evaluate and assess completeness of a project.

DRAFT

A.1

DESIGN CHECKLIST

This section provides a checklist template for all types of street projects- new, reconstruction and retrofit.

The Project Manager will complete the Design Checklists (the Checklists) at the end of 30%, 60% and 90% construction design document submission. This will allow for design modifications if an issue is identified and mitigate cost and time impacts.

The techniques identified in the checklist are not exhaustive. Additional items can be added based on the unique character and requirements of a project.

Figure A.1 (below) illustrates how to use the Checklists.

The CS Coordinator will review the Checklists to confirm that submitted designs incorporate complete streets considerations.

List of techniques and Guide references organized in 6 categories that follow the design process.

Use the 30%, 60% or 90% box to provide a 'Y' or 'N' answer. An 'N' indicates a need to further evaluate the project for Complete Street techniques.

Identify or append (at the end of the checklist), any supporting information or documentation. List changes observed between 30% to 90%. E.g., budget, 3rd party information, etc.

Table A.1 Design Checklist						
	Techniques	Notes	30%	60%	90%	Comments
1.0 Cross-sections						
1.1	Lane widths as per Guide Table 4.6.	<ul style="list-style-type: none">Measure lane widths to curb.Avoid shoulders and edge lines.Avoid excess pavement.				

Figure A.1. How to use Design Checklist

Table A.1 Design Checklist

	Techniques	Notes	30%	60%	90%	Comments
1.0 Cross-sections						
1.1	Lane widths as per Guide Table 4.6 .	<ul style="list-style-type: none"> Measure lane widths to curb. Avoid shoulders and edge lines. Avoid excess pavement. 				
1.2	Number of lanes as per Guide Section 4.4.1 .	<ul style="list-style-type: none"> Avoid dedicated turn lanes except where there is a dedicated turn signal. Avoid slip lanes. Always err on the side of fewer lanes. 				
1.3	Pedestrian clearway widths as per Guide Table 4.1 .	<ul style="list-style-type: none"> 2.0m wide in Community and Employment Areas. 3.0m wide in Intensification Areas. Wider walkways provided where necessary to meet Pedestrian LOS-C in peak hour. 				
1.4	Furnishing and planting zone as per Guide Table 4.1 .	<ul style="list-style-type: none"> Intensification Areas: 2.5m minimum. On streets with street trees: 2.5m minimum. On streets without street trees: 1.2m minimum. 				
1.5	Bicycle facilities as per Guide Figure 4.16 .	<ul style="list-style-type: none"> Level of traffic stress (LTS): Local: LTS 1. Collector or Arterial: LTS 1 or 2. 				
1.6	Cross-sections at constrained/unique contexts.	<ul style="list-style-type: none"> Constraints identified (e.g., structures, driveways, pinchpoints, change of ROW dimension, etc.). 				

Table A.1 Design Checklist

	Techniques	Notes	30%	60%	90%	Comments
2.0 Plan: At Intersections and Mid-block						
2.1	Avoid elements which decrease predictability as per Guide Table 4.6	<ul style="list-style-type: none"> Avoid unbalanced number of lanes at intersections. Avoid unprotected turn signals. Locate driver decision points away from crosswalks. 				
2.2	Intersection traffic calming per Guide Section 4.4.6 .	<ul style="list-style-type: none"> Raised intersections, protected intersections, refuge islands, etc. 				
2.3	Mid-block traffic calming per Guide Section 4.4.6 .	<ul style="list-style-type: none"> Speed humps, chicane, roadway narrowing, raised crossings, etc. 				
2.4	Corner radii as small as possible per Guide Section 4.6.2-4.6.3 .	<ul style="list-style-type: none"> RTOR, left turns and other permissive movements are restricted if they cannot be safely accommodated with a smaller corner radius. 				
2.5	Target turning speed 10 kph or less per Guide Section 4.6.3 .	<ul style="list-style-type: none"> Corner radii is not necessarily the same as effective turning radii. The latter is used for design/control vehicles. 				
2.6	Design vehicle per Guide Table 4.9					
2.7	Traffic signals to minimize delay for all users and all approaches per Guide Section 4.6.9 .	<ul style="list-style-type: none"> Signal timing and phasing minimize delay for all users and all approaches. 				
2.8	Two-phase signals, with leading pedestrian / bicycle intervals and lagging turn internals, preferred.	<ul style="list-style-type: none"> All-ped phases ideal where there are heavy diagonal crossings. 				
2.9	Fixed time signals	<ul style="list-style-type: none"> Pedestrian and bicycle activated signals require approval. 				
2.10	Roundabouts limited to two circulating lanes per Guide Section 4.6.1 .					

