

Entrance Cuts: The maximum vertical curve, crest or sag, shall have a maximum 4-inch vertical offset over a 10-foot chord length. A standard vertical curve is designed for all commercial entrance profiles that exceed 3.3%.

Entrance Drainage: Drainage shall be considered in the design of entrance grades. Roadways and curb-and-gutter sections that convey storm water runoff within the roadway prism are designed in accordance with department standards. Site runoff into state right-of-way shall be minimized.

Entrance Width: All commercial entrances shall have a width sufficient for the particular land use and anticipated traffic flow with a **minimum** width of 16 feet for a one-way drive and 30 feet for a two-way drive (a two-way commercial entrance on a *local street* shall have a minimum width of 24 feet). Note: The width of the entrance shall be wide enough so that the design vehicle does not encroach into the opposing lane when entering the entrance.* The **maximum** width is 20 feet for a one-way drive and 40 feet for a two-way drive. See "Entrance Width" in Definitions Section.

These widths are measured at right angles to the centerline of the entrance at the right-of-way line. Entrances with multiple lanes or median may require additional width. For subdivision streets, radii width and angle are established in the Subdivision Street Design Guide in the Road Design Manual, Appendix B (1), at web link

<http://www.virginiadot.org/business/locdes/rdmanual-index.asp>

Design Vehicle: The type of vehicle that makes frequent turns without encroaching into the adjacent lane when making turns. The tracking of the design vehicle is an important determinant of corner radii at intersections. When the design vehicle traverses an intersection, the design vehicle shall be able to turn from one street to another without deviating from the near travel lane and impeding other traffic flow. Therefore, the design vehicle determines the elements of design such as turning radius and lane width. The design vehicle is to be determined based on the LD-104 Request for Traffic Data and discussed at the Project Scoping Meeting and recorded on the Scoping Worksheet - Roadway Design.

The WB-67 shall be the design vehicle used for intersections of freeway ramp terminals with other arterial crossroads and for other intersections on state highways and industrialized streets that carry high volumes of traffic or that provide local access for large trucks.

Entrance Radius: The entrance radius shall be designed to accommodate the design vehicle expected to use the commercial entrance on a daily basis and have radii large enough to accommodate the largest design vehicle that will use it without creating undue congestion or hazard on the through highway (See Table 4-3).

* Rev.1/18