



U.S. Department  
of Transportation

Virginia Division  
(804) 775-3320

400 N. 8th Street Rm. 750  
P.O. Box 10249  
Richmond, Virginia 23240

**Federal Highway  
Administration**

March 19, 2001

**IN REPLY REFER TO:**

Design Criteria - Level of Service

Mr. Frank Gee, Acting Chief Engineer  
Virginia Department of Transportation  
1401 East Broad Street  
Richmond, Virginia 23219

Dear Mr. Gee:

This letter is intended to clarify the Level of Service (LOS) design criteria requirements for projects on the National Highway System (NHS). As background, United States Code (U.S.C.) 23 Part 109 requires that NHS projects be designed to "... adequately serve the existing and planned future traffic of the highway in a manner that is conducive to safety, durability, and economy of maintenance..." In an effort to comply with 23 U.S.C. 109, the Code of Federal Regulations (CFR) lists documents to be used as standards for the design of highways on the NHS, regardless of funding source. The document listed in 23 CFR 625.4, A Policy On Geometric Design Of Highways And Streets, 1994 (Green Book) is used to provide the LOS standard for highways on the NHS.

To define the term "adequately serve," our office has generated a table (see attached) that specifies the LOS requirements for roads on the NHS. This table is a summary of the AASHTO "Green Book" discussions on this topic. Level of Service determinations must be made using industry standard methods for computing such information (e.g.: Highway Capacity Software (HCS)). The level of detail of LOS analysis for the facility must be consistent with the highest level that would be shown by the HCS (e.g.: each movement of an intersection). With regard to the term "planned future traffic," NHS projects must provide a 20-year design life for reconstruction and new construction projects.

Design criteria for LOS should be established and documented early in the project development process, such as during project scoping. Written justification, filed in VDOT's project files, is required for any location where the minimum LOS standard could not be met. The established criteria and written justifications for any deviations from that criteria must be submitted to our office for concurrence on all full oversight projects as defined by the VDOT-FHWA Efficiencies Agreement

If you have questions or require additional clarification regarding this issue, please contact Mr. Vince Barone at (804) 775-3355.

Sincerely,

Roberto Fonseca-Martinez  
Division Administrator

By: Vincent P. Barone  
Field Operations Engineer

Attachment

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<b>Facility</b>	<b>Level of Service (LOS) Required</b>
<b>Rural NHS Routes (Including Rural Interstate)</b>	<b>Mainline Lanes:</b> LOS B ( <i>Go to LOS C on the mainline if LOS B is not reasonable* or if the terrain is mountainous*</i> ) <b>Auxiliary Lanes:</b> LOS C
<b>Urban NHS Routes (Including Urban Interstate)</b>	<b>Mainline Lanes and Auxiliary Lanes:</b> LOS C ( <i>LOS D may be used in <u>heavily developed</u> sections of Metropolitan Areas*</i> )

\* FHWA Division office must concur, in writing, that such a condition exists.

Notes:

1. LOS below those shown requires a written justification to be issued to the project file. The justification must be provided to FHWA Division Office for concurrence on all full oversight projects as defined by the VDOT-FHWA Efficiencies Agreement.
2. LOS determinations are to be made using industry standard methods for computing such information (e.g.: Highway Capacity Software (HCS)). The level of detail for showing the LOS of the facility is to be consistent with the highest level that would be shown by the HCS (e.g.: each movement of an intersection).
3. Auxiliary facilities includes ramps, turn lanes, main lane weaving sections, C-D roads, and intersections
4. “Metropolitan areas” are the urbanized areas. As of 03/19/01, those areas include Bristol, Charlottesville, Danville, Fredericksburg, Kingsport, Lynchburg, Norfolk-Virginia Beach-Newport News, Petersburg, Richmond, Roanoke, and Northern Virginia.