

Chapter 6

TRAFFIC SIGNS

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CHAPTER 6 - TRAFFIC SIGNS

6-1.00 INTRODUCTION

6-1.01 Purpose

Traffic signs regulate, warn, and guide motorists, pedestrians, and other traffic on all public roads. The traffic sign is the most commonly used traffic control device, and it is the oldest device for controlling, safe guarding, and expediting traffic. Signs are not ordinarily needed to confirm the basic rules of the road, but they are essential to inform highway users of specific regulations, to warn users where hazards are not self evident, and to furnish information and guidance.

The Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD) provides legal standards, allowable limits, and alternatives for the design, use, and application of traffic signs. The purpose of this chapter is to describe typical applications and procedures related to placement of traffic signs on Mn/DOT streets and highways.

Since the basic principles of signing are set forth in the MN MUTCD and must be adhered to, the engineers, technicians, and maintenance personnel responsible for the design, selection, and placement of these devices should have ready access to and be familiar with the MN MUTCD.

6-1.02 Scope

This chapter covers general procedures for selecting proper traffic signs and implementing the correct installation of these devices. General principles of traffic signing and practical application guidelines are strongly emphasized.

The layouts show applications (selection and placement) of recommended traffic signs for typical situations which occur frequently. All distances shown on the layouts are approximate. Not all situations can be addressed; therefore, the applications shown must be considered and applied as directed by engineering judgment.

Although it is usually desirable to provide all traffic signs as shown in the layouts, situations arise where this becomes impractical. Engineering judgment may dictate modifications to the typical layouts. When modifications are made, factors such as traffic volume, speed, sign distance, right of way, etc. must be considered.

The major source documents for this chapter are the MN MUTCD, the Standard Signs Manual, and the Mn/DOT Standard Specifications for Construction. Individuals responsible for designing and fabricating signs should have access to and be familiar with these reference materials. Technical support on the design of guide signs is available from the Mn/DOT Office of Traffic, Safety, and Technology (OTST).

6-1.03 Chapter Organization

This chapter is organized into six major sections. These sections cover (6-3) legal authority for placing traffic signs, (6-4) general principles of traffic signing, (6-5) application guidelines for regulatory signs, (6-6) application guidelines for warning signs, (6-7) application guidelines for guide signs, and (6-8) application guidelines for miscellaneous signs. Preferred signing practice for construction and maintenance work zone traffic control is found in Chapter 8.

6-2.00 GLOSSARY

A-Frame - The combination of vertical flanged channel sign posts with knee braces and lateral framing to form an assembly to which a sign panel is mounted.

Attrition - The process of evaluating existing traffic control devices and removing and/or replacing devices that no longer meet standards through scheduled construction or routine maintenance activities.

Breakaway Supports - Supports designed to yield when struck by an errant vehicle, thereby minimizing injury to occupants of the vehicle and damage to the vehicle itself. Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, published by the American Association of State Highway and Transportation Officials, indicates acceptable performance standards and dynamic test conditions.

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

Cone of Vision - A fan-shaped field of view extending in front of a vehicle operator.

Conventional Highway - A two-lane, two-way trunk highway.

Direct Applied - Adhesive-backed pressure sensitive retroreflective sheeting.

Expressway - A high speed, multi-lane highway which is generally an arterial road with the design speed 45 mph and greater. Two types of expressways exist, divided and undivided for both urban and rural sections. Most intersections are at grade, although grade separation and interchanges may be needed in some areas where high volume road or rail crossings exist, or terrain conditions favor grade separation.

Extruded Section - An aluminum channel substrate 6 inches or 12 inches in height.

Freeway - A divided highway with full control of access.

Iso-tacs - Lines of equal wind velocity given in various mean recurrence intervals.

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

Legend - The message on the face of a sign panel. It includes all alpha-numeric text, arrows, route markers, and special symbols. Legends are made of retroreflective materials except where opaque black paints are prescribed for text on certain signs.

Local Road - Any road that is not a trunk highway.

Logo - A single or multicolored symbolic design unique to a product, a business, or a service facility used as a means of identification of a company's products, services, or business.

Metro District - The Mn/DOT Metropolitan District encompassing the eight-county Minneapolis-St. Paul Metropolitan Area.

Overlay - A thin, flat aluminum sheet with sign face material applied, which is bolted or pop riveted to a sign panel.

Primary Guide Signs (freeways only) - These signs consist of advance junction signing, exit directional signs, exit gore signs, destination, and distance signs. Exit numbers are included on interstate freeways.

Screening Process - Method of sign fabricating by screen printing with colored inks (pastes) over a given retroreflective sheeting.

Sheeting, Encapsulated Lens Retroreflective - A material utilizing retroreflective spherical lens elements adhered to a synthetic resin and covered by a smooth plastic surface (commonly referred to as High Intensity). See Mn/DOT Standard Specification 3352.2A2b.2

Sheeting, Pressure Sensitive - Retroreflective or non-retroreflective sheeting which has an adhesive backing that permits application of the sheeting to the substrate by pressure, and requires no heat, solvent, or other preparation for adhesion to smooth, clean surfaces.

Sheeting, Prismatic Retroreflective (DG3) - A material utilizing full cube corner lenses formed in a transparent, synthetic resin, sealed and backed with a pressure sensitive adhesive and blue poly liner.

Sheeting, Wide Angle Prismatic Retroreflective for Visual Impact Performance (VIP) - A material utilizing prismatic lenses formed in a transparent, synthetic resin, sealed and backed with a pressure sensitive adhesive and blue poly liner. This sheeting material has optimum performance over a broad range of observation angles.

Shop Drawing - Detail drawings of sign structures indicating materials used, dimensions, and fabricating processes.

Sign Base Material or Sign Blank (Substrate) - Sheet aluminum joined by backup splice plates, or extruded sections bolted together to form a flat surface.

Sign Face Material - Retroreflective or non-retroreflective sheeting material applied to the sign substrate.

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 entire length of 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.

Supplemental Guide Signs - Guide signs which further orient the driver to geographical identification and secondary destinations. Destinations include cities, motorist services, and state parks. Exit numbers are included on interstate freeway signs.

Trunk Highway - Any highway or segment of highway, including the interstates, under the jurisdiction of the State of Minnesota.

U-Post (Flanged Channel Sign Post) - A steel post of a channel or modified channel design, with flanges against which a sign panel will be placed. Holes are punched at a uniform spacing along the centerline of the back of the post.

Windloading - The pressure of the wind on the horizontal and vertical supports of a structure are given in Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, published by the American Association of State Highway and Transportation Officials.

6-3.0 LEGALITY - LEGAL AUTHORITY FOR PLACEMENT OF TRAFFIC SIGNS

6-3.01 Traffic Signs Installed by Mn/DOT Maintenance Forces

Minnesota Statute (MS) 169.06, subd.2, provides that the Commissioner of Transportation (Commissioner) shall place and maintain traffic signs conforming to the MN MUTCD and the Mn/DOT Standard Specifications for Construction as deemed necessary to regulate, warn, or guide traffic on the Minnesota trunk highway system. Mn/DOT district traffic offices and maintenance forces act as agents of the Commissioner in this duty. Additional Statutes may also be applicable.

6-3.02 Traffic Signs Installed by Contract

Under the provisions of MS 161.32, subd.1, the Commissioner may elect to conduct sign installation work by construction contract rather than by maintenance forces. Additional statutes may also be applicable.

6-3.03 Traffic Signs Installed by Others by Maintenance Permit

Under the provision of MS 169.06 subd. 2, the Commissioner may authorize others to install approved traffic signs by maintenance permit (Mn/DOT Form 1723). All signs shall conform to the MN MUTCD, Minnesota Standard Specifications for Construction, this Manual, and any specific conditions outlined in the permit. District traffic engineers should approve all sign installations to ensure that all applicable standards and practices are followed. Additional statutes may also be applicable.

6-3.04 Temporary Traffic Control Signs Installed by Construction Contracts and Public Utility Companies at Work Sites

The MN MUTCD, Part 6, Temporary Traffic Control provides standards and guidelines for placing traffic control signs at work sites to protect the public, workers, and equipment. Section 6A covers the legal responsibility of authorities having jurisdiction to comply with the requirements of Part 6.

6-4.0 GENERAL PRINCIPLES OF TRAFFIC SIGNING

6-4.01 Principles of Traffic Control Devices

As stated in the MN MUTCD Section 1A.2, in order for traffic signs to be effective, they should meet the following basic requirements:

1. Fulfill a need.
2. Command attention.
3. Convey a clear, simple meaning.
4. Command respect from road users.
5. Give adequate time for proper response.

6-4.02 Basic Considerations for Installation of Traffic Signs

As stated in the MN MUTCD, and summarized in the Transportation and Traffic Engineering Handbook (published by the Institute of Transportation Engineers) five basic considerations are employed to ensure that the above basic requirements are met. These considerations are:

1. Design: the combination of physical features such as size, colors, and shape needed to command attention and convey a clear message.
2. Placement: the installation of devices should be within the viewer's cone of vision, so they will command attention and allow time for response.

A 20 degree cone of vision should be used for placement of signs. Signs must remain within this cone of vision to be read. Care should be taken when placing signs near intersections so that they do not restrict intersection sight distance.

3. Operation: the application of devices so that they meet traffic requirements in a uniform and consistent manner. Devices should fulfill a need, command respect, and allow time for proper response.
4. Maintenance: the upkeep of devices to retain legibility and visibility, the removal of devices if not needed, and to aid in commanding respect and attention while fulfilling the needs of users.
5. Uniformity: the uniform application of similar devices for similar situations so that they fulfill the needs of users and command their respect. **The importance of uniformity in signing cannot be overemphasized.**

6-4.03 Functional Classifications of Traffic Signs

The MN MUTCD classifies signs by their functional usage as follows:

1. Regulatory signs inform highway users of traffic laws or regulations and indicate the applicability of legal requirements that would not otherwise be apparent.
2. Warning signs are used to call attention to hazardous conditions, actual or potential, on or adjacent to a highway or street that would not be readily apparent to the motorist.
3. Guide signs are used to provide directions to motorists, informing them of intersecting routes, directing them to cities and other important destinations, and guiding them to available services, points of interest, and other geographical, recreational, or cultural sites.

Further, guide signs for expressways and freeways have two sub classifications:

1. Primary guide signs consist of advance junction signing, exit directional signs, exit gore signs, destination, and distance signs. Exit numbers are included on interstate freeway signs.
2. Supplemental guide signs further provide the driver geographic orientation and secondary destinations at certain interchanges. Destinations include cities, motorist services, or state parks. Exit numbers are included on interstate freeway signs.

6-4.04 Department Classification by Sign Design Type

While the previous sign classifications describe general functions, Mn/DOT has further classified signs by design type.

Type A signs are large breakaway guide, directional, or informational signs normally installed on mainline freeways, expressways, and occasionally on conventional highways. They are supported on wide-flange steel posts.

Type C signs are primarily regulatory, warning, route marker assemblies, and auxiliaries, as found in the Standard Signs Manual. They are the most common sign type and are typically installed by Mn/DOT sign crews.

Type D signs are the smaller guide, destination, or informational signs. They are supported on driven U posts or mounted on overhead structures with punching and stringer spacing as indicated in the Standard Signs Manual.



Type A Sign



Type C Sign



Type D Sign

Type OH signs are large overhead guide, directional, or informational signs, either spanning a roadway, cantilevered over the roadway/shoulder, or bridge-mounted. The requirements of the structural support system generally require installation or maintenance by contract. There are three kinds of Type OH signs: 1) sign support (no walkway or sign lighting), 2) truss (may or may not include walkway and sign lighting) and 3) bridge-mounted (may or may not include walkway and sign lighting).



Type OH Sign - Sign Support



Type OH Sign - Truss

Type OH signs are necessary where ground-mounted signs are not deemed effective. Typical applications include, but are not limited to, the following:

1. Freeway signing where space is not available for ground mounted signs or where there are three or more lanes of travel.
2. Guide and/or lane use control signing approaching intersections in urban areas.
3. Approach warning sign/flasher for mid-block pedestrian crosswalks.
4. Locations with restricted sight distance (may be coupled with other factors cited).

Type EA signs are exit number panels attached with U-posts to Type A sign panels.

Type EO signs are exit number panels attached with U-posts to Type OH sign panels.

Changeable Message Signs (CMS) may be used to inform the road user of special conditions about advisory situations, traffic congestion, or safety messages as determined by the district traffic engineer.



Type A Sign with EA Sign Panel



Type OH Sign - Bridge-Mounted

6-4.05 Elements of Traffic Sign Design

Elements of sign design include shape, color, size, legend, border, retroreflective properties, illumination, and uniformity. These elements are discussed in the MN MUTCD; however, some permitted alternatives are as follows.

If there is more than one sign panel on an overhead sign structure and the sheeting is being replaced on one sign panel, the sheeting shall be replaced on all of the sign panels.

6-4.05.01 Shape

Sign shapes should be designed as stated in the MN MUTCD, except that it is the policy in Minnesota to use the rectangular shape (rather than trapezoidal) for recreation area signs.

6-4.05.02 Color

The color of signs, legends, and borders are specified in the MN MUTCD.

Mn/DOT policy is that all warning signs shall be fluorescent yellow, except for the following which shall be fluorescent yellow-green:

1. BICYCLE CROSSING (W11-1) sign.
2. PEDESTRIAN (W11-2) sign.
3. SCHOOL (S1-1) sign.
4. ADVISORY SPEED (W13-1) plaque, AHEAD (W16-9P) plaque, DISTANCE (W20-100P) plaque, and the DOWN ARROW (W16-7p) plaque when used with the BICYCLE CROSSING, PEDESTRIAN, and SCHOOL signs.
5. SCHOOL (S4-3) plaque.
6. SCHOOL SPEED LIMIT (S5-1) sign.

6-4.05.03 Size

The sign dimensions are specified in the MN MUTCD and Standard Signs Manual. Increases above these standard sizes are desirable where greater legibility or emphasis is needed. Special designs or large signs are prescribed for use on freeways and expressways. Standard shapes and colors shall be used and standard proportions shall be retained for enlarging signs insofar as practicable. The overall dimensions of sign panels should be in 6-inch increments. The use of smaller than standard size signs may sometimes be justified under the guidelines specified in the MN MUTCD.

6-4.05.04 Legend

Mn/DOT's preferred practice is to use symbol messages when the MN MUTCD allows the use of word messages as alternatives to symbols.

New warning or regulatory symbol signs not readily recognizable by road users should be accompanied by an educational plaque which is to remain in place for at least three years after initial installation.

It is Mn/DOT policy to use upper/lower case lettering on all guide signs with proper name destinations.

The SignCAD program is currently used by Mn/DOT staff in designing guide signs. Contact OTST for technical assistance in the design of guide signs and usage of this program.

See Charts 6-1A, 6-1B, 6-1C, 6-1D and 6-1E for guidelines to determine Type D Guide Sign panel riser and format. These charts give the current recommended letter sizes based on roadway type and posted speed.

6-4.05.05 Retroreflective Sheeting Policy

Retroreflective sheeting requirements for object markers and delineators can be found in Chapter 7. Retroreflective sheeting requirements for construction, maintenance, utility, and incident management operations can be found in Chapter 8.

All Mn/DOT signs shall use DG3 prismatic sheeting except for signs installed under contract. Contract specifications shall allow the use of either ASTM Type IX or DG3 prismatic sheeting.

6-4.05.06 Sign Lighting

Driving on freeways and expressways is a complex and demanding task. Communication with the driver by signing is in constant competition for the driver's attention, particularly in the urban environment. As a countermeasure, overhead signs are typically utilized on urban area freeways.

The following guidelines were developed as a result of studies and field trips. Generally, overhead sign lighting is not needed. Each district shall conduct a field review to determine if it is necessary to light overhead signs. During the field review of each site, viewing of the signs should be made only with low beam vehicle headlights. Also, it is recommended that personnel unfamiliar with the sign message be part of the review team to ensure the most objective decision possible.

By turning off or not installing overhead sign lighting, Mn/DOT benefits by reducing energy and maintenance costs while maintaining adequate sign legibility.

Any one of the following guidelines may make it necessary to light overhead sign panels:

1. Advertising devices and/or lighting sources competing for drivers' attention.
2. Engineering judgment based on various factors including, but not limited to:
 - a. At least 650 foot legibility distance.
 - b. At least 1000 foot detection distance.
 - c. Roadway and interchange geometrics.
 - d. High weaving traffic volumes.
 - e. Three or more overhead mounted sign panels on the same sign structure facing one direction of traffic (sign message overload).
 - f. Number of lanes (horizontal and vertical alignment).
 - g. Major forks.
 - h. Skewed bridge crossings.
 - i. Horizontal curves.
3. High density fog areas.
4. Roadway lighting located in close proximity to overhead signs causing glare from the sign panels.
5. Regulatory and diagrammatic signs.

Sign lighting shall be provided for all sign panels if one sign panel on a sign structure requires lighting.

The details of sign lighting are discussed in Chapter 10, Lighting.

6-4.06 Sign Design Type Classification

6-4.06.01 Type A signs

1. Support system - poured concrete footings or driven structural steel H-piles to support breakaway wide-flange steel posts.
2. Sign panels - bolted extruded aluminum sections covered with sheet aluminum and direct applied retroreflective legend. The sign panel is attached with post clips to wide flange steel posts.

6-4.06.02 Type C signs

1. Support system - ground-mounted signs are spliced or single U-posts driven into subsoil, attached to a bridge railing utilizing O-posts, or banded to traffic signal pedestals or mast arm poles. Unsupported length and sign panel area determines number of U-posts and need for stringers and/or knee bracing.
2. Sign panel - sheet aluminum with direct applied retroreflectorized or screen processed legend. Punching is specified in the Standard Signs Manual.

6-4.06.03 Type D signs

1. Support system - same as Type C signs but generally supporting greater sign panel area. They may be affixed to a bridge railing, traffic signal mast arm, etc.
2. Sign panel - same as for Type C signs but splice plates may be required as specified in the Standard Signs Manual.

6-4.06.04 Type OH signs

1. Support systems
 - a. Sign support - Poured concrete shaft footing(s) supporting a sign bridge or cantilever structure with a single horizontal support for attaching sign panels.
 - b. Truss type - Poured concrete spread, shaft or median barrier footings supporting a sign bridge or cantilever structure. The horizontal truss supports panel mounting posts for attaching sign panels. The horizontal truss may incorporate a walkway and sign lighting system.
 - c. Bridge Mounted - Truss system attached to a bridge which includes sign panel supports for attaching sign panels. The truss may incorporate a walkway and sign lighting system.
2. Sign panels
 - a. Sign support - sheet aluminum with direct applied retroreflective legend. The sign panel is bolted to a sign bracket assembly.
 - b. Truss Type and Bridge Mounted - bolted extruded aluminum sections covered with sheet aluminum and direct applied retroreflective legend. The sign panel is attached with post clips to the panel mounting posts.

6-4.06.05 Traffic Signal Mast Arm Signs

1. General

These signs are designed specifically to be mounted on traffic signal mast arms. Signs are limited in size due to wind loading factors considered in the design of these structures.

Figure 6.24 shows typical mast arm signing.

2. Internally lit street name signs

Mn/DOT's practice is to install sheet aluminum sign panels on traffic signal mast arms. Internally lit street name signs may be installed by a road authority. The local road authority shall be responsible for all costs of fabrication, installation, power, and maintenance. Mn/DOT may require that internally lit signs be removed and replaced with standard sheet aluminum if a major problem develops, e.g. driver distraction that causes accidents.

a. General criteria

An internally lit street name sign may be displayed on the same mast arm with sheet aluminum signs (regulatory, warning, and guide signs).

Shop drawings of internally lit street name signs shall be submitted to OTST for review and approval.

b. Sign housing

The sign housing should be either aluminum or stainless steel. All exterior hardware on the housing (hinges, hinge plates, bolts, nuts, and washers) shall be stainless steel.

There shall be a minimum of two rows of fluorescent lamps installed in each internally lit street name sign. One row of lamps will be wired for standby operation. In the event the main row of lamps fails, the second row of lamps can be activated either automatically or manually by a switching device. Ground access to manual switches should be provided.

The fluorescent lamps should be sized to provide no more than 1.5 to 2 watts per square foot of sign face.

c. Sign face

The sign face shall use translucent diamond grade retroreflective sheeting for the sign background. If the road authority has an established community-wide color scheme (green, blue, or brown) for the background color of street name signs, the background color of the internally lit street name sign may use this color. No other colors will be approved.

The sign legend may be screened or cut from translucent diamond grade retroreflective sheeting. In the event of a complete lamp outage, the retroreflectivity of this material provides a fail-safe operation.

The legend (letters and arrows) on internally lit street name signs shall be white. No border is required since the sign face is framed by the sign housing.

Standard letter sizes, series, and spacing shall be used. In the event a route marker is to be displayed, it shall be of the standard size, 24" x 24" unless mast arm loading becomes critical. In this case, an 18" x 18" route marker shall be installed.

6-4.07 Lateral Offset and Vertical Clearance Requirements

6-4.07.01 Type A Signs

See Figure 6.1 for normal lateral offsets and vertical clearances.

The typical placement for Exit signs (E5-1 and E5-1a), Merge signs (W4-1) and Added Lane sign (W4-3) is also shown on Figure 6.1.

6-4.07.02 Type C and Type D Signs

See Figure 6.2 for normal lateral offsets and vertical clearances.

6-4.07.03 Type OH Signs

1. The lateral placement of sign panels is the relationship of the sign panel to the lane. This is to ensure that the sign message will be correctly interpreted by motorists and proper lane assignment is achieved. Even a small error in placement can have a detrimental effect on traffic operation and sign message clarity.

The lateral offset of sign posts is normally 7.5 feet from the edge of shoulder or the face of curb to the center of the post. Post locations and guardrail requirements will be in accordance with the current edition of the Road Design Manual.

2. The minimum vertical clearance over the high point of the roadway or mountable curb shall be 17.33 feet.

6-4.08 Sign Installation and Maintenance Practices

6-4.08.01 Sign Installation Practice

1. Utilities and underground traffic control components

Care should be exercised in the installation of signs with respect to underground and overhead in place public service utilities. In addition, care should be taken when working around traffic control devices and communication installations such as signal system cables, signal interconnection conduit systems, surveillance cables, roadway lighting electric cables, and traffic counting cables. The Regional Traffic Management Center (RTMC) should be contacted whenever installation is planned on a freeway within the Metro Area.

Minnesota Statute 216D requires anyone who engages in any type of excavation to provide advance notice of at least 48 hours to underground facility operators who may be affected by the excavation. Excavation means an activity that moves, removes, or otherwise disturbs the soil by use of a motor, engine, hydraulic or pneumatically-powered tool, or machine-powered equipment of any kind, or by explosives.

Gopher State One-Call is a statewide one-call notification system which was established as a result of Minnesota law to inform all Minnesota underground facility operators of intended excavation. Gopher State One-Call is open 24 hours a day, seven days a week. Calls after 5:00 p.m., before 7:00 a.m., on weekends, and on holidays are accepted for emergencies only. An emergency is defined by state law as "A condition that poses a clear and immediate danger to life or health or a significant loss of property."

PHONE NUMBERS

Twin Cities Metro (651) 454-0002

In or Out State-Toll Free (800) 252-1166

WEBSITE

<http://www.gopherstateonecall.org/>

A free brochure is available and should be obtained by personnel responsible for installing sign structures in the ground.

2. Sign groupings

Traffic signs of different functional classification should not be mixed in a given sign installation.

It is not always feasible to erect signs separately in urban areas where mounting space is limited and visibility problems occur. In such cases, a sign of major importance may be placed above a relatively small sign of routine or secondary significance. However, if the design of the individual panels could mislead or confuse the motorist, this practice should be avoided.

3. Spacing of signs

General - Signs in a series must be uniformly spaced so that a driver traveling at normal speed has adequate time for the proper response (MN MUTCD, Section 1A.2). Since one of the primary objectives of traffic signing is to convey a needed message to motorists, care should be taken to provide compatible and effective sign spacing and avoid reliance strictly on minimum distances unless absolutely necessary. As a rule of thumb for guide signs, every one inch of capital letter text height is equivalent to 40 feet of legibility distance.

Rural Areas - Sign spacing in rural areas should not be less than the distance required to read each sign at the upper range of anticipated vehicle approach speeds. For minimum recommended distances between signs of different purposes on rural thru two-lane, two-way highways see Figures 6.31, 6.32, and 6.33.

Urban Areas - In urban areas with speed limits of 30 mph or less, the minimum desirable distance between signs is approximately 100 feet.

Freeways - Although conditions may exist where lesser sign spacings will be found necessary, freeway guide signs should be spaced at least 800 feet apart. A spacing of at least 400 feet should be provided between guide signs and all other types of signs on freeways.

Double Signing - If sign spacing approaches the minimum desirable distance, double signing (right and left shoulder) may be utilized. Double signing should be used if the number of traffic conflicts is high.

4. Specular glare

Care should be exercised in the placement of ground-mounted and overhead signs to reduce the problem of mirror reflection. This reflection is known as specular glare and is caused by motor vehicle headlights at night. Specular glare renders the sign useless by making the message impossible to read.

Normally signs should be mounted approximately at right angles to the direction of, and facing, the traffic that they are intended to serve.

Where mirror reflection from the sign face is encountered in such degree as to reduce legibility, the sign should be turned slightly away from the road. At curve alignments, the angle of placement should be determined by the course of approaching traffic rather than by the roadway edge at the point where the sign is located. Sign faces normally are vertical, but on grades it may be desirable to tilt the sign forward or back from the vertical to improve the viewing angle.

5. Windloading

AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (current edition), governs the design of all permanent signing installations prepared for construction contract letting. Briefly, AASHTO specifies iso-tacs and corresponding wind pressures on sign panels as follows:

All ground-mounted and overhead signs shall be designed for a 50 year mean occurrence interval, which results in 90 mph wind speeds for Minnesota.

6. A-Frame and U-Post mountings

Assuming an average distance of ten feet from the bottom of the sign panel to the ground line, the correct sign structure design and post spacing shall be determined by using Charts 6-2, 6-3, and 6-4.

To use these charts, first determine the total length of the sign panel. Then, determine the height of the sign panel or add the heights of all of the individual sign panels to be mounted on the same sign structure. Based upon these dimensions (in inches), select either Chart 6-2 or Chart 6-3, depending upon the weight of the U-posts to be used for the sign structure. After determining the correct number of riser posts to be used for the sign structure, refer to the punch codes in the Standard Signs Manual for the spacing from center to center of posts. If there is no punch code or the sign structure is unique, then refer to Chart 6-4 to determine riser post (center to center) spacing.

In lieu of using two riser posts (in accordance with Chart 6-2 or Chart 6-3) for a sign panel, one riser post may be used for any of the following conditions:

- a. Rocky soils where holes are drilled for sign posts.
- b. Concrete sidewalk or median.
- c. Protected area experiencing low wind speeds.
- d. Urban location
- e. Other locations where the placement of two riser posts is impractical.

On a sign assembly with three or more riser posts, the posts and knee braces shall be spaced at least 45 inches on centers.

Sign structures using U-posts shall be assembled according to the details shown in Figures 6.3A, 6.3B, and 6.3C. These details were designed based on crash tests conducted at Texas Transportation Institute in 1988 and 1989.

Sign bracket and details are shown in Figures 6.3D and 6.3E.

6-4.08.02 Sign Maintenance Practice

1. Recurring maintenance schedule

Each maintenance area is charged with implementing recurring sign maintenance. A recurring maintenance schedule should be developed using a maximum 12 year cycle for encapsulated lens sheeting and a 15 year cycle for VIP and DG3 sheeting (unless field performance studies coordinated by OTST staff determine otherwise). In order to monitor the performance of the retroreflective qualities of in place signs, each district should conduct periodic nighttime retroreflectivity observations. This review shall include all signs on Mn/DOT right-of-way facing traffic entering from local roads. See the Mn/DOT Maintenance Manual for those procedures.

2. Traffic sign management system

Each district is charged with developing and maintaining a field inventory in accordance with the statewide sign management system. The development of a comprehensive field record of all signs is vital to sound maintenance management practice and budgets.

3. Missing or damaged signs

Mn/DOT is responsible for replacing all damaged or missing signs, except Logo signs, on the trunk highway system. Generally, STOP, YIELD, and DO NOT ENTER signs have the highest priority for replacement. These signs warrant weekend or overtime work for repair or replacement. Other signs should be evaluated on a case by case basis to determine relative priority. However, each district should develop a procedure for dealing with reports of damaged or missing signs to assure the prompt replacement of critical signs.

6-4.09 Implementation of Signing

Each district shall decide whether signs should be installed by maintenance personnel or by contract. The following reasons usually justify the installation of signs by contract:

1. Need for breakaway supports.
2. Overhead or Type A guide sign installations.
3. Scope of work beyond capability of district forces.
4. Safety reasons.
5. Extensive need for refurbishment.

Installation of signs by maintenance personnel is generally authorized by a District Traffic Work Order (DTWO).

6-4.09.01 Work Programming

Each district shall program any work to be done by contract.

6-4.09.02 Preliminary Design

1. Work authorization

The district shall request a charge identifier.

2. Preliminary plan

The district shall prepare a preliminary signing plan for new roadway construction. The preliminary plan shall be transmitted to the OTST Signing Unit for review and comment. The district shall also transmit a copy of the plan to any involved municipalities.

6-4.09.03 Detailed Design

Standard detail sheets for signing plans can be found on the OTST website:

<http://www.dot.state.mn.us/trafficing/>

The plan format and sequence of details shall, generally, be as follows:

1. Title sheet.
2. Estimate of quantities.
3. Sign data sheets giving pertinent information for each sign.
4. Sign lighting, delineation, and traffic barrier data sheets.
5. Roadway plan sheets showing signing for mainline and interchanges.
6. Sign panel drawings for all non-standard signs.
7. Standard details.
8. Structural details.
9. Electrical details.
10. Cross sections for Type A and Type OH signs

6-4.09.04 Special Provisions

Disposition of salvaged material and specialty items shall be specified in the Special Provisions of a contract. Each district should determine if sign structures should be salvaged and re-installed.

1. The district or OTST, if requested, shall be responsible for writing the special provisions for items which are not fully covered in the Standard Specifications, including description of work, material requirements, construction requirements, method of measurement, and basis of payment. OTST may provide technical assistance.
2. Other items which shall be included in the Special Provisions are traffic provisions, time schedule, and information regarding concurrent contracts.