Table A.1 Design Checklist

	Techniques	Notes	30%	60%	90%	Comments
3.0 Plan: Crossings						
3.1	Crossings located at all legs of all intersections per Guide Section 4.6.5 .	<ul style="list-style-type: none"> Locations without crossings require approval from CS Coordinator. 				
3.2	Crossings at transit stops, greenways, paths, building entrances, and desire lines (as determined by UD) per Guide Section 4.6.5 .	<ul style="list-style-type: none"> Locations without crossings require approval from CS Coordinator or removal of transit stop. 				
3.3	Crossings distance to opposite curb or median as short as possible per Guide Section 4.6.5 .	<ul style="list-style-type: none"> Crossing distances greater than three lanes require approval from CS Coordinator. 				
3.4	Crosswalks provide sufficient capacity for pedestrians per Guide Section 4.6.5 .	<ul style="list-style-type: none"> Minimum Width: » Intensification Areas: 5m » Local Streets: 3m. Meet LOS-C. 				
3.5	Stop lines per Guide Section 4.6.10 .	<ul style="list-style-type: none"> Set back 3m. 				
3.6	Crossings aligned with walkways per Guide Section 4.6.5 .	<ul style="list-style-type: none"> Deviation up to 1:5 permitted. 				
3.7	Corners provide sufficient capacity for pedestrians per Guide Section 4.6.5 .	<ul style="list-style-type: none"> >0.6m²/person queuing area (LOS-C). 				
3.8	Driveways prioritize vulnerable users per Guide Section 4.6.5 .	<ul style="list-style-type: none"> Level walkway, max 2 lanes without refuge, slope slows drivers. Line markings per OTM Book 18. 				

Table A.1 Design Checklist

	Techniques	Notes	30%	60%	90%	Comments
4.0 Urban Design and Placemaking						
4.1	Places to gather or per Guide Chapter 4.2 .	<ul style="list-style-type: none"> Parklets, flexible spaces, informal play areas, pocket parks, plazas, etc. 				
4.2	Places of relief or rest per Guide Chapter 4.2 .	<ul style="list-style-type: none"> Shade, wind-breaks, seating (low walls and ledges, benches) every 40m, or as determined by UD. 				
4.3	Street responds to adjacent built form per Guide Chapter 4.2 .	<ul style="list-style-type: none"> Building entrances, gates, window shopping, storefront window, streeteries, parklets, sidewalk cafés, etc. 				
4.4	Walk/ride is interesting, not just efficient per Guide Chapter 4.2 .	<ul style="list-style-type: none"> Artistic crosswalks, colour, view corridors, landmarks, water-features, tactile elements, rhythm, etc. 				
4.5	Connections to transit per Guide Section 4.6.8 .	<ul style="list-style-type: none"> Convenient and comfortable pedestrian access to transit. Walkshed analysis to confirm walking times. 				
4.6	Transit stop amenities per Guide Section 4.6.8 .	<ul style="list-style-type: none"> Shelter, seating, lighting, route info, bicycle/scooter parking/share, etc. 				
5.0 Green Infrastructure						
5.1	Existing trees/preservation					
5.2	Street trees selected and spaced to maximize growth and height per Guide Chapter 4.4 .	<ul style="list-style-type: none"> Native species used. 25% of ROW (or more) canopy cover. 30m³ soil volume/tree, 20m³ soil volume/tree if shared. 				
5.3	Utilities (above and below ground) coordinated with tree locations per Guide Chapter 4.4 .					

Table A.1 Design Checklist

	Techniques	Notes	30%	60%	90%	Comments
5.4	Passive irrigation of trees and landscaping per Guide Chapter 4.4 .					
5.5	Stormwater is managed and processed within ROW before it enters storm sewer per Guide Chapter 4.4 .	<ul style="list-style-type: none"> Rain gardens, permeable pavements, native species, etc. 				
5.6	Traffic noise mitigation measures per Guide Chapter 4.4 .	<ul style="list-style-type: none"> Noise-dampening pavement, sound barriers, landscaping, absorptive materials. Target 60 dB at 15m from curb on local. 				
5.7	Recycled and/or locally sourced materials per Guide Chapter 4.4 .	<ul style="list-style-type: none"> Glassphalt, recycled rubber 				
6.0 Management						
6.1	Curb-side management per Guide Section 4.4.5 .	<ul style="list-style-type: none"> Metered parking, taxi zones, delivery zones, etc. 				
6.2	Minimize access impact to sidewalk per Guide.	<ul style="list-style-type: none"> Combine driveways or rear/ side access. 				
6.3	Street flexes to meet various operating conditions per Guide Section 4.4.5 .	<ul style="list-style-type: none"> Rush hour bikeways, offpeak parking, off-peak lane reductions, off-peak signal timing adjustments, etc. 				
6.4	Street flexes to accommodate temporary and seasonal events.	<ul style="list-style-type: none"> Weekend markets, open streets, temporary animation, bike rides, cultural events, art installations. 				



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APPENDIX B CROSS-SECTIONS

B

Complete Streets cross-sections build upon the street rights-of-way and functional class proposed in the Vaughan Transportation Plan (see Fig. 2.5).

