

Appendix B: Comparison Summary of Design Criteria Best Practices

DESIGN CRITERIA BEST PRACTICES

PROJECT NO. 4449 Mississauga Cycling Network Master PlanTYPE OF PROJECT: Master PlanMUNICIPALITY: City of Mississauga

| NOTE: MEASUREMENTS ARE IN METRES | TAC (Geometric Design Guidelines ¹) | AASHTO (Guidelines to Develop Bicycle Facilities) | City of Mississauga (Briefing for Cycling Facilities) | City of Vaughan (Pedestrian & Bicycle Master Plan) | Region of Waterloo (Cycling Design Guidelines) | City of Ottawa (Cycling Planning & Design Guidelines) | City of Hamilton (Design for Bikeways) | City of Chicago (Bike Lane Design Guide) | San Francisco (Bikeway Design Guidelines) | Portland (Bicycle Master Plan) | London, UK (Cycling Design Standards) | Various Sources ² (For Information Purposes Only) | Recommendation |
|--|--|--|--|---|---|--|---|---|--|-----------------------------------|--|---|------------------------|
| BICYCLE OPERATING SPACE / ENVELOPE AND CLEARANCES | | | | | | | | | | | | | |
| Minimum Clearance to edge of traffic lane | | | | | | | | | | | | | |
| ▪ 60km/hr | 0.5 | - | - | 0.5 | - | 0.5 | - | - | - | 1.5 | - | | 0.5 - 1.0 |
| ▪ 80km/hr | 1.0 | - | - | 1.0 | - | 1.0 | - | - | - | | - | | |
| Vertical Clearance for Structures overhanging bikeways | 2.5 - 3.6 | 2.5 - 3.0 | - | 2.5 - 3.6 | - | 2.4 - 3.6 | 2.5 - 3.5 | - | - | 2.4 - 3.0 | - | | 2.5 - 3.6 |
| Clearance to barrier or other fixed object | 0.2 - 0.5 | 0.6 - 1.1 | - | 0.2 - 0.5 | - | 0.5 - 1.0 | 0.5 - 1.0 | - | - | - | 0.5 | | 0.2 - 1.0 |
| Clearance to unfenced drop-off e.g. river | 1.0 | 0.6 - 1.1 | - | 1.0 | - | 1.0 | 0.5 - 1.0 | - | - | - | 0.5 | | 1.0 |
| General horizontal clearance | 0.6 | - | - | 0.6 | - | 0.6 | 0.5 - 1.0 | - | - | 0.6 | 0.5 | | 0.6 |
| BIKEWAYS | | | | | | | | | | | | | |
| <i>Shared Roadway Right Lane Width</i> | | 4.2 - 4.5 | 4.0 - 4.5 | 3.75 - 4.25 | 4.0 - 4.90 | 3.75 - 4.25 | 4.0 - 4.5 | - | 3.05 - 4.3 | 4.2 - 4.8 | 2.8 - 4.3 | | 4.0 - 4.6 |
| AADT* 0-1000 | 4.0 | - | - | - | - | - | 4.0 - 4.5 | - | - | - | - | | - |
| AADT* 1000-3000 | 4.3 | - | - | - | 4.35 | - | 4.0 - 4.5 | - | - | - | - | | - |
| AADT* 3000-6000 | 4.0 - 4.5 | - | - | - | 4.35 - 4.85 | - | 4.0 - 4.5 | - | - | - | - | | - |
| AADT* >6000 | 4.3 - 4.8 | - | - | - | 4.85 | - | - | - | - | - | - | | - |
| <i>Bike Lane Width</i> | 2.0 - 2.5 | 1.2 - 1.5 | - | - | 1.25 - 1.5 | - | - | - | - | - | - | | - |
| One-way exclusive | 1.5* - 2.0* | - | 1.2 - 1.8 | 1.2 - 2.8 | 1.25 - 1.5 | 1.2 - 2.0 | 1.2 - 1.8 | 1.5 - 1.8 | 1.5 - 1.8 | - | 1.3 - 1.8 | | 1.2 - 1.8 |
| Bike Lane Adjacent to Parking Lane | - | - | - | 1.3 - 1.5 | 1.2 - 1.6 | 1.3 - 1.5 | 1.6 - 2.1 | 1.5 | 1.5 - 1.8 | 1.2 - 1.8 | 1.3 - 1.8 | | 1.2 - 1.8 |
| Combined Bicycle Lane/ Parking Lane Width | - | 3.9 - 4.5 | 4.2 | 3.9 - 4.6 | 4.0 | 3.7 - 3.9 | 4.0 - 4.5 | 3.6 - 4.2 | 3.9 - 4.5 | 3.6 - 4.2 | 3.6 | | 4.0 - 4.2 |
| Separated Bicycle Lane (one-direction) | - | - | - | - | - | - | - | - | - | - | - | 1.7 - 2.0 | 1.7 - 2.0 |
| Separated Bicycle Lane (bi-direction) | - | - | - | - | - | - | - | - | - | - | - | 2.0 - 4.0 | 2.7 - 3.4 |
| Separated Bicycle Lane Island / Buffer | - | - | - | - | - | - | - | - | - | - | - | 0.4 - 2.0 | 1.0 - 2.0 |
| Bike Lane within Constrained ROW ³ | - | - | - | 1.0 - 1.3 | - | 1.0 - 1.3 | - | - | - | - | - | | 1.2 |
| <i>Bike Multi-Use / Path Width (off-road)</i> | | | | | | | | | | | | | |
| Two-way exclusive | 2.5 - 3.5 | 2.4 - 3.0 | 3.0 - 4.2 | 3.0 | - | - | 2.5 - 4.0 | - | - | 2.4 - 3.0 | 2.0 - 3.0 | | 3.0 - 3.6 |
| Two-way, shared with pedestrians | 3.0 - 4.0 | 2.4 - 4.2 | 2.4 - 4.0 | 3.0 - 4.0 | 3.0 - 4.0 | 3.0 - 4.5 | 2.5 - 4.0 | - | - | 3.6 | - | | 3.0 - 5.0 |
| One-way exclusive | 1.5 - 2.0 | 1.8 | - | - | - | - | - | - | - | 1.5 - 1.8 | - | | Not recommended |
| One-way , shared with pedestrians | 2.0 - 3.0 | 1.8 | - | - | - | - | - | - | - | 1.5 - 1.8 | - | | Not recommended |