6-4.09.05 Cost Estimating

If requested, OTST will provide cost estimates.

6-4.09.06 Construction Activities

1. Inspection

Generally, all materials designated for use on state projects are subject to requirements covered by the Mn/DOT Standard Specifications for Construction, the plan, and the special provisions included in the contract proposal. Sampling, testing, and inspection of all materials shall be done in accordance with the provisions of Mn/DOT 1603.

2. Technical assistance

OTST shall provide technical assistance to district project personnel, as requested. Also, OTST shall inform the Project Engineer of any contacts initiated by suppliers, etc., concerning project matters.

3. Placement of signs

Type OH and Type A signs shall be located at plan stationing unless field conditions require relocation. Dimensioned elevation drawings of each sign and roadway cross section shall be included in the plan.

The importance of the positioning of overhead sign panels cannot be overemphasized. Project personnel shall notify the State Signing Engineer if panel placement is not as intended, or if the overhead sign location is to be changed.

Type A signs, excluding the exit direction sign (placed at the beginning of the deceleration taper) may be moved longitudinally up to 100 feet without generally affecting the sign system requirements.

4. Project critique

Prior to job acceptance, the district traffic engineer, project engineer, and designer should critique the project. This critique should include construction problems and improving methods or procedures, condition of materials incorporated in the project, and workmanship.

6-4.09.07 Post-Contract Activities

OTST is a source of certain information as follows:

1. District personnel often have the opportunity to observe in place signing. Apparent failures in materials should be reported to the State Signing Engineer so that field observations may be made.
2. A report of the district's recurring structural inspection procedure findings, Form 17267, shall be forwarded to OTST.
3. OTST is a source of annual quantities, unit prices, and other tabulations concerning contract signing items.

6-5.0 APPLICATION GUIDELINES-REGULATORY SIGNS

6-5.01 Purpose

Generally, the only regulatory sign applications that are discussed in this Section are those which:

1. Are not specifically addressed in the MN MUTCD.
2. Provide additional guidance to that given in the MN MUTCD on application, location, and usage of certain types of regulatory signs.
3. Establish procedures relating to engineering and traffic investigation requirements for certain regulatory signs.

6-5.02 Typical Sign Placement

The MN MUTCD, Section 2B illustrates typical positions for a number of regulatory signs.

Figures 6.4 through 6.10 show typical signing arrangements for the various intersection geometric elements encountered at divided highway intersections.

Figure 6.11 shows typical regulatory and warning signing for right-in and right-out intersection.

Figure 6.12 shows typical regulatory signing for highway intersection with a one-way street or ramp.

Appropriate signing for private and low volume entrances is the responsibility of each district. Therefore, each location needs to be reviewed on a case by case basis. This allows the flexibility to deny or install signing depending on the entrance specifics.

In order to clarify and ensure uniform application for installation and maintenance of signing at entrances with trunk highways, the following guidelines are provided:

1. Private house or farm entrance

Stop signs and/or other signing should not normally be installed. If any extraordinary condition exists, the signing shall be installed by the district in accordance with State standards. Maintenance will be performed by Mn/DOT.

2. Low volume entrance

a. If the entrance serves a single business, stop signs and/or other signing should not be installed unless a field investigation reveals that an extraordinary condition exists. If warranted, the signing shall be installed, either by the business (by permit) or by the district, in accordance with State standards. Maintenance will be performed by Mn/DOT.

b. If the entrance serves several small businesses (e.g., a small strip mall), a field investigation should be conducted to determine if a stop sign or other signing is warranted based upon high traffic volumes, restricted sight distance, crash experience, intersection geometrics, pedestrian activity, etc.

1) Signing at an entrance for existing businesses, if warranted, shall be installed, either by the business (by permit) or by the district, in accordance with State standards. Maintenance will be performed by Mn/DOT.

2) Signing at an entrance to a proposed new development, if warranted, shall be installed by the developer in accordance with State standards. Maintenance will be performed by Mn/DOT.

3. High volume entrance

Stop signs are required at each entrance. Other regulatory signs may be required depending on the highway type. A field investigation may be necessary to determine if any additional signing is warranted.

a. Signing at an entrance for an existing high volume business shall be installed either by the business (by permit) or by the district, in accordance with State standards. Maintenance will be performed by Mn/DOT.

b. Signing at an entrance to a proposed new high volume business shall be installed by the developer in accordance with State standards. Maintenance will be performed by Mn/DOT.

6-5.03 Bridge Speed and Load Restrictions

Posting requirements for bridges on trunk highways are determined by the Bridge Office.

1. BRIDGE SPEED LIMIT Sign (R2-X5)

Use and application of this sign is stated in the MN MUTCD, Section 2B.13.1. The Bridge Office shall inform the district traffic engineer when a reduced speed zone is needed on a bridge or other elevated structure based on an engineering investigation. The district traffic office shall process the Speed Limit Authorization following Mn/DOT's standard procedure and install the appropriate BRIDGE SPEED LIMIT signs.



2. Bridge Weight Limit Sign (R12-5)

Use and application of this sign is stated in the MN MUTCD, Section 2B.49.1. This sign shall be installed either on or immediately in advance of the bridge or structure that is restricted. The Bridge Office shall determine the proper weights to display on the sign and inform the district traffic engineer.



3. BRIDGE WEIGHT LIMIT Supplement Sign (R12-5 Supplement)

The BRIDGE WEIGHT LIMIT Supplement sign shall be installed well in advance of bridges or structures that are restricted. Signs should be placed at the nearest intersecting road or wide point in the road at which a vehicle can detour or turn around.

The BRIDGE plaque shall be installed above and MILE plaque shall be installed below the BRIDGE WEIGHT LIMIT (R12-5) sign.

Both plaques shall have a black legend and border on yellow retroreflectorized background.



4. WEIGHT RESTRICTION AHEAD Sign (W14-X3)

The WEIGHT RESTRICTION AHEAD sign shall be installed where it is necessary to inform drivers of vehicles that there is a weight restriction ahead.



6-5.04 Bus Shoulder Sign (R4-X7)

Authorized buses are allowed to drive on designated shoulders on freeways and expressways in the Metro District. Typical signs and locations are shown in Figure 6.16.

The SHOULDER AUTHORIZED BUSES ONLY (R4-X7) sign shall be used to designate shoulders for bus use. The BEGIN/END (R4-X7p) plaque shall be used at the beginning and end of each section.

Where the shoulder width is less than ten feet(11.5 feet on bridges) for a distance less than 1000 feet, the merge sign for buses (W14-X10) shall be installed at the beginning of this restricted width. In locations where there is insufficient shoulder width for 1000 feet or greater, the END and BEGIN plaques shall be used with the SHOULDER AUTHORIZED BUSES ONLY sign.

The WATCH FOR BUSES ON SHOULDER (W14-X9) sign shall be placed on all freeway ramps, intersecting city, township, and county roads, and high volume entrances. These signs should not be installed for low volume entrances and private drives.



**6-5.05 BYPASS LANE Sign (R4-X8)
BYPASS & TURN LANE Sign (R4-X8a)**

See Chapter 7 for striping of bypass lanes.

See Figure 6.17 for the typical signing of bypass lanes.

Bypass lanes shall be signed in accordance with the following guidelines:

1. T-intersections - the 30" x 30" BYPASS LANE sign shall be installed at the beginning of the taper of the bypass lane.
2. Four-legged intersections - the 30" x 30" BYPASS & TURN LANE sign shall be installed at the beginning of the taper of the combined bypass/turn lane.



6-5.06 DO NOT PASS Sign (R4-1)

Mn/DOT policy is to use the NO PASSING ZONE (W14-3) pennant sign (48" x 60" x 60"). This does not preclude use of the DO NOT PASS sign where it is deemed necessary based on engineering judgment.



6-5.07 Intersection Lane Control Sign (R3-8)

The Intersection Lane Control sign (R3-30AD) may be used at a four-legged intersection with a through two-lane, two-way highway, a public street, and a private driveway if the following conditions are met:

1. The left turn lane from the through trunk highway to the public street is striped, and
2. The adjacent through lane of the trunk highway also functions as a right turn lane to a private entrance. The private entrance is required to have a STOP sign for controlling traffic entering the trunk highway. The private entrance serves a private residence, commercial business, or development.



6-5.08 ONE WAY Sign (R6-1)

This section clarifies the recommended use and minimum size of ONE WAY signs (R6-1) on Mn/DOT trunk highways.



1. 36" x 12"

This is the standard size for conventional highways. The sign should be installed above 30" x 30" and 36" x 36" STOP signs and either independently or on traffic signal poles or pedestals at signalized intersections.

2. 48" x 18"

The sign should be installed:

- a. Above 36" x 36" STOP signs on all city, township, or county roads and conventional highways intersecting expressways.
- b. Above all 36" x 36" YIELD signs in medians on expressways
- c. On independent sign structures viewed by motorists crossing expressways
- d. Other locations as directed by the district traffic engineer.

**6-5.09 RIGHT LANE MUST TURN RIGHT Sign (R3-7)
LEFT LANE MUST TURN LEFT Sign (R3-7)**

RIGHT/LEFT TURN LANE signs shall be removed through attrition unless otherwise noted.

The RIGHT/LEFT LANE MUST TURN RIGHT/LEFT sign shall be installed in accordance with the following guidelines:



1. Conventional highways

- a. If the ADT is less than 2500 or the posted speed limit is 40 mph or less, the use of a RIGHT/LEFT LANE MUST TURN RIGHT/LEFT and/or lane-use pavement arrow to identify turn lanes on highways is optional.
- b. If the ADT is 2500 or greater or the posted speed limit is 45 mph or greater, all turn lanes shall be signed. If any one existing RIGHT/LEFT TURN LANE sign requires replacement, replace all turn lane signs at the intersection with the appropriate RIGHT/LEFT LANE MUST TURN RIGHT/LEFT sign.

2. Interchange exit ramps

- a. All turn lanes shall be signed unless the turn lane(s) is(are) included on an EXCLUSIVE LANE USE (R3-8) sign(s).
- b. If an exit ramp has a right turn lane signed with a RIGHT TURN LANE sign and a left turn lane signed with a LEFT TURN LANE sign, and either sign requires replacement before the end of its useful life, replace all turn lane signs on the exit ramp with RIGHT/LEFT LANE MUST TURN RIGHT/LEFT signs or EXCLUSIVE LANE USE signs.
- c. See Figures 6.18A and 6.18B for typical EXCLUSIVE LANE USE signs on ramps.

3. Expressways

- a. If the posted speed limit is 40 mph or less, the use of a RIGHT/LEFT LANE MUST TURN RIGHT/LEFT sign to identify turn lanes on highways is optional.
- b. If the posted speed limit is 45 mph or greater, sign all turn lanes based on the district sign replacement cycle. Adjoining districts should coordinate installing RIGHT/LEFT TURN LANE MUST TURN RIGHT/LEFT signs within the same time frame on those highways that cross district boundaries. If any one RIGHT/LEFT TURN LANE sign requires replacement before the end of its useful life, replace all turn lane signs at the intersection.

6-5.10 SLOWER TRAFFIC MOVE RIGHT Sign (R4-3a)

The SLOWER TRAFFIC MOVE RIGHT signs advise slower motorists to move into the right or slower lane on Interstate roadways throughout the state.



These signs were installed to educate motorists of Minnesota Statute 169.18, subd. 1 which states that vehicles should be driven on the right unless:

1. Passing another vehicle
2. The right lane is closed to traffic during road construction or repair
3. On three-lane or one-way roads.

6-5.11 Speed Zone Signing

Speed zone signs should be installed in the most advantageous locations to promote driver compliance. Speed zone signs should be installed according to the following criteria.

6-5.11.01 Speed Limit Sign (R2-1)

A Speed Limit sign shall be installed at the terminal points of each speed zone.

The first Speed Limit sign in a lower speed zone shall be one size larger than the supplemental lower speed zone signs. Supplemental Speed Limit signs may be installed at intervals approximately equal to 60 seconds of travel time at the posted speed.



Signs should be posted near junctions that are major traffic generators. Closer spacing may be used in urban areas due to numerous access points. Signs may be spaced further apart in rural areas where the character of the roadway remains constant.

6-5.11.02 Minimum Speed Limit Sign (R2-4b)

1. General

The Minimum Speed Limit sign shall be used on all freeways designated as interstates. The minimum speed limit should be 40 mph unless a traffic investigation identifies a unique traffic pattern justifying a different value. The minimum speed shall be omitted whenever there are warning signs with advisory speeds advising motorists of a value lower than the minimum. The minimum speed limit should resume after the hazard is passed.



Signs should be installed downstream of all entrance ramps. If sign spacing criteria cannot be met due to high sign density in urban areas, the Minimum Speed Limit sign should be placed at the first available location. The next smaller sign size may be used where proper lateral clearances cannot be achieved.

2. Rural interstates

On rural interstates located outside the limits of urbanized areas (population greater than 50,000 as defined by the Commissioner) the 48" x 96" Minimum Speed Limit sign shall be used. The speed limit shall be 70 mph. The spacing between signs should not exceed ten miles. Signs should be installed downstream of all entrance ramps.

3. Urban interstates

On urban interstates the 48" x 96" Minimum Speed Limit sign shall be used. The speed limit shall not exceed 70 mph. A 48" x 60" Speed Limit (R2-1) sign may be used if a traffic investigation determines that a minimum speed limit is not required.

6-5.12 STOP Sign (R1-1)

This section clarifies the recommended use and minimum size of STOP signs on Mn/DOT trunk highways.



1. Primary location

a. 30" x 30"

Install on all two-lane, two-way city, township, or county roads intersecting a conventional highway.

b. 36" x 36"

Install at the following locations:

- 1) Freeway/expressway ramps.
- 2) Conventional highways.
- 3) City, township, or county road with more than one through lane of approach to an intersection.
- 4) All two-lane, two-way county, city or township roads and conventional highways intersecting expressways

2. Additional location (left side)

Install on any road with more than one through lane of approach to an intersection based on a traffic engineering study. Justification may be based on unusual roadway geometrics, sight restrictions, or crash problems. Sign size shall not exceed the size of the STOP sign mounted on the right side of the road.

6-5.13 Two-Way Snowmobile Trail Signing

Signing of Mn/DOT permitted two-way snowmobile trails within trunk highway right-of-way, which will be the responsibility of the Department of Natural Resources, shall be in accordance with the following:



1. The 18" x 24" sign panel shall be black legend and border on white background.
2. The sign panel shall display BEGIN and END plaques (18" x 6") in black legend and border on white background above the two-way sign panel, designating the beginning and end of the two-way trail.
3. A 3" x 3" piece of yellow retroreflective sheeting shall be attached in the lower left corner on the back of the sign panel.
4. The sign post shall be on the FHWA approved listing of breakaway posts to support the sign panel at a mounting height of five feet.
5. The sign shall be installed on the right side of the trail.
6. All sheeting material shall be a minimum of ASTM Type III retroreflective sheeting.

6-5.14 VEHICLE NOISE LAWS ENFORCED Sign (R16-X13)

Large trucks use a method of braking which utilizes engine exhaust manipulation to slow the vehicle. This method, referred to as engine braking, may produce a very loud distinctive sound on a truck with a poorly muffled or un-muffled exhaust. Excessive exhaust noise may also be produced by other types of vehicles, including motorcycles.



Mn/DOT has developed the following guidelines for use of the VEHICLE NOISE LAWS ENFORCED sign to assist local law enforcement agencies in enforcing MS 169.69 MUFFLERS and MS 169.693 MOTOR VEHICLE NOISE LIMITS.

6-5.14.01 General Criteria

1. Signing may be permitted on conventional highways and on segments of expressways without interchanges. Signing will not be permitted on freeways.
2. Only one sign shall be allowed per approach to an urban or suburban area. Signs shall not be installed for isolated driveways in rural areas.
3. The sign shall be installed on an independent structure and should be one of the following sizes:
 - a. Low speed areas - 24" x 24" size
 - b. High speed areas - 36" x 42" size

NOTE:

There shall be adequate space for each sign as determined by the district traffic engineer.

4. The request for installation of a sign(s) shall be made through the community.
5. It is the responsibility of the local law enforcement agency to enforce the sign(s).
6. The district traffic engineer may require that the community pass a resolution stating that it will enforce Minnesota Statute 169.69 (MUFFLER) and Minnesota Statute 169.693 (MOTOR VEHICLE NOISE LIMITS) prior to installing the sign(s).

6-5.14.02 Fabrication and Installation Guidelines

The district traffic engineer shall determine which of the following installation methods shall be used:

1. The requesting community may fabricate and install the sign(s) with their own forces or under contract. A permit from Mn/DOT shall be required for placement of signs on trunk highway right-of-way. The location of the sign shall be determined by the district traffic engineer.

The sign panel shall be fabricated with sheet aluminum and retroreflective sheeting in accordance with Mn/DOT standards.

If a sign structure is to be located within the clear zone, it shall meet FHWA breakaway requirements.

All future maintenance of signs (knockdown, replacement, etc.) shall be the responsibility of the community.

2. Mn/DOT forces may fabricate and install the sign(s). The requesting community shall pay all fabrication and installation costs prior to the start of the work.

All future maintenance of signs will be performed by Mn/DOT forces at the expense of the community.

6-6.0 APPLICATION GUIDELINES - WARNING SIGNS

6-6.01 Purpose

The warning sign applications that are discussed in this section are those which:

1. Are not specifically addressed in the MN MUTCD.
2. Provide additional guidance to that given in the MN MUTCD on application, location, and usage of certain types of warning signs.
3. Establish practices relating to engineering and traffic investigation requirements for certain warning signs.

6-6.02 Acceleration Lane Signing (W6-X1, W6-X2, and W20-X3)

Acceleration lanes at rural unsignalized intersections shall be signed in accordance with the following (see Figure 6.19):



1. Advance warning sign shall be a LEFT/RIGHT ACCELERATION LANE sign (W6-X1) with a 1000 FEET plaque mounted below the sign.
2. The first warning sign in the acceleration lane shall be an ACCELERATION LANE ENDS sign (W6-X2) with a XX FEET plaque mounted below the sign.
3. The second sign in the acceleration lane shall be the MERGE w/Arrow sign (W20-X3) displaying the word MERGE with the appropriate left or right arrow at proper warning sign spacing distance (see MN MUTCD Table 2C-4) in advance of the beginning of the taper at the end of the lane.

6-6.03 Advance Warning Signs on Local Road Approaches (W3-1, W3-2, and W3-3)

This section details the installation and maintenance of advance warning signs on local road approaches to trunk highway intersections.



The advance warning signs are: Stop Ahead (W3-1), Yield Ahead (W3-2), and Signal Ahead (W3-3).

1. Maintenance of these advance warning signs on all local road approaches to trunk highway intersections is the responsibility of the road authority.
2. At new intersections, or at intersections where traffic control is revised by Mn/DOT, Mn/DOT will investigate the need for advance warning signs on the local road approaches and furnish and install the appropriate sign. The road authority(s) should be notified in writing of the sign installations. Maintenance of the advance warning signs become the responsibility of the road authority.

6-6.04 Advisory Exit Speed Sign (W13-2)

The Advisory Exit Speed sign advises motorists of the maximum recommended speed on a ramp.

This sign shall be installed if the maximum recommended speed on a ramp, as it exits the mainline roadway is 70 percent or less of the design speed of the mainline roadway. The exit ramp shall be signed with an Advisory Exit Speed sign located along the mainline in accordance with the MN MUTCD, see Section 2C.36.



6-6.05 BRIDGE ICES BEFORE ROAD Sign (W8-13)

On State maintained roadways, the State is not liable for losses caused by snow or ice on roadways unless the State affirmatively creates the condition on the roadways.

Minnesota Statute 3.736, subd 3(d) provides immunity for “a(ny) loss caused by snow or ice on any highway or other public place, except when the condition is affirmatively caused by the negligent acts of a state employee.”

An exception can be made if recent crash reports clearly define an unusual crash problem related to icing on a bridge. This situation is expected to occur only when a bridge is in an area of unique or unusual geometrics. If there are bridge locations which have a serious crash history related to icing, consideration should be given to correcting the situation rather than merely warning of it.

Application of these guidelines will best serve motorists by providing only those signs that are necessary to warn of an unusual situation.

Any existing warning sign for icy or frosty bridge conditions should not be replaced at the end of its useful life unless a crash problem exists, as stated above, and correction of the problem contributing to the crashes cannot be accomplished.



6-6.06 Channelized Intersections

Figures 6.20A and 6.20B indicate the signing required for channelized intersections.

6-6.07 Chevron Alignment Sign (W1-8)

The Chevron Alignment sign is a warning sign and, as with all warning signs, should be used sparingly, as excessive use will reduce its effectiveness. Generally, this sign should be used only on curves of six degrees or greater. Curves of less than six degrees are to be marked by standard delineation as covered in Chapter 7.



Variables such as approach speed, grade, super elevation, visibility, and vertical alignment affect the spacing of the signs. Chart 6-6 shows spacing of signs on various curves. Generally, the sign size is governed by the road classification (refer to Appendix C of the MN MUTCD or the Standard Signs Summary). Although the standard size for trunk highways is 18" x 24", the 24" x 30" sign may be used based on engineering judgment.

6-6.08 Controlled Burning Signs

When controlled burning on trunk highway right-of-way occurs, a CONTROLLED BURNING AHEAD sign (W14-X12) should be installed prior to the burn area at a distance in conformance with the MN MUTCD, Table 2C.4.

The SMOKE OVER ROAD sign (W14-X13) shall be installed beyond the CONTROLLED BURNING AHEAD sign to warn motorists.

Installation of a SMOKE OVER ROAD sign may require relocating the CONTROLLED BURNING AHEAD sign to allow adequate distance between the two signs.

These signs shall be made of 48" x 48" fluorescent orange retroreflective sheeting with a black legend and border. The signs should be installed on temporary stands.

In the event that a portable changeable message sign (PCMS) is to be used in conjunction with the above signing to alert motorists, the PCMS should be located at least 1000 feet ahead of the advance sign(s).



6-6.09 Crossing Signs

Non-Vehicular and Vehicular Crossing signs should only be used at locations where the condition, crossing activity, or shared use of the roadway is unexpected or where a sight restriction or other geometric constraint exists.

Advance Non-Vehicular or Vehicular Crossing signs shall be placed in accordance with the MN MUTCD, Table 2C-4.

If a crossing is to be signed, whether or not there are crosswalk markings, advance NON-VEHICULAR or VEHICULAR CROSSING signs shall be installed.

6-6.09.01 Non-Vehicular Signs

Guidance for evaluating the installation of pedestrian crosswalks can be found in Chapter 7.

Specific information for the installation of the STOP FOR PEDESTRIAN IN CROSSWALK sign (R1-X1) is the MN MUTCD.

1. Pedestrian Crossing Signs

Specific information for the installation of disabled or senior citizen signing is in the MN MUTCD, Appendix B.

Typical examples where special treatment should be considered include isolated intersections where there are heavy pedestrian volumes, pedestrian crossings where approach visibility is poor, and at mid-block crossings.

Special treatment is not usually required at normal intersections within municipalities, or at rural intersections.

See Figure 6.21 for typical placement of a Pedestrian Crossing sign (W11-2) at an intersection. In urban areas, the distance for the advance crossing sign may be less where lateral clearance is limited or where inadequate sign spacing exists.

The In-Street Pedestrian Crossing Sign (R1-6b) may be used to remind road users of the state law that requires the driver of a vehicle to stop and yield the right of way to a pedestrian crossing the roadway within a marked or unmarked crosswalk.

Guidelines for installation of In-Street Pedestrian Crossing signs on state highways are as follows:

- a. The sign shall be installed only by permit through Mn/DOT district offices.
- b. The sign shall only be used in 35 mph or lower speed zones.
- c. Only one sign structure shall be used per approach near marked crosswalks.
- d. The sign shall not be used at intersections controlled by traffic control signals or on approaches controlled by STOP signs.
- e. The sign should only be used at key locations, such as high volume pedestrian crosswalks, to avoid overuse.
- f. The sign shall only be used as an in-street sign, not on the outside shoulder or parking lane. When installed, the sign shall not impede or obstruct any traffic movement including through or turning movements.
- g. When the sign is used at, or in advance of, a school crossing to supplement ground mounted school warning signs, the sign shall include the SCHOOL plaque.
- h. The STOP FOR legend shall be used as Minnesota state law specifically requires that a driver must stop for a pedestrian in a crosswalk.
- i. The sign shall have a black legend and border on white and fluorescent yellow-green background and shall have the same dimensions shown on Standard Sign Number R1-6b.
- j. The sign shall have the same sign message on both sides or a retroreflective strip mounted on the backside the same color as the centerline or lane line. To avoid driver confusion, back-to-back signs should only be used on two-lane two-way roadways. See the MN MUTCD, Figure 2B-2.

- k. The device shall meet the crashworthiness requirements of NCHRP Report 350.
 - l. The maximum mounting height shall be two feet to the bottom of the sign panel.
 - m. The sign may be used seasonally to prevent damage in winter due to plowing operations, and may be removed at night if pedestrian activity is minimal.
2. TRAIL CROSSING Sign (W11-X7)

A TRAIL CROSSING sign should only be installed for officially designated trails which cross the highway and are not continuously visible for a distance of 850 feet from the crossing. To determine if the visibility distance is adequate, use the sight restriction determination procedure under 6-6.05.02 Vehicle Crossing Signs.



3. Deer Crossing Sign (W11-3)

Mn/DOT policy is to not install Deer Crossing signs. In place signs shall be removed through attrition.



6-6.09.02 Vehicle Crossing Signs

1. Sight restriction determination

To determine whether or not a sight restriction exists for a crossing that can not be relocated, the following procedure may be used.

Temporarily place a traffic cone (28 inches tall) at the crossing. Using a vehicle or measuring device move to a point 850 feet in advance of the cone. If the cone is not continuously visible for the observer (at eye height of 3.5 feet above the pavement) then a sign shall be installed in accordance with MN MUTCD Table 2C-4.

If the crossing is located on a long, continuous downgrade, consult the Mn/DOT Road Design Manual, Table 2-5.09B. Based on engineering judgment, the distance obtained from Table 2-5.09B may be added to the standard 850 foot distance. The observation shall then be made from this distance to determine if a sign needs to be installed.

2. Snowmobile Crossing Sign (W11-6)

In addition to the criteria for installing Vehicle Crossing signs, engineering judgment may be used to install signs for crossings based on unique trail geometric conditions, such as deep ditches, steep inslopes, narrow shoulders, or at locations where MS 84.87, subd 1 b (6) permits snowmobiles to be operated on highway bridges (other than part of the main traveled lanes of interstate highways) when no other method of avoidance is possible.



If an established crossing meeting the guidelines for signing remains in the same location for several years, the district may consider installing warning signs with diagonal down arrows at the crossing.

Snowmobile Crossing signs should NOT be removed in the spring and reinstalled in the fall due to variations in the length of the snowmobiling season from year to year.

Do not sign all crossings since many Grant in Aid trail crossings move annually (some by as little as 100 feet).

If a snowmobile trail crossing is a multi-use trail and the criteria for sign installation are met, TRAIL CROSSING signs shall be used instead of Snowmobile Crossing signs.

6-6.09.03 Down Arrow Plaque (W16-7mp)

If a NON-VEHICULAR or VEHICULAR CROSSING sign is placed at a crossing, the supplemental DOWN ARROW plaque shall be installed below the crossing sign whether or not there are crosswalk markings at the crossing.



6-6.10 EVENT CONGESTION AHEAD Sign (W14-X11)

The EVENT CONGESTION AHEAD sign is a temporary sign that should be installed one hour before the event begins and removed each day after the event has ended. The 36" x 36" sign panel shall be used in urban, low speed areas. The 48" x 48" sign panel shall be used in rural, high speed areas. The sign shall have a black legend and border on an orange background.



Fabrication and installation shall be done by local authorities.

In addition, NO PARKING signs may be considered. If local road authorities decide to use them, the NO PARKING signs may be non-retroreflective since they are temporary, less expensive than retroreflective aluminum signs, and accomplish the same purpose.

6-6.11 Low Clearance Sign (W12-2)

According to MS 169.81, subd. 1, no vehicle loaded or unloaded shall exceed 13 feet 6 inches in height except double-deck buses with written authority from the Commissioner of Transportation. The LOW CLEARANCE sign shall be installed to warn drivers that the clearance is less than the maximum clearance allowed plus one foot or 14 feet, 6 inches.



All structures with a clearance less than 14 feet 6 inches shall be signed. An additional 3-inch allowance for frost action should be reflected in the signing.

Periodic checking of clearances needs to be done on bridges and other structures, especially when the roadway has been resurfaced.

6-6.12 No Passing Zones

6-6.12.01 NO PASSING ZONE Sign (W14-3)

NO PASSING ZONE signs used on conventional highways shall be 48" x 60" x 60".

The purpose of this larger size on conventional highways is to provide added visibility of the sign for motorists.



6-6.12.02 Terminal Marker Posts

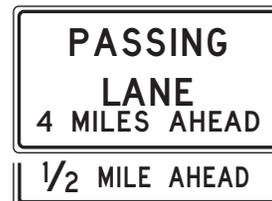
A yellow post may be used to mark each terminal end of a No Passing Zone. A yellow 360 degree visibility enhancer (or equivalent) shall be mounted on the top of each marker post.

A 3-1/2" x 2" sticker stating "Mn/DOT NO PASSING ZONE TERMINAL MARKER" shall be installed near the top of each visibility enhancer so that the sticker is visible from the roadway. The stickers are available from the state sign shop in Oakdale.

6-6.13 Passing Lane Sections

6-6.13.01 Advance Passing Lane Sign (R4-X6)

The Advance Passing Lane sign should be used to notify and prepare drivers of the upcoming passing opportunity so that they can make effective use of the passing lane. One sign should be placed 1/2 mile upstream and additional advance signs are desirable 2-5 miles in advance of a passing section.



6-6.13.02 SLOWER TRAFFIC KEEP RIGHT Sign (R4-3)

The SLOWER TRAFFIC KEEP RIGHT sign should be placed at the beginning of the lane addition.



6-6.13.03 LEFT/RIGHT LANE ENDS Sign (W9-1) and LANE ENDS MERGE RIGHT/LEFT Sign (W9-2)

Signs should be placed in advance of the lane drop transition area as shown on Figure 6.22A.