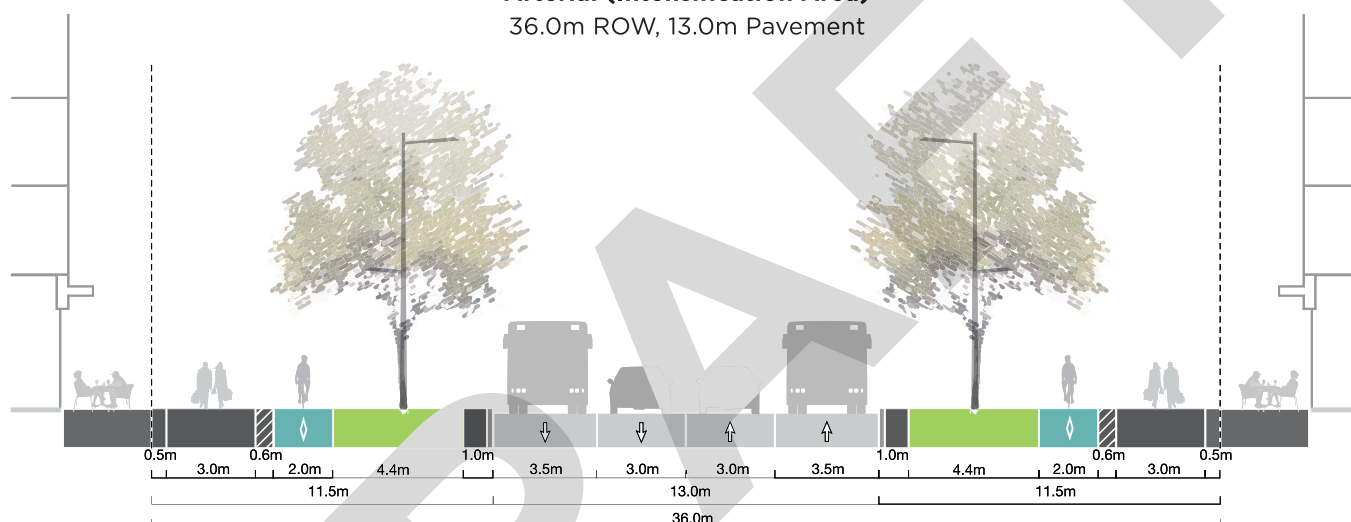
These cross-sections are aspirational and are included for illustrative purposes only. They show the best possible arrangement of CS elements within the available rights-of-way. These sections can be a starting point, however, every project has to undergo a CS process for a solution.

B.1

CROSS-SECTIONS: ARTERIAL

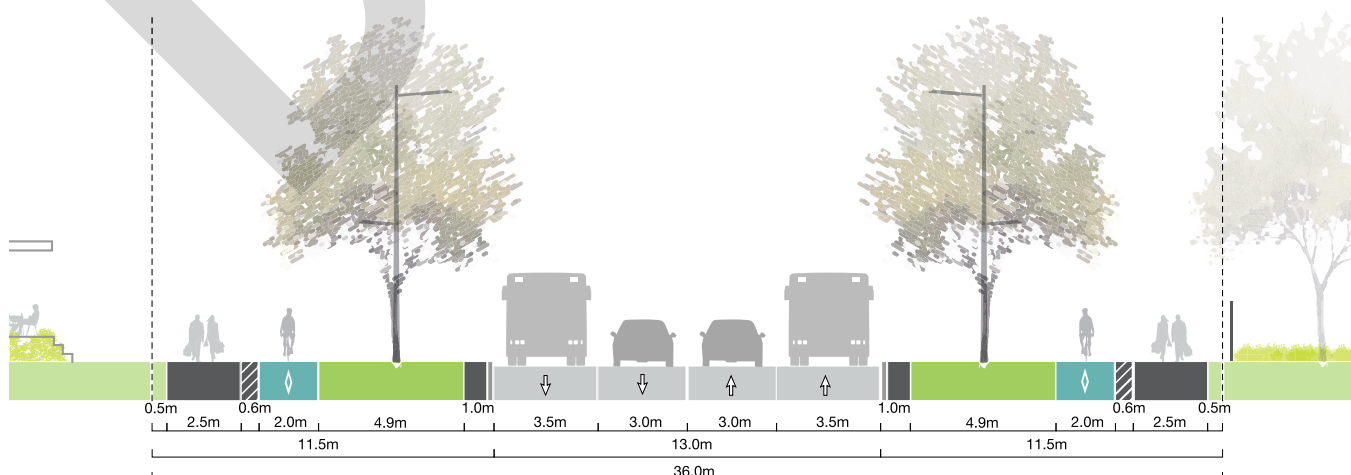
Arterial (Intensification Area)

36.0m ROW, 13.0m Pavement

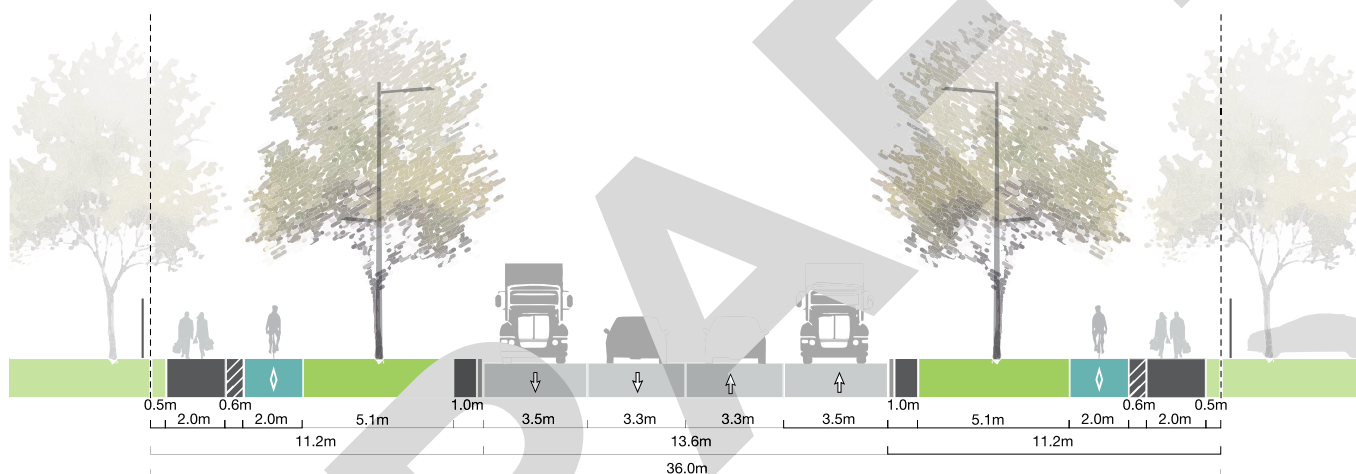


Arterial (Community Area)

