

## NOTES:

- 1) This geometric design guide is applicable where physical restrictions or a lack of R.O.W prohibit usage of a full cloverleaf design.
- 2) This layout is applicable for the crossroad passing over or under the freeway.
- 3) 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. This table gives the maximum radius in which a spiral should be used.
- 4) The cross slope in the gore area between the 2 ft (0.6 m) point and 22 ft (6.6 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.
- 5) The design speed of the ramp vertical alignment should meet or exceed the design speed of the ramp horizontal alignment.
- 6) For allowable approach grades between the crossroad and ramp terminal, see GEO-650-Series.
- 7) See geometric design guide GEO-370-Series for ramp terminal details.
- 8) See geometric design guide GEO-300-Series for clear vision area requirements.
- 9) These design concepts are for new construction. Where modifications may be needed for retrofitting to existing road features, consult the Geometric Design Unit of Lansing Traffic and Safety.