

Appendix C to NCHRP Report 737

**Potential Changes for Consideration in
the Next Editions of the *Green Book* and
*Roadside Design Guide***

This appendix provides potential changes for consideration in the next editions of the *Green Book* and *Roadside Design Guide*, based on findings and conclusions of this research. The proposed text is based upon a review of the 2011 editions of the *Green Book* and *Roadside Design Guide*.

Proposed Text for the *Green Book*

Proposed Section 6.2.6 (subsequent section numbers would be increased by one)

Section 6.2.6 High Speed to Low Speed Transitions

Rural collectors provide important connections to and through many rural communities and developed areas. When a high-speed rural collector enters a community or other developed area, there may be a high-speed to low-speed transition zone where motorists reduce their travel speeds to levels consistent with the low-speed environment they are entering. Safety and community livability issues can arise if drivers do not sufficiently reduce their speeds prior to entering the low-speed area. To address this issue, it may be necessary to implement one or more transition zone design treatments. These treatments could include one or more of the following: center islands, raised medians, roundabouts, roadway narrowing, lane reductions, transverse pavement markings, colored pavement, layered landscaping, and others. Please refer to *Design Guidance for High-Speed to Low-Speed Transition Zones for Rural Highway* (REF) for additional information and recommendations relative to the design of high-speed to low-speed rural transition zones.

Proposed Section 7.2.14 (subsequent section numbers would be increased by one)

Section 7.2.14 High-Speed to Low-Speed Transition Zones

When a high-speed rural arterial enters a community or other developed area, there is typically a high-speed to low-speed transition zone where motorists reduce their travel speeds to levels consistent with the low-speed environment they are entering. However, experience shows that many drivers do not sufficiently decrease their speeds through transition zones, and as a result, enter and travel through communities faster than they should. Often the higher speeds create safety and community issues. Therefore, it is useful to consider this portion of the roadway separately from the high-speed and low-speed sections it connects. If a speed compliance or safety concern is identified in a transition zone, it may be beneficial to consider one or more transition zone design treatments. These treatments could include one or more of the following: center islands, raised medians, roundabouts, roadway narrowing, lane reductions, transverse pavement markings, colored pavement, layered landscaping, and others. Please refer to *Design Guidance for High-Speed to Low-Speed Transition Zones for Rural Highway* (REF) for additional information and recommendations relative to the design of high-speed to low-speed rural transition zones.

Proposed Text for the *Roadside Design Guide*

Proposed Text Addition to Section 10.2.1.4 Gateways in the Roadside Design Guide

The following text is proposed for Page 10-9 just prior to Table 10-3:

For high-speed to low-speed transition zones, such as when a high-speed rural road enters a developed area, *Design Guidance for High-Speed to Low-Speed Transition Zones for Rural Highway* (REF) provides additional recommendations for design treatments that may help slow travel speeds so that they are more consistent with the downstream low-speed environment.

Reference

Torbic, D. J., D. K. Gilmore, K. M. Bauer, C. D. Bokenkroger, D. W. Harwood, L. M. Lucas, R. J. Frazier, C. S. Kinzel, D. L. Petree, and M. D. Forsberg, *Design Guidance for High-Speed to Low-Speed Transition Zones for Rural Highway*, NCHRP Report XXX, National Cooperative Highway Research Program, Transportation Research Board, National Research Council, Washington, DC, YEAR.