

**Prominent Changes in the MTO Design Supplement 2020 to be Implemented in the version of 2023**

**Chapter 1/Appendix 1 – Design Philosophy**

Issues	Changes
Climate Change	Guidance for climate change provided in Section 1.3.3
Cost of Collision	Section 1.3.2.4 is updated in line with the Provincial Traffic Office Memo. Exhibit 1A is replaced with the updated cost of collisions for engineering analysis.

**Chapter 2/Appendix 2 – Design Controls, Classification and Consistency**

Issues	Changes
Climate change	Guidance for climate change provided in Section 2.3.6.1
Design Speed 130 km/h	Policy and guidance for selection of DS 130 km/h are provided in Section 2.3.6.1

**Chapter 3/Appendix 3 – Alignment and Lane Configuration**

Issues	Changes
Climate Change	Climate change guidance provided for the following Sections: 3.1.1, 3.2.1.2, 3.2.2.3, 3.3.2.4, 3.3.5.3, 3.6.2.1, 3.6.4, 3.7.1.1, 3.8.1, and 3.9.1
Railway Grade Crossing	Reference and hyper link provided for ministry's guidance on Railway Grade Crossing Regulations and Standards in Section 3.2.6.1
Speed Change Lanes	Two Exhibits and guidance are deleted for SCL from Section 3.6.3.2 and refer to see Chapter 10 and Appendix 10 to avoid any confusion.

#### Chapter 4/Appendix 4 – Cross Section Elements

Issues	Changes
Width of Shoulder	Section 4.4.2: More clarity provided for the width of shoulder on high-speed and/or high volume highways.
Safety Analyst software	Safety Analyst software is replaced with the Traffic Engineering Software for centre line rumble strips in Section 4.2.2.2
Climate Change	Climate change guidance provided for the following Sections: 4.1.6, 4.3.2.1, 4.8.3, 4.10.1.1, and 4.12.1
Side Clearance at Bridges	Existing Exhibits of 4U and 4V for Table 4.10.1 and for Table 4.10.2 is replaced with one new Table (Exhibit-4U) for more clarity and to avoid confusion.
Narrow median with barrier	A bullet point added for the guidance for narrow median with barrier in Section 4.4.2
Minimum bridge width for future rehabilitation	A note is added for Exhibit - 4T that about the use and guidance of this Exhibit

#### Chapter 5/Appendix 5 – Bicycle Integrated Design

Issues	Changes
Not Applicable	No changes and Not Applicable

#### Chapter 6/Appendix 6 – Pedestrian Integrated Design

Issues	Changes
Climate Change	Guidance for climate change provided in Sections 6.5.6.5, 6.5.7, and 6.6.6.2

#### Chapter 7/Appendix 7 – Roadside Safety

Issues	Changes
Not Applicable	No changes and Not Applicable

#### Chapter 8/Appendix 8 – Access

Issues	Changes
Climate Change	Guidance for climate change provided in Section 8.1.5

## Chapter 9/Appendix 9 - Intersection

Issues	Changes
Intersection Control	More guidance provided in Section 9.9.2.3 for approach sight triangle for Case B (Intersection with Stop Control on the Minor Road).
Widening Through Signalized Intersection	Sec 9.12 More guidance provided in section 9.12 for offsetting between departing and receiving lanes at Signalized Intersections.
Turning Radius and Speed	More guidance provided for turning path radius and turning speed in Section 9.13.2.
Approach and Departure Tapers	Section 9.17.3 More guidance provided in Section 9.17.3 for extra length for Left-turn taper length on a down grade including an example.
Double Left-turn Lanes	Section 9.17.5.1 Additional guidance provided in Section 9.17.5.1 for double left-turn and selection of design vehicles.

## Chapter 9A/Appendix 9A – Volume Warrants for Left-turn Lanes-Intersections

Issues	Changes
Signalized Intersections	More guidance provided for left-turn lane at signalized intersections.
Volume warrants for unsignalized intersection	Additional guidance provided for Left-turn volume which are between the two available charts.

## Chapter 10/Appendix 10 - Interchanges

Issues	Changes
Sight distance to bull nose	Exhibit 10-D and 10-G updated for 130 km/h design speed
Interchange Warrants	Guidance for consideration of Active transportation and Transit added in Section 10.2
Ramp Design	General guidance for “Ramp Design Types” with illustrations provided in Section 10.6.2

Design Speed for Ramps	Section 10.6.2.1: Guidance for Inner loop ramp for rural condition provided. Guidance for two-lane inner loop ramps also provided.
	Table 10.6.1 The corresponding ramp design speed for 130 km/h freeway design speed provided in the Exhibit.
Ramp Width	More guidance and Exhibits provided for Cross Slope, Shoulder & Curbs, Profile & Grade, Superelevation, and Superelevation Runoff for ramp width in Section 10.6.2.5
Exit Terminal Design	Section 10.6.3.1 Additional guidance along with illustrations provided for one, two, and three-lanes exit design. Also, guidance and illustrations provided for bullnose offsets.
Sight Distance at Exit and Entrance terminals	Section 10.6.3.4 Sight distance at exit and entrance for 130 km/h design speed provided in Section 10.6.3.4
Entrance Terminal Design	Additional guidance and illustrations provided for one, two and three-lanes entrances and bullnose offsets design in Section 10.6.4
Climate Change	Guidance for Climate change provided in the following Sections: 10.1.1, 10.1.2, 10.1.3.5, and 10.7.4.
Design Speed of 130 km/h in Typical Exhibits	Explicitly stated that Exhibits are typical examples and designer should select the values from the Chapter and Design Supplement.

**Chapter 11/Appendix 11 – Special Roads**

<b>Issues</b>	<b>Changes</b>
No issues	No Changes

## Chapter 12/Appendix 12 – Managed Lanes

Issues	Changes
Climate Change	Guidance provided for Climate Change in the following Sections: 12.1, 12.1.1.2.1, 12.1.1.13.1, 12.1.1.3.2, 12.2.1, 12.3, 12.3.1.1, 12.8.1, and Table 12.5.6
Left-turn Slip Around	Two figures for left-turn slip around deleted to avoid any confusion between this chapter and the TAC GDG Chapter 9

## Appendix A - Glossary

Issues	Changes
New Definitions	25 new definitions added mostly based on the terminologies used in chapter 13- work zone

## Appendix B – MTO Geometric Design Standards Summary Tables

Issues	Changes
Design Speed 130 km/h	Design Criteria for 130 km/h provided for rural Kings highways