
Introduction to Roadside Safety

Design Manual
Chapter 8
Safety Design

Originally Issued: 12-13-00

Revised: 11-12-20

This chapter discusses roadside objects encountered during the design process, and provides guidelines for how to treat them.

Creating a Forgiving Roadside

Despite all the effort that goes into keeping vehicles on the road, it is inevitable that some vehicles will leave the pavement and enter the roadside. To allow for these vehicles, a forgiving roadside is designed to be relatively flat and free of objects. This area is referred to as a “clear zone”. Providing a clear zone reduces the likelihood that a crash will occur.

Ideally, there should be no objects within the clear zone. If an object is located in the clear zone and cannot be removed, engineering judgment must be used to determine how to treat it. Treatment methods include removing or relocating the object, making it traversable or breakaway, or shielding it with a barrier. The method chosen depends on the probability of a crash occurring, its likely severity, and the available resources.

Use of Barriers

Barriers themselves are fixed objects that may be impacted. Placement of a barrier to protect an object is only justified when a crash into the barrier would be less severe than a crash into the object.

Barriers must be crash tested in order to ensure they are strong enough and safe enough to use on our roadways. Barriers designed and tested according to the current version of MASH are acceptable for use in Iowa.

Chronology of Changes to Design Manual Section: 008A-001 Introduction to Roadside Safety

11/12/2020 Revised
Removed references to NCHRP 350.

12/13/2010 NEW
An introduction to roadside safety.