Figure 6.22A shows signing for typical passing lane sections. Figure 6.22B shows signing for a passing lane section ending near a low volume crossroad.



6-6.14 SCHOOL BUS STOP AHEAD Sign (S3-1)

Criteria for the use of the SCHOOL BUS STOP AHEAD sign are specified in the MN MUTCD, Part 7 - Traffic Controls for School Areas, Section 7B.10.



The district traffic offices should maintain an inventory of existing signs.

The district traffic offices should regularly contact each school district to determine whether students are still picked up by a bus at locations presently signed, to determine if any new locations need signs, and if any locations may present unusual safety problems for students. This contact will result in a more consistent application of SCHOOL BUS STOP AHEAD signs and ensure that the signs provide the intended level of safety.

6-6.15 SHOULDER NARROWS Sign (W5-X1) NO SHOULDER Sign (W21-X1)

The SHOULDER NARROWS sign (W5-X1) and the NO SHOULDER sign (W21-X1) are suitable for certain rural high-speed locations (posted at 45 mph or greater) that have an abrupt change in the right side shoulder width.



At high-speed locations where the right side shoulder width abruptly reduces by at least three feet and results in a useable width of less than six feet, a SHOULDER NARROWS sign may be installed.

A NO SHOULDER sign may be installed at rural, high speed locations where the right side shoulder width abruptly reduces from a width of three feet or greater to a width of less than one foot.

Examples of how to apply this guideline:

1. If a vehicle on a through roadway is not required to stop at an intersection and the right side shoulder width is narrower (as described above) on the downstream side of the intersecting road, a SHOULDER NARROWS or NO SHOULDER sign may be installed.
2. If a vehicle is required to stop at an intersection and the right side shoulder width is narrower (as described above) on the downstream side of the intersecting road, a SHOULDER NARROWS or NO SHOULDER sign should not be installed.
3. If a shoulder width is narrower on the downstream side of a bridge than on the approach side, and that reduction meets the criteria set forth in the above guidelines, a SHOULDER NARROWS sign may be installed.

These guidelines do not apply where auxiliary lanes are present.

6-6.16 Speed Reduction Sign (W3-5)

The Speed Reduction sign shall be used if the reduction in speed limits between two zones is 15 mph or greater. This sign may be used if the difference between two zones is 10 mph or less, based on engineering judgment.

The Speed Reduction sign shall be 48" X 48".

The Speed Reduction sign shall be installed at least 1000 feet in advance of the first speed limit sign.

The sign may be installed up to 1700 feet in advance of the speed zone if geometrics, grade, or sign clutter may impact the motorist's ability to reduce speed.

A two-line Distance (W20-100p) plaque may be installed on the left post directly below the speed reduction sign at the option of the district traffic engineer.

In place speed reduction signs (R2-5a, R2-5b, and R2-X1) shall be replaced through attrition.



6-6.17 Truck Hauling Signs

6-6.17.01 Sugar Beet Piling Station Signs

When a site is open to commercial trucks, the TRUCKS ENTERING sign (W11-X3) and the Slippery When Wet sign (W8-5) should be used on each approach to the access.

Both signs shall be: 48" x 48", provided by the requester and delivered to Mn/DOT for installation and maintenance.

If requested, a flasher may be installed above the TRUCKS ENTERING sign under Mn/DOT's permit process.

When the site is in operation, the signs shall be opened and closed by the requester.

Changeable message signs shall not be used.



6-6.17.02 *Corn and Other Harvest, Gravel Pits, and Logging Operations*

The MN MUTCD Section 2C.40 provides guidance on the use of permanent and seasonal VEHICULAR TRAFFIC signs.

6-6.18 Typical Signing for Transitions Between Divided Highway Section and Two-Lane, Two-Way Sections

Figure 6.23 indicates signing for transitions between divided highways and two-lane, two-way highways.

6-7.0 APPLICATION GUIDELINES - GUIDE SIGNING

6-7.01 Purpose

Generally, the only guide sign applications that are discussed in this section are those which:

1. Are not specifically addressed in the MN MUTCD.
2. Provide additional guidance to that given in the MN MUTCD on application, location, and usage of certain types of guide signs.
3. Must be addressed because Mn/DOT is charged with developing and implementing design, use, and application of certain guide signs in accordance with Minnesota Statutes.

Typical signing for expressway intersections is found in Figure 6.25.

The following typical layouts show the signing for freeway/expressway interchanges:

1. Diamond interchange on crossroad (Figures 6.26 and 6.27).
2. Folded diamond interchange on crossroad (Figure 6.28).
3. Cloverleaf interchange on crossroad (Figure 6.29).

6-7.02 Freeways

6-7.02.01 Primary Guide Signing

Rural exits shall be identified by the route number of the U.S., State, or County highway intersected as well as the exit number on interstate highways. Criteria for selecting destinations may be found in Section 6-7.03 (destination signs).

Urban and suburban exits intersecting with local street and road systems, shown on available area maps, shall be identified by route number, street name, and exit number if the interchange is on an interstate highway.

Cardinal directions should be displayed on freeway guide signs, in particular at cloverleaf interchanges (where the intersected highway either begins or ends at the interchange) and at interchanges with collector distributor roads (e.g. I-94 at I-494/I-694) or with a single exit splitting to serve both movements to the crossroad (e.g. I-494 at I-35E).

6 7.02.02 Supplemental Guide Signing

The installation of supplemental guide signing should be strictly controlled in areas with closely spaced interchanges due to the many demands on the motorist to make major decisions and the large number of requests from generators of high traffic volumes. Supplemental guide signs shall not interfere with primary guide signing and sign spacing criteria shall be met. In no case shall signs directing motorists to secondary or supplemental destinations be installed at interchanges of two or more freeways.

If qualified, supplemental guide signs may be provided for the following:

1. Geographical features, such as county lines, incorporated city limits, major river and stream crossings, highways and streets crossed by the freeway, and similar features which provide orientation for the driver.
2. A city in each direction along the intersected route (see Section 6-7.03 for city criteria).
3. National parks.
4. National monuments.
5. Major state parks which are a no more than distance of 15 miles from the freeway and have water, toilets, campsites, picnic areas, and accommodations for 35 overnight camp sites.
6. Airports (see Section 6-7.09.06).
7. Educational Institutions (see Section 6-7.09.08).
8. Major traffic generators (see Section 6.7.07.07).
9. General motorist services (see Section 6-7.09.03).
10. LOGO sign franchise program (see Section 6-7.09.09).

6-7.02.03 Auxiliary Lane Signing

This section outlines uniform signing standards for auxiliary lanes on freeways, with and without escape lanes.

The following layouts should be used in the appropriate situation.

1. Auxiliary lane less than 1/2 mile in length, without escape lane (See Figure 6.30A).
2. Auxiliary lane less than 1/2 mile in length, with escape lane (See Figure 6.30B).
3. Auxiliary lane 1/2 mile in length or greater, without escape lane (See Figure 6.30C).
4. Auxiliary lane 1/2 mile in length or greater, with escape lane (See Figure 6.30D).

6-7.03 Signing Destinations

Mn/DOT shall fabricate, install, and maintain destination and distance signs on trunk highways.

In general, Mn/DOT shall pay for the maintenance of signs. However, if a city, meeting the criteria in this section, requests to be added to an existing sign displaying less than three cities/destinations, the city shall pay for design, fabrication, and installation of the signs unless the existing sign is due for replacement. If the existing sign is due for replacement, the city name may be added at Mn/DOT's expense.



1. Signing Destinations - At-grade intersections

MN MUTCD Sections 2D.34 and 2D.35 establish guidelines for destination signs at at-grade intersections.

The following criteria also apply:

- a. Only one destination sign is permitted from the closest state highway on each approach to an intersection.
- b. The destination shown for each direction should ordinarily be the next county seat or the next principal city, rather than a more distant destination.
- c. Destination cities should be used which will be most meaningful to the motorist unfamiliar with the area. Lakes and rivers shall not be used as destinations.
- d. Normally only one destination per route or direction should be identified. Not more than three city names should be on a sign. A few exceptions have been made where multiple routes intersect at junctions. Arrangement of arrows on a sign panel shall be consistent with the MN MUTCD.

- e. Destinations shall be located on the intersected numbered highway. The destination selected for each route, in order of preference, should be:
 - 1) The county seat, if it is not too distant.
 - 2) The first city located at an important junction.
 - 3) The first large city, taking into account the size of cities in the general area.
 - 4) The next important junction.
 - 5) In rare instances, a major state or national park or other significant geographical site or traffic generator may be considered.
 - f. The following guidelines shall be met for a city to be added to an existing destination sign:
 - 1) The existing sign displays less than three cities/destinations.
 - 2) The city shall meet the selection criteria in a-e.
2. Signing Destinations - Freeways and interchanges on expressways.

MN MUTCD, Section 2E.12 provides guidance for destination signs on freeways. The following criteria also apply:

a. Rural

One or two destinations identifying the interchange may be included on primary guide signing for rural interchanges, based on the following criteria:

- 1) Where the intersecting road is a U.S. or State highway, the destinations shown shall usually be the first city in each direction which is a county seat or is located at a junction with another major highway, unless another city better identifies the interchange to the majority of travelers.
- 2) At interchanges with county or secondary roads, the destination shown shall usually be the nearest city in each direction. Cities identified on guide signs shall appear on the official Minnesota Highway Map. In the absence of such a city, a geographical area or other significant public land use may be shown.

In rural areas, one supplemental guide sign naming cities that did not qualify for display on the primary guide signing may be placed in each direction.

A city in each direction along the intersected route may be signed in accordance with the following:

- 1) The city(ies) shall be required to pay all of the signing costs (if new signs are installed or existing signs are modified or replaced) if the request is approved prior to the normal replacement of the existing signing.
- 2) The city(ies) shall not be required to pay for signing if the approved signing can be included in conjunction with the replacement of existing signing through attrition.

In both of the above cases, the maintenance of requested signing shall be performed by Mn/DOT at no cost to the city(ies).

b. Urban-Suburban

At interchanges having more than one exit to the intersecting highway, names of cities may be included only if they clearly aid in orienting the majority of the drivers.

Supplemental guide signs shall not be provided for suburban cities served by roads and streets within the metropolitan grid system in urban-suburban areas.

c. Adjacent Land Uses

The names of adjacent land uses such as airports may be shown if the exit has been provided specifically to serve that land use. These destinations may be signed only when they cannot be related to the street or road identified at the exit.

3. Distance signing

A distance sign indicates how far it is from the sign location to the center of the next city, geographical site, or important junction.

MN MUTCD Sections 2D.36 and 2D.37 establish guidelines to follow in selecting city names or other traffic generators, and in locating distance signs on conventional highways. Only one distance sign is permitted on each conventional highway leaving an intersection, municipality, or interchange.

MN MUTCD Section 2E.36 provides guidelines for distance signs on freeways.

City name selection shall be in accordance with the following guidelines:

- a. The first city along the route.
- b. The first county seat, route number of an intersecting conventional highway, or a significant geographical site or generator.
- c. The next major destination or control city.

The following guidelines must be met for a city to be added to an existing destination sign:

- a. The existing sign displays less than three cities/destinations.
- b. The city shall pay for all sign replacement costs if the request is made prior to the sign requiring replacement.
- c. The city shall meet the selection criteria as previously listed.

The city name may be added to a sign, at Mn/DOT's expense, at the time the existing sign is due for replacement.

6-7.04 Typical Junction Signing Layouts

The following typical sign installations should be used as guidelines in establishing sign locations and distances between signs at junctions. The final decision shall be made by the district traffic engineer based on individual intersection geometrics and sound engineering judgment.

- 1. T-intersection (two-lane, two-way) (See Figure 6.31).
- 2. T-intersection (two-lane, two-way with four-lane divided) (See Figure 6.25).
- 3. Typical four-leg intersection (See Figure 6.32).
- 4. Typical intersection with county road (See Figure 6.33).
- 5. Typical rural single lane roundabout intersection (See Figure 6.34).

6-7.05 Independent Route Marker Assemblies

Independent route markers used on junction and directional sign assemblies shall follow the MN MUTCD Section 2D.27 and shall be 24" x 24", except for 3-digits on M1-1 signs which shall be 30" x 24" for both urban and rural applications on conventional highways.

MN MUTCD Section 2E provides guidance for expressways and freeways. Independent route markers shall be 36" x 36" except for 3-digits on M1-1 signs which shall be 45" x 36".

In general, the color of the route marker auxiliaries shall match the color of the route marker it supplements (see MN MUTCD, Section 2D.12). For example, white on blue auxiliaries shall be used to supplement the Interstate and Minnesota route markers and black on white auxiliaries shall be used to supplement U.S. route markers.



It sometimes becomes necessary to include two different color route markers on the same structure. When this happens the auxiliaries may not always match the color combinations of both route markers. To avoid this, route markers should be installed on separate structures whenever possible. When this is not possible the following guideline should be used to determine the color of the route marker auxiliaries:

1. When two or more route markers must be mounted vertically on a single structure, the auxiliaries shall match the color of the route marker which takes precedence.
2. The order of precedence is Interstate, U.S., State, county, township, and then other routes.

This guideline applies to all route marker assemblies installed on trunk highways and to mark any detours of trunk highways.

6-7.05.01 County Pentagon Route Markers

The pentagon shaped Uniform County Route Marker (M1-6) is an alternate to the standard County Route Marker (M1-X4) in Minnesota.

Upon request by a county, each Mn/DOT district may elect to upgrade its county junction assemblies on state highways to include pentagon route markers at those county roads where they are being used. If the district decides to do this, pentagon route markers may be installed as a part of the normal sign replacement cycle.



Mn/DOT shall fabricate pentagon route markers using the same retroreflective materials used for all route markers on the conventional highway system and meeting the colors as stated in the MN MUTCD, Section 2D.11.

6-7.06 Named Road, Street, and 911 Road Name Signs

This section is based on Chapter 2D, Guide Signs Conventional Roads (see Sections 2D.2 and 2D.38) of the MN MUTCD.

Road name or street signs shall be white legend on green background and fully retroreflectorized in accordance with current Mn/DOT requirements.



Street name signs are typically installed on a sign structure which must conform to FHWA breakaway requirements based on the current edition of the AASHTO Standard Specifications for Highway Signs, Luminaires and Traffic Signals.

6-7.06.01 General Criteria

Signing for named roads will be provided, at the request of the road authority, on the basis of all of the following conditions:

1. The appropriate local government having jurisdiction over the road shall officially designate a name for the road.
2. An official road name may include the word lake, beach, or some other geographic point if the road serves only one such item. Otherwise, such word usage should be discouraged.
3. Combination names which attempt to incorporate multiple identifications are confusing and shall not be used.
4. Signing for names which identify a specific business or establishment, in order to identify roads which lead to specific establishments or special commercial or private interest facilities, should be discouraged. Generic names are permissible.
5. If the official road name is changed by the road authority prior to the sign requiring replacement, the requester will be responsible for all sign replacement costs. However, the road name may be changed at Mn/DOT's expense at the time the original sign would normally be replaced.
6. The use of first and last names of individuals shall be discouraged.

6-7.06.02 Urban Areas

Urban street name signs, such as the small slat versions mounted at intersection corners, are to be furnished and installed by the appropriate city.

Advance arterial and major street name signs (including mast arm mounted signs) on conventional highways in urban areas will be provided by Mn/DOT, as needed, to fulfill basic guide signing responsibilities.

If street name signs are to be installed in an urban area (business, commercial, or residential district) where parking or pedestrian movement is likely to occur or where there are other obstructions to view, the clearance to the bottom of the sign panel shall be at least 7 feet in accordance with MN MUTCD Section 2A.18.

Lateral offset should be at least two feet from the face of curb in accordance with MN MUTCD Section 2A.19.

6-7.06.03 Rural Areas

When the trunk highway intersects a public road, appropriate identification of that public road will be provided on conventional roads and expressways with at grade intersections by Mn/DOT (see Figures 6.33 and 6.35), based on all of the following conditions:

1. When so requested by the local governing body, Mn/DOT will furnish and install route marker assemblies on the trunk highway, provided that the intersecting local road is numbered and marked with route markers. Route marker assemblies shall be in accordance with the MN MUTCD. Identification by number only should be encouraged whenever possible.
2. When a numbered public road is also known by an officially designated name, both types of identification may be used on a sign.
3. For road name signs, all initial signing costs, including overhead factors and installation by Mn/DOT, shall be paid by the road authority requesting the signing, at the current rate per square foot of sign, as established by Mn/DOT. Mn/DOT will maintain road name signs at its own expense.

6-7.06.04 Street Name Signs Above Stop Signs

Small street name signs may be installed above Mn/DOT maintained STOP signs at the discretion of the district traffic office:



Criteria for installation shall be based on all of the following conditions:

1. No street name signs are allowed if there are any other signs, such as a ONE WAY sign, in place on the STOP sign structure.
2. The street name sign assembly shall be mounted six inches above the STOP sign.
3. Street name signs shall be double faced and fabricated with retroreflective sheeting on extruded or flat aluminum blades.
4. The signs shall be fully retroreflectorized and have white legend and border on green background.
5. The sign panel size should be 9 inches by a variable length (maximum 36 inches) with 6-inch upper case and 4-1/2 inch lower case letters Series B, C, D, or E.
6. The street name sign assemblies shall be constructed so that the name plate cannot be turned.
7. Not more than three slats (six-way installation) shall be permitted above any one STOP sign.

6-7.06.05 911 Emergency Telephone System Street Name Signs

All of the following criteria should be used for fabricating and installing road name signing for the 911 Emergency Telephone System:



1. The local governing body is responsible for naming the road.
2. Once named, the local governing body shall have street name signs fabricated. Lettering should be a minimum of six inches high (in accordance with the MN MUTCD, Section 2D.38). The sign shall be fully retroreflectorized and should have white legend and border on green background to provide the best target value both day and night.
3. The local governing body shall install the street name signs, under the Mn/DOT permit process, if the street name signs are to be installed on Mn/DOT right of way. Installation of signs shall not obstruct or interfere with existing traffic control devices. The physical location of the signs should be in accordance with the MN MUTCD, Section 2D.38. This would provide placement of the signs, on their own sign structure, "...at least on diagonally opposite corners of the intersection. Signs naming both streets should be installed at each intersection. They should be mounted with their faces parallel to the streets they name."
4. The signs shall be mounted at a height of five feet measured vertically from the near edge of the pavement to the bottom of the sign panel(s) in accordance with MN MUTCD Section 2A.18. In addition the sign panel(s) shall meet the following mounting heights (measured perpendicular from the ground line) to satisfy FHWA breakaway requirements:
 - a. 7 feet minimum from the ground line to the bottom of the sign panel(s).
 - b. 9 feet minimum from the ground line to the nearest top corner of the top sign panel.

The preferred lateral offset to the street name signs is 30 feet or greater from the roadway (near the right-of-way line if practical). The minimum lateral offset should be at least 12 feet from the edge of the shoulder. Unique locations should be reviewed with the district traffic office.

The street name signs are typically installed on a single post sign structure which shall conform to FHWA breakaway requirements based on the current edition of the AASHTO Standard Specifications for Highway Signs, Luminaires, and Traffic Signals.

5. Guidelines for handling conflicts between names of existing road names and 911 Emergency Telephone System Street Name signs:
 - a. Remove any existing advance road name signs that conflict with 911 Emergency Telephone System Street Name signs.
 - b. Replace the removed advance road name signs with new signs on the following basis:
 - 1) Upon the request of the road authority, Mn/DOT shall fabricate and install new advance road name signs containing the correct name displayed on the new 911 sign at Mn/DOT's expense if the removed advance road name signs are near the end of their useful life.
 - 2) If the road authority requests new advance road name signs and can pay for their fabrication and installation, Mn/DOT will install the new signs if the existing road name signs are removed before the end of their useful life.
 - 3) If the road authority requests new advance road name signs and can not pay for their fabrication and installation, Mn/DOT will schedule the replacement based on road authority priority and the availability of Mn/DOT funds if the existing road name signs are removed before the end of their useful life.
 - 4) If the road authority does not request new advance road name signs, new signs shall not be installed.

6-7.07 Boundary Signs

There is a need to provide certain boundary signs to give orientation and guidance to the motorist. Details on sign design for common boundary signs used on the trunk highway system are found in the Mn/DOT Standard Signs Manual.

6-7.07.01 City Name Sign (I2-3)

City Name signs should be installed only for communities identified on the official Minnesota Highway Map and/or official county highway maps. Signs should normally be installed at the actual corporate boundary, subject to the following guidelines:



1. Urban areas

Signs should be installed at or near the corporate limits on all trunk highways.

2. Rural areas

Signs should be installed at or near the corporate limits on all trunk highways, excluding interstate highways. On interstate highways, the following criteria apply:

- a. If the corporate limits of a community are crossed by the interstate highway, and there is no interchange serving the community, install the sign on the interstate highway at the corporate limit crossings.
- b. If the corporate limits of a community are crossed by the interstate highway, and an interchange directly serves the community and the community is not identified on either the major interchange guide signs or on a supplemental guide sign, install the sign on the interstate highway at the corporate limit crossings.
- c. If the corporate limits of a community are crossed by the interstate highway, and an interchange directly serves the community and the community is identified on either the major interchange guide signs or on a supplemental guide sign, do not install the sign on the interstate highway.

Where proper city names have two words, it may be desirable to arrange the name on two lines rather than one, especially when the words are long. City names shall not be abbreviated.

All city name signs shall include the population figure. The figure used shall be that of the last official Federal or State census. Population figures are changed only after an official census. If a community decides that it does not want the population included on this sign, Mn/DOT will cover this legend.

An exception to the above applies to unincorporated communities which warrant city name signs, but for which population counts are not available. The sign installed at these locations shall carry only the community name.

Occasionally municipalities attach certain unauthorized sign panels, (e.g. Green River Ordinance Enforced, Radar Patrolled, etc.) beneath the CITY NAME sign on approaches to the municipality. These attachments, dealing with regulatory and enforcement issues, are not appropriate. The only attachments to signs on the trunk highway system are those allowed under Community Recognition Signs. Extraneous and unauthorized sign panels should be removed and no such attachments permitted on any signs on the trunk highway system.

6-7.07.02 Community Identification Sign

Criteria for these signs, which are allowed outside the trunk highway right-of-way, are specified in MS 173.08 subd. 1 (10).

This signing program is administered by the district offices under the direction of the Office of Technical Support.



6-7.07.03 Community Recognition Signing Program

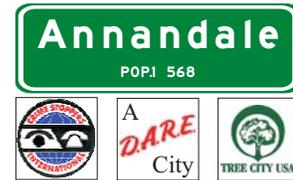
The Community Recognition Sign Program allows communities to express their own identity. Permitting the displaying of sign panels allows the community to pick what is locally important to their community for installation on trunk highway rights-of-way.

Community Recognition Sign panels shall not be installed on Interstate freeways statewide, or on freeways and expressways in the Metro District.

The Community Recognition sign panels shall be initiated and coordinated by the community.

Political or commercial advertising will not be allowed on sign panels.

The sign panel designs shall be approved by the district traffic engineer.



1. Examples of permitted sign panels:

- a. Non-profit service organizations.
- b. Special programs, either permanent or temporary; e.g. DARE, Tree City, Storm Ready City, Fit City, and Sister City.
- c. City logo.
- d. City recognition slogans; e.g. State Baseball Champions.
- e. Drinking Water Protection Area sign panel.

2. Costs

- a. Community Recognition Sign panels shall be fabricated, installed, and maintained by the community under the Mn/DOT permit process.
- b. If more than two Community Recognition Sign panels are to be installed by the community on an existing sign structure, the community shall pay an up-front charge of \$200 to Mn/DOT for reimbursement of costs incurred by state forces to:
 - 1) Raise the existing CITY NAME sign panel or the STAR CITY sign panel as required to meet the nine foot clearance from the ground.
 - 2) Modify the U-channel sign structure to include knee braces if necessary in order to meet breakaway and wind loading requirements.
 - 3) Furnish and install a horizontal stringer for the mounting of Community Recognition Signs.

3. Sign Format

The sign panel background, or the predominant color, may be any color except red or orange.

The message on a sign panel shall not simulate a traffic control device or contain directional sign messages or advertising for a commercial product or service.

The sign panels may be made of either retroreflective or non-retroreflective sheeting. If made of retroreflective sheeting, they shall be no more retroreflective than High Intensity Sheeting. Fluorescent materials shall not be used on sign panels.

The sign base material shall be sheet aluminum or other material approved by Mn/DOT. See Minnesota Standard Specifications for Construction, 3352.2A1b.

Any combination of sign panels may be allowed up to a total of 72" in length by 24" in height having a total square footage not to exceed 12 square feet. These panels shall be installed horizontally either below the CITY NAME sign panel or below an existing STAR CITY sign panel if it is mounted on its own structure.

4. Installation Guidelines

The attachment of Community Recognition Sign panels to horizontal stringers or sign posts shall be as shown in Figure 6.36, Sign Panel Attachment Detail and as follows:

- a. More than two Community Recognition Sign panels shall be installed on horizontal stringers (installed by Mn/DOT forces) by the community as shown in Figure 6.36, Sign Panel Attachment Detail.
- b. If less than three Community Recognition Sign panels are to be installed on an existing sign structure, they shall be installed by the community in accordance with the following:
 - 1) If only one Community Recognition Sign panel is to be installed, it should be attached to the sign post farthest from the roadway.
 - 2) If two Community Recognition Sign panels of the same size (24" x 24") are to be installed, they shall be centered horizontally on each existing sign post.
 - 3) If two Community Recognition Sign panels of different heights are to be attached to the sign posts, and the existing sign structure is located on the inslope, the sign panels should be mounted as shown in Figure 6.36. The shortest sign panel shall be attached to the sign post nearest the roadway and the tallest sign panel attached to the other sign post. This will provide the maximum clearance from the ground line to each sign panel.
 - 4) If two Community Recognition Sign Panels of different heights are to be attached to the sign posts, and the existing sign structure is located on the back slope, the shortest sign panel should be attached to the sign post farthest from the roadway.
 - 5) If a sign panel is greater than 24 inches and less than or equal to 30 inches in height, it shall be attached to the sign post furthest from the roadway. When the existing sign structure is located on the backslope, this sign panel shall be attached to the sign post nearest to the roadway. In place sign panels less than 24 inches in height shall be relocated to another sign post to make room for the new, larger sign panel.
 - 6) Only one sign panel greater than 24 inches and less than or equal to 30 inches is allowed for each sign structure. If there is a desire to install a new sign panel of this size and there is a sign panel of this size in place on the sign structure, the city shall decide which of the two sign panels shall be attached to the sign structure.

Mn/DOT Traffic Services employees should check any Community Recognition Sign panel(s) for proper attachment hardware (see Figure 6.36). If an improper mounting procedure or hardware has been used, Mn/DOT will reinstall the sign panels with the correct hardware.

The replacement cycle (end of useful life) of the sign panels will be determined by each Mn/DOT district office.

6-7.07.04 County Name Sign (I2-5)

COUNTY NAME sign shall be installed at all county line boundaries on the trunk highway system. When the county line is also at a river or municipal boundary, the sign should include both entities.

County Land Use Zoning signs shall not be installed or retained on trunk highways, either individually or as part of a sign assembly.

Extraneous sign panels shall not be installed on this structure.



6-7.07.05 Drainage Divide Sign

The Minnesota map displays drainage area divides. It shows the four major drainage divides for Hudson Bay, the Mississippi River, Lake Superior and the Missouri River crossing approximately fifty state highways. Nine highways are crossed at least twice by a drainage divide.

Drainage divides in Minnesota are not obvious to motorists and are not geographically distinct features, nor is their identification of interest, significance, or benefit to the majority of motorists.

Drainage divides shall not be signed on any trunk highways.

Drainage divide identification signs may be installed within a rest area or wayside parking area established at the site to accommodate vehicles off the roadway.

Site viewing, explanatory signs, and trails as needed shall be located completely off the roadway and shoulder areas.

Existing drainage divide identification signs without roadside parking facilities shall be removed at the end of their sign life.

Signing for drainage divides shall be paid for by the requester.

6-7.07.06 Municipal Identification Entrance Sign

These signs shall be located outside of the clear zone, and shall be installed only through the Mn/DOT permit process.

Refer to the latest Mn/DOT Maintenance Bulletin for all applicable guidelines and provisions. This bulletin may be obtained from district maintenance and permit offices, or from the Office of Maintenance and Security in Central Office.



6-7.07.07 Reservation Boundary Sign

Signs may be installed for federally recognized reservation boundaries which cross trunk highways, except for freeways. The sign panel may include the name of the reservation, the tribal logo and either the year of treaty or the reservation population. The sign panel design shall be approved by the district traffic engineer.



6-7.07.08 Soil and Water Conservation District Sign

The Soil and Water Conservation District shall complete and submit an Application for Permit (Mn/DOT Form 1723) to the appropriate area maintenance engineer for approval to install a sign in accordance with all of the following criteria:

1. Sign shall be located on the top of the back slope just inside the right-of-way line. The sign cannot be placed on the shoulder slope or in the ditch bottom. The sign should be placed to obtain a minimum hazard location.
2. Signs shall be permitted only on non-freeway types of roadways.
3. Where the approved location is within the clear zone (Road Design Manual), the sign support shall be a breakaway type.
4. The sign panel shall be the same design or equal to that available from the National Association of Conservation Districts.

5. The sign installation shall be maintained in good repair. If this requirement is not met, the applicant will be notified to remove the sign.
6. The sign cannot be placed at a location where it will interfere with the effectiveness of any traffic control device, or interfere in any way with the safe operation of motor vehicle traffic or the safety of pedestrians and non-motorized vehicles.
7. The Soil and Water Conservation Districts will be responsible for furnishing the signs and posts, and for installation at the designated locations.

6-7.07.09 Township Boundary Sign

Township boundary signs shall not be installed or retained on trunk highways, either individually or as part of a sign assembly. Township boundary signs do not have sufficient orientation value to warrant installation on the trunk highway system.

6-7.07.10 Watershed District Sign

Watershed districts are local units of government which exist to protect water resources. There are over 40 watershed districts throughout the state authorized by the Legislature in 1995.

They are established at the request of citizens, counties, or cities when water management problems escalate. The boundaries are widely variable and do not follow political boundaries.

In Minnesota, watershed districts are not obvious to motorists, nor is their identification of interest, significance, or benefit to the majority of motorists.