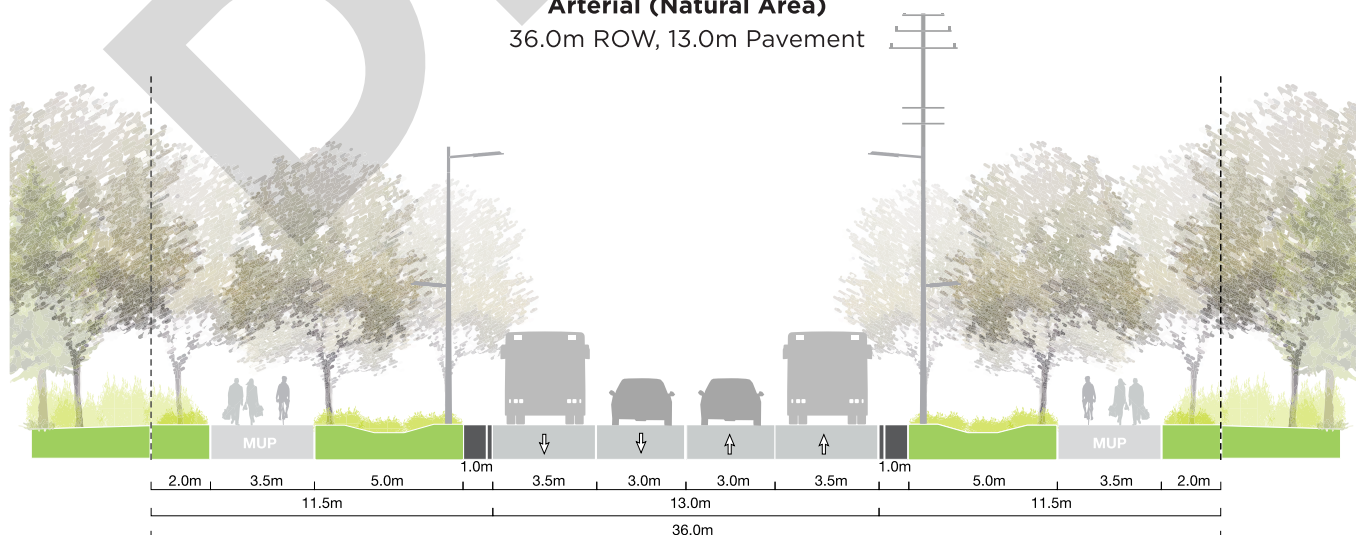
36.0m ROW, 13.0m Pavement



Arterial (Employment Area)
36.0m ROW, 13.0m Pavement

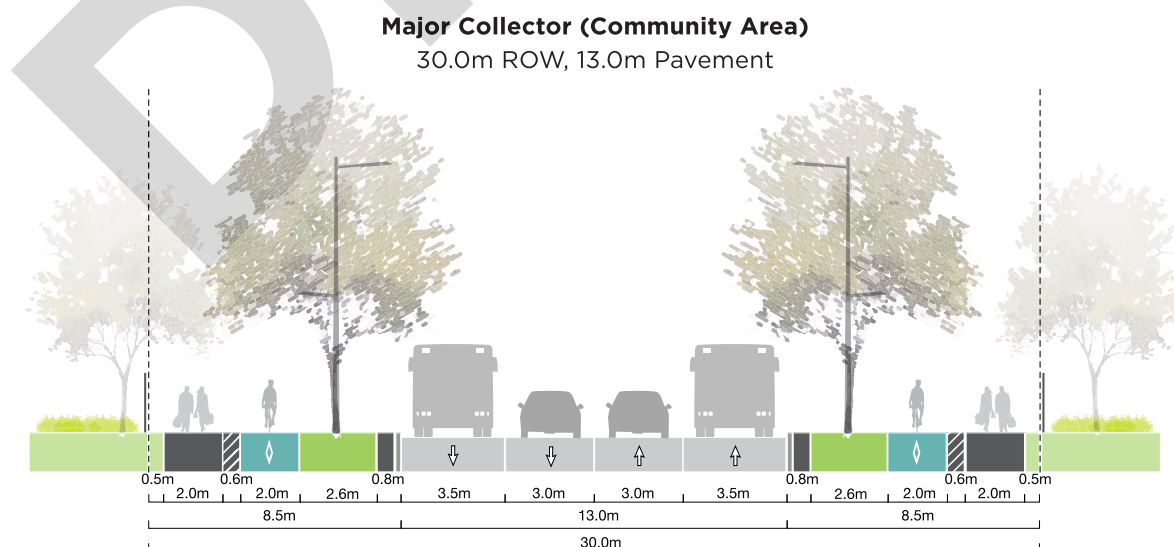
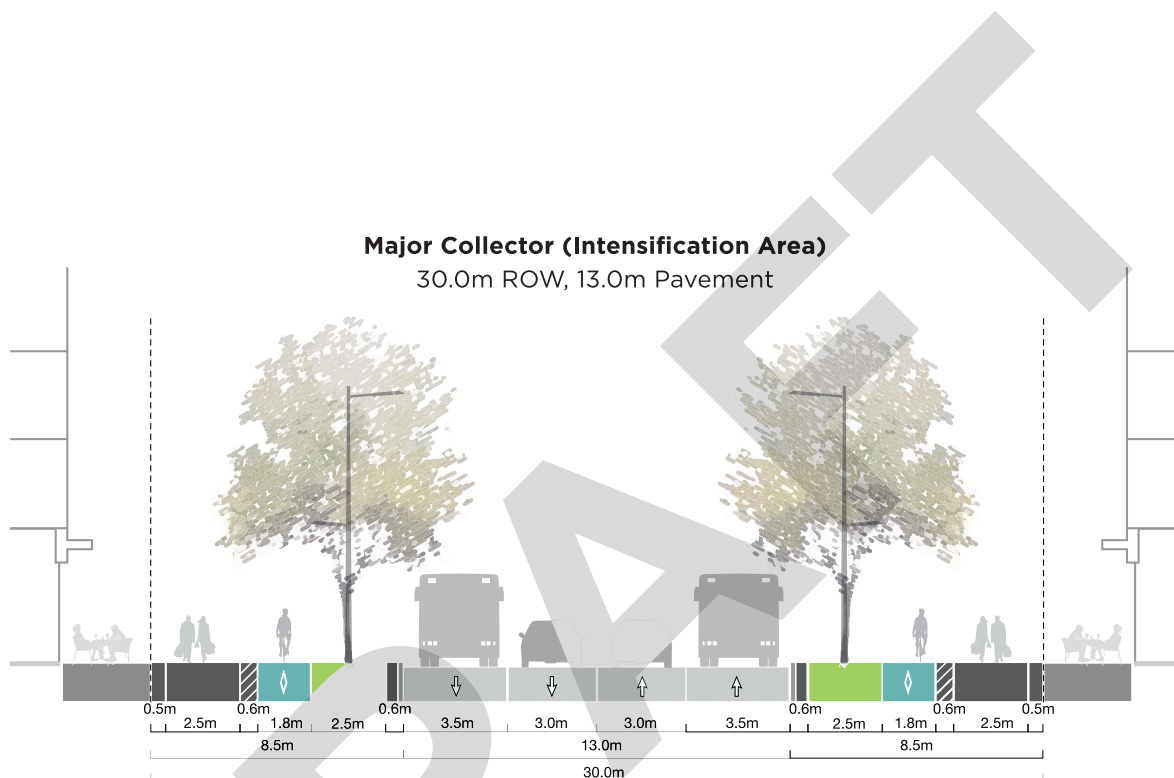


