

## **SECTION A-2M-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.

When establishing a full-width clear zone in an urban area is not practical due to right of way constraints, consideration should be given to establishing a reduced clear zone or incorporating as many clear zone concepts as practical such as removing roadside objects or making them crashworthy.\*

### **ROADWAYS WITH SHOULDERS**

For all Freeways and Arterials (and for Collectors with design speeds  $\geq 80$  km/h) 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  $\leq 70$  km/h) as much clear zone as practical should be provided, with a minimum of 3.0 m 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.).

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