

SECTION A-2-CLEAR ZONE GUIDELINES

INTRODUCTION

The term “clear zone” is used to describe the unobstructed, traversable area provided beyond the edge of the traveled way for the recovery of an errant vehicle. The clear zone includes shoulders, bike lanes, parking lanes and auxiliary lanes (except those auxiliary lanes that function like through lanes). Clear zone distances are based upon traffic volume, speed, and embankment slopes.

A recoverable area is to be provided that is clear of all unyielding obstacles such as trees, sign supports, utility poles, light poles, or any other fixed objects that might severely damage an out-of-control vehicle (See 2004 AASHTO A Policy on Geometric Design of Highways and Streets, Chapter 5). Determining a practical clear zone often involves a series of compromises between absolute safety, engineering judgment, environmental and economic constraints. Additional information is available in AASHTO’s Roadside Design Guide.

ROADWAYS WITH SHOULDERS

For all Freeways and Arterials, (and for Collectors with design speeds ≥ 50 mph) clear zone widths are to be determined from AASHTO’s Roadside Design Guide, Chapter 3. For an example, see Figure A-2-1, Case 1.

For all Rural Local Roads, Urban Local Streets with paved shoulders (and Collectors with design speeds ≤ 45 mph) as much clear zone as practical should be provided, with a minimum of 10’ beyond the traveled way. (See 2004 AASHTO A Policy on Geometric Design of Highways and Streets, Chapters 4 and 5). For an example, see Figure A-2-1, Case 2.

On projects such as RRR, intersection improvements, etc. recoverable areas are not always practical due to the intent of the project to provide minimal improvements, and extend the service life of the existing roadway, for a fraction of the costs of reconstruction. However, as much clear zone as practical should be provided.

Source: TRB Special Report 214, Designing Safer Roads

Whenever adequate right of way is available, urban projects should be designed with shoulders in lieu of curbs (unless city ordinances require otherwise) and clear zone widths should be consistent with the requirements for roadways with shoulders. (See 2004 AASHTO “A Policy on Geometric Design of Highways and Streets”, Chapter 7). The justification for providing a curb is to be documented in the project file (e.g. Preliminary Field Inspection Report, recommendation from Right of Way and Utilities Division, etc.).*

* Rev 7/08

ROADWAYS WITH CURB

High-Speed Roadways with curb

For roadways with design speeds of ≥ 50 mph, curb should ONLY be utilized in special situations. These situations may include, but are not limited to the following:

- Drainage considerations
- Need for access control
- Right of way restrictions

Source: AASHTO Green Book, Chapter 4

When necessary to utilize curb on a roadway with a design speed ≥ 50 mph for one of the situations listed above, a clear zone distance commensurate with prevailing traffic volumes and vehicle speeds is to be provided. (See AASHTO's Roadside Design Guide, Chapter 3).

In situations where these clear zone widths are not practical, the greatest practical values should always be utilized. The lateral offset shall extend a minimum of 8' from the face of curb, or beyond the back of the sidewalk, whichever is greater (See Figure A-2-1, Case 3).

Low-Speed Roadways with curb

When curb is utilized on urban roadways with design speeds of ≤ 45 mph, the greatest practical lateral offset is to be provided, and shall extend a minimum of 8' from the face of curb, or beyond the back of the sidewalk, whichever is greater. See Figure A-2-1, Case 3. (Source: Draft revision to 2010 AASHTO "Green Book")

In situations where space is restricted, the lateral offset distance may be reduced to an absolute minimum of 1.5' beyond the face of the curb, with wider distances provided where practical. See Figure A-2-1, Case 4. (Source: AASHTO Roadside Design Guide, Chapter 3 and 2004 AASHTO "Green Book", Chapters 4 and 5) The justification for not providing a minimum 8' lateral offset beyond the face of curb (or to the back of sidewalk) is to be documented in the project file (e.g. Preliminary Field Inspection Report, recommendation from Right of Way Division, etc.).*

* Rev. 7/08