Watershed districts shall not be signed on any freeway or at interchanges on expressways. Signs may be installed on conventional highways and on portions of expressways with at-grade intersections.

Watershed district identification signs may be installed within a rest area or wayside parking area established at the site to accommodate vehicles off the roadway.

Site viewing, explanatory signs, and trails as needed shall all be located completely off the roadway and shoulder areas.

Existing signs at watershed district boundaries without roadside parking facilities shall be removed at the end of their sign life.

Signing for watershed districts is to be paid for by the requester.

6-7.07.11 WELCOME TO MINNESOTA Sign (I2-10) and VISIT AGAIN Sign (I2-12)

At major entrances to Minnesota, Mn/DOT has installed large concrete signs on stone/concrete bases. Wooden signs, mounted on stone/wood marker assemblies are in place at several other state entrances.

The WELCOME TO MINNESOTA sign and VISIT AGAIN sign have been installed at all other trunk highway entrances.

The colors on the WELCOME TO MINNESOTA sign panel were revised in 2006. In place sign panels should be replaced through attrition.



6-7.08 Designated Roadways

The practice of designating routes or roadways is becoming more common as a means of commemorating a person, place, or event, or for the purposes of tourism promotion.

Mn/DOT is required by Minnesota Statute 161.14 to mark trunk highways as memorial routes. A complete and current list of these routes is available from OTST. OTST shall design or approve all memorial signs. The design standards for memorial route signs are available from OTST.

Auxiliary arrow plates shall be used to mark points where the route turns. Auxiliary arrow plates shall match the color of the memorial route sign.

The following signing programs are administered by the Mn/DOT Office of Environmental Services:

1. Corridor-Based Promotions

Examples include Heritage Trails, and Birding and Wildlife Trails. These trails involve a collection of specific interest sites located in a generalized area or in a general corridor. Sites are not all located on a specific roadway. The term trail is used metaphorically and connotes the trek from site to site along the trail. Heritage,

birding or wildlife trails are supported with mapping and supplementary information to help people locate and understand the significance of sites.

Fabrication, installation, and maintenance of signs shall be funded by the sponsoring organization.

Corridor-based promotions shall meet all of the following guidelines:

- a. The corridor shall include at least two cities.
- b. The corridor shall be part of a statewide marketing campaign.
- c. The corridor shall be approved by Mn/DOT and the Office of Tourism.
- d. Signing on the trunk highway shall be at the entrance to the site. If the site is located on a local road system, the road authority will sign on the local road at the entrance to the site.
- e. If the site is located within an existing signed facility (state park, historic site, etc.), a logo or icon may be attached to the right sign post on the in place signing (state park, historic site, etc.) on the trunk highway.
- f. The design of the logo or icon sign panels shall be approved by OTST prior to fabrication.
- g. Sheeting on sign panels shall be made using Mn/DOT's current sign sheeting standard.
- h. Signs are to be installed by Mn/DOT forces.



2. Eisenhower Interstate System

These signs have been installed on standard U-posts on the rest area entrance ramp in each of the rest areas on the Interstate highways in Minnesota. These signs are not installed along the Interstate highways in conformance with the MN MUTCD.



3. Great River Road

The federal Great River Road program was established to provide a parkway-like road paralleling the Mississippi River, from its source at Lake Itasca to the Gulf of Mexico.

There is a national and a state route in Minnesota. The Great River Road is identified in Minnesota Statutes.

The Mississippi River Parkway Commission (MRPC) is the organization that provides governance for the route. Membership, funding, and responsibilities of the MRPC is established in State Statutes.

Road authorities are responsible for signing route segments within their jurisdiction.



4. Memorial Routes and Bridges

Memorial routes and bridges are established on trunk highways by statute to commemorate an individual or organization, or for tourism promotions.

The organization sponsoring the route or bridge designation shall reimburse Mn/DOT for the cost of fabricating, installing, and maintaining signs on trunk highways. (see Minnesota Statute 161.139)

Memorial highway signs installed in rest areas shall be fabricated in accordance with MN MUTCD standards. A new sign panel should be installed on its own structure or may be installed on an existing memorial highway sign structure if there is no room for a new structure along the entrance ramp. Not more than two panels shall be installed on one sign structure. The structure shall be installed on the right side on the entrance ramp, between the entrance gore and the parking area, with 150 to 200 foot spacing between signs.



5. Minnesota Scenic Byways

The Scenic Byway program was established in 1992 by a memorandum of understanding between Mn/DOT, the Department of Natural Resources, the DTED, Office of Tourism, and the Minnesota Historical Society. The Commission designates Scenic Byways with an application process that requires local support and

approval by the road authority. Some Minnesota Scenic Byways have been designated as National Scenic Byways or All-American Roads. The designations are conditional and require local byway organizations to actively pursue their objectives along the route. Since there are only twenty designations in the state, inactive byways run the risk of being de-designated so that other byways may be designated.

The memorandum of understanding includes a commitment by the Commissioner of Transportation to fund the fabrication, installation, and maintenance of signing on trunk highways. Byway organizations must negotiate signing on local road segments with the appropriate road authority. No additional signing is required for national Scenic Byways or All-American Roads.

Confirmatory signs on designated trunk highways may be installed at 20 to 25 mile intervals along the route.



6. Nationally Coordinated Trails

Examples include Prairie Passage and King of Trails.

Some designated roadways in Minnesota are part of a larger, national initiative. One example is Prairie Passage, which is a single route through the western part of Minnesota. It is part of a national Prairie Passage route that extends from Canada to Mexico through the central part of the nation. It was identified and signed in 2002. Its purpose is similar to the wildflower routes but involves a greater degree of local involvement in the identification of the route and the projects along the route.



Signing for Nationally Coordinated Trails will be negotiated with Mn/DOT OTST on a case by case basis. In the case of Prairie Passage, initial signing was funded through a Federal Highway Administration project.

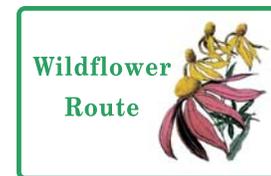
7. National Forest Scenic Byways

The National Forest Service began designating Scenic Byways in National Forests in the 1980's, prior to the state and national Scenic Byways programs. In Minnesota, all of these byways have also been designated as State Scenic Byways.

While these byways are designated State Scenic Byways, the signing policy for Scenic Byways will be followed. Should they lose their designation by the Minnesota Scenic Byway Commission, sign maintenance and replacement will be funded by the National Forest Service in accordance with signing policy for memorial routes.

8. Wildflower Routes

Wildflower routes were established in 1990. They were designated to identify and protect existing native vegetation along Minnesota roadsides, restore native wildflowers and grasses, and increase public awareness of the value of native plants. There have been no new designations since 1990.



Signs were fabricated and installed by Mn/DOT when the routes were designated.

6-7.09 Supplemental Guide Signing Programs

The MN MUTCD, Minnesota statutes, and Mn/DOT policy allow supplemental guide signs to be installed on trunk highways for a variety of public and private facilities.

6-7.09.01 Signing Programs

Mn/DOT provides signs at no cost to the requester for qualified facilities under the following signing programs:

1. General Motorist Service
2. Hospital
3. Resort and Camping

Qualified facilities shall pay for signs under the following signing programs:

- | | |
|--|------------------------------|
| 1. Airports | 8. National Parks |
| 2. Casinos | 9. Regional Shopping Centers |
| 3. Educational Institutions (post-secondary) | 10. Specific Services |
| 4. LOGO Signing Program | 11. State Parks |
| 5. Major Traffic Generators | 12. Tourist Information |
| 6. Minor Traffic Generators | 13. Trail Access |
| 7. National Monuments | |

See the Mn/DOT Standard Signs Manual for sign designs for some of the previous sign programs. For all other signing programs, design guidance can be found in the MN MUTCD and Charts 6.1A, 6.1B, and 6.1C in the Traffic Engineering Manual.

See Mn/DOT's Signing Programs Summary for a complete list of eligible and ineligible facilities.

6-7.09.02 General Criteria

Unless specifically noted under a particular signing program, the following GENERAL CRITERIA apply to all of Mn/DOT's signing programs:

1. Mn/DOT shall fabricate, install, and maintain signs on trunk highways unless otherwise specified by the district traffic engineer.
2. The cost of fabrication, installation, and maintenance shall be paid by the requester.
3. Appropriate trailblazing signs shall be the responsibility of the facility and approved by the road authority. If appropriate trailblazing cannot be installed, signing on trunk highways shall not be installed. The color and design of trailblazing signs shall match that of the signing installed on the trunk highway.
4. Signs shall not be allowed from intersections or interchanges that do not provide the closest or most direct route from a trunk highway to a facility.
5. Mn/DOT retains the authority to specify message content (including abbreviations), size of sign, sign location, and combination of messages, in accordance with standards for acceptable signing practice. The sign design, including message and logos if applicable, shall be identical on ramp and mainline signs at an interchange.
6. Location and placement of signs is dependent upon space availability as determined by the district traffic engineer. Sign installations shall meet sign spacing guidelines for the type of roadway on which they are allowed. No sign installations shall be placed at a location that will interfere with other necessary signing as determined by the district traffic engineer. If space is unavailable, requests shall be denied.
7. Mainline signs shall not be installed for a facility if there is no space available to install signs on the ramp and vice versa.
8. All sign installations on trunk highways shall conform to Mn/DOT's current sign design and sign sheeting standards.
9. Signs not meeting Mn/DOT's current criteria shall be removed through attrition. If mainline signing is removed, ramp signing and any trailblazing on trunk highways shall also be removed.
10. Only one sign per facility may be installed in each direction along a trunk highway.
11. The criteria for installing logos (business panels) on Specific Service and Logo signs are specified in sections 6-7.09.13 and 6-7.09.09 respectively.
 - a. Logos are allowed on guide signs for the following Supplemental Guide Signing Programs:

1) Airports	5) Minor Traffic Generators
2) Casinos	6) National Parks
3) Educational Institutions (Post-Secondary Schools)	7) Regional Shopping Centers
4) Major Traffic Generators	8) State Parks
	9) Trail Access

- b. Logos shall meet all of the following guidelines:
 - 1) Logos shall not resemble a traffic control device.
 - 2) Inappropriate logos or logo panels shall not be permitted.
 - 3) There shall be only one logo or logo panel per sign.
 - 4) The logo or logo panel shall supplement the text message.
 - 5) The logo or logo panel shall not exceed 25 percent of the size of the sign panel.
 - 6) The logo or logo panel shall fit within the border of the sign panel. Logos or logo panels shall not be a separate attachment outside the limits of the sign panel.
 - 7) The logo and sign panel designs shall be reviewed and approved by the district traffic office prior to fabrication.
 - 8) The logo or logo panel shall be fabricated on sheet aluminum conforming with Mn/DOT specification 3352.
- 12. Signs may be considered on trunk highways that intersect with local roads which serve as logical, primary routes for motorists approaching from other directions.
- 13. Signs shall not be provided if the facility is readily visible or if effective off right-of-way directional signing is present or can be provided.
- 14. Mn/DOT retains the authority to deny requests for signing where acceptable standards cannot be met, including locations where other supplemental guide signs are already in place. At the discretion of the district traffic engineer, signing requests denied based on Mn/DOT policy may be appealed to the External Sign Variance Committee. Requests denied based on Minnesota statutes or engineering standards (i.e. insufficient space and design standards found in the MN MUTCD) may not be appealed.
- 15. If a district traffic office decides that a contract for signing a facility is required, the following process shall be used:
 - a. The requester should obtain proposals from at least three consulting engineering firms to prepare the signing contract.
 - b. The requester evaluates the proposals and enters into a contract with one of the consulting engineering firms to provide all of the following:
 - 1) A complete design of a signing plan (including field cross sections if necessary), assembly of special provisions, and proposal. Technical assistance is available from the State Signing Engineer.
 - 2) Submit the plan and proposal to the signing contractors. Typically allow ten days for the contractors to review and submit bids.
 - 3) Review the bids and award the contract to the signing contractor.
 - 4) Inspect the signing contractor's work with technical assistance provided by Mn/DOT's district staff.

6-7.09.03 General Motorist Services Signing Program (E10-1)

General Motorist Services signs may be provided for all of the following:

1. Gas, Diesel, and/or alternative fuels (LP Gas, E85) - The business shall meet all of the following criteria:
 - a. Provide vehicle services including fuel and oil.
 - b. Provide restroom facilities and drinking water.
 - c. Provide continuous staffed operation for at least 12 hours a day, seven days a week.
 - d. Provide public access to a telephone.
 - e. Be located within two miles of the interchange.
2. Food - The business shall meet all of the following criteria:
 - a. Serve three meals each day, seven days a week.
 - b. Be licensed by the State and/or the appropriate political subdivision.
 - c. Be located within two miles of the interchange.
3. Lodging - The business shall meet all of the following criteria:
 - a. Provide lodging 24 hours a day throughout the year.
 - b. Be licensed by the State and/or the appropriate political subdivision.
 - c. Be located within ten miles of the interchange.
4. Camping - The business shall meet all of the following criteria:
 - a. Have a State Department of Health license as required by Minnesota Statute (Chapter 327.15),
 - b. Provide at least 20 spaces available for camping and parking.
 - c. Provide modern sanitary facilities (flush, chemical, or incinerator toilets).
 - d. Provide services 24 hours a day, seven days a week.
 - e. Be located within ten miles of the interchange via an all-weather road, with adequate trailblazing signing provided by the operator to enable the traveler to reach the site.
5. Hospitals (See Section 6-7.09.04)



In addition to the general criteria for all signing programs, the following criteria apply for the General Motorist Services Signing Program:

1. General Motorist Services signs may be installed at rural freeway and expressway interchanges.
2. The costs of fabrication, installation, and maintenance of these signs shall be paid by Mn/DOT.

6-7.09.04 Hospital Signing Program (D9-2a, D9-2b, E10-1, E10-3, E10-4, and E10-8)

In addition to general criteria for all signing programs, all of the following criteria apply for the HOSPITAL signing program:

1. HOSPITAL signs may be installed on all trunk highways. The hospital requesting signing shall meet all of the following criteria:
 - a. Accept all emergency cases, without discrimination for any reason (including ability to pay).
 - b. Be readily accessible from the nearest intersection or interchange (normally within a ten mile radius).
 - c. Provide 24-hour emergency medical care with a physician on the premises (metropolitan area) or on-call (rural areas).



2. The costs of fabrication, installation, and maintenance of signs shall be paid by Mn/DOT.
3. Signing directing motorists from one trunk highway onto another may be allowed if the facility is within ten miles of the intersection of the two trunk highways. Signs directing motorists from one freeway to another freeway shall not be allowed.
4. In place EMERGENCY HOSPITAL signs shall be removed through attrition and replaced with HOSPITAL signs. Mainline signing and ramp signing at an interchange shall be replaced at the same time.
5. HOSPITAL signs should be installed in accordance with the following:
 - a. Interchange signs (E10-1, E10-3, E10-4 and E10-8)
 - 1) At rural interchanges where General Motorist Service signs (E10-1) are in place, the word HOSPITAL (E10-1 Supplement) may be included on the General Motorist Service sign if the word CAMPING is not displayed.
 - 2) At urban or rural interchanges where General Motorist Services are not signed, the E10-3 sign shall be installed at the interchange nearest the hospital. The appropriate signing, E10-4 or E10-8, shall be installed on the ramp(s).
 - 3) If the hospital is located less than two miles from an interchange, the E10-8 sign shall be installed on the ramp(s). If the hospital is located two miles or more from an interchange, the E10-4 sign shall be installed on the ramp(s).
 - 4) Trailblazing signs on trunk highways shall display the number of miles in one mile increments (E10-8 or E10-4 if mileage is required).
 - 5) Trailblazing signs (D9-2a) on local roads shall display the number of blocks from the trunk highway to the facility.
 - b. At-grade intersection signs (D9-2a and D9-2b)
 - 1) The D9-2b sign shall be ground-mounted in advance of, or on a traffic signal mast arm at, the intersection with the road leading to the hospital.
 - 2) Trailblazing signing (D9-2a) on trunk highways and/or local roads shall display either the number of blocks or miles (in one mile increments) to the facility. Trailblazing signs on local roads directing motorists to the facility shall display the appropriate distance and arrow.

6-7.09.05 Resort and Camping Signing Program

RESORT signs (D9-X3) and CAMPING signs (D9-X4) direct the motorist to campgrounds or resorts in rural areas where the Advertising Regulation Law has restricted the installation of private advertising signs off the highway right-of-way. (See Figures 6.33) These signs may only be installed where resort information signs (or County Slat Sign program) are in place on local roads in accordance with MS 160.283-160.285.



In addition to the general criteria for all signing programs, the following criteria apply to the Resort and Camping Signing Program.

1. Signs may be installed in rural areas on conventional highways and at at-grade intersections on expressways.
2. Signs shall only be allowed from the nearest trunk highway intersection. Signs directing motorists from one trunk highway to another trunk highway shall not be allowed.

3. The cost of fabrication, installation, and maintenance of the signs shall be paid by Mn/DOT.
4. One guide sign from each direction in advance of a private road or entrance is allowed when the following conditions exist:
 - a. The main access from the trunk highway is via a private road or entrance.
 - b. The resort or campground is located near, but not visible from, the trunk highway.
 - c. The sign located on private property cannot be effectively seen by approaching drivers because of the width of the highway right of way and/or growth of vegetation.
5. Where the access to resorts or private campgrounds is via county, township, or other public road and the road is identified with a road name or destination sign, the sign panel or panels may be combined with the in place sign. Minimum height to the bottom of the lowest sign panel shall be seven feet.
6. Businesses signed under this signing program shall not be signed under the Specific Service signing program. Normally, these signs are installed where SPECIFIC SERVICE signs are not erected at intersections.
7. Resorts shall have a State Department of Health license as required by MS 157.16. A resort is defined in MS 157.15, subd. 11.
8. Private campgrounds shall have a State Department of Health license as required by MS 327.15, modern sanitary facilities (flush, chemical, or incinerator toilets), and no restrictions on type of camping (Tent, RV, Trailer, etc.).

6-7.09.06 Airport Signing Program (D1-X4, I-5)

In addition to the general criteria for all signing programs, all of the following criteria apply to the Airport Signing Program.

1. Airport signs may be installed on all trunk highways. Private airports requiring owner's permission to use shall not be eligible for signing.
2. The airport shall be located within 15 miles of the trunk highway intersection or interchange.
3. Signing from one trunk highway onto a second trunk highway may be allowed if the airport is located within: ten miles for an Air Carrier/Commercial Service airport and 7.5 miles for a General Aviation airport.
4. These guidelines may also be applied to heliports.



Airport signs should be installed in accordance with the following:

1. Individual airport names may be used on signing, as necessary, to ensure adequate identification for motorists.
2. The AIRPORT (D1-X4) sign with arrow will be adequate for most intersections at which airport signing is permitted.
3. At interchanges, the E10-3 sign design (with the word AIRPORT or proper name replacing the word HOSPITAL) shall be installed on the mainline. The D1-X4 sign, or a custom guide sign if proper name is used, shall be installed on ramp(s). The message on the ramp sign shall match the message on the mainline sign.
4. Trailblazing signing on local roads, when needed, shall utilize the Airplane Symbol sign (I-5) with appropriate arrow.

6-7.09.07 Casino Signing Program

In addition to the general criteria for all signing programs, all of the following criteria apply to the Casino Signing Program:

1. CASINO signs may be installed on all trunk highways.
 - In order to be considered for signing, all of the following criteria shall be met by the casino requesting signing:
 - a. Events or activities shall be held continuously throughout the year.
 - b. Events or activities shall be non-local in scope and draw visitors from outside the local area.
 - c. The facility shall provide adequate on-site parking or parking in the immediate area of the facility.
 - d. The facility shall provide seating for at least 200 people.
2. The facility shall be located within ten miles of the trunk highway intersection or interchange where signs are requested.



CASINO signs should be installed in accordance with all of the following:

1. Signing shall have a white legend and border on a brown background.
2. Distances to casinos located two miles or more from the trunk highway intersection or interchange shall be shown on the sign.
3. Signs shall only be allowed from the nearest trunk highway and signs shall not be provided if the facility is readily visible or if effective off right-of-way directional signing is present or can be provided.
4. Additional proposed signing locations on other trunk highways are to be processed with Mn/DOT in accordance with the following procedure (developed and concurred in with the Indian Affairs Council in 2003):
 - a. The Tribe assembles the proposed signing package (road system map, locations of proposed signing, and casino business logo panel design).
 - b. The Tribe forwards the proposed signing package to the Mn/DOT district engineer for evaluation (including field review of roadway network and existing signing). This may include coordination with local road authorities (county, city) if any proposed signing is to be installed on local roads.
 - c. In order to assist in the decision making process, the Mn/DOT district office will contact the State Traffic Engineer and State Signing Engineer in Mn/DOT OTST, to field review the proposed signing locations.
 - d. After completion of the field review and evaluation, Mn/DOT staff shall assemble a response package (sign panel designs, private sign company contacts, sign fabrication specifications) and meet with the Tribe to present Mn/DOT's proposed sign locations.
 - e. Upon concurrence of acceptable sign locations by the Tribe, the Tribe shall submit completed application form(s) and business logo panel design to the District Traffic Engineer for review and approval.
 - f. After approval by Mn/DOT, the Tribe shall submit sign panel designs, business logo panel design, and fabrication specifications to a private sign company(ies) for bid(s).
 - g. The private sign vendor invoices the Tribe and fabricates and delivers sign panel(s) to the Tribe.
 - h. The Tribe coordinates with the Mn/DOT district office to arrange for installation of signs. Sign installation costs are to be paid for by the Tribe.
5. In place casino signs shall be replaced through attrition in accordance with the general criteria (section 6-7.09.02) and the above criteria. Existing casino signs should remain eligible for signing.

6-7.09.08 Educational Institution Signing Program (Post-Secondary Schools)

In addition to the general criteria for all signing programs, all of the following criteria apply to the Educational Institution Signing Program.



1. Educational Institution signs may be installed on all trunk highways. In order to be considered for signing, all of the following criteria must be met by the educational institution requesting signing:
 - a. School grants two or four year degrees and is accredited by the North Central Association of Colleges and Schools. Examples are the University of Minnesota, State Universities, State Community Colleges, private four-year colleges, private two-year colleges, private professional schools, private vocational schools and technical colleges.
 - b. Minimum on-campus average daily student enrollment for credit shall be 400 students, except in the Metro District where the minimum enrollment shall be 1500 students.
 - c. Schools shall be located within five miles (urban area) or ten miles (rural area) of the intersection or interchange.
2. In rural districts, schools which front directly on trunk highways may be allowed signs to assist the motorist in making proper entrance turns.
3. In the Metro District, signs shall only be allowed from the nearest trunk highway intersection. Signs directing motorists from one trunk highway to another trunk highway shall not be allowed.

Educational Institution signs should be installed in accordance with the following:

1. The sign shall have a white legend and border on a green background.
2. Signs on freeways shall have the institution name on the top line and EXIT XXX. on the bottom line if the exit is numbered, otherwise the bottom line shall read NEXT (or SECOND) RIGHT.
3. Signs on freeway ramps shall display the institution name and appropriate arrow, without extraneous legend.
4. Distances to schools located two miles or more from the trunk highway intersection or interchange shall be shown on the ramp or intersection sign.

6-7.09.09 LOGO Sign Franchise Program

Logo signs are permitted on interstate highways and urban controlled access trunk highways (freeways) as specified in the Logo Sign Franchise Program Agreement 90212-P.

The MN MUTCD, Part 2F covers standards and guidelines on the use of logo signing. Minnesota Statute 160.80, the Logo Sign Franchise Program, authorizes Mn/DOT to establish this program for the purpose of providing specific information on gas, food, lodging, and camping for the benefit of the motoring public on the the right-of-way of interstate and certain other controlled-access trunk highways.



This program is currently operated by Minnesota Logos, Inc. under an agreement with Mn/DOT. Businesses interested in this program shall contact Minnesota Logos, Inc.

Existing Mn/DOT installed GENERAL MOTORIST SERVICE signs should remain in place at each interchange if all businesses are not accommodated in the Logo Sign Franchise Program. The State Signing Engineer, OTST, in conjunction with district traffic offices shall review and approve all proposed logo installation locations to verify that Logo signs will not have a negative impact on other required signing and that proper sign spacing is maintained.

6-7.09.10 Major Traffic Generator Signing Program

Supplemental guide signs may be provided to direct motorists to major traffic generators. These traffic generators are major regional attractions, events, or facilities which attract persons or groups from beyond a local community, city, or metropolitan area. They are significant because of their unique educational, cultural, historical, or recreational experience and public appeal. Predominantly retail, business, or manufacturing centers are not normally eligible for guide signing.



In addition to the general criteria for all signing programs, the following criteria apply for the Major Traffic Generator Signing Program.

1. Major Traffic Generator signs may be installed on all trunk highways.

In order to be considered for signing, all of the following criteria shall be met by the major traffic generator requesting signing:

- a. Parking for at least 1,000 vehicles.
 - b. A minimum of ten events per year.
 - c. Average event attendance of at least 5,000 persons.
 - d. Located within ten miles of the trunk highway interchange/intersection where signs are requested.
2. Major Traffic Generator signs should be installed in accordance with all of the following:
 - a. The sign shall have a white legend and border on a green or brown background in accordance with the MN MUTCD.
 - b. Distances to major generators located two miles or more from the trunk highway intersection or interchange shall be shown on the sign approaching the intersection or on the ramp at an interchange.
 3. Signs directing motorists from one trunk highway to another trunk highway may be allowed except when they direct a motorist from one freeway to a second freeway.
 4. In the Metro District, the names of major traffic generators may be displayed on Mn/DOT permanent changeable message signs (CMS) located on freeways approaching the downtown areas in accordance with all of the following criteria:
 - a. The facility shall have public/private parking for at least of 1000 vehicles within 2000 feet of the facility.
 - b. Event frequency and attendance shall be:
 - 1) A minimum of ten events per year with an attendance of at least 5000 persons within a two hour period/event.
 - 2) One day event per year with an attendance of at least 20,000 persons per event.
 - 3) One recurring event, two to seven days in length, per year with a total minimum attendance of 50,000 persons.
 - c. Located not more than two miles from the interchange on the freeway where the permanent CMS is located.
 - d. Only the facility name(s) shall be displayed on a permanent CMS which is located on a freeway.
 - e. The display of a unique event by name (e.g. Winter Carnival, Aquatennial) may be approved on a case by case basis by the district traffic engineer and the RTMC.
 - f. If a facility is having an event either concurrent with or overlapping an event with another facility, the duration of the display of each facility name and action message on a permanent CMS will be two seconds. This is based on the total reading time, including the change time between message displays, at vehicle operating speeds on metro area freeways.

- g. Not more than two facilities (each with an action message) may be alternately displayed on a permanent CMS with the entire message for each facility displayed at one time.
- h. The facility name and action message for an event may be displayed from:
 - 1) One hour before the gate opens until 30 minutes after the event begins when normal attendance is for the entire event (i.e. a sporting event).
 - 2) One hour before the event begins and continuously throughout the duration of the event when normal attendance is part time (i.e. an automobile show).
- i. The duration of the display shall be continuous if only one facility is having an event to be displayed on a permanent CMS.
- j. Messages on a permanent CMS directing motorists to a facility at more than one exit on the same freeway or to an exit(s) on another freeway shall only be allowed for traffic management at the discretion of the district traffic engineer and the RTMC.
- k. Mn/DOT shall install, maintain, and operate permanent CMS installations. Their operation is under the direction of the district traffic engineer and the RTMC.
- l. Mn/DOT retains the authority to use the permanent CMS(s) for traffic management purposes, in lieu of displaying the facility name(s) having the event, if a traffic incident occurs. If the permanent CMS(s) is (are) used for traffic management purposes, neither prepaid fees nor any portion thereof will not be refunded.
- m. The facility shall pay \$10,000 annually or \$500 per event per day on all appropriate permanent CMS's.

6-7.09.11 Minor Traffic Generator Signing Program

Minor traffic generators are facilities which generally attract non-local persons or groups unfamiliar with the location of the generator but which do not qualify as major traffic generators. The use and installation of highway signing shall be limited to only those generators which have broad motorist appeal, serve non-familiar motorists, or are the kind of facility for which a motorist normally expects highway signing.



In addition to the general criteria for all signing programs, all of the following criteria apply for the Minor Traffic Generator Signing Program.

- 1. Minor Traffic Generator signs may be installed on conventional highways, at at-grade intersections on expressways, and rural bypasses that have interchanges at non-trunk highways. In order to be considered for signing, the following criteria must be met by the minor traffic generator requesting signing:
 - a. Unless specified otherwise, facilities shall be open at least eight hours per day five days per week.
 - b. For seasonal generators, Mn/DOT may incorporate signing indicating periods of closure where appropriate.
 - c. Signing shall not be permitted within the corporate limits of one city directing motorists to a facility located in another city.
 - d. Generators shall be located within specified distances from the trunk highway intersection or interchange at which signing is permitted. These distances vary depending on the type of generator and whether the signed intersection is located within an urban or rural environment.
 - 1) Urban environment - typical characteristics are highly developed areas having slower speeds, higher proportion of local traffic, increased difficulty in finding acceptable locations for traffic signs, and more stressful and complicated driving environment.

- 2) Rural environment - typical characteristics are relatively undeveloped or agricultural land, higher speeds, higher proportion of non-local traffic, easy ability to find acceptable locations for traffic signs, and relatively uncomplicated driving environment. Small cities in otherwise rural areas are included in this definition.
- e. When Mn/DOT determines that the number of qualifying generators that a community is requesting signing for cannot all be accommodated on signing at the same intersection due to driver information overload and sign spacing guidelines, the local governing body(ies) shall prioritize which facilities may be signed.
2. Signs shall only be allowed from the nearest trunk highway intersection. Signs directing motorists from one trunk highway to another trunk highway shall not be allowed.
3. Signing shall not be provided if the facility is readily visible or if effective off right-of-way directional signing is present or can be provided. Visibility from the approach to an intersection may be determined by adding 175 feet to Condition B (deceleration to ten mph from the posted speed) in MN MUTCD Table 2C-4. Signing is not allowed if the facility can be readily identified or if effective off highway right-of-way directional signing is legible at or beyond this distance.