Arterial (Natural Area)
36.0m ROW, 13.0m Pavement

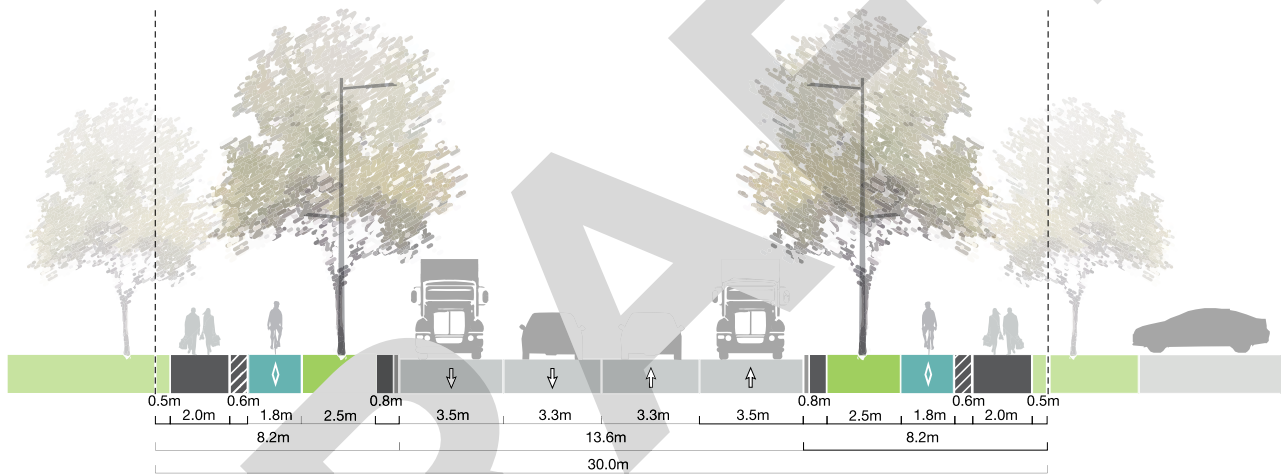


B.2

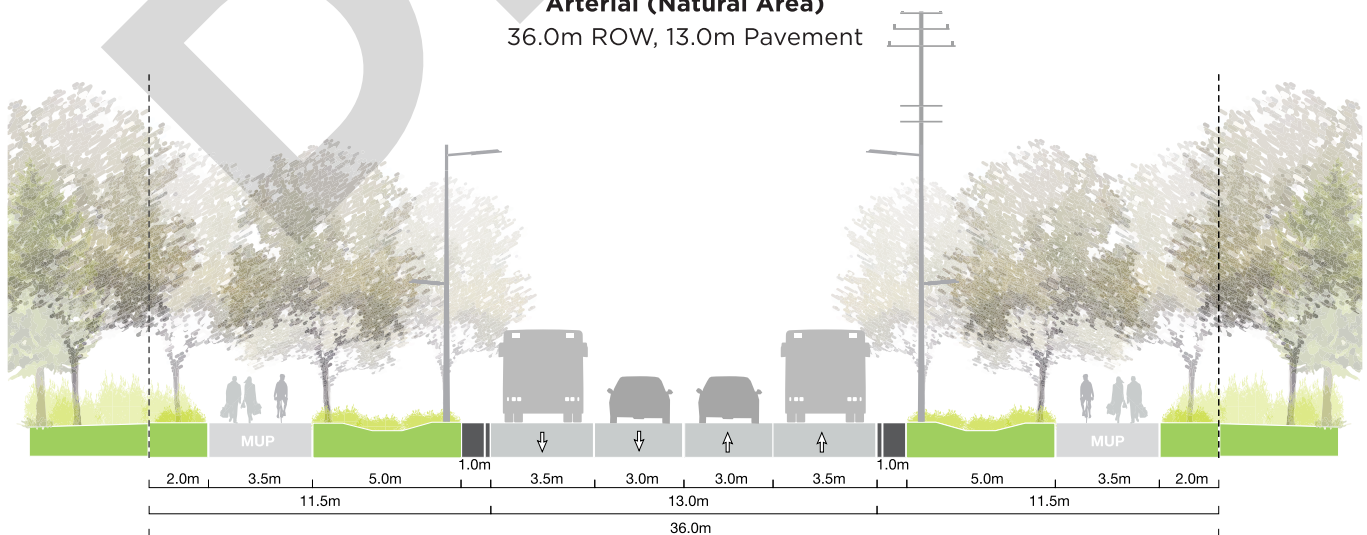
CROSS-SECTIONS: MAJOR COLLECTOR



Major Collector (Employment Area)
30.0m ROW, 13.0m Pavement



Arterial (Natural Area)