¹TAC Geometric Design Guide for Canadian Roads – Bikeways Chapter, September 1999²Sources include guidelines from the New York City, Montreal, New South Wales, Copenhagen and Australia. The information provided is for information purposed as detailed design guidelines for separated bicycle route facilities is limited.³Bike lanes in constrained R.O.W are not recommended for speed >50km/hr with heavy commercial vehicle or truck percentages >12%, and / or AADT's (>3000).

*Add 0.5m if AADT of shared lane exceeds 6000 or if trucks exceed 10%

Design Criteria only considers roadways with design speeds of 80km/hr or less

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|----------------------------------|--|--|--|--|--|---|---|---|--|-----------------------------------|--|---|---|
| TRAVEL LANES | | | | | | | | | | | | | |
| <i>Urban through Lane Width</i> | 3.0 - 3.7 | - | 3.35 - 3.75 | 3.3 - 4.0 | 3.35 - 3.75 | 3.3 - 3.7 | 3.0 - 4.0 | 3.0 - 3.6 | 3.05 - 3.66 | 3.0 - 3.3 | 2.5 - 4.3 | | 3.0 - 3.7 |
| TURNING LANES | | | | | | | | | | | | | |
| <i>Right turn Lane Width</i> | 3.3 - 3.5 | - | 3.0 - 3.25 | - | 3.25 | - | - | 3.0 | - | - | - | | 3.0 |
| <i>Left-turn Lane Width</i> | 3.0 - 3.5 | - | 3.0 - 3.25 | - | 3.0 | - | - | 3.0 | - | - | - | | 3.0 |
| Dual and triple left-turn lanes | 3.5 | - | - | - | 3.5 | - | - | - | - | 3.3 | - | | 3.0 - 3.5 |
| PARKING LANES | | | | | | | | | | | | | |
| <i>Parking Lane Width</i> | 2.4 - 3.5 | 2.4 - 3.0 | 2.4 - 2.6 | 2.4 - 3.5 | 2.4 - 2.8 | 2.2 - 2.4 | 2.4 | 2.1 - 2.7 | 2.1 - 2.7 | 2.1 - 2.4 | 1.8 | | 2.2 - 2.8 |
| TRANSIT | | | | | | | | | | | | | |
| <i>Transit Lane Widths</i> | 3.7 - 4.0 | - | 3.35 | - | - | - | 4.3 - 4.5 | - | 4.3 - 5.2 | - | 4.5 | | 3.35 |
| Bus Bay | 3.0 | - | - | - | - | - | - | - | - | - | - | | 3.0 |
| DRIVEWAY FREQUENCY | | | | | | | | | | | | | |
| per kilometre / direction | - | - | - | More than 4 crossings (intersections / driveways per kilometre) – consider on-road facility versus a boulevard trail | More than 4 crossings (intersections / driveways per kilometre) – consider on-road facility versus a boulevard trail | (a) 0 to 3 crossings -Bicycle Path (b) 4 to 10 crossings –shared-use / bicycle lanes (c) greater than 10 crossings – shared-use / bicycle lanes | - | - | - | - | - | | <i>More than 4 crossings (intersections / driveways per kilometre) – consider on-road facility versus a boulevard trail</i> |

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