Minor Traffic Generator signs should be designed in accordance with the following:

1. Distances to generators are to be shown in one mile increments.
2. When designing sign panels to be installed on rural expressways for private minor generators:
 - a. Use the appropriate chart (Charts 6.1A, 6.1B, or 6.1C) to determine the required font size for guide signs on expressways.
 - b. The next smaller font size may be used to design the sign panels for private generators if existing guide signing to other private generators on the highway section were designed with one font size smaller than that specified in the charts.

Signing may be provided for the following minor traffic generator facilities:

1. Amtrak Station

This facility is a National Railroad Passenger Corporation (Amtrak) station. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for an Amtrak station:



- a. The facility shall be located within one mile of the intersection or interchange.
- b. The sign shall have a white legend and border on a green background.

2. Arboretum

This facility has trees, shrubs and plants which are cultivated and displayed for scientific and educational purposes.

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for an arboretum:



- a. The facility should provide:
 - 1) Parking for at least 50 vehicles.
 - 2) Walking or driving trails along with viewing facilities.
 - 3) An interpretive program, and/or audio/visual self-guiding presentations.
- b. The facility shall be located within three miles of the intersection or interchange.
- c. The sign shall have a white legend and border on a brown background.

3. Bus Depot

This facility is a bus terminal with staffed ticket counters and public waiting rooms, providing inter-city and inter-state motorcoach bus services.

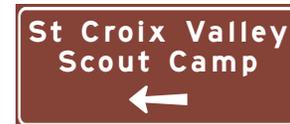
In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a bus depot:

- a. The facility shall be located within one mile of the intersection or interchange.
- b. The sign shall have a white legend and border on a green background.



4. Camp (Private-rural environment)

This facility is generally a specialized rural summer camp. It is operated or sponsored by church, fraternal, scouting, or similar organizations and is not open to the general public for overnight camping. The facility generally accommodates pre-arranged sessions of several days duration and is oriented toward recreation, education, training, or combinations thereof. Visitors are usually not familiar with the camp location.



In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a private camp:

- a. The facility shall:
 - 1) Provide full-time staff on site to accommodate clientele.
 - 2) Be a private operation.
 - 3) Accept pre-arranged accommodations only.
 - 4) Not allow public overnight camping.
- b. For a seasonal camp, Mn/DOT may incorporate signing indicating periods of closure where appropriate.
- c. The facility shall be located in a rural area within ten miles of the intersection or interchange.
- d. The sign shall have a white legend and border on a brown background.

5. Civic Center and Convention Center

This facility accommodates various types of activities and is primarily oriented toward conventions, meetings, expositions, and performances.

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a civic center or convention center:

- a. The facility shall:
 - 1) Hold events or activities that are non-local in scope and draw visitors from outside the local area.
 - 2) Hold events or activities continuously throughout the year on an average of at least once a month (rural environment) and three times a month (urban environment).
 - 3) Provide adequate on-site parking or parking in the immediate area of the facility.
 - 4) Provide seating for at least 1000 people (urban environment).
- b. The facility shall be located within one mile of the intersection or interchange.
- c. The sign shall have a white legend and border on a green background.



6. Correctional Institution

This facility may be a state or federal penal institution that generates a significant number of non-local visitors. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a correctional institution



- a. The facility shall be located within three miles of the intersection or interchange.
- b. The sign shall have a white legend and border on a green background.

7. County Fairground

This is typically a multi-use facility. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a county fairground:



- a. The facility shall be located within one mile (urban environment) or five miles (rural environment) of the intersection or interchange.
- b. The sign shall have a white legend and border on a green background.

8. Disc Golf Course (rural environment)

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a disc golf course:



- a. The facility shall:
 - 1) Be its own entity located on its own property (not located on or in another facility that can be signed as a minor traffic generator).
 - 2) Have at least 18 holes.
 - 3) Be a member of the Professional Disc Golf Association (PDGA).
- b. The facility shall be located within ten miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a brown background.

9. Downtown or Business District (rural environment)

Signing may be provided to direct motorists to the primary business district of a rural city when a conventional highway does not pass through it. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a downtown or business district:



- a. Signing is allowed to designate the primary business center, NOT to designate any other business or shopping area.
- b. The signs shall use either the legend "DOWNTOWN" or "BUSINESS DISTRICT", based on the preference of the city administration.
- c. The facility shall be located within three miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a green background.

10. Drivers License/Road Test Exam Station

This facility shall be a permanent site. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a drivers license or road test exam station:

- a. The facility shall:
 - 1) Provide a complete staff, including road testing of drivers.
 - 2) Be an official facility operated or designated by the Department of Public Safety.
- b. The facility shall be located within one mile (urban environment) or three miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a green background.



11. Golf Course (public)

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a golf course:

- a. The facility shall:
 - 1) Have at least nine holes.
 - 2) Be open to the public.
- b. The facility shall be located within three miles (urban environment) or ten miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a brown background.



For driving ranges and miniature golf courses see the Specific Service Signing Program.

12. Great River Road (GRR) Amenity Site

This facility includes parks, boat/canoe access sites, picnic areas, campsites, historic sites, and other points of interest that are directly related to the officially designated national GRR route. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a GRR amenity site:

- a. Only those sites directly tied to the national GRR system and identified on GRR maps or brochures may be signed.
- b. The sign format and size shall be determined by OTST.
- c. The facility shall be located within one mile (urban environment) or three miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a brown background.



The district traffic office should coordinate sign requests with the Office of Environmental Services.

13. High School

This is a multi-purpose facility which hosts a variety of activities throughout the year. Some of these facilities may have a remote stadium or athletic complex which generates traffic and also qualifies for signing. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a high school:



- a. The facility shall:
 - 1) Hold events or activities that are non-local in scope and draw visitors from outside the local area.
 - 2) Provide adequate on-site parking.
- b. The facility shall be located within one mile (urban environment) or three miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a green background.

14. Historical Marker (Minnesota Historical Society [MHS] site)

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a historical marker:

- a. Requests for signing to historical markers maintained by the MHS shall be submitted to the State Signing Engineer, OTST.
- b. All costs for MHS historical marker signs shall be paid by Mn/DOT.
- c. The facility shall be located within one mile (urban environment) or ten miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a brown background.



15. Historical Marker (non-Minnesota Historical Society [MHS] site)

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a historical marker:

- a. Requests for signing to historical markers maintained by a non-MHS organization shall be submitted to the State Signing Engineer, OTST. These requests shall be forwarded to the MHS for recommendations. The MHS recommendations shall govern Mn/DOT's approval or denial of the request.
- b. A historical marker shall:
 - 1) Document a topic with historical significance.



Fifty years is a general rule of thumb of the time needed to develop a historical perspective and to evaluate significance. Topics that explain the recent past shall be exceptionally significant to be considered for approval. To establish significance, requesters should explain why a topic played a role or why it made a difference in the context of local, regional, or state history. Requesters shall provide a copy of the text and a photograph of the historical marker.

As a general rule, signing shall not be approved for historical markers that explain ubiquitous historical phenomena or places that were common everywhere. Examples of these places include: the sites of towns, communities, or settlements that no longer exist; the birthplaces or gravesites of significant individuals; and cemeteries.

- 2) Be located on public land and accessible to the public.
- 3) Be legible using letters at least 5/8 inch high.
- c. The requester shall be responsible for maintaining and ensuring access to the historical marker.

- d. There shall be at least three year-round parking places located off the road or street maintained by the requester.
- e. All costs shall be paid by the requester.
- f. The facility shall be located within one mile (urban environment) or ten miles (rural environment) of the intersection or interchange.
- g. The sign shall have a white legend and border on a brown background.

16. Historic Site

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a historic site:

- a. Requests for signing to historic sites shall be submitted to the State Signing Engineer, OTST. These requests shall be forwarded to the Minnesota Historical Society (MHS) for recommendations. The MHS recommendations shall govern Mn/DOT's approval or denial of the request.
- b. The facility shall be located within one mile (urban environment) or ten miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a brown background.



17. Indoor Ice Arena

This is a high usage facility built primarily to accommodate ice skating activities, both competitive and recreational in nature.

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for an indoor ice arena:

- a. The facility shall be located within one mile (urban environment) or three miles (rural environment) of the intersection or interchange.
- b. The sign shall have a white legend and border on a brown background.



18. Industrial Park (rural environment)

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for an industrial park:

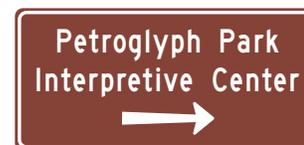
- a. The facility shall:
 - 1) Be in a rural environment.
 - 2) Be serviced mainly by non-local delivery vehicles.
 - 3) Be open to both local and non-local customers.
- b. The facility shall be located within three miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a green background.



19. Interpretive Center

This facility provides explanations and interpretations of historical, cultural, and educational subject matter. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for an interpretive center:

- a. The facility shall have on premise staff and/or guides to present continuing service to visitors.
- b. The facility shall be located within one mile (urban environment) or three miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a brown background.



20. **Library**

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a library:

- a. The facility shall be located within one mile of the intersection or interchange.
- b. The sign shall have a white legend and border on a green background.



21. **Lock and Dam Site**

This facility is operated and maintained by the US Army Corps of Engineers. The visitors to this facility are interested in viewing boating operations through the locks, and/or utilizing other available recreational facilities. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a lock and dam site:

- a. The facility shall provide viewing provisions for the public.
- b. The facility should:
 - 1) Provide parking for at least 15 vehicles.
 - 2) Provide restroom facilities.
 - 3) Have a telephone available.
- c. The facility shall be located within one mile (urban environment) or five miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a brown background.



22. **Multi-Purpose Facility** (rural environment)

This facility includes but is not limited to public community centers and National Guard Armories. A public community center is a public building designed for a community's social, cultural, educational, and recreational activities.

A National Guard Armory is a facility where arms and military equipment are stored, and/or which is used for training military reserve personnel. It is frequently used for other public purposes.

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a multi-purpose facility:

- a. The facility shall be located in a rural environment.
- b. The facility shall be located within three miles of the intersection or interchange.
- c. The sign shall have a white legend and border on a green background.



23. **Museum**

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply to profit and non-profit museums:

- a. Requests for signing shall be submitted to the State Signing Engineer. These requests shall be forwarded to the Minnesota Historical Society (MHS) for recommendations. The MHS recommendations shall govern Mn/DOT's approval or denial of the requests.
- b. The facility shall be located within one mile (urban environment) or five miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a brown background.



A non-profit museum is required to be a Federal tax exempt organization Internal Revenue Code [IRC] 501(c)(3).

24. Park

This is a recreational facility, open to the public, of varying size, type, and purpose. It can be operated by various agencies or jurisdictions. For signing purposes, they are classified as a city park, county park, regional park, state park, state park, or national park.



The facility typically provides picnic tables, playground equipment, drinking water, trash barrels, and rest room facilities. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a park:

- a. The facility shall meet Minnesota Department of Health standards regarding water supply and rest room facilities.
- b. The facility shall be maintained in a sanitary and park-like condition.
- c. The facility shall be located within three miles (urban environment) or ten miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a brown background.

25. Public Access to Lake and River

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a public access to a lake or river:



- a. All requests for signing to State-provided public access sites shall be approved by the Department of Natural Resources (DNR). Requests for signing to all other access sites shall be approved by Mn/DOT.
- b. The facility shall have:
 - 1) An access road that is maintained in passable condition.
 - 2) A parking area at the access site whose surface is gravel, bituminous, or concrete.
 - 3) A concrete boat-launching ramp or equivalent for trailered boats.
 - 4) A cleared access to water for canoes or carry-in boats.
 - 5) Free admission.
- c. The facility should provide parking for at least 20 vehicles at the access site. A smaller parking area is acceptable at remote access sites.
- d. The message on the public access sign shall be one of the following:
 - 1) Trunk highway signing: "Public Access" symbol with lake name, appropriate directional arrow, and mileage as shown on Standard Sign Drawing D7-X7 or D7-X7A.
 - 2) Local road trailblazing signing: "Public Access" symbol, with appropriate arrow as shown on Standard Sign Drawing D7-X8 or D7-X8A.
- e. The facility shall be located within one mile (urban environment) or ten miles (rural environment) of the intersection or interchange.
- f. The sign shall have a white legend and border on a brown background.



26. Public Office Building

This facility includes public administrative offices (federal, state and local) where the general public visits on a regular basis to conduct business. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria

apply for a public office building:

- a. This facility shall have adequate on-premise signing visible to the motorist.
- b. The facility shall be located within one mile (urban environment) and three miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a green background.

**27. Recreational Complex**

In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a recreational complex:

- a. The facility shall provide:
 - 1) A site for events or activities that are non-local in scope and draw visitors from outside of the local area.
 - 2) Adequate on-site parking.
- b. The facility shall be located within one mile (urban environment) or three miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a brown background.

**28. Recycling Center**

This facility shall comply with the permit rules of, and be officially designated by, the Minnesota Pollution Control Agency (MPCA). (Reference: MS 173.086 and 115A.555.) In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a recycling center:

- a. The facility shall:
 - 1) Be open to receive materials at least 12 hours per week, 12 months a year.
 - 2) Accept at least four different types of recyclable materials.
 - 3) Comply with Minnesota Rule 7035.2845 regarding the permitting of recycling facilities.
- b. The facility shall be located within one mile (urban environment) and five miles (rural environment) of the intersection or interchange.
- c. The sign shall have a white legend and border on a green background.

**29. Regional Human Services Center, Regional Treatment Center**

This is a public treatment facility operated by the Minnesota Department of Human Services. (Reference: MS 252, 253 and 254.) In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a regional human services center and a regional treatment center:

- a. The facility shall be located within one mile (urban environment) and three miles (rural environment) of the intersection or interchange.
- b. The sign shall have a white legend and border on a green background.



30. Sanitary Landfill, Demolition Landfill, Solid Waste Transfer Station, and Household Hazardous Waste sites

These facilities shall be approved by the Minnesota Pollution Control Agency (MPCA). MPCA literature refers to a household hazardous waste site as an HHW Center. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a sanitary landfill, demolition landfill, solid waste transfer station, and household hazardous waste site:



- a. The facility shall be open to the public as well as commercial and governmental users.
- b. Compost sites shall not be signed.
- c. The facility shall be located within three miles (urban environment) and five miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a green background.

31. Scientific and Natural Area

This facility is developed by the Department of Natural Resources (DNR) and offers various types of displays in a natural setting. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a scientific and natural area.



- a. The facility shall provide viewing areas.
- b. The facility should provide:
 - 1) Parking for at least 20 vehicles.
 - 2) An on-site explanation (audio, visual, or staff person) of the subject matter.
 - 3) Restroom facilities.
- c. The facility shall be located within one mile (urban environment) or ten miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a brown background.

32. Ski Area

This is a public or private winter recreational site which provides downhill and/or cross country skiing. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a ski area:



- a. The facility shall be open to the public.
- b. The facility should provide parking for at least of 100 vehicles at downhill sites and at least 30 vehicles at cross-country sites.
- c. Downhill skiing facilities shall provide adequate staff in case of an emergency.
- d. Cross-country facilities shall have trails which are maintained with trail guide signs or maps placed at key locations indicating location and distances.
- e. The message on the ski area signs shall be as follows:
 - 1) Trunk highway signing: SKI AREA or Name of Ski Area with left (right) arrow at an intersection or NEXT RIGHT at an interchange.
 - 2) Local road trailblazing signing: Downhill symbol sign (D7-X13) or cross country symbol sign (D7- X14) with appropriate arrow.
- f. The facility shall be located within five miles (urban environment) or ten miles (rural environment) of the intersection or interchange.
- g. The signs shall have a white legend and border on a brown background.

33. Veteran Memorial or War Memorial

This is an independently located outdoor site built to commemorate veterans of U.S. military actions and/or the actions themselves. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a veteran memorial and/or memorial site:



- a. The facility shall provide adequate on-site parking or parking in the immediate area of the memorial.
- b. The facility should:
 - 1) Be of a unique size and presence.
 - 2) Be easily available for public viewing.
 - 3) Not be part of any other building or facility.
- c. The facility shall be located within one mile (urban environment) or three miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a brown background.

34. Wildlife Refuge or Wildlife Management Area

This is a facility which is open to the public and offers viewing of a variety of wildlife. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a wildlife refuge or wildlife management area:



- a. The facility shall provide interpretive facilities or programs, or provide viewing areas or nature trails,
- b. The facility should provide:
 - 1) Parking for at least 20 vehicles in rural areas and at least 50 vehicles in urban areas.
 - 2) Restroom and telephone facilities.
- c. The facility shall be located within one mile (urban environment) or ten miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a brown background.

35. Workforce Center

This facility is formed through a partnership between locally based community, county, and state agencies that the general public visits on a regular basis to obtain employment and training services.



- In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a workforce center:
- a. The facility shall have adequate on-premise signing visible to the motorist.
 - b. The facility shall be located within one mile (urban environment) and three miles (rural environment) of the intersection or interchange.
 - c. The sign shall have a white legend and border on a green background.

36. Zoo

This is a zoological garden or park where a wide variety of living wild animals are kept and safely displayed for public exhibition. In addition to the general criteria for the Minor Traffic Generator Signing Program, all of the following criteria apply for a zoo:



- a. The facility shall be registered and approved by the American Association of Zoological Parks and Aquariums.
- b. The facility shall provide identification and explanation of displays and wildlife.
- c. The facility shall be located within five miles (urban environment) or ten miles (rural environment) of the intersection or interchange.
- d. The sign shall have a white legend and border on a brown background.

37. Facilities Not Eligible for Signing

The following is a list of specific facilities that frequently request signing and are not eligible for signing under the Minor Traffic Generator Signing Program. This list is not all inclusive.

American Legion/VFW & other "fraternal" organizations
 Athletic Field
 Cemetery (except national cemetery)
 Compost Site
 Correctional Facility (local and regional)
 Dance Hall
 Drive-In Theater
 Driving Range (Golf)
 Fish Hatchery
 Forest Preserve (county, state or federal)
 Game Farm and Preserve
 Half-way House/Shelter House
 Health Club
 Nursing/Senior Citizens Home or Center
 Office Building or Facility (Private)
 Office Park
 Performing Arts Theater
 Post Office
 Rehabilitation Center
 Road Maintenance Facility
 School (Elementary, Junior High)
 Sportsman Club
 Swimming Beach and Swimming Pool
 Tennis Court
 Veterans Home
 Wildlife Treatment Facility

To obtain signing under the Minor Traffic Generator Signing Program, the application form shall be completed and submitted to the district traffic engineer. For a copy of the Application Form for Guide and Information Signs see Forms 6.2A and 6.2B.

6-7.09.12 Regional Shopping Center Signing Program

In addition to the general criteria for all signing programs, the following criteria apply for the Regional Shopping Center Signing Program. Regional Shopping Center signs may be installed on all trunk trunk highways. In order to be considered for signing, all of the following criteria shall be met by the regional shopping center requesting signing:



1. At least 600,000 square feet of retail floor space, all under one roof, available for lease.
2. At least two major department stores owned by a national or regional chain organization.
3. Located within two miles of the trunk highway intersection or interchange.
4. Located outside of the downtown or central business district, except in the Metro District.

6-7.09.13 Specific Service Signing Program (D9-X6)

The Specific Service Signing Program was mandated by the 1980 Legislature under Minnesota Statutes 160.292 to 160.297.

See these statutes for complete legislative intent.

- 1981 - permitted the inclusion of motels
- 1984 - permitted the inclusion of restaurants
- 1988 - added rural agricultural businesses and places of worship
- 1989 - added tourist-oriented businesses
- 1996 - added gasoline service station or other retail motor fuel business and optional business panel (logo)



Only Specific Service signs shall be installed on Specific Service sign assemblies.

To obtain signing under the Specific Service Signing Program, the application form shall be completed and submitted to the district traffic engineer. For a copy of the Application for Installation of Specific Service Signs see Forms 6.1A through 6.1E.

Definitions:

1. Specific Service - restaurants, rural agricultural or tourist-oriented businesses, places of worship, gasoline service stations or other retail motor fuel businesses, motels, resorts, and recreational camping areas.
2. Specific Service Sign - a rectangular sign panel no greater than 72" x 18" displaying the name or optional business panel, or both, of the specific service, the direction to, and where appropriate the distance to the facility.
3. Specific Service Sign Assembly - a combination of specific service sign panels on a single sign structure. The assembly shall be placed within the right-of-way on appropriate approaches to an intersection or interchange. Mn/DOT allows a maximum of four sign panels on a sign structure.
4. Specific Service Sign Cluster - a grouping of specific service sign assemblies on appropriate approaches to an intersection or interchange.

Specific Service signs may be provided for the following:

1. Gasoline service station or other retail motor fuel business - a business that provides vehicle services including fuel and oil; restroom facilities and drinking water; staff for continuous operation at least 12 hours per day, seven days per week; and public access to a telephone
2. Motel - defined in M S 157.15, sub. 7. It shall be licensed by the State Department of Health. Bed and breakfast facilities previously allowed signing as a tourist-oriented business that meet the motel criteria are eligible for signing as a motel.
3. Place of worship - (no legislative definition provided) Mn/DOT defines a place of worship as any church, chapel, temple, synagogue, mosque, building, area, space, plaza, or dwelling wherein or whereat respect, reverence, or devotion is paid to a Divine Being. There is no restriction on time or frequency of devotional activities. However, the place or structure should be primarily intended for such purpose, and may not be a private home or school or any other site which is not primarily a place of worship.

MS 173 allows religious notices signs to be permitted in areas adjacent to trunk highway right-of-way. If this type of signing is permissible and effective, specific service signs shall not be installed.

4. Recreational camping area - defined in MS 327.14, subd. 8.

The recreational camping area shall meet the following criteria:

- a. Be licensed by the State Department of Health.
 - b. Provide at least 15 camping spaces.
 - c. Provide modern sanitary facilities (flush, chemical, or incinerator toilets) and drinking water.
 - d. Services available 24 hours a day.
 - e. Accept all forms of campers (tent, trailer, motor home, etc). unless restriction is included in the official name, i.e. "Smith's Tent Camping" or "Joe's RV Camping".
5. Resort - defined in MS 157.15, subd. 11 as “a building, structure, enclosure, or any part thereof located on, or on property neighboring, any lake, stream, skiing or hunting area, or any recreational area for purposes of providing convenient access thereto, kept, used, maintained, or advertised as, or held out to the public to be a place where sleeping accommodations are furnished to the public, and primarily to those seeking recreation for periods of one day, one week, or longer and having for rent five or more cottages, rooms, or enclosures.”
 6. Restaurant - defined in MS 157.15, subd. 12.

The restaurant shall meet the following criteria:

- a. Provide a continuously staffed food service operation open at least four hours a day, five days a week except holidays as defined in MS 645.44, subd. 5, and except as provided for seasonal restaurants,
- b. Provide seating for at least 20 people,
- c. Serve meals prepared on the premises (reheated, prepackaged, ready-to-eat food is not food prepared on the premises), and
- d. Possess any required state or local licensing or approval.

Seasonal restaurants shall provide a continuous, staffed food service operation at least four hours a day, five days a week, during their months of operation.

7. Rural agricultural business - defined in MS 160.292, subd. 20. Mn/DOT further defines a rural agricultural business as any commercial activity engaged in as a means of livelihood or profit, located completely outside any urban district or suburban area or residence district or business district, which receives the major portion of its income from providing goods, services, commerce trade, or industry directly related to agriculture or providing for the care and well-being of animals. Year-round businesses shall be open a minimum of eight hours per day, six days per week, and twelve months per year. Seasonal businesses shall be open eight hours per day, six days per week, during the normal seasonal period.

Agriculture is the science or art of cultivating the soil, producing crops, or raising livestock of any kind, and in varying degrees preparing these products for marketing and consumer use.

Rural agricultural businesses shall be located in rural areas in order to be eligible.

The following is a list of eligible rural agricultural businesses:

Agricultural equipment	Kennel
Commodity storage/elevator	Orchard/produce sales
Farm implement dealer	Tree farm, nursery
Food, seed, fertilizer store	Veterinary clinic
Greenhouse	Welding & machine shop for
Humane society	agricultural equipment

8. Tourist-oriented business - Mn/DOT defines a tourist-oriented business as a generally interactive recreational based business that receives a majority of its income or visitors from tourism. A business shall have a majority of its retail floor space dedicated to the specific type of business for which signing is being requested. Year-round businesses shall be open a minimum of eight hours per day, six days per week, and 12 months per year. Seasonal businesses shall be open eight hours per day, six days per week, during the normal seasonal period.

- a. Antique shop - a business where at least 50 percent of the total inventory is at least 50 years old.
b. Bookstore - a business where at least 25 percent of the total inventory is over 50 years old.

The following is a list of businesses that are eligible for signs:

Amusement park	Marina, boat launch, guide service
Antiques, antique shop	Recreational rentals (bicycle, boat, canoe, jet ski, snowmobile)
Archery range	Riding stable
Bait and tackle	Trap & skeet shooting range
Bookstore	Wildlife park, animal park
Gift, craft, art sales	
Miniature golf, driving range	

The following is a list of businesses (not all inclusive) that are not eligible for signs:

Barber shop	Laundromat
Bowling alley	Live theater (orchestra, band concert)
Butcher shop	Lumber yard
Car sales/service/rental	Movie theater
Car wash	Performing arts theater
Carpet sales	Pet shop
Convenience store	Recreational equipment sales/service
Day care center	Recreational vehicle sales/service/rental
Flea market	Repair business
Grocery store	Second hand store
Gun shop	Softball, baseball, soccer field
Hardware store	Storage facility
Ice cream shop	Any other predominately retail, business, or manufacturing center

In addition to the general criteria for all signing programs, all of the following criteria apply for the Specific Service Signing Program.

1. Specific Service signs may be installed in rural areas at at-grade intersections on conventional highways and expressways, and on rural bypasses of outstate municipalities that have interchanges at intersections of trunk highways with local roads or with other trunk highways.
2. A Specific Service sign is allowed on an approach to an intersection if either one or both sides of the approach meets less than four of the following factors:
 - a. Within corporate limits
 - b. Curb and gutter
 - c. Sidewalk
 - d. Street lighting
 - e. Posted speed limit of 45 mph or less
 - f. Zoning (commercial, industrial, retail, residential)
 - g. Platted development
 - h. Multi-lane divided highway
 - i. Established local road system
 - j. Frontage road
3. The Minnesota Statutes are not perfectly clear on urban qualifying businesses to be signed at rural intersections. The general authorization for each of the four basic combinations of specific service/intersection locations is summarized as follows:
 - a. Service rural, intersection rural - Authorized
 - b. Service rural, intersection urban - Not Qualified
 - c. Service urban, intersection urban - Not Qualified
 - d. Service urban, intersection rural - the following criteria need to be considered:
 - 1) The environment of the rural intersection as well as municipal boundaries.
 - 2) Straight ahead signing if overlapping routes are involved and one route does not serve the municipality.See Figures 6.37A & 6.37B to clarify questionable situations.
4. In order to be considered for signing on trunk highways, the following criteria shall be met by the specific service requesting signing:
 - a. The business shall conform with all applicable laws and rules concerning the provisions for public accommodation without regard to race, religion, color, sex, or national origin.
 - b. The business shall be located within 15 miles of the signed intersection or interchange.
5. Signing shall not be provided if the facility is readily visible or if effective off right-of-way directional signing is present or can be provided. Visibility from the approach to an intersection may be determined by adding 175 feet to Condition B (deceleration to ten mph from the posted speed) in MN MUTCD Table 2C-4. If the facility can be readily identified or effective off right-of-way directional signing is legible at this distance, or beyond, then signing is not allowed.
6. A facility is limited to signing at one intersection or interchange on the trunk highway system. Additional signing may be considered when the facility is located between, or approximately equal distance from, two or more trunk highways.
7. When a place of business is located off a conventional highway and can be served by two intersections with a local road (e.g. a bypass), one sign may be installed at each of the two intersections, so as to provide the shortest route for motorists on the conventional highway.
8. A facility that meets eligibility criteria from only one approach to an intersection or interchange shall only be signed from that approach.

Specific Service signs should be installed in accordance with all of the following:

1. Priority of installation

- a. A business shall not be allowed to “bump” another business from a specific service sign.
- b. If two or more eligible businesses apply at the same time, year-round businesses shall have priority over seasonal businesses.
- c. Left - or right-oriented businesses have priority over straight-ahead oriented businesses. If a business is eligible for a left or right directional sign panel on one approach, then it is eligible for a straight-ahead directional sign panel on the other approach. Although straight ahead signing is to be discouraged, it may be permitted at certain intersections.

2. Sign placement

- a. No specific service sign or assembly shall be placed at a location that will interfere with other necessary signing as determined by the Commissioner of Transportation. If space is unavailable, requests shall be denied.
- b. A specific service sign on a ramp shall not be allowed if the business is readily visible from the ramp terminal or effective directional signing is visible.
- c. A specific service sign should be installed on the right side of the roadway.
- d. A sign assembly shall be limited to four panels. Assemblies on mainline approaches to interchanges are limited to three panels and one action message panel, e.g. NEXT RIGHT.
- e. Specific service signs shall be installed at least 300 feet from any in place signs on a conventional road. In place signs are not to be removed to accommodate specific service signs. The maximum number of specific service sign assemblies per intersection approach shall be the number of structures that can be placed within a half mile of the intersection.
- f. Specific service signs shall be installed at least 400 feet from any in place signs on an expressway. The maximum number of specific service sign assemblies per interchange approach shall be the number that can be placed either within one half mile of the exit ramp gore or past the previous interchange entrance ramp, whichever distance is the shortest.

3. Order of installation

The following sequence of signs shall be used at intersections on conventional highways to integrate specific service signs with other traffic signs in a uniform manner. The signs are listed in the order that a motorist would encounter them as they approach an intersection. The spacing of the signs shall be as shown in Figure 6.33.

- a. Junction assembly (if applicable).
- b. Road name advance sign (if applicable).
- c. Directional sign to cities (if applicable).
- d. Other guide signing (hospital, landfill, etc. if applicable).
- e. In place RESORT/CAMPING motorist service signs (D9-X3 and D9-X4).
- f. Specific Service Sign (D9-X6) or assembly(ies).
- g. Road name with arrow sign at or near intersection (if applicable).
- h. Route marker directional assembly at intersection (if applicable).
- i. Turn lane sign, where a turn lane is in place.