36.0m ROW, 13.0m Pavement



B.3

CROSS-SECTIONS: MINOR COLLECTOR

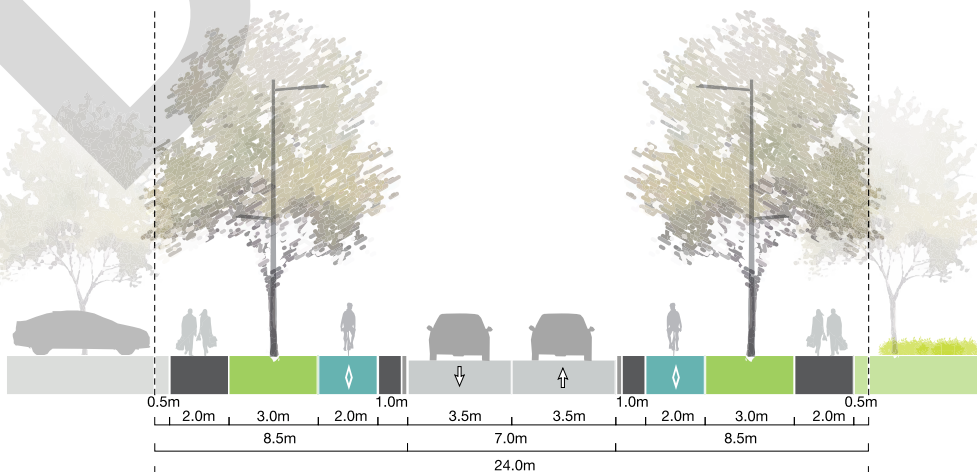
Minor Collector (Intensification Area)

24.0m ROW, 7.0m Pavement

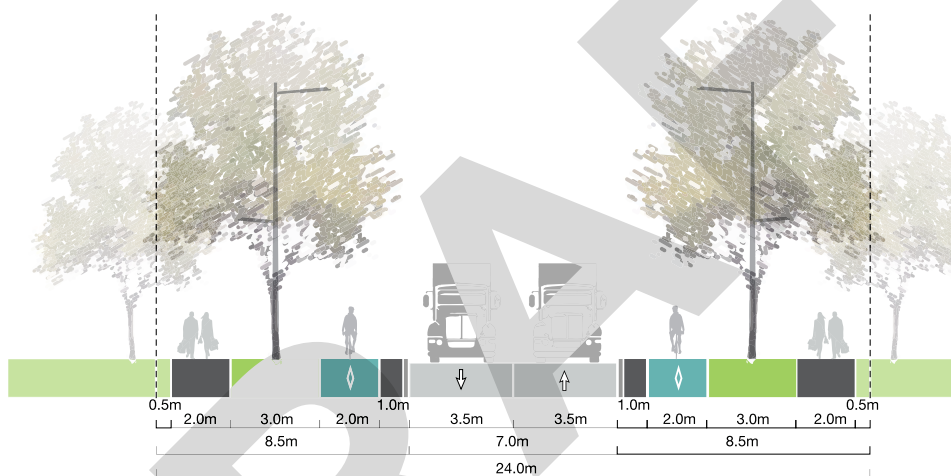


Minor Collector (Community Area)

