

APPENDIX A

SECTION A-1-GEOMETRIC DESIGN STANDARDS

INTRODUCTION

VDOT has formally adopted the 2011 AASHTO *A Policy on Geometric Design of Highways and Streets*, commonly referred to as the AASHTO “Green Book”, as our minimum design standards. Therefore, **all** design criteria must meet AASHTO minimum standards.

Highway improvement plans are based on established AASHTO geometric design standards for various elements of the roadway under design. The tables on the following pages provide the **minimum** geometric standards, which are to be used for development of VDOT projects except those projects which can be developed using the Guidelines for RRR Projects located in Appendix A, Section A-4 of this manual. Note that there are no specific RRR standards for Interstate projects. If the designer has determined that Guidelines for RRR Projects do not apply to the project in question, the Geometric Design Standard tables on pages A-11 to A-20 should be used for project development. See Appendix B(1) for the development of new residential and mixed-use streets functional classified as “local” streets and Appendix B(2) for multimodal design standards for mixed-use urban centers.*

The Geometric Standard Tables were developed using *A Policy on Geometric Design of Highways and Streets* published by the American Association of State Highway and Transportation Officials (AASHTO). These tables present basic practical guidelines compatible with traffic, topography and safety; however, due to the restrictive format, all variables could not be included. The designer is urged to refer to the above named publication and other related chapters in the *Road Design Manual* for further discussion of design considerations before selecting the proper design speed criteria for a given project.

THE APPLICATION OF THE CRITERIA PROVIDED IN THE GEOMETRIC DESIGN STANDARD TABLES MUST BE MADE IN RELATION TO THEIR EFFECT ON THE ROADWAY SYSTEM AND IN CONJUNCTION WITH SOUND ENGINEERING JUDGMENT TO ENSURE AN APPROPRIATE DESIGN. The economic, environmental and social factors involved in highway design shall also be considered. The designer should always attempt to provide for the highest degree of safety and best level of service that is economically feasible. The “minimum” design criteria shown in the tables should only be used when overriding economic or environmental considerations so dictate.

FLEXIBILITY IN DESIGN

The policies and procedures addressed in [IIM-LD-235](#) (Context Sensitive Solutions) and [IIM-LD-255](#) (Practical Design Flexibility in the project development process) are intended to clarify and emphasize VDOT’s commitment to project and program development processes that provide flexibility, innovative design and Context Sensitive Solutions (CSS) to transportation challenges.

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