4. Sign panel details

- a. All distances shall be shown in one mile increments. Those distances less than one mile shall be omitted.
- b. Left directional panels shall be mounted above right directional panels.
- c. Only one business shall be displayed on a sign panel.
- d. Businesses which have combinations of approved services may combine these names in their sign legend, if possible, e.g. "RESORT CAMPING", "MOTEL CAFE". The legend size shall not be reduced. Abbreviations may be required, but only standard abbreviations may be used.
- e. Proper name abbreviations may be used as determined by the district traffic engineer.
- f. Inappropriate business names shall not be allowed to be displayed on sign panels.
- g. Business Panels or Logos
 - 1) Size of the logo may be up to 48 inches long by 12 inches high.
 - 2) The logo shall be left-justified.
 - 3) A short business name may be displayed to the right of the logo.
 - 4) Logos shall not resemble traffic control devices.
 - 5) Inappropriate logos shall not be permitted.
 - 6) Businesses shall deliver the business panel (logo) to the Mn/DOT district office for installation.
 - 7) Sheeting should not exceed Mn/DOT's current sign sheeting standard.
 - 8) If a business panel (logo) is stolen or damaged beyond repair, the business shall supply a new business panel paid for by the business.
- h. Both the ramp sign and the mainline sign shall be identical in format. Ramp signs shall have left or right directional arrows (if needed) and mileage (for distances of one mile or greater). Mainline signs shall have the business panel and/or the name centered on the sign panel.
- i. All sign panels for seasonal services shall be covered or removed when the service is not available. A CLOSED plaque may be bolted over the arrow/distance portion of the sign panel, for seasonal businesses. CLOSED plaques shall only be required on the mainline sign and not on the ramp sign at an interchange.
- j. Specific service sign panel (D9-X6) details are shown in the Standard Signs Manual.
- k. One or two lines of legend may be used as needed on a panel, and directions and distance are to be shown as indicated in the drawing. Left directional arrows shall be on the left end of the panel, and right arrows on the right end.
- l. Legend size should be 5-inch, Series C upper case for specific service names, and 4-inch, Series D modified numerals for distance figures.



6-7.09.14 Tourist Information Signing Program (D9-10a)

Contact OTST for assistance with signing for Mn/DOT Travel Information Centers

In addition to the general criteria for all signing programs, Tourist Information signs may be installed on conventional highways, at at-grade intersections on expressways, and rural bypasses that have interchanges at non-trunk highways. In order to be considered for signing, all of the following criteria must be met by the tourist information facility requesting signing:



1. Located within one mile of the intersection or interchange in an urban environment and three miles in a rural environment as defined in the Minor Traffic Generator Signing Program criteria.

2. Requests shall only be accepted from a community group (e.g. chamber of commerce), business association, or governmental unit.
3. Only one site in a city or area may be approved for signing. Only Office of Tourism sites may be signed.
4. A sign shall be in place on the outside of the facility, clearly stating the operator and means of contact.
5. If the facility is operated seasonally, the signs shall be removed or covered; or closure clearly indicated.

6-7.09.15 Trail Access Signing Program

Signing may be permitted for access points to major recreational trails having improved and well maintained surfaces for hiking, biking, etc. All trails shall provide complete marking or trail maps for user guidance.



In addition to the general criteria for all signing programs, the following criteria apply for the Trail Access Signing Program.

1. Trail Access signs may be installed on all trunk highways, except in the Metro District where signs shall not be installed on freeways. In order to be considered for signing on trunk highways, the following criteria shall be met:
 - a. Parking shall be provided at the site or within the immediate vicinity. The parking facility shall be surfaced and maintained year-round. Parking shall be provided for at least 40 vehicles at freeway signed sites and at least 20 vehicles at other sites. Smaller lots are acceptable at remote areas with the approval of the district traffic engineer.
 - b. The minimum trail length shall be five miles.
 - c. All requests for signing to DNR provided public trails shall be approved by the DNR and Mn/DOT. Signing for other trails is at the discretion of Mn/DOT.
 - d. Access sites shall be located within ten miles of the interchange or intersection.
2. Signing shall only be allowed from the nearest trunk highway intersection or interchange. Signs directing motorists from one trunk highway to another trunk highway shall not be allowed.

Trail Access signs shall have a white legend and border on a brown background. The format of the Trail Access signs should be as follows:

1. Freeway - the official trail name and the freeway exit number.
2. Expressway interchanges - the official trail name and the message NEXT RIGHT.
3. At-grade intersections - the word ACCESS plus the official trail name and a directional arrow.

6-7.10 External Sign Variance Committee

Signing requests denied may be appealed to the External Sign Variance Committee (ESVC).

The group serves as a variance committee making recommendations to the Commissioner's Office on signing requests that have been denied by the district office. Those denials can be substantiated to have negative effects on the requester and/or motorists. The ESVC also reviews policies and criteria on informational signing matters.

The focal point for all sign requests shall remain with the district traffic engineer. If the district traffic engineer is uncertain as to whether or not a specific signing request should be approved, the request should be discussed with the district engineer. They will determine if the district will approve or deny the signing request. If Mn/DOT policies or guidelines do not address a specific signing request, the district should confer with OTST staff and other districts' staff since all signing requests have statewide implications. Once the district has made a ruling, the district traffic engineer will respond to the requester. If the request is denied, the requester can appeal to the ESVC for a variance. If the variance is granted, it does not change the guidelines covering that specific sign issue, but only that specific situation.

The ESVC is composed of persons outside of Mn/DOT who meet periodically to consider various requests for signing. The chair is a Mn/DOT employee who serves in a non-voting capacity to organize and schedule all functions of the ESVC. This individual serves as secretary and records decisions on sign variance requests. The chair represents the ESVC, not Mn/DOT, on all matters pertaining to the ESVC.

The procedures for this Committee are as follows:

1. A requester who has been denied signing by the district office and is interested in appealing the decision must request a hearing by the ESVC. The requester should contact the chair of the ESVC directly, and will then be advised of procedures and meeting date. The ESVC hears the requester's appeal and Mn/DOT's presentation separately.

The recommendations of the ESVC will be based on pertinent factors, and will always consider the degree of financial hardship to the requester and safety implications.

2. For each signing request, the recommendations made by the ESVC and the state traffic engineer are forwarded to the Commissioner's Office for review. Presentations on each request are made to a special committee (Internal Sign Variance Committee) appointed by the Commissioner for final concurrence or denial. The requester and the district involved will be notified by the chair of the ESVC of the decision made by the Commissioner.

6-8.00 APPLICATION GUIDELINES - MISCELLANEOUS SIGNS

6-8.01 Adopt-A-Highway Sign Program (I-X1)

This signing program is administered by the district offices under the direction of the Office of Maintenance and Security. Mn/DOT shall fabricate and install signs. One sign shall be installed in each direction at the beginning of the adopted highway segment. Volunteer group names shall be limited to a maximum of eighteen (18) characters per line to maximize legibility. Each space between words and each type of punctuation takes up a character on a line.



Adopt-A-Highway signs are not allowed on Metro District freeways. If a section of freeway is approved for litter removal, a 42" x 24" sign shall be installed on the freeway entrance ramp.

A 60" x 18" plate with the words THIS SECTION AVAILABLE should be attached to the bottom half of the 60" x 36" sign panel if a group ceases to participate in the Adopt-A-Highway program and no other group adopts that section of highway for a period of time. This plate is to be attached to the sign panel with bolts utilizing spacers to minimize damage to the retroreflective sheeting on the overlaid sign panel. The colors on the bottom 60" x 18" portion of the sign panel were reversed (white legend and border on blue background) in 2006. A 60" x 18" panel may be attached to the bottom half of the 60" x 36" sign panel for new volunteer groups until the 60" x 36" sign panel reaches the end of its useful life. At that time, the complete sign panel shall be replaced with the new sign panel design.

A Reference Location sign panel may be combined with an Adopt-A-Highway sign panel on the same structure. For ease of reference and termini location for litter pickup, many districts have installed the Adopt-A-Highway signs either adjacent to, or in close proximity to reference post markers on rural sections of freeways and expressways.

Rather than two separate sign structures close together, both sign panels may be combined on one sign structure in accordance with all of the following criteria:

1. The Adopt-A-Highway sign panel is the primary sign panel on the sign structure.
2. At the correct Engineering station for the Reference Location sign, install a 2-1/2 pound or 3 pound per foot U-post structure to provide an offset of 12 feet from the edge of the shoulder to the left edge of the Adopt-A-Highway sign panel. Install the sign structure in accordance with Figures 6.3A, 6.3B, and 6.3C and Charts 6.2 or 6.3, and 6.4.
3. Attach the Adopt-A-Highway sign panel to the sign structure as shown in Figure 6.3A and meet the following minimum clearances (or see Figure 6.2):
 - a. A minimum clearance of six feet from the surface of the nearest traffic lane to the bottom of the sign panel.
 - b. A minimum clearance of seven feet measured perpendicular from the ground line to the bottom of the sign panel.
4. Attach the reference post marker to the left vertical post, directly below the Adopt-A-Highway sign panel with mounting hardware shown in Figure 6.3B.

See Forms 6.3A and 6.3B for a copy of the Adopt-A-Highway agreement form.

6-8.02 Adopt-A-Rest Area Sign Program

Rest areas/wayside rests (Class II and Class III Rest Areas) may be adopted by groups for the purpose of litter pickup, similar to adopting a portion of highway. These rest areas typically are located off the interstate highway system. Rest areas which are maintained by the Green View organization may not be adopted under the Adopt-A-Rest Area guidelines.

One ADOPT-A-REST AREA sign (I-X1), 42" x 24" may be installed along the exit ramp or road into the rest area or in the rest area at a site determined by the Site Development staff.

All other pertinent guidelines of the Adopt-A-Highway program shall apply to the Adopt-A-Rest Area program.

See Forms 6.4A and 6.4B for a copy of the Adopt-A-Rest Area agreement form.

6-8.03 Community Destination Sign Program

1. Introduction

The community must develop a master plan for Community Destination signing which contains a map of the community, including the city street/local road system and a concept design of a typical community destination sign, which may include the city logo or name and up to a total of three destinations/attractions.

2. Community Map

The map of the community shall include:

- a. Exact locations of private and publicly owned destinations and attractions to be included in this signing program. Destinations or attractions must be of general interest to the traveling public and shall not be a retail, business, or manufacturing center. In addition, this type of signing shall not display advertising for a commercial product or service.

Only those destinations/attractions which qualify under Mn/DOT's Minor Traffic Generator Signing program guidelines are eligible for signing (contact the Mn/DOT district traffic engineer to obtain the listing of destinations/attractions eligible for signing). Community requests for other types of destinations/attractions may utilize Mn/DOT's sign variance process.

- b. Conventional highway and expressway approaches to city street/local road intersections where signing is proposed.
- c. Which destination(s) and attraction(s) are to be signed on each conventional highway and expressway approach at each city street/local road intersection.
- d. City street/local road intersections where trailblazing signing is required to direct motorists to each facility. If signing is approved on the conventional highway or expressway to a facility, trailblazing signing shall be installed on the city streets/local roads by the community before signing is installed on the conventional highway/expressway.

3. General Requirements

The master plan shall be submitted to the Mn/DOT district traffic engineer for review. A resolution (see Form 6.5) shall be included with the submission of the master plan. This submission shall be initiated and coordinated by the community, and identify one contact (lead) person in the community through which all Mn/DOT correspondence and contact will be made.

If a community obtains Mn/DOT approval for Community Destination Signing, Mn/DOT will remove any existing minor traffic generator signs within the community. No requests for minor traffic generator signing will be approved within the community while the Community Destination Signing program is in effect.

For those facilities that Mn/DOT considers eligible for signing on state trunk highways, the eligible community is responsible for the construction, installation, and maintenance of the community destination sign structures and sign panels at its own expense.

If community destination signs are not properly maintained, Mn/DOT shall request that the community remove the signs at its own expense. If the signs are not removed within 30 days of notification, Mn/DOT will remove the community destination signs at the expense of the community.

4. Criteria for Community Destination Signing

- a. Signing may be permitted on conventional highways and on expressways with at-grade intersections located within a community.
- b. Sign locations on conventional highways and expressways shall be approved by the Mn/DOT district traffic engineer. Installation of signs shall be through the Mn/DOT permit process.
- c. Only one sign structure is allowed in each direction approaching an intersection and shall be located on the right side of the roadway.
- d. Sign locations shall be approved by the district traffic engineer. The MN MUTCD, Section 2A-16 states "Signs requiring different decisions by the road user shall be spaced sufficiently far apart for the required decisions to be made safely. One of the factors considered when determining the appropriate spacing shall be the posted or 85th-percentile speed limit."
- e. A sign shall not obscure or detract from any existing traffic control devices.
- f. If a sign structure is located in the clear zone, it shall meet Federal Highway Administration breakaway requirements or be protected as approved by the Mn/DOT district office.
- g. Sign panel offset and mounting heights shall be in accordance with the MN MUTCD.
- h. Signing is allowed for left and right turning movements; straight ahead confirmatory signing may be permitted in unique circumstances.
- i. A specific destination may only be displayed on one sign structure in each direction on a conventional highway or expressway unless straight ahead confirmatory signing is also approved by the Mn/DOT district traffic engineer.

- j. Sign lighting shall not obscure or detract from any existing traffic control devices and shall be in conformance with MS 173.16, subd. 3.
- k. Roadway reconstruction and/or installation of new regulatory, warning, or guide signs may necessitate relocation or removal of community destination signs by the community at its own expense.

5. Sign Design Criteria

- a. The sign panel background, or the predominant color, may be any color except Federal Highway red, yellow, or orange.
- b. The sign panels shall be made of retroreflective sheeting no more retroreflective than High Intensity Sheeting. See Mn/DOT Standard Specifications for Construction (Mn/DOT Spec.), Section 3352.2A2b). Fluorescent sheeting shall not be used on sign panels.
- c. The sign base material shall be sheet aluminum. See Mn/DOT Spec., Section 3352.2A1a.
- d. If separate sign panels are to be used, each sign panel should not exceed six feet in length and two feet in height.
- e. A city logo or symbol, if displayed, shall be placed at the top of the sign structure (independently or on the top of a sign panel). It shall be simple and easily recognizable.
- f. A city name, if displayed, shall be placed near the top of the sign panel. The lettering shall be of a font style and high color contrast for motorists to read at normal highway speeds.
- g. Logos for destinations and attractions are not permitted (since the traveling public will not recognize logos of local destinations).
- h. Up to three destinations/attractions may be displayed on a sign structure (three separate sign panels or one sign panel with three destinations).
- i. Destinations/attractions shall be displayed (from top to bottom of sign) in the following sequence: left-oriented destination/attraction (closest to furthest) followed by straight ahead and then right-oriented destinations/attractions (closest to furthest).
- j. Lettering shall be 5-inch high Series C Federal Highway Gothic font (or a similar font style that does not detract noticeably from legibility) with a maximum number of 14 characters per line (including spaces between words). Abbreviations, if used, shall be standard abbreviations.
- k. Lettering and arrows shall be the same color.
 - l. Arrows shall be Mn/DOT standard arrows or similar so as to be legible and not a distraction.
 - m. Arrows shall not have encircling accents or contrasting mini-backgrounds.
 - n. Left arrows and upward pointing arrows shall be displayed on the left side, and a right arrow on the right side of a sign panel. If a border is used, it shall be plain, not decorative.
 - o. All sign panel designs should be reviewed by the Mn/DOT district traffic office before fabrication.
 - p. The sign shall not contain any animated or moving parts or flashing disks.
 - q. Distracting flashing or moving lights are not allowed. Lighting which presents a new message, pictorial image, or changes illumination at a rate less than once every six seconds is determined to be a flashing or moving light and is in violation of MS 173.15, subd. 7.

6-8.04 DNR PUBLIC WATER ACCESS Sign (DNR NRM 8.2.35)

The DNR may continue its current sign replacement program (replacing existing 12" x 18" signs with new 18" x 24" signs) in accordance with all of the following:



1. DNR staff will remove any PUBLIC WATER ACCESS sign panel attached to a Mn/DOT sign structure and install it on its own sign structure, which shall be an FHWA accepted breakaway sign support.
2. The location of the DNR sign structure shall be authorized by the Mn/DOT district traffic office.
3. The sign installation shall not hide from view nor interfere with the effectiveness of any official traffic control device.

6-8.05 General Service Signs

The MN MUTCD, Section 2D.45, addresses General Service Signs.

6-8.05.01. Emergency 911 sign

This sign informs motorists entering Minnesota that emergency services may be reached by dialing 911. It shall be installed within five miles of the state border on major entry points into the state. Additional signs may be placed at locations such as airports, weigh stations, and rest areas.

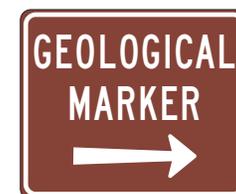
**6-8.05.02. Road/Weather Information System (R/WIS) sign**

Mn/DOT has approved signing for the R/WIS program, which provides road and weather information to the motorist. These signs have been installed statewide to promote this program.

**6-8.06 Geological Marker Sign (D5-X1C, D7-X1, and D7-X2)**

The Geological Society of Minnesota (GSM), a non-profit corporation, has constructed and maintained geological markers throughout the state for many years. The markers consist of descriptive bronze plaques, approximately 24" x 36" mounted on stone work pedestals or walls.

Many exist in Mn/DOT Rest Areas, Wayside Rests, Scenic Overlooks, and/or Wayside Historical Marker Sites. The markers detail the geological significance of the area near their location.



Mn/DOT-GSM cooperation occurred in the development of many sites located along conventional highways. Signing to these sites began in 1997, and will continue in accordance with the following guidelines.

6-8.06.01 Criteria

1. Sites shall be approved by the GSM.
2. Sites shall be located along conventional highways and expressways and easily accessible as part of a wayside development such as a wayside rest, scenic overlook, historical marker site, adjacent city parks, or similar sites.
3. Sites within state parks shall not be signed.
4. Sites shall not be signed along freeways.

6-8.06.02. Signing Method

1. Sites having only geological markers:
 - a. Install advance sign D7-X1, GEOLOGICAL MARKER ½ MILE on RIGHT/LEFT.
 - b. Install sign D7-X2, GEOLOGICAL MARKER with arrow at the entrance road or turnoff.
2. Sites located in other facilities (as listed above):
 - a. Install sign D5-X1C beneath the in place advance sign.
 - b. If there is no advance sign in place for the facility, install sign D5-X1C beneath the directional sign.
3. Signs shall have a white legend and border on brown background.
4. Sign fabrication, installation, and maintenance costs will be paid by Mn/DOT.

6-8.07 Reference Location Sign (D10-1, D10-2, and D10-3)

Reference Location signs, formally referred to as Reference Post markers, shall be erected along trunk highways to assist drivers in estimating their progress, provide a means for identifying the location of emergency incidents, and aid in highway maintenance. The zero mile point should begin at the south or west state line, and at the south or west junctions where routes begin. When a Reference location sign cannot be erected in its correct location, it may be moved up to 50 feet in either direction. If it cannot be placed within 50 feet of its correct location, it should not be installed.



Further information about Reference Location signs can be found in the MN MUTCD, Section 2D.45 and in Chapter 13 of the Traffic Engineering Manual, Chapter 13.

For the design and size of Reference Location signs refer to the MN MUTCD.

Mn/DOT installed One Tenth Mile markers on the interstate highway system to further enhance the usefulness of the Reference Location Sign System. Fabrication details are specified in Chapter 7.

6-8.08 Rest Area signing

Signing for Rest Areas may be found in the MN MUTCD.

6-8.08.01 Bus Parking in Rest Areas

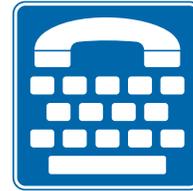
Signing within rest areas provides guidance to separate parking locations for autos and for trucks and trailers.

When the need arises to sign for bus parking in a particular rest area, the following signing and pavement message guidelines are recommended:

1. Fabricate and install a plaque reading Buses above the "Trucks/Trailers", "Autos" or "Trailers/Autos" sign located at the roadway split to the parking areas until such time that the existing sign panels are to be replaced. When the existing sign panels are due to be replaced, add the word "Buses" to the legend of the sign panel.
NOTE: The buses should be directed to that parking area which not only has the availability and storage capacity for parking, but also provides adequate year round access to the rest area facilities.
2. To designate the specific bus parking locations, either install pavement markings in the designated parking stalls or fabricate and install a sign reading BUS PARKING ONLY sign along side the designated parking stall(s).

6-8.08.02 Teletypewriter (TTY) Facility Signing in Rest Areas

This symbol sign provides travelers that have hearing impairments or speech difficulties advance notice of TTY equipped public pay telephones located in several Mn/DOT Class I rest areas.

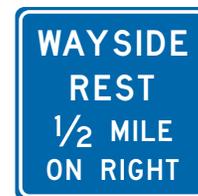


Guidelines for fabrication and installation of TTY sign panels are as follows:

1. The sign panel shall display the white TTY symbol on a blue background
2. The TTY symbol sign panel may be installed on an existing advance rest area sign structure for each of the rest areas equipped with TTY equipment. If there is more than one rest area sign, OTST and district traffic office staff will determine which advance sign structure will display the TTY symbol sign panel.
3. If the advance rest area sign panel is on a ground mounted sign structure, the TTY symbol sign panel shall be attached in accordance with the following size guidelines:
 - a. U-channel sign structures - the TTY symbol sign panel shall be 24" x 24". The sign panel shall be mounted directly below the rest area sign panel on the right U-channel post with standard sign panel mounting hardware.
 - b. I-beam sign structure - the TTY symbol sign panel shall be 30" x 30". The mounting will be determined by OTST and district traffic office staff.
4. If the advance rest area sign panel is mounted overhead, the TTY symbol sign panel shall be 30" x 30" and shall be mounted overhead. The mounting location will be determined by OTST and district traffic office staff. If there is more than one overhead mounted advance rest area sign panel, OTST and district traffic office staff will determine which advance sign structure will display the TTY symbol sign panel.
5. All costs for the TTY symbol sign panels (fabrication, installation, and removal) will be borne by Mn/DOT, since Mn/DOT is providing this equipment and let the statewide contract for the installation and maintenance of the TTY equipment in all Class I rest areas.

6-8.08.03 WAYSIDE REST Sign (D5-X1)

Wayside rests (State owned and maintained facilities only) are rest stop facilities with limited services located on conventional highways in rural areas. (See Figure 6.38) If the wayside rest is closed for the season, a CLOSED plaque may be installed as shown in Figure 6.38.



1. A WAYSIDE REST advance sign shall be installed approximately 1/2 mile in advance of the point of turn. When appropriate supplemental signs are used they shall be placed below the D5-X1 or the D5-X2 sign. If the wayside rest has only picnic tables, no supplemental signs shall be used.
2. A WAYSIDE REST with arrow sign (D5-X2) shall be installed approximately 200 feet in advance of the point of turn.

6-8.09 Seat Belt Sign (R16-X11 and R16-X12)

Seat Belt signs shall be installed on all trunk highways near the state entrance point. They are used to alert motorists entering Minnesota to the state law regarding seat belt usage and promote safety for the traveling public.



The R16-X11 sign shall be used at all state border entrances on the trunk highway system and at entrances from airports.

The R16-X12 (36" x 36") sign may be installed at an entrance from a weigh station, or a rest area.

The R16-X12 (18" x 18") sign may be installed at an entrance from a parking lot, or a park and ride lot.

6-8.10 Sign Attachments

The purpose of attention getting devices, in the form of flags and/or orange horizontal panels, is to advise motorists of a new sign, an altered traffic control condition or similar situation where an eye-catching device is desirable to alert the repeat driver of the change. The flags are normally mounted above a new or altered traffic sign. Horizontal panels are always mounted above a new or altered traffic sign.

6-8.10.01 Horizontal Panels (Batten Boards)

1. General

Horizontal panels as attention getting devices on signs are recommended only for usage on a limited basis, based on a site by site evaluation. Overuse of this type of attention getting device could easily lead to proliferation statewide which may decrease the effectiveness of this device.

2. Design

All horizontal panels shall be fabricated using fluorescent orange prismatic sheeting.

The size of horizontal panels shall be based on a height to width ratio of 1 to 3. The width shall not exceed that of the sign it is being placed above. For diamond shaped warning signs, the height to width ratio is based upon the dimension measured along one side of the sign.

3. Permanent Use

Horizontal panels may be installed above any regulatory sign, except not above STOP or YIELD signs.

Horizontal panels should only be considered if other methods (such as sign enlargement, additional median mounted signs, etc.) have been attempted without positive results. Any one of the following criteria may justify their use:

- a. The location has an unusually high rate of violations when compared with other similar types of locations within the district.
- b. The location has an extreme sight distance limitation where the sign is not visible or legible for a sufficient distance.
- c. Geometric or engineering factors which may indicate that some specific existing sign(s) needs additional motorist' attention.

Any horizontal panel may be retained until the end of its useful life or when it is no longer needed.

4. Temporary Use

Horizontal panels may be installed above any warning or regulatory sign, but not above STOP or YIELD signs. It is recommended they be installed for a period of approximately three months. However, at those locations where they need to be retained longer, they should be removed within one year of original installation.

Any one of the following criteria may justify the use of horizontal batten boards:

- a. The location has a change in traffic control.
- b. The location has a change in permanent signing.
- c. It is determined that additional attention to a situation is required for a period of time, not to exceed one year.

6-8.10.02. *Flags*

The temporary use of non-metal flags is permitted as stated in the MN MUTCD. Non-metal flags may be used for up to three months and should then be removed.

Other types of attention getting devices, such as flags (cloth, metal or plastic), may be used on a temporary or permanent basis. Metal or plastic flags shall be fabricated using fluorescent orange diamond grade retroreflective sheeting.

6-8.10.03. *Un-authorized Sign Attachments*

Extraneous and unauthorized sign panels should be removed and no such attachments are permitted on any signs on the trunk highway system.

6-8.11 Test Section Signing

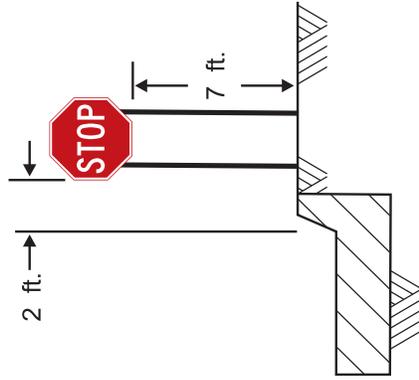
Test sections are developed and monitored by the Office of Materials and Road Research and by district maintenance forces. Test sections should be signed in accordance with all of the following guidelines.

1. Each test section shall have an identifying number.
2. The Office of Materials and Road Research should track these sections and work with the district traffic and materials engineers to determine which test sections should be signed.
3. Test sections shall be identified by one of the following methods:
 - a. The preferred method is paint, retroreflective tape, or some other device embedded in the pavement at the outside edge of the shoulder (if paved) or the edge of the roadway.
 - b. Signs or markers located at the edge of the right of way line. If this method is used, a sign panel should identify the number of the test section. The sign panel shall have black, 2-inch high numbers and border on a white non-retroreflectorized background. It shall be attached to a lightweight two pound per foot U-post or plastic delineator post and positioned so the sign panel faces the roadway.
4. All test section signing installations should be coordinated by the district traffic offices.
5. All in place test section signs should be removed at the end of their useful life, with the exception of SHRP signing which should be retained as long as the program is still operating.

If a test section is to be retained when signs are due to be removed, the test section, with the exception of SHRP signing, should be identified by one of the methods specified in Item 3.

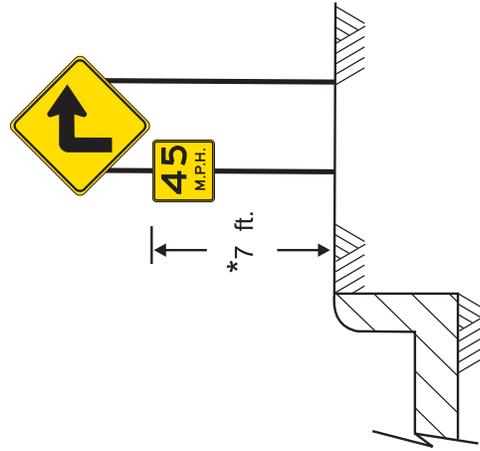
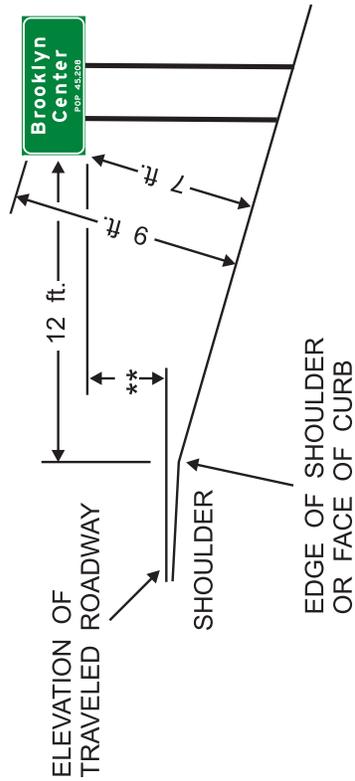
URBAN

TYPICAL SPEEDS
BELOW 45 MPH



RURAL

TYPICAL SPEEDS
45 MPH AND ABOVE



NOTE: All dimensions are minimums.

* A secondary sign (e.g. advisory speed) mounted on a single post of a multi-post structure does not affect the mounting height of the primary sign.

