

2. Start with Page 803.29 TC-5.11U for given Design Speed shown above (45 mph).^{*}
 - ⇒ Chart shows that a curve with 3.3% superelevation and radius of 1446' will support a velocity of 45 mph. The radius on the plans is greater than 1446' (1533').
3. Go to Page 803.30 (50 mph Design Speed).
 - ⇒ Chart shows that a curve with 3.3% superelevation and radius of 1857' will support a velocity of 50 mph, but the radius on the plans is less than 1857' (1533').
4. Therefore, the project radius and superelevation will not support a 50 mph design velocity. The more conservative $V = 45$ mph shall be shown on the plans as the velocity of the curve.

A Design Exception is required whenever the curve radius and superelevation do not support the minimum design speed. (See [IIM-LD-227](#) for information on Design Exceptions.)

ADDITIONAL RESOURCES

Transportation Research Board, *NCHRP Report 504*, Design Speed, Operating Speed, and Posted Speed Practices, available at:
http://trb.org/publications/nchrp/nchrp_rpt_504.pdf .

2004 AASHTO Green Book, "Speed", Chapter 2.

NS 23 CFR 625 available at:

<http://www.fhwa.dot.gov/legsregs/directives/fapg/0625sup.htm>

The Federal Aide Policy Guide (FAPG)

"Compatibility of Design Speed, Operating Speed and Posted Speed" (1995 - By FHWA and TXDOT)

ITE's *"Speed: Understanding Design, Operating and Posted Speed"* (1997 - By Ray Krammes (FHWA) and Kay Fitzpatrick (TTI))

[Manual on Uniform Traffic Control Devices](#) (MUTCD, 2009 Edition)

- Note that the statutory speed limit is 55 mph for cars and 45 mph for trucks with the following exceptions: 25 mph in residence and business districts; 35 mph in cities and towns; 35 mph on Rural Rustic Roadways; 35 mph on nonsurface-treated highways. See the Code of Virginia (Speed Limits).

^{*} Added 7/14