

Intersecting Cross Road Grades

The grade of a connecting facility must be carefully studied when approaching an intersection where the mainline is superelevated. A smooth grade tie-in is desirable, with sufficient area on a relatively flat grade for a vehicle to stop before entering the main roadway. Also, when a connection is on the outside of a superelevated curve, the grade must be designed so that the connection is visible to a driver on the main roadway desiring to turn onto the connections.

Every attempt must be made to provide an adequate area for this vehicular stoppage, giving full consideration to the horizontal and vertical sight distances.

The desirable tie-in is one that is no steeper than the pavement cross slope whether this is superelevated or the normal crown. The maximum difference between the pavement cross slope and the approach road grade shall not exceed 8% at stop intersections or 4% at continuous-movement intersections. The stoppage area should be a minimum of 50' before beginning the steeper grade. (See AASHTO's *A Policy on Geometric Design of Highways and Streets*).

Roundabouts

VDOT Policy

VDOT recognizes that roundabouts are frequently able to address safety and operational objectives better than other types of intersections in both urban and rural environments and on high-speed and low-speed highways.

Therefore, it is VDOT policy that roundabouts be considered when a project includes reconstructing or constructing new intersection(s), signalized or unsignalized (HJR 594, 2003). As a minimum, the roundabout alternative shall be reviewed to determine conceptual project impacts including safety, land impacts and construction. If the roundabout appears to be a feasible alternative, then a traffic analysis and preliminary layout should be developed and analyzed in more detail. In such case the Engineer shall provide an analysis of each intersection to determine if a roundabout is a feasible alternative based on site constraints, including right-of-way, environmental factors and other design constraints. The advantages and disadvantages of constructing a roundabout shall be documented for each intersection.

Roundabout Consideration & Alternative Selection Guidance Tool*

[1-Roundabout Screening Criteria](#)

[2-Roundabout Cost Comparison Tool Manual v2.5](#)

[3-Roundabout Cost Comparison Tool v2.5](#)

[4-Roundabout Design Guidance](#)

[NCHRP Report 672 Roundabout Informational Guide 2nd Edition 2010](#)

[Roundabout Scan Review](#)

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