Office of Traffic, Safety and Technology

Chapter 1
Introduction

Sign Plan Design for At-Grade Intersections
June 2017

DEPARTMENT OF TRANSPORTATION

Housekeeping

Start/End
Restrooms
Lunch/Breaks
Mobile Phones/Pagers
Introductions

Name
Agency
Position

Sign Plan Design for At-Grade Intersections Course Manual

- **Manual**
  - 9 Chapters
  - Includes a Series of Handouts
  - Review Handout Format

Sign Plan Design for At-Grade Intersections Information

- **Focus**
  - Practical application of signing and plan design
  - At-grade intersections, conventional highways, and expressways
- **Purpose**
  - To enable traffic personnel to acquire basic design skills in assembling signing plans for at-grade intersections on conventional highways and expressways

Overview

- Acquire basic design skills in assembling at-grade signing plans
- One-day course
- For individuals who need to acquire signing plan design skills
- Sample signing plan set is provided as a reference

Chapters

- **Chapters Covered in the Workshop**
  - Chapter 1 – Introduction
  - Chapter 2 – General Principals of Traffic Signing
  - Chapter 3 – Regulatory Signs, Warning & Guide Signs Overview
  - Chapter 4 – Traffic Engineering Manual (Chapter 6)
  - Chapter 5 – Minnesota Manual on Uniform Traffic Control Devices (Part 2)
  - Chapter 6 – Signing Plan Design & Plan Sets
  - Chapter 7 – Sample Plan Set (At-Grade)
  - Chapter 8 – Specifications & Special Provisions
  - Chapter 9 – Appendix

Background

- The material used to develop this course is current at the time of print
- The holder of this Manual should refer to the original reference materials to check for updates
- Many of the updated materials can be found at the MnDOT Office of Traffic, Safety & Technology website
- www.dot.state.mn.us/trafficeng/

Goals

Goals of the Course

- Describe the general principles of traffic signing
- Identify the various types and classification for signs
- Locate the applicable information in the MN MUTCD and TEM
- Layout signing elements on a signing plan set
- Determine the appropriate support type for signs

MnDOT Technical Contacts

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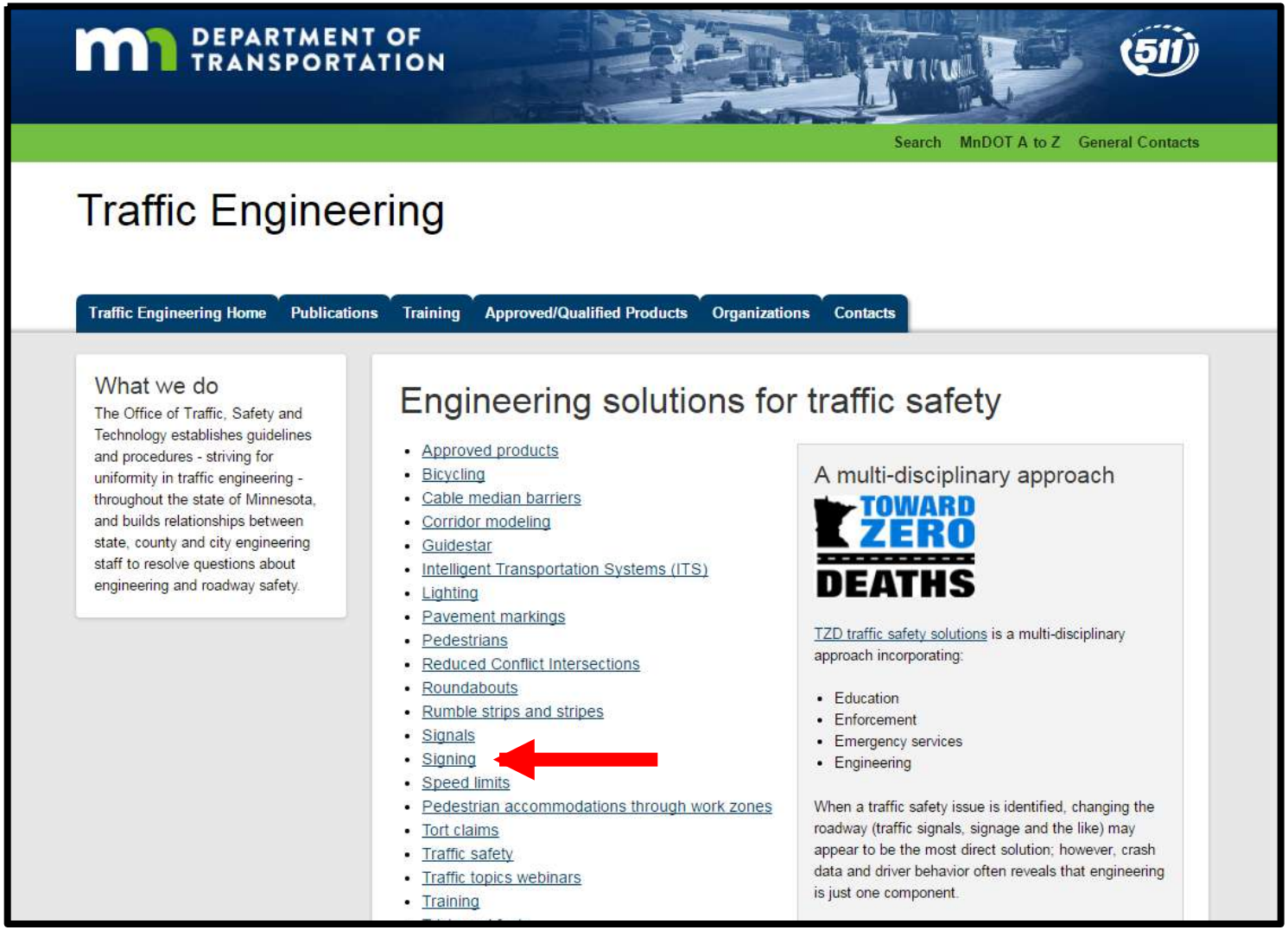
OTST Website



