

CHAPTER OVERVIEW

The activities in this chapter are designed to provide you an opportunity to

1. Become familiar with the tables and figures in the AASHTO *Green Book* and the *Roadside Design Guide*
2. Learn to design highway cross section elements that meet the required design standards
3. Calculate earthwork resulting from the application of cross section elements to your alignment
4. Learn to determine if guardrail is warranted and design it into your project

The learning opportunity is facilitated with a highway design plan and profile and existing ground cross sections taken every 500 feet along the alignment which enables you to apply the base knowledge of cross section geometry design to an actual highway alignment.

The four activities provided in this chapter cover information in Chapter 4 of AASHTO *Green Book* and Chapters 3 and 5 of *Roadside Design Guide*. Specific subjects covered are cross sectional elements, clear zone and barrier design in these two references.

Activity Number and Title	Type
Activity 11 Highway Cross Section and Roadside Design	Reading
Activity 12 Typical Sections Design	Design
Activity 13 Roadside Barrier	Design
Activity 14 Earthwork Estimation	Analysis

In **Activity 11**, you will become familiar with the reasoning behind safe roadside design which entails selecting appropriate cross section elements through reading the reference material.

In **Activity 12**, you learn to identify, apply and analyze the effect of the geometric cross sectional elements required to meet the standards based on the established design controls and criteria of a highway project.

In **Activity 13**, along the same stretch of the highway alignment, you will work with the same groups to identify where guardrail is warranted and then design it into the project.

In **Activity 14**, the same groups will calculate earthwork resulting from application of cross sectional elements to the alignments.