24.0m ROW, 7.0m Pavement



Minor Collector (Employment Area)
24.0m ROW, 7.0m Pavement

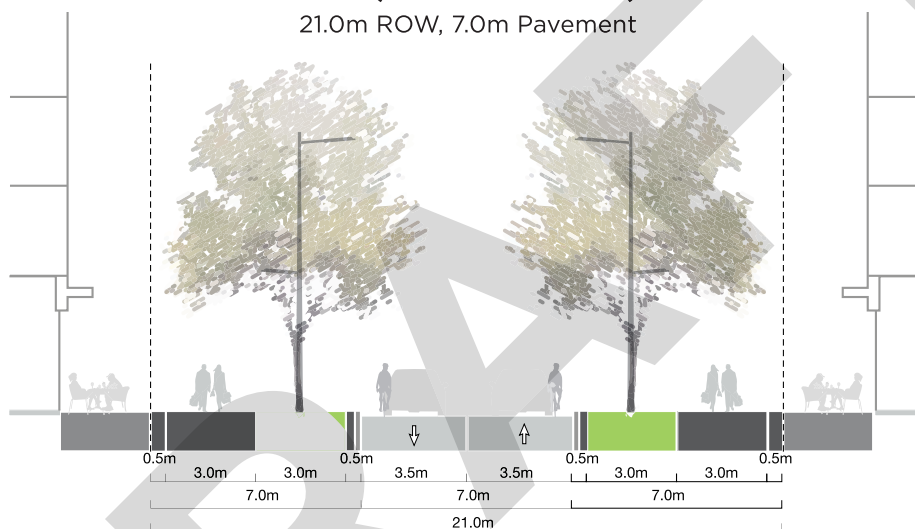


B.4

CROSS-SECTIONS: LOCAL

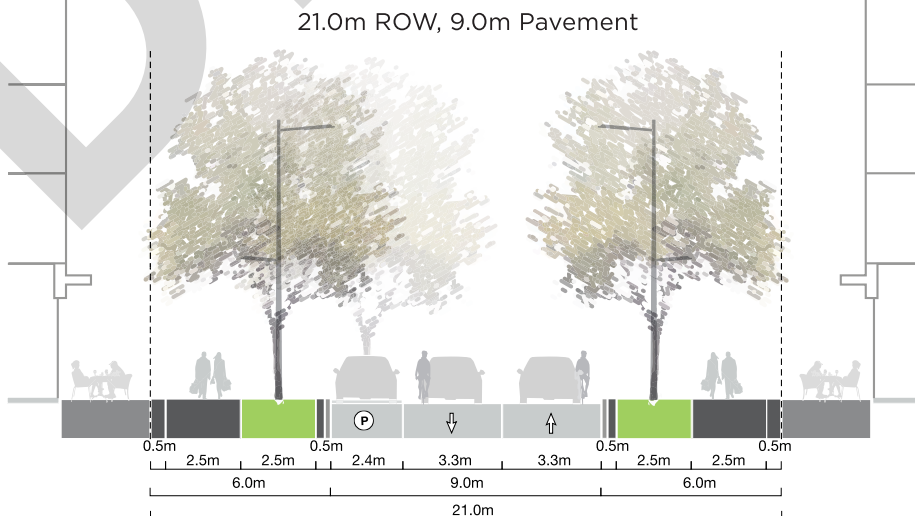
Local (Intensification Area)

21.0m ROW, 7.0m Pavement

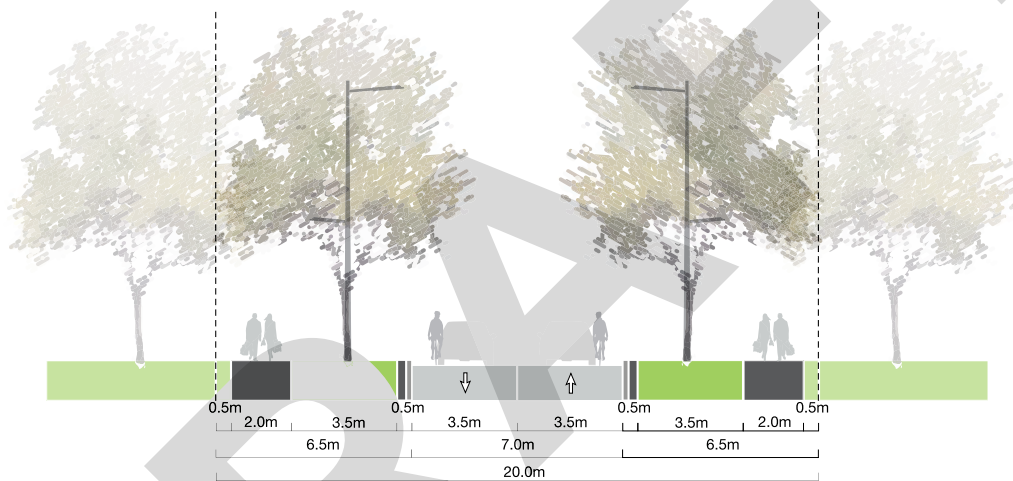


Local (Intensification Area)