OTST Website

Signing

Products and services

- Publications
- Plans and special provisions
- Training

For more information

- Frequently asked questions about road signs
- Logo signs
- Reservation road signs and casino signing
- State Sign Shop
- Billboards
- Campaign signs, advertising and other objects within highway right of way

How do I get a traffic sign installed or fixed?

Determine if the road is county, city or a state highway. For sign requests on county roads contact the county engineer. For sign requests on city streets contact the city.

State highways

For sign requests on the state highway system including those pictured below, contact the district traffic engineer in the location of your request.

Minnesota Hwys

Interstate Hwys

U.S. Hwys

Other questions?

For more technical information of traffic signing design, standards or implementation in Minnesota contact:

Heather Lott
State Signing Engineer
heather.lott@state.mn.us
651-234-7371

Glossary

Conventional Road – Single Lane

A two-lane, two-way trunk highway.

Conventional Road – Multilane

An undivided highway with more than one lane in each direction of travel and having a posted speed equal to or less than 60 mph or a divided highway with more than one lane in each direction of travel and having a posted speed equal to or less than 55 mph.

A separately attached sign panel that shows, either individually or in combination, the brand, symbol, trademark, or logo of the business service.

Expressway

A high speed, multilane, divided highway which is generally an arterial road with a posted speed greater than 55 mph. Most intersections are at-grade, although grade separated interchanges may exist.

Direct Applied
Adhesive-backed pressure sensitive retroreflective sheeting.

Intersection

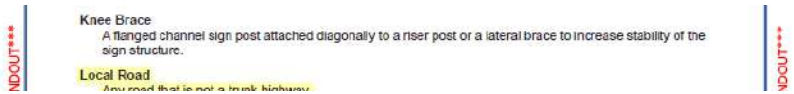
(a) The area embraced within the prolongation or connection of the lateral curb lines or, if none, then the lateral boundary lines of the roadways of two highways which join one another at, or approximately at, right angles or the area within which vehicles traveling upon different highways joining at any other angle may come in conflict.

(b) Where a highway includes two roadways 30 feet or more apart, then every crossing of each roadway of such divided highway by an intersecting highway shall be regarded as a separate intersection. In the event such intersecting highway also includes two roadways 30 feet or more apart, then every crossing of two roadways of such highways shall be regarded as a separate intersection. Minn. Stat. Sec. 169.011, Subd. 36.

Glossary

www.dot.state.mn.us/trafficeng/signing/publications.html

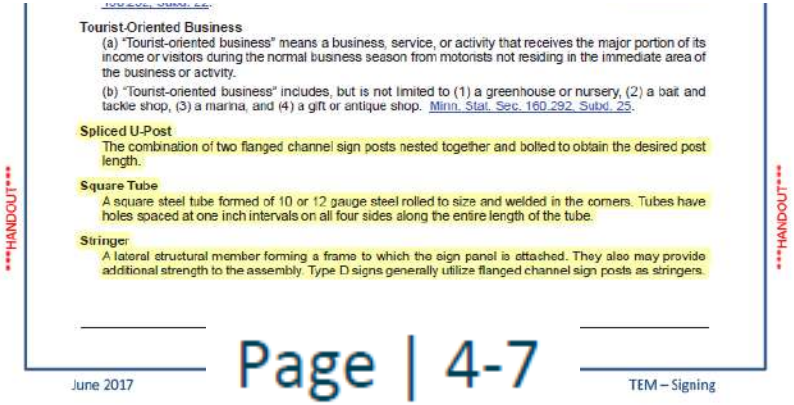
Local Road
Any road that is not a trunk highway.


Knee Brace
A flanged channel sign post attached diagonally to a riser post or a lateral brace to increase stability of the sign structure.
Local Road

Spliced U-Post
The combination of two flanged channel sign posts nested together and bolted to obtain the desired post length.

Square Tube
A square steel tube formed of 10 or 12 gauge steel rolled to size and welded in the corners. Tubes have holes spaced at one inch intervals on all four sides along the entire length of the tube.

Stringer
A lateral structural member forming a frame to which the sign panel is attached. They also may provide additional strength to the assembly. Type D signs generally utilize flanged channel sign posts as stringers.


Tourist-Oriented Business
(a) "Tourist-oriented business" means a business, service, or activity that receives the major portion of its income or visitors during the normal business season from motorists not residing in the immediate area of the business or activity.
(b) "Tourist-oriented business" includes, but is not limited to (1) a greenhouse or nursery, (2) a bait and tackle shop, (3) a marina, and (4) a gift or antique shop. Minn. Stat. Sec. 160.292, Subd. 25.
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