CASE I: This Geometric Design Guide is for collector-distributor road treatments. Use these types of ramps where the desired level of service of the diverge can be achieved with a one lane off ramp.

800 ft (240 m) Minimum Desirable

Case I:

Match

Line

NOT TO SCALE

Match

Line

GEOMETRIC DESIGN GUIDE FOR
SUCCESSIVE
EXIT RAMPS

08/07/2008
GED-150-C
SHEET 1 OF 3

Michigan Department of Transportation
TRAFFIC AND SAFETY
FILE: PM D RD TS T D Geom D/GED150C_EletJat
REV. 09/22/2008

DRAWN BY: ECH
CHECKED BY: JAT
ENGINEER OF DELIVERY
ENGINEER OF DEVELOPMENT

MDOT

John C. Fried

08/07/2008
CASE II

CASE II: Use these types of ramps where the desired level of service of the diverge requires a two lane off ramp. Apply appropriate Geometric Design Guides for diverge as noted.

2 ft (0.6 m) shoulder point

2.0 ft (0.6 m)

See Geo-140-Series

Paved gore to 22 ft (6.6 m) width

200 ft (60 m) Minimum

1:25 Paved Shoulder Transition

See Geo-130-Series or Geo-131-Series

2 ft (0.6 m)

Continue Mainline Shoulder to 2 ft (0.6 m) Shoulder Point

800 ft (240 m) Minimum Desirable

Paved gore to 22 ft (6.6 m) width

08/07/2008

09/22/2008 JK

MICHIGAN DEPARTMENT OF TRANSPORTATION

TRAFFIC AND SAFETY

GEOMETRIC DESIGN GUIDE

FILE: REV.

NOT TO SCALE
NOTES:

1. Select the design speed based on a combination of the superelevation rate and the radius of the curve. See also chapter 3 of the MDOT Road Design Manual.

2. The design speed of the collector-distributor (C-D) roadway is generally 60 mph (100 km/hr).

3. If the through pavement is curved, plot offsets for taper and connect with the appropriate curve.

4. Spiral transitions should be used on new ramp alignments based on the design speed of the curve and the radius as shown in the table of the Road Standard Plan R-107-Series. The table gives the maximum radius in which a spiral should be used.

5. The cross slope in the gore area between the 2 ft (0.6 m) point and the 22 ft (6.7 m) point should not exceed 8%, with a 6% maximum algebraic difference in cross slope between the gore and the adjacent lane. This algebraic difference also applies within crowned gores.

6. The design speed of the ramp vertical alignment should meet or exceed the design speed of the ramp horizontal alignment.

7. The mainline shoulder width should extend along the ramp to where the gore is 2 ft (0.6 m) wide. Use a 1:25 taper transition where it joins the ramp shoulder paving.

8. Each ramp shall be carefully studied to provide maximum vision at its merge points. See Geometric Design Guide Geo-300-Series.

9. The sight distance in advance of the exit ramp gore should be at least 25% longer than the minimum stopping sight distance for the design speed of the mainline.

10. Two lane ramps should be 24 ft (7.2 m) minimum edge to edge. Radii less than 500 ft (150 m) may require lane widening, consult the Geometric Design Unit of Lansing Traffic and Safety.

11. The longitudinal joint on a 24 foot (7.2 m) ramp pavement shall be located 12 feet (3.6 m) from the right edge of the pavement and ended where the ramp width becomes 16 feet (4.8 m).

12. These design concepts are for new construction. Where modification may be needed for retrofitting to existing road features, consult the Geometric Design Unit of Lansing Traffic and Safety.