

2 HIGHWAY FUNCTIONAL CLASSIFICATION CONCEPTS



▶ PURPOSE

To help you understand the concepts related to highway functional classification in Chapter 1 of AASHTO's *Green Book*.

▶ LEARNING OBJECTIVE

- Be able to define highway functional classification
- Be able to distinguish the difference between urban and rural areas
- Be able to describe the purposes of highway functional classification
- Be able to describe the relationship between a highway's functional classification and its design features

▶ REQUIRED RESOURCES

- Chapter 1 of the AASHTO *Green Book*
- Answer sheet for the Critical Thinking Questions

▶ CRITICAL THINKING QUESTIONS

1. What is highway functional classification?
2. How is the hierarchy of movement of a series of roadways (Exhibit 1-1) related to the functional classification of the individual links?
3. What are the purposes of highway functional classification?
4. Why do we need to separate urban and rural areas in classifying highways?
5. How is functional classification of a highway related to its design features?
6. Should functional classification of a highway remain the same for its entire life cycle? Why?

▶ TASKS

Read the assigned reading material. Write down your answers to the Critical Thinking Questions. Prepare to discuss your thoughts in class.

▶ DELIVERABLE

The completed answer sheet to the Critical Thinking Questions.

▶ INFORMATION

A Policy on Geometric Design of Highways and Streets, commonly referred to as the “*Green Book*,” is published by the American Association of State Highway and Transportation Officials (AASHTO). The *Green Book* provides guidance for highway engineers and designers to produce highway designs that meet the needs of highway users while maintaining a certain level of consistency in design and safety features across highways in different states. The design guidelines of the *Green Book* are categorized by types of roadways, including freeways, arterials, collectors, and local roads in both urban and rural locations. Such a categorization of roadways is known as the functional classification, a concept used in highway planning.

The functional class of a particular roadway is defined according to the characters of the traffic services that the roadway is intended to provide. Resources for highway design, construction, and maintenance are allocated based on the functional classes of the roadways. Thus, understanding the concept of functional classification is the most important step in learning highway design as the determination of the functional class of a roadway precedes and dictates choices in all the design features.

The most current edition of the *Green Book* is the 6th edition, released in 2011. It is very important for a highway designer to be aware of the most recent *Green Book* edition. Once the latest edition is adopted by the State where your project is located, your design needs to conform to the standards and guidelines in the most recent edition.

Chapter 1 of the *Green Book* provides an elaborate discussion on the concepts of functional classification. Read the chapter with the Critical Thinking Questions in mind.

