Traffic Signal General Information

A. Introduction

The purpose of this chapter is to supplement SUDAS Specifications Section 8010 and to provide general guidance for traffic signal designs on roadways within Iowa. The information is provided as an overview for traffic signals design consideration.

B. Scope

There is no legal requirement to use the information within this chapter by local agencies. This document refers to a number of other resources available for the designer to be considered when designing a traffic control signal. The document loosely follows the format of the MUTCD, as published by The U.S. DOT, FHWA and as adopted or modified by the Iowa DOT. However, no attempt is made to re-print the content of the MUTCD herein. A variety of other technical resources are also noted for consideration by the designer.

By MUTCD definition, a traffic control signal is "any highway traffic signal by which traffic is alternately directed to stop and permitted to proceed" with highway traffic signal being defined as "a power-operated traffic control device by which traffic is warned or directed to take some specific action. These devices do not include power-operated signs, illuminated pavement markers, barricade warning lights, or steady-burning electric lamps." From an application standpoint traffic control signals are used to assign vehicular or pedestrian right-of-way.

The design for traffic control signals shall be in conformance with the current edition of the MUTCD as adopted or modified by the Iowa DOT. The following should be used as design standards as applicable to a project:

- MUTCD Part 4 Highway Traffic Signals
- Jurisdiction Design Standards and Construction Standards
- Iowa DOT and FHWA regarding the design of traffic control signals
- Institute of Transportation Engineers - "Manual of Traffic Signal Design," "Traffic Engineering Handbook," "Manual of Transportation Engineering Studies" and "Traffic Control Devices Handbook."
- "Signal Timing Manual", NCHRP Report 812
- Other standard references such as the National Electrical Code by the National Fire Protection Association (NFPA), and the National Electrical Manufacturers Association (NEMA) Standards Publications.

Other resources to consider and that are referenced within this document include:

- MnDOT Traffic Engineering Manual
- MnDOT Signal Design Manual
- MnDOT Lighting and Signal Certification Field Guide
- Ohio DOT Traffic Engineering Manual
- FHWA Automated Traffic Signal Performance Measures
- FHWA Adaptive Traffic Signal Control Website