



Introduction

BACKGROUND

The Iowa Highway Research Board has identified the development of a simplified handbook of transportation studies as a high priority for the state of Iowa. The Center for Transportation Research and Education (CTRE) at Iowa State University was chosen to develop such a handbook.

A well-executed, well-documented study is critical in the decision-making process for many transportation-related projects and in reporting to elected officials and members of the community. As more research is conducted in the area of transportation, study procedures in many cases have become more complex. It is often difficult for local jurisdictions with limited staff, training, experience, and time availability to perform these studies.

The most commonly used publication for traffic studies is geared toward transportation professionals and professional engineers. That defining document, *Manual of Transportation Studies* (Institute of Transportation Engineers, 2000), is over 500 pages and includes several dozen types of transportation studies. Many of the transportation studies described in the manual are rarely (if ever) used by local jurisdictions. Further, those studies that are frequently used are at times very complex and possibly very costly to perform exactly as described. Local jurisdictions without the staff expertise to understand and apply the manual's various studies have a need for a simplified handbook of procedures to perform common traffic studies themselves or properly define a scope of work to hire a consultant to perform the studies.

This handbook describes simplified procedures that are easy to apply and are written for all potential users (civil engineers and traffic engineers, public works managers, city managers and attorneys, and the general public).

OBJECTIVES

This handbook has two primary objectives: The first objective is to develop a handbook of traffic studies that is convenient for Iowa jurisdictions to use in assessing traffic issues. The second objective is to develop a series of boilerplate scopes of work that local jurisdictions can use to hire outside consulting firms to perform traffic studies.

CONTRIBUTIONS AND ACKNOWLEDGMENTS

One of the initial steps taken with this manual was the formation of an advisory committee to provide technical guidance and expertise to CTRE staff who developed the handbook. The advisory committee is listed below alphabetically:

Steve Akes, Warren County
Greg Benedict, City of Mason City
Tim Crouch, Iowa Department of Transportation
Jim George, Dallas County
Neil Hawkins, Howard R. Green Company
Randy Krauel, City of Carroll
Duane Smith, Iowa State University

The advisory committee defined the studies that are most common at the local jurisdiction level and that would provide the biggest benefits if presented in a handbook of simplified practice. In several periodic meetings, members of this voluntary committee offered insights and recommendations for content, presentation, and applicability of the procedures described.

The study team would also like to thank the Iowa Highway Research Board for sponsoring this important project.

IDENTIFIED COMMON TRAFFIC STUDIES

This handbook is organized into chapters, one chapter for each of the studies presented:

- Spot Speed
- Traffic Volume Counts
- Sight Distance
- Crash Analysis
- School Zone Program

Each chapter includes an introduction to the study type, step-by-step instructions for each common method of conducting the study, real-world examples, a model project work order for contracting out, and references.

Appendixes provide additional resources and blank data-collection forms and project work orders that can be used or modified by local jurisdictions.