** 5 feet Conventional road, 7 feet Expressway or Freeway.

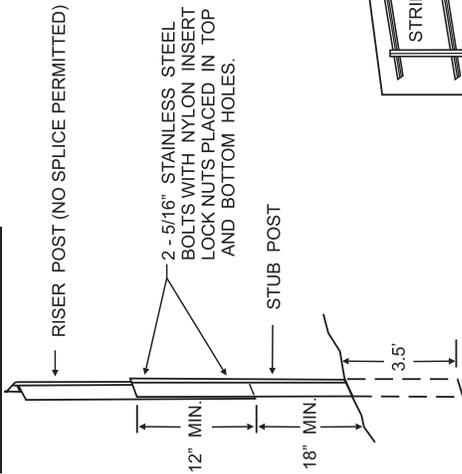
Text Ref.: 6-4.07.02

March 1, 2008

SIGN PLACEMENT

**FIGURE
6.2**

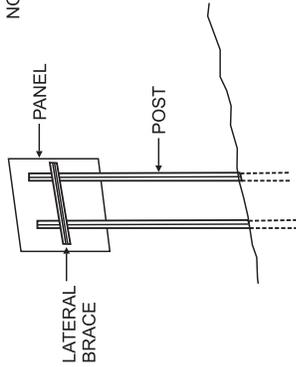
TYPE C & D POST



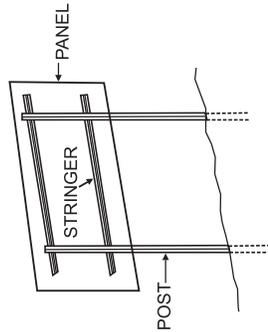
NOTES:

1. USE 3 LB/FT. STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO M/N/DOT 3401.
2. FOR TYPE D SIGN POSTS, LENGTH, AND SPACINGS, SEE SIGNS DATA SHEET.
3. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24 IN CH MAXIMUM INTERVALS IN ACCORDANCE WITH TYPE D STRINGER AND PANEL JOINT DETAIL. (SEE M/N/DOT STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE M/N/DOT STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7 FEET LONG.
6. USE STAINLESS STEEL 5/16 INCH BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4 INCHES ABOVE GROUND AND IMBEDDED AT LEAST 3-1/2 FEET.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO M/N/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH M/N/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. M/N/DOT 3352.2A5.
11. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60 INCH OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.
13. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

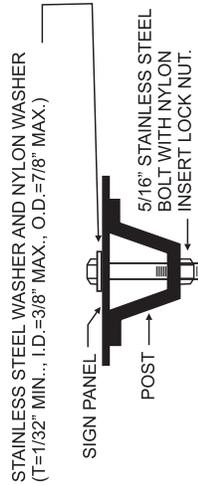
TYPICAL TYPE C INSTALLATION



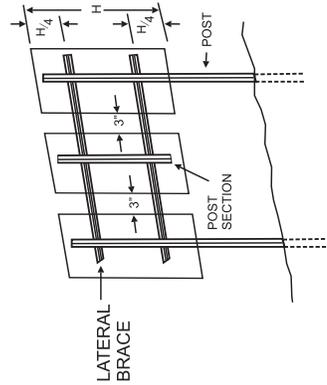
TYPICAL TYPE D INSTALLATION



U POST MOUNTING TYPE C SIGNS



MODIFIED TYPE C INSTALLATION



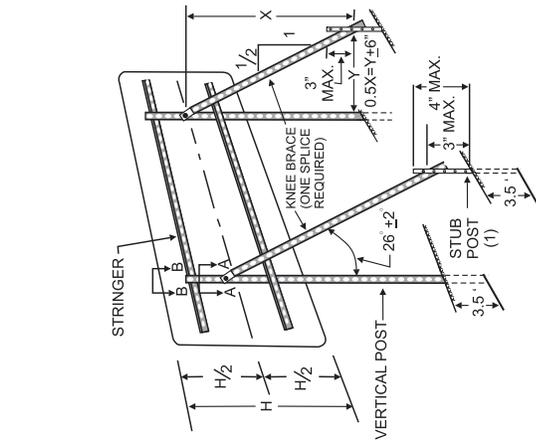
Text Ref.: 6-4.08.01

Rev: 8-5-08

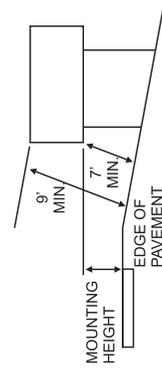
March 1, 2008

**TYPE C & D SIGN
STRUCTURE DETAILS (SHEET 1 OF 3)**

**FIGURE
6.3A**

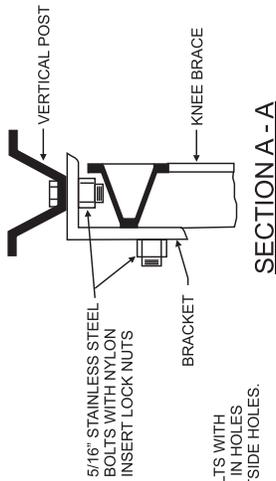


TYPICAL "A-FRAME" INSTALLATION
TYPE D SIGNS

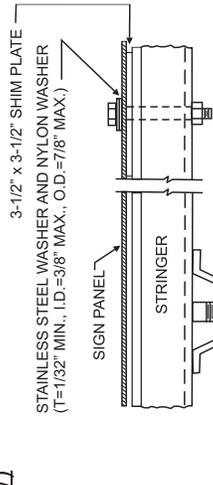


TYPICAL MOUNTING

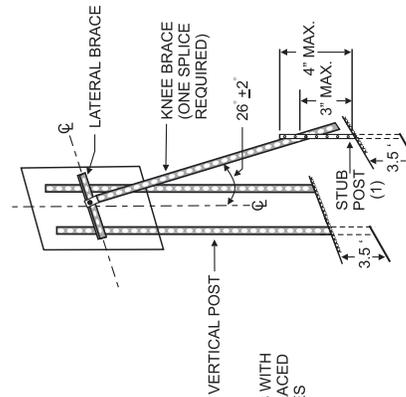
- (1) OFFSET STUB POST 1 FOOT TOWARD ROADWAY RELATIVE TO VERTICAL POST. ATTACH STUB POST AND KNEE BRACE BACK-TO-BACK.



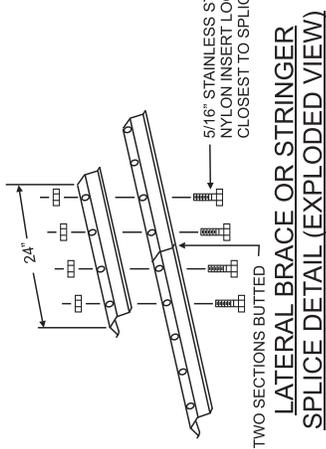
SECTION A - A



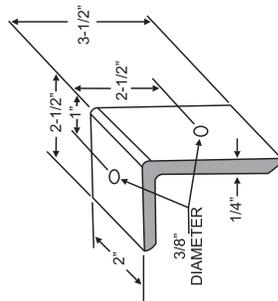
SECTION B - B



TYPICAL "A-FRAME" INSTALLATION
TYPE C SIGNS

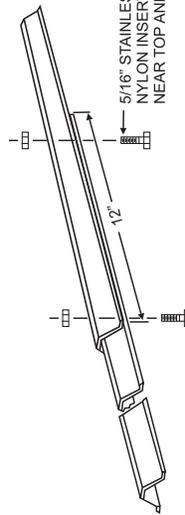


LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



A-FRAME BRACKET

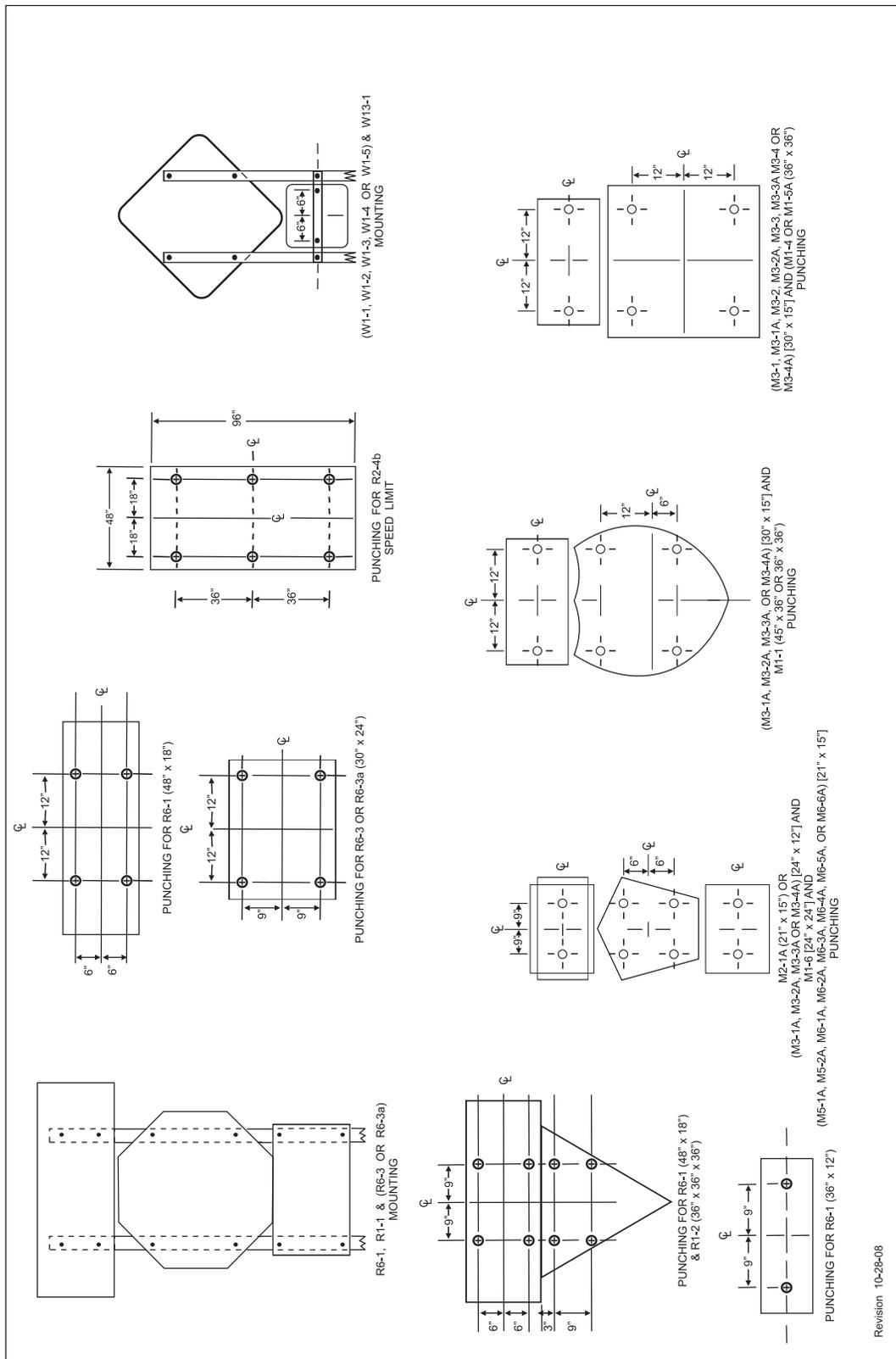
(STEEL M_n/DOT 3306 GALVANIZED PER M_n/DOT 3394)



KNEE BRACE SPLICE

Text Ref.: 6-4.08.01

REVISED: 1-7-08

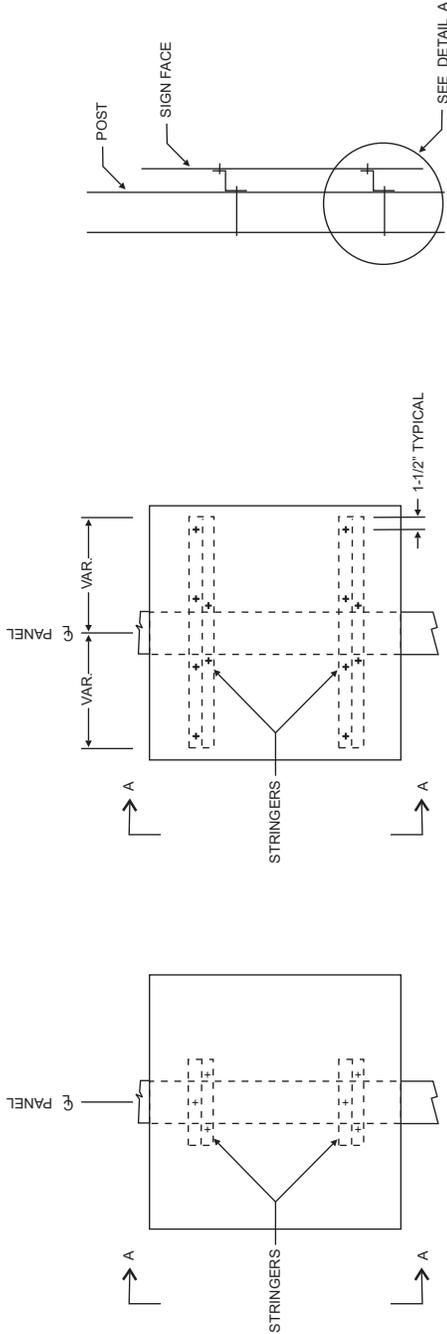


Text Ref.: 6-4.08.01

October 28, 2008

**TYPE C & D SIGN
STRUCTURE DETAILS (SHEET 3 OF 3)**

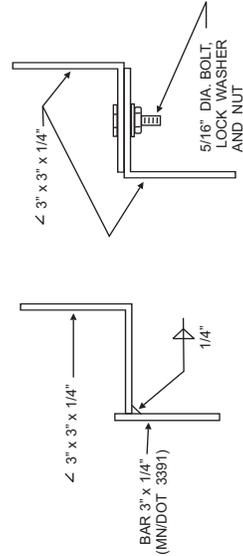
**FIGURE
6.3C**



VIEW A-A

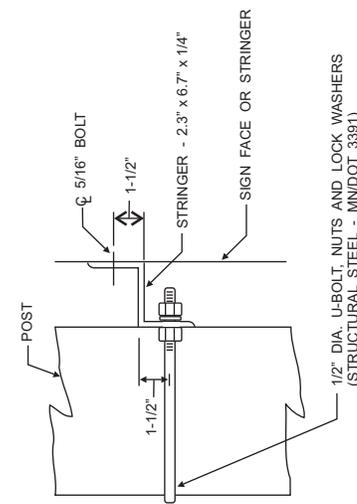
- NOTES:
1. FOR DETAILS AND NOTES NOT SHOWN, SEE TYPE C & D SIGN DETAILS. FOR BACK TO BACK MOUNTINGS, ROTATE STRINGERS FOR ONE PANEL 180° FROM WHAT IS SHOWN SUCH THAT PANELS CAN BE MOUNTED AT THE SAME ELEVATION.
 2. DETAIL A STRINGER MAY BE ONE OF THE THREE DESIGNS DETAILED OR AN APPROVED EQUAL STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH MINDOT 3306 AND GALVANIZED IN ACCORDANCE WITH MINDOT 3394. FASTENERS SHALL BE IN ACCORDANCE WITH MINDOT 3391.2B AND SHALL BE GALVANIZED EITHER BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153, OR BY THE MECHANICAL PROCESS IN ACCORDANCE WITH ASTM B695, CLASS 50 OR GREATER.

ELEVATION



DETAIL A STRINGER ALTERNATIVES

ELEVATION



DETAIL A

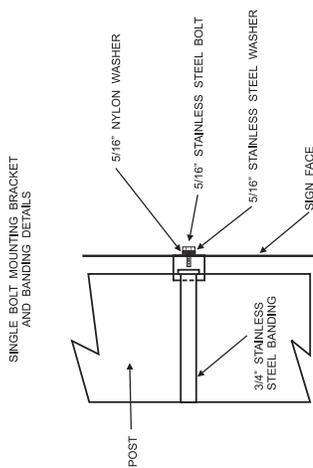
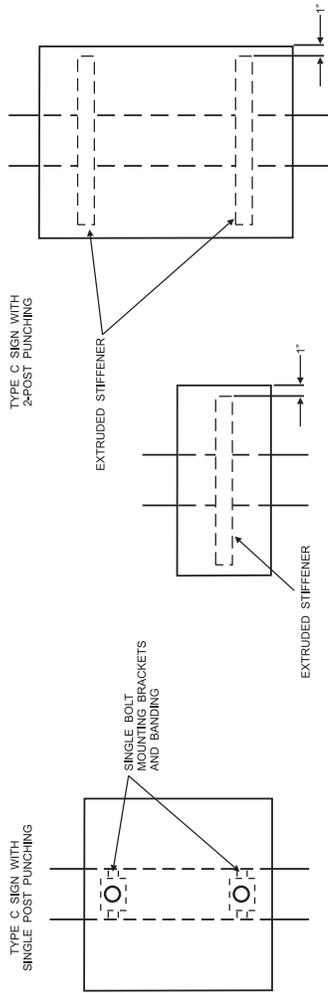
Text Ref.: 6-4.08.01

Revised 3-13-00

March 1, 2008

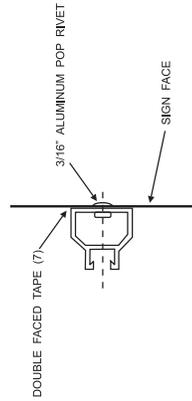
TYPE C SIGNS MOUNTED ON O-POSTS, OH SIGN POSTS OR SIGNAL STANDARDS

FIGURE 6.3D

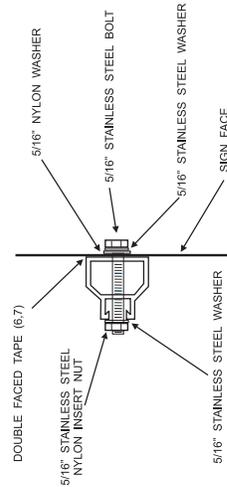


- NOTES:
1. FOR DETAILS AND NOTES NOT SHOWN, SEE TYPE C AND D SIGN DETAILS.
 2. FOR BACK TO BACK INSTALLATION, ROTATE STIFFENERS FOR ONE PANEL 180 DEGREES SUCH THAT PANELS CAN BE MOUNTED AT THE SAME ELEVATION.
 3. THE APPROVED STIFFENER IS THE SIGNIFY LARGE EXTRUSION SX0130, MADE OF 6061-T6 ALUMINUM ALLOY OR APPROVED EQUAL.
 4. HORIZONTAL SPACING OF STIFFENERS SHALL BE ACCORDING TO THE PUNCH CODES AS SHOWN IN THE MOUNT STANDARD SIGNS MANUAL.
 5. MOUNTING HOLES ARE NOT REQUIRED ON SIGNS SMALLER THAN 6.3 SQUARE FEET EXCEPT ON SINGLE POST SIGN.
 6. ON SIGNS SMALLER THAN 6.3 SQUARE FEET, STIFFENERS ARE TO BE ATTACHED TO SIGNS WITH 3M VHB (VERY HIGH BOND) OR APPROVED EQUAL DOUBLE-FACED TAPE.
 7. ON SIGNS LARGER THAN 6.3 SQUARE FEET, STIFFENERS SHALL BE ATTACHED TO SIGNS USING 3M VHB (VERY HIGH BOND) OR APPROVED EQUAL DOUBLE-FACED TAPE AND SUPPLEMENTED WITH MECHANICAL FASTENERS, EITHER 3/16" DIAMETER POP RIVETS OR 5/16" DIAMETER BOLTS.
 8. THE APPROVED POLE MOUNTING PRODUCT IS THE ULTRA-LOK SYSTEM OF BANDIT-DEX, INC. USING 0.75" X 0.030" BANDING STRAPS OF TYPE 201 1/4" HARD STAINLESS STEEL.
 9. DOUBLE WRAPPED AROUND THE POLE OR APPROVED EQUAL, BAND PRETENSION SHALL NOT EXCEED 1300 POUNDS.
 10. ALL HARDWARE SHALL BE COMPATIBLE WITH THE APPROVED STIFFENER AND MOUNTING SYSTEMS.

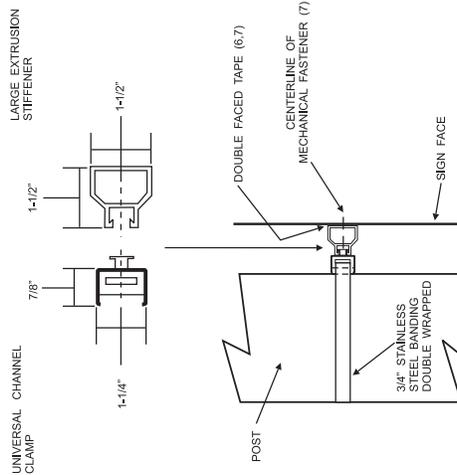
SUPPLEMENTAL POP RIVET ATTACHMENT



SUPPLEMENTAL BOLT ATTACHMENT



STIFFENER MOUNTING DETAILS

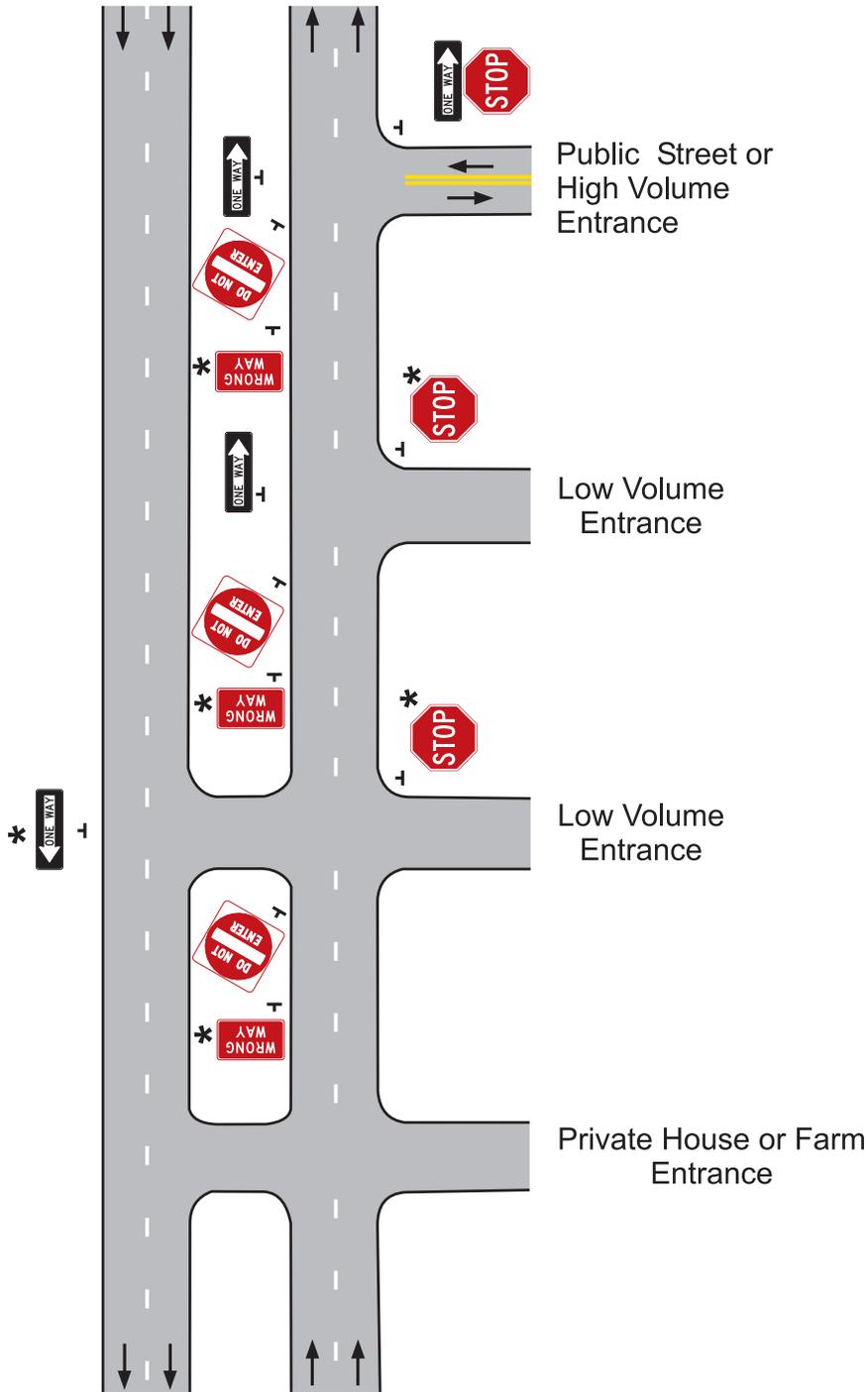


Text Ref.: 6-4.08.01

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ALTERNATE TYPE C & D SIGN MOUNTING SYSTEM

FIGURE 6.3E



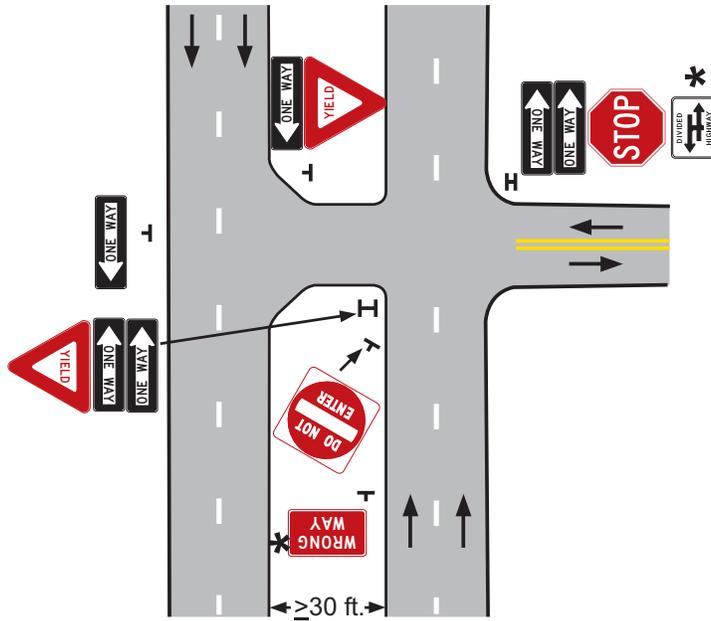
Legend
* Optional

Text Ref.: 6-5.02

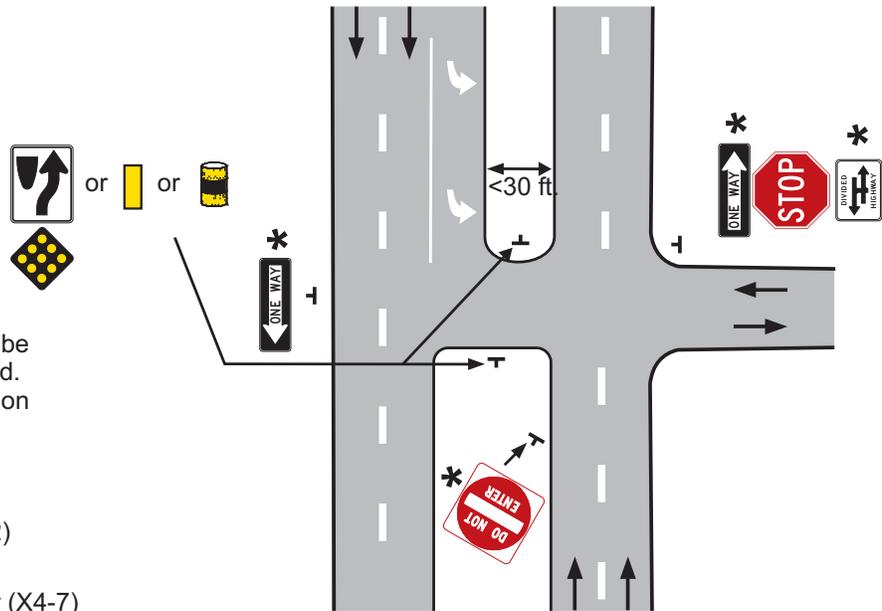
March 1, 2008

REGULATORY SIGNS ON DIVIDED HIGHWAYS AT ENTRANCES

FIGURE 6.4



MEDIAN 30 FT. OR GREATER



MEDIAN LESS THAN 30 FT.

Notes:

1. If "ONE WAY" signs are to be used, both shall be installed.
2. See Chapter 7 for application of markings.

Legend

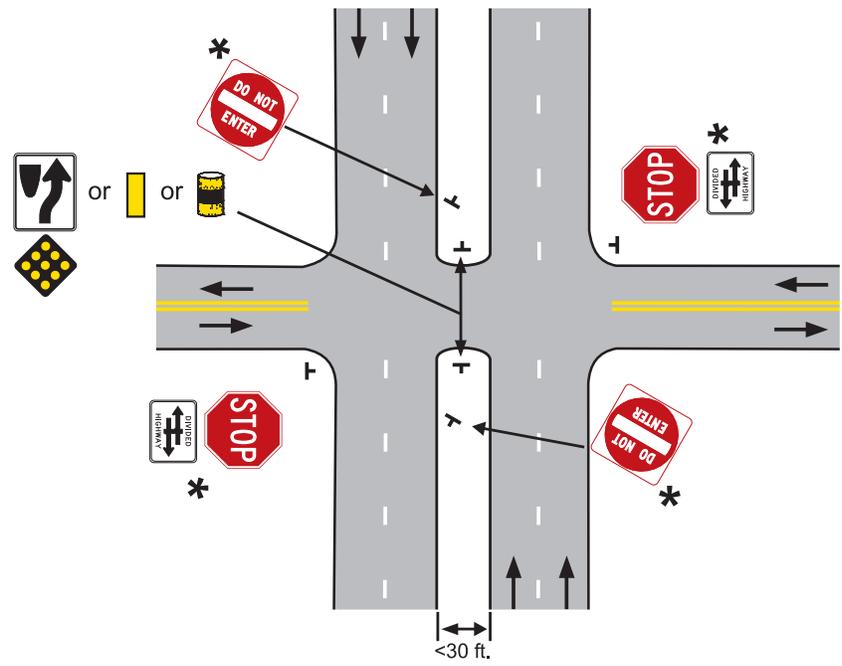
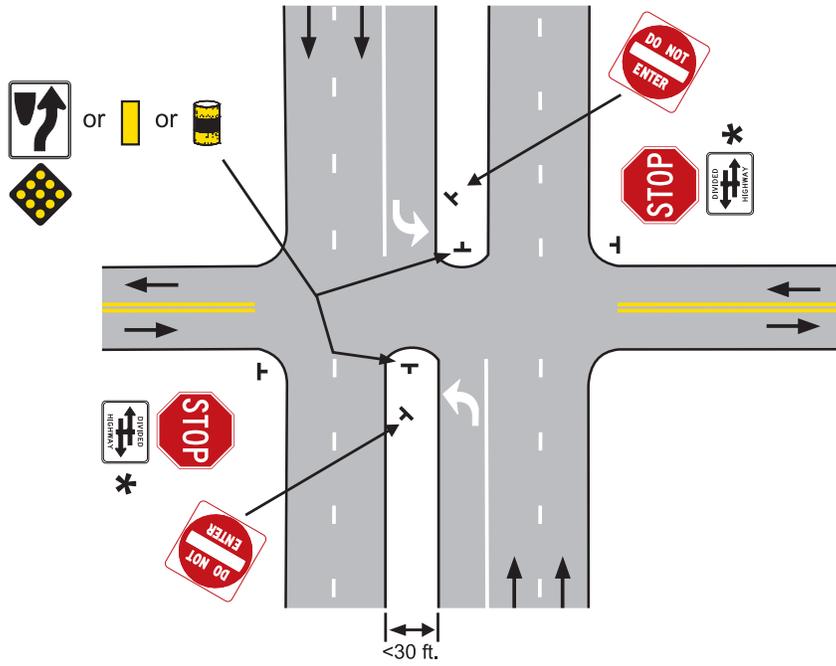
-  Hazard Marker (X4-2)
-  Alignment Delineator (X4-7)
-  Cylinder Style Delineator (X4-13)
- * Optional

Text Ref.: 6-5.02

March 1, 2008

REGULATORY SIGNS FOR DIVIDED
HIGHWAY - T INTERSECTIONS

FIGURE
6.5



Note:
1. See Chapter 7 for application of markings.

