

Diverging Diamond Interchange (DDI) Criteria

General Design Criteria

The general design of all Diverging Diamond Interchanges (DDI) shall be in accordance with FHWA's "Diverging Diamond Interchange Informational Guide, August 2014" along with other design guidelines. Each DDI should be designed to accommodate the proposed design hour volumes and level of service as shown in the IMR for each location. The design vehicle will be AASHTO WB-62. All travel lanes shall accommodate the design vehicle in each travel lane simultaneously. Provide adequate travel lane width to accommodate design vehicle off tracking.

The shoulder width adjacent to median barriers and raised concrete median between the crossovers is 6 feet minimum. At the crossover approach to the median barrier, the raised concrete median can be offset 4 feet to the travel lane with the nose of the median barrier offset 6 feet minimum. The outside shoulder width on the bridge shall be a minimum of 4 feet. The design shall provide SSD throughout the interchange.

The distance between the centers of each crossover shall be 600 feet minimum. At each crossover, there shall be a minimum of 20 feet of tangent section leading to the stop bar and a minimum of 10 feet beyond the projection of theoretical edge of the opposing traffic travel path. The horizontal design speed of each crossover shall be 25 mph minimum with appropriate superelevation as required. Provide supplemental signals at each crossover where warranted. Decrease spacing of reflective pavement markers (RPM) by half from 200 feet prior to the crossover until 200 feet beyond the last crossover.

The DDI design shall provide a pedestrian access area in the center of the roadway for pedestrians between the interchange ramps. This area shall be protected by concrete barriers between the crossovers. Transition the barriers from normal height to 6 inches in height with a 4:1 slope at the approach end of the crossover. The barrier shall be offset one foot horizontally from the face of the raised concrete island on the approach side. Provide concrete pavement under and between the median barriers in areas beyond the bridge. Provide concrete barriers where warranted at the crossover intersection to restrict sight distance in the direction of opposing vehicles and reduce the potential for wrong way movements.

Provide a Complete Interchange Lighting (CIL) system for each DDI. The CIL shall be designed and constructed to provide adequate lighting considering traffic volumes, adjacent light use and other variables discussed in the "Diverging Diamond Interchange Information Guide, August 2014". The interchange lighting at a minimum shall include each ramp from diverge taper and merge taper to the crossing route intersection including deceleration and acceleration lanes. Lighting shall also include the crossing route a minimum of 600' outside the ramp intersections and in some cases may extend beyond 600' to light overhead signage or intersection approach geometry. Sites with pedestrian facilities in the median shall use high mast, mast arm or davit-style lighting as primary lighting and supplemental lighting as necessary for adequate illumination.