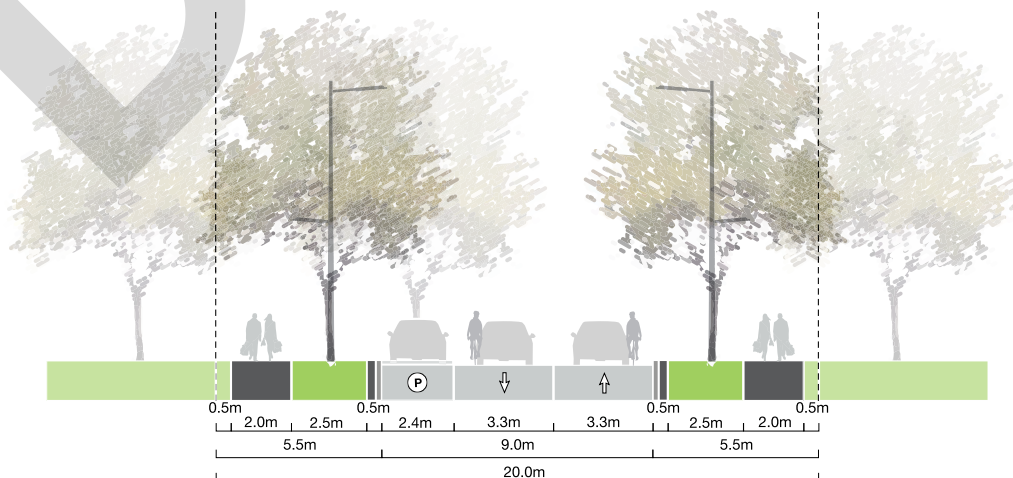
21.0m ROW, 9.0m Pavement

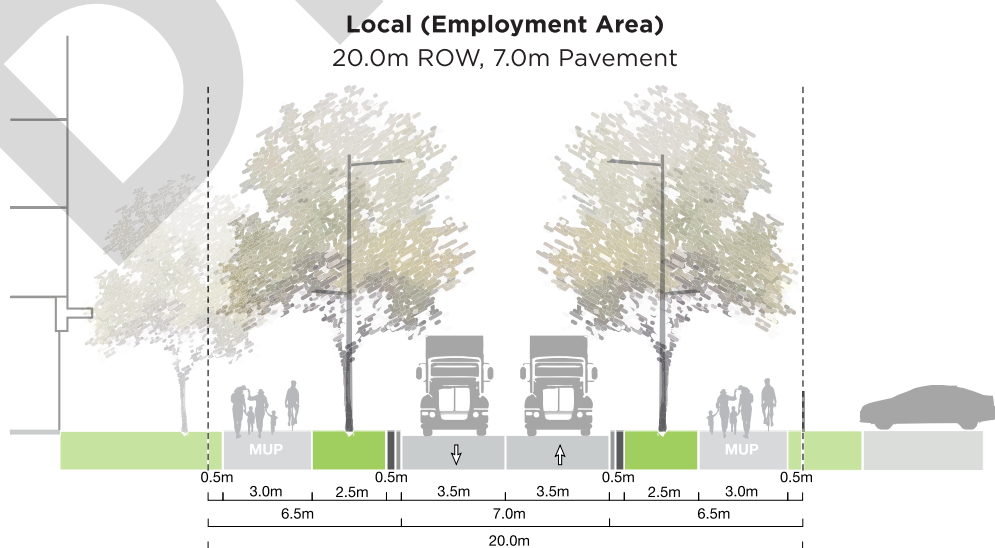
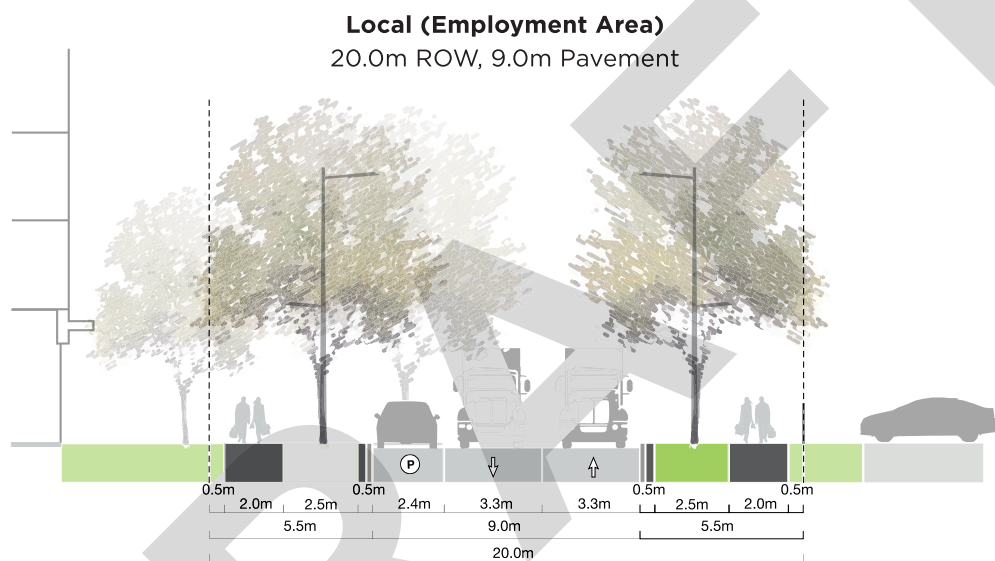


Local (Community Area)
20.0m ROW, 7.0m Pavement



Local (Community Area)
20.0m ROW, 7.0m Pavement





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