Legend

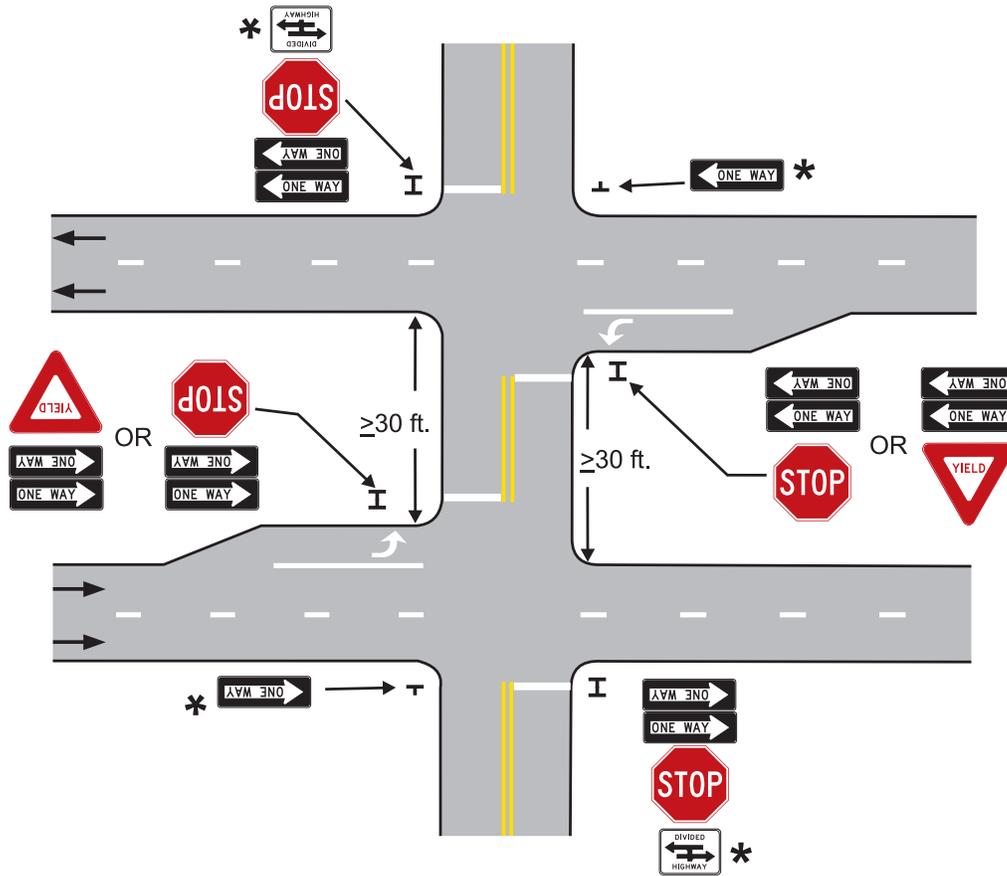
-  Hazard Marker (X4-2)
-  Alignment Delineator (X4-7)
-  Cylinder Style Delineator (X4-13)
- * Optional

Text Ref.: 6-5.02

March 1, 2008

REGULATORY SIGNS FOR DIVIDED HIGHWAY INTERSECTIONS - MEDIANS LESS THAN 30 FT. WIDE

FIGURE 6.6



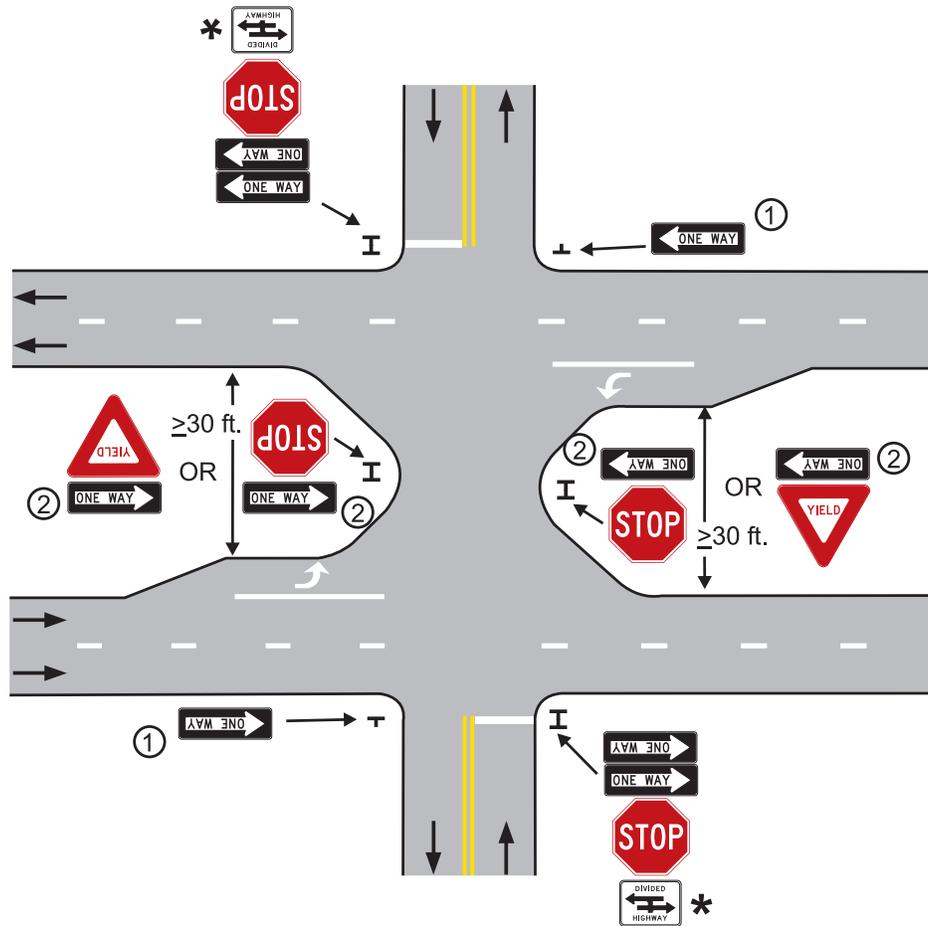
NOTES:

1. If placement of the ONE WAY signs in the median may create confusion, the near right-hand ONE WAY signs in the median may be omitted and ONE WAY signs placed in the far right quadrants (see Figure 6.7B).
2. See Figure 6.8 for DO NOT ENTER and WRONG WAY signs.

* Optional

Text Ref.: 6-5.02

<p>March 1, 2008</p>	<p>REGULATORY SIGNS FOR DIVIDED HIGHWAY INTERSECTION - MEDIAN WIDTH 30 FT. OR GREATER</p>	<p>FIGURE 6.7A</p>
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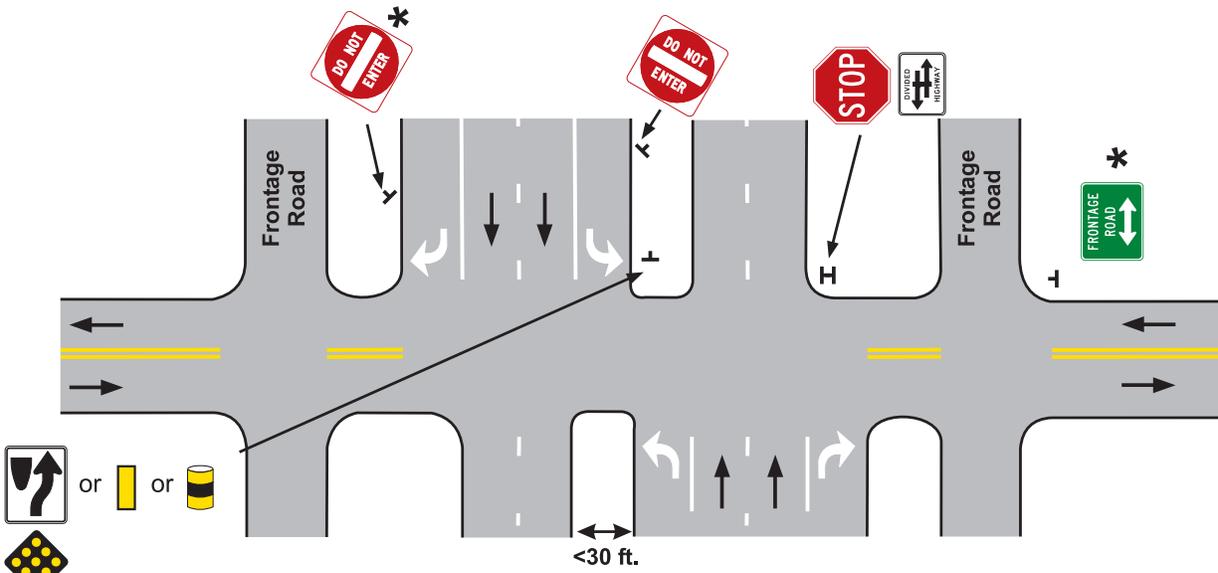
NOTES:

- ① This ONE WAY sign is mounted in the far right quadrant rather than above the STOP or YIELD sign in the median to avoid confusion.
- ② Mount the ONE WAY signs above the STOP or YIELD sign but back-to-back.
- ③ See Figure 6.8 for DO NOT ENTER and WRONG Way signs.

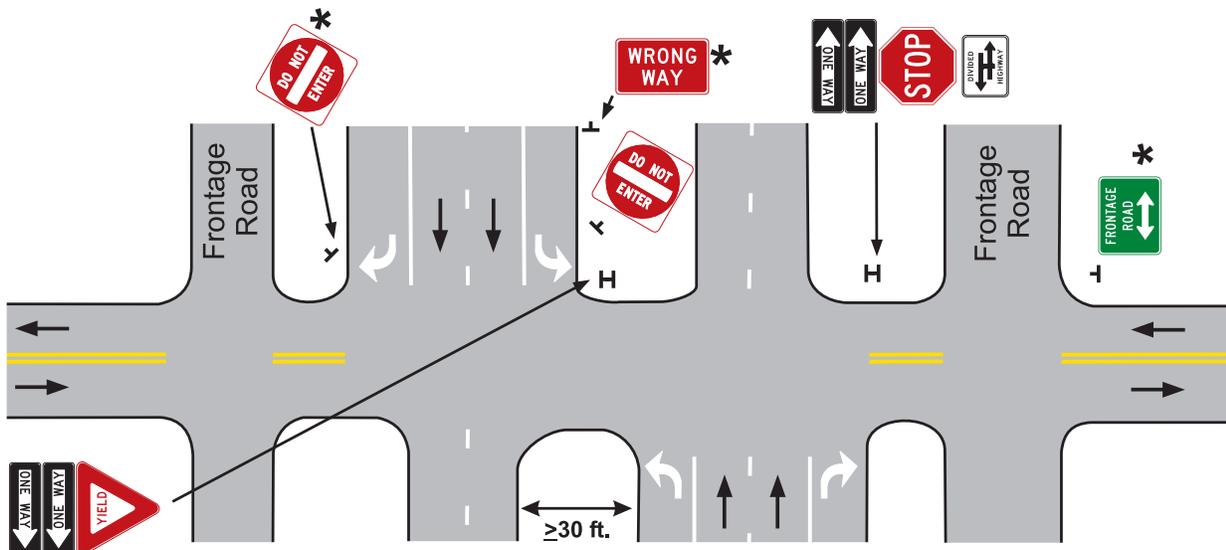
* Optional

Text Ref.: 6-5.02

March 1, 2008	REGULATORY SIGNS FOR DIVIDED HIGHWAY INTERSECTION - MEDIAN WIDTH 30 FT. OR GREATER	FIGURE 6.7B
---------------	---	--------------------



Median Less Than 30 ft.

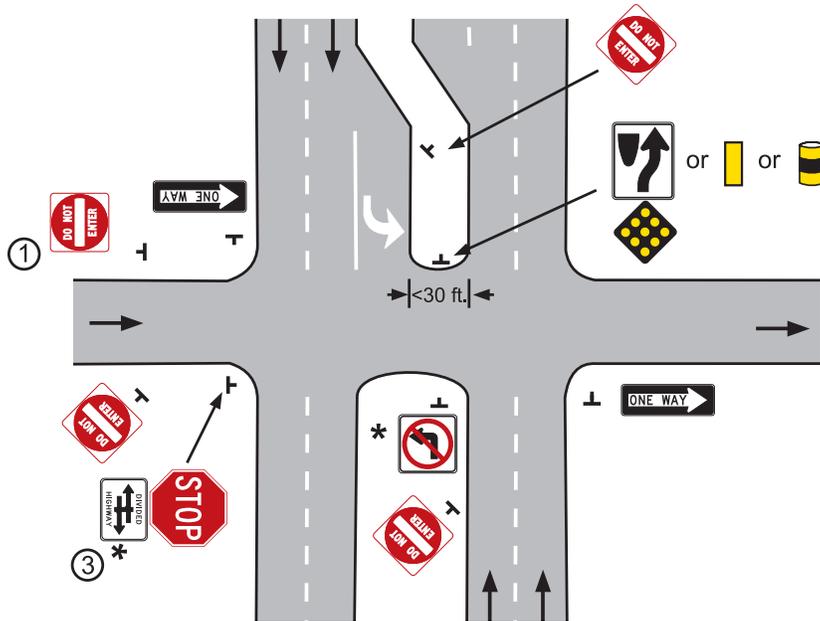


Median 30 ft. or Greater

- Legend**
-  Hazard Marker (X4-2)
 -  Alignment Delineator (X4-7)
 -  Cylinder Style Delineator (X4-13)
 - * Optional

- NOTES:**
1. The signing is the same for both approaches to the intersection.
 2. See Chapter 7 for application of markings.

Text Ref.: 6-5.02

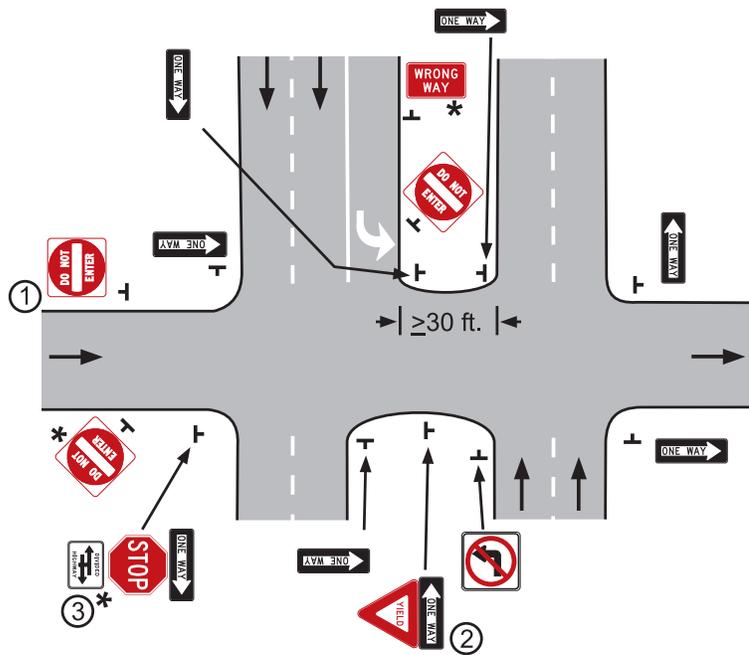


Median Less Than 30 ft.

NOTES:

- ① See Figures 6.11 and 6.12 for regulatory signs on ramps.
- ② See Figure 6.7B for optional location of ONE WAY signs above YIELD signs.
- ③ The DIVIDED HIGHWAY sign should not be used when the roadway is divided only at the junction.

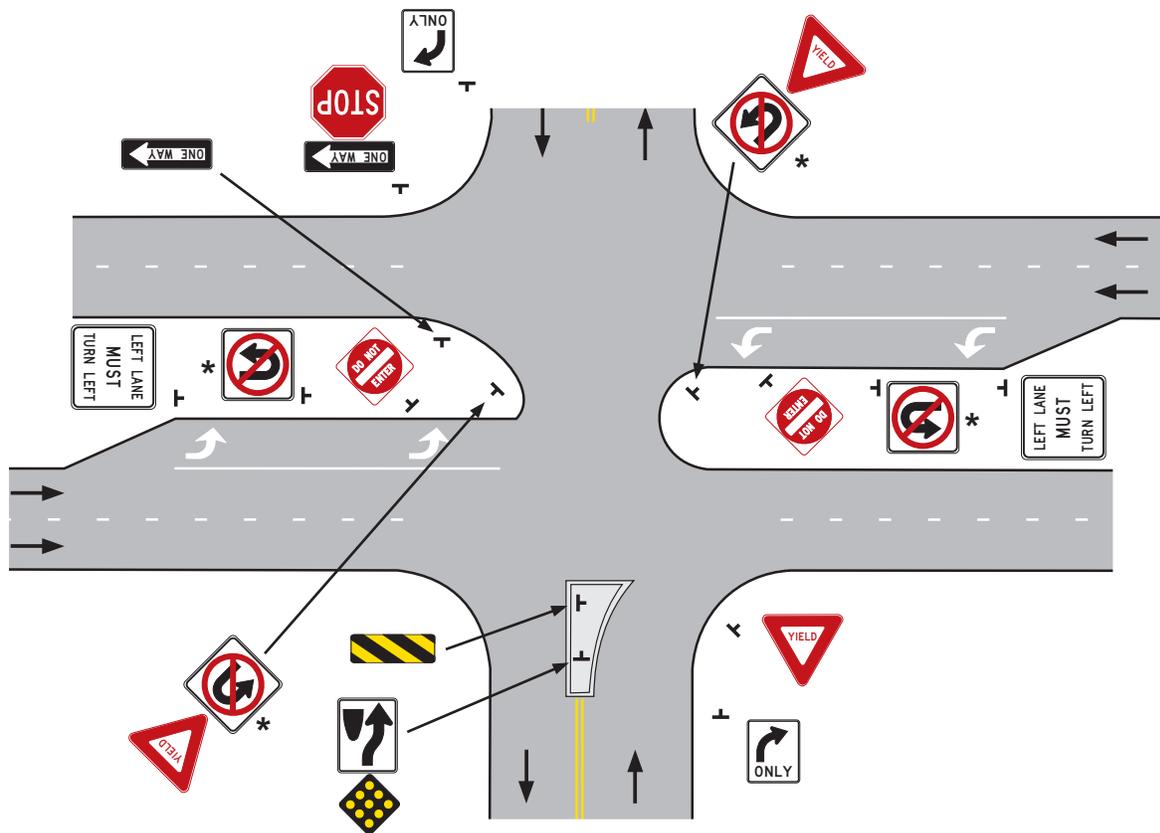
- Legend**
- Hazard Marker (X4-2)
 - Alignment Delineator (X4-7)
 - Cylinder Style Delineator (X4-13)
 - * Optional



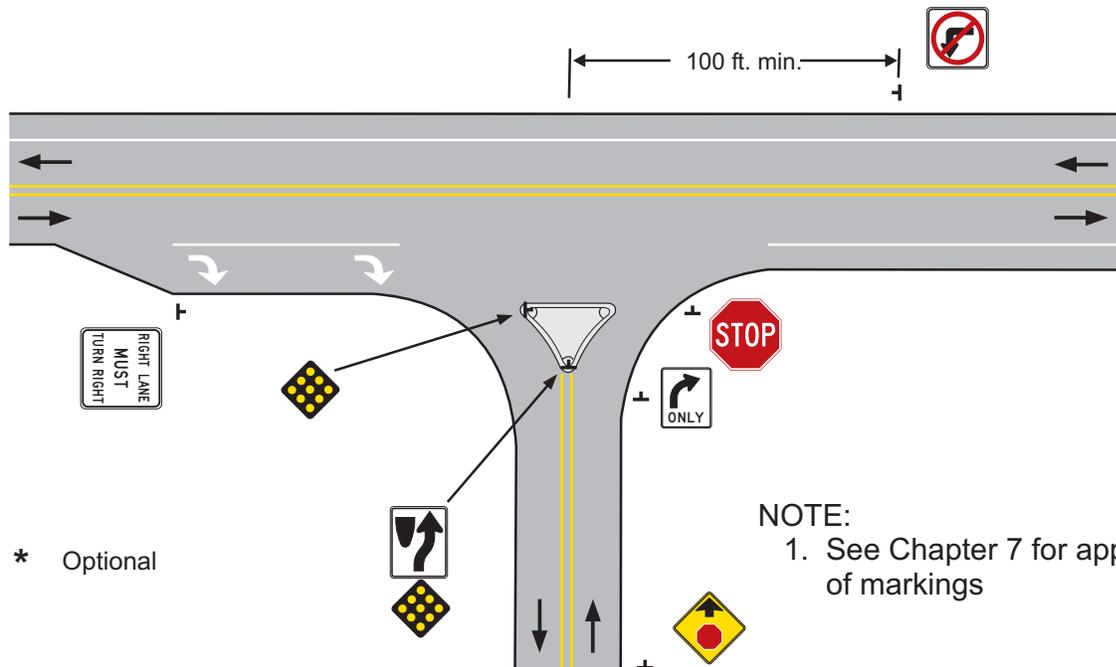
Median 30 ft. or Greater

Text Ref.: 6-5.02

<p>March 1, 2008</p>	<p>REGULATORY SIGNS FOR DIVIDED HIGHWAY INTERSECTIONS WITH A ONE-WAY STREET/RAMP</p>	<p>FIGURE 6.9</p>
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3/4 ACCESS INTERSECTION



NOTE:
1. See Chapter 7 for application of markings

* Optional

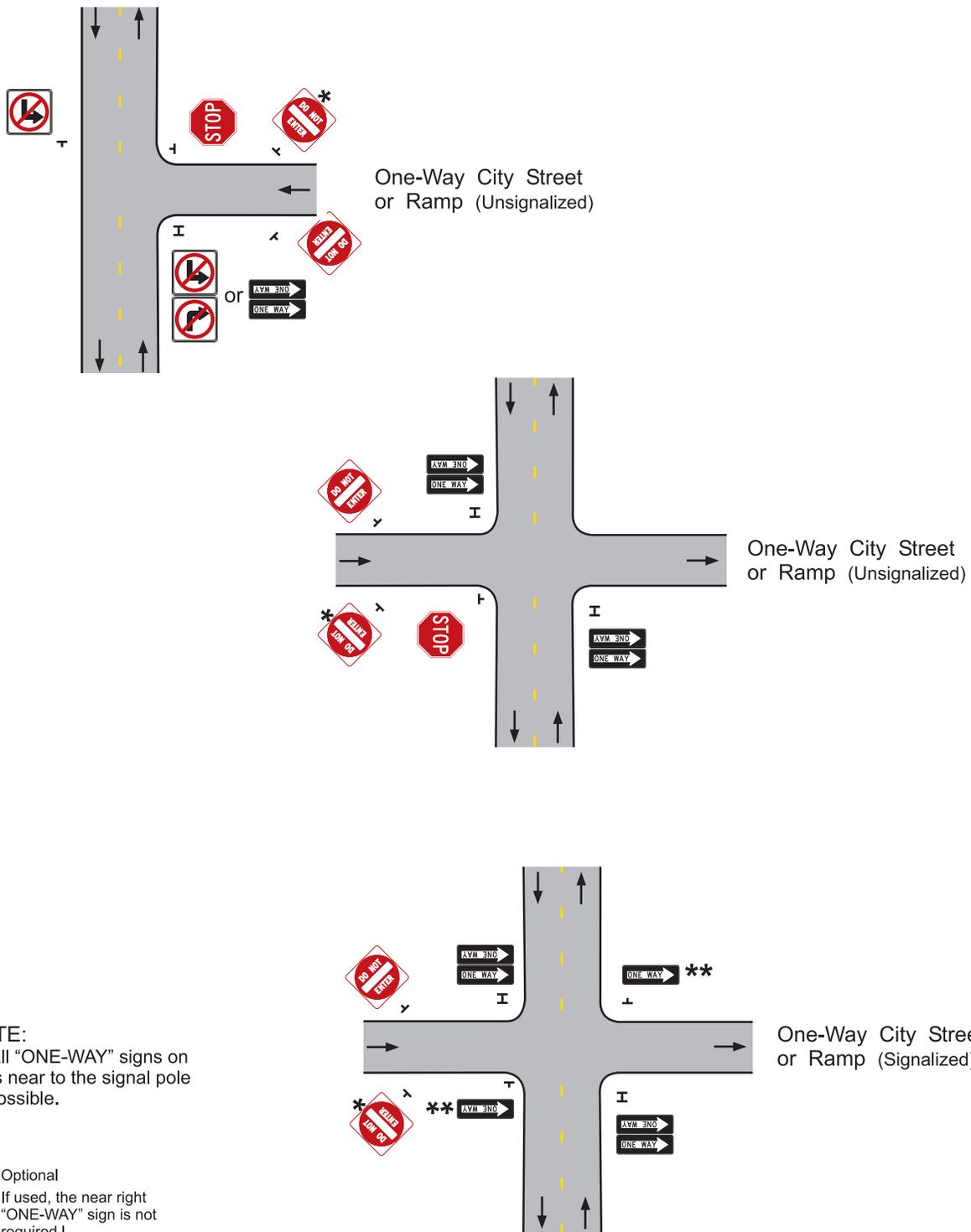
Text Ref.: 6-5.02

RIGHT IN - RIGHT OUT INTERSECTION

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REGULATORY & WARNING SIGNS FOR 3/4 AND RIGHT IN - RIGHT OUT INTERSECTIONS

FIGURE 6.11

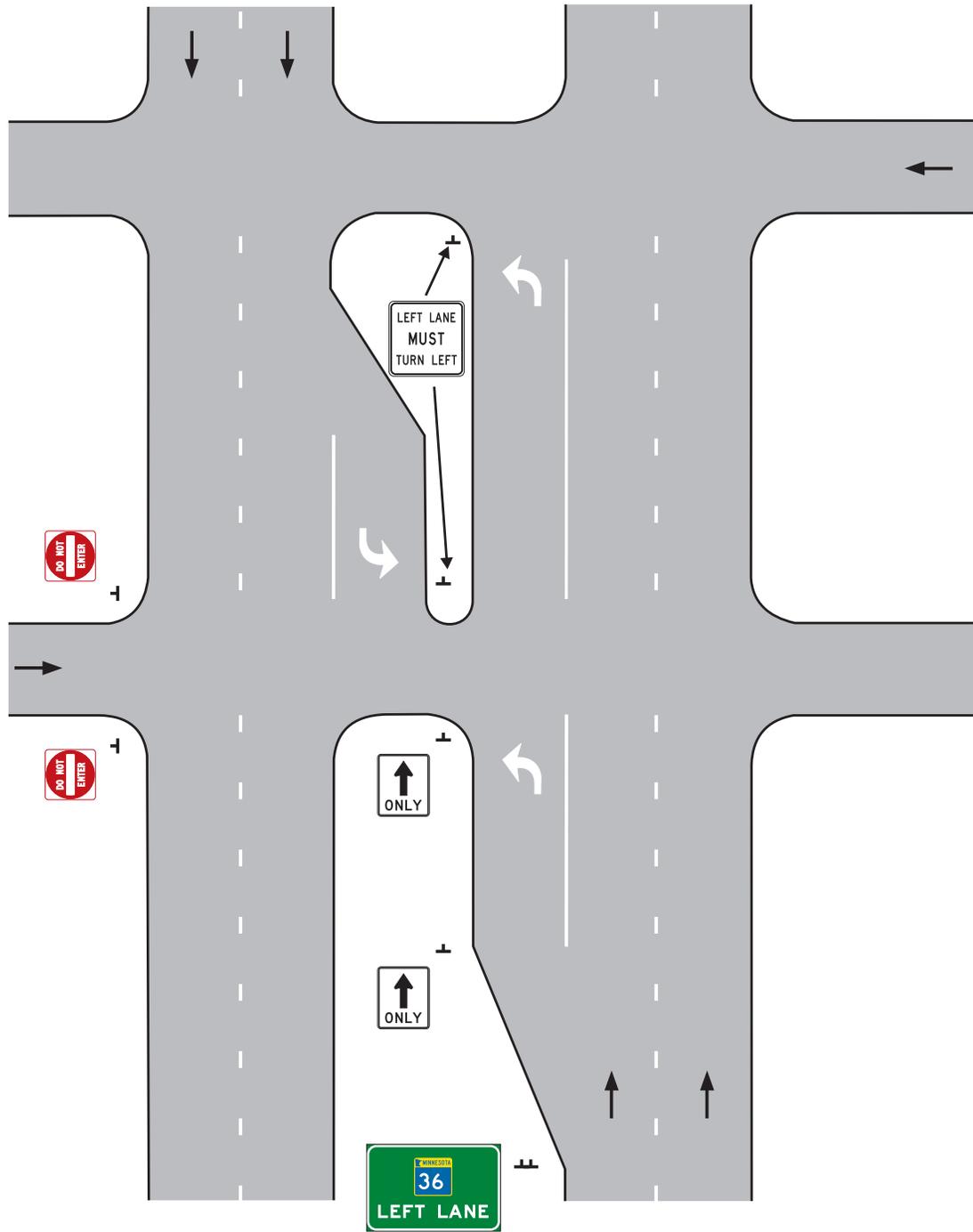


Text Ref.: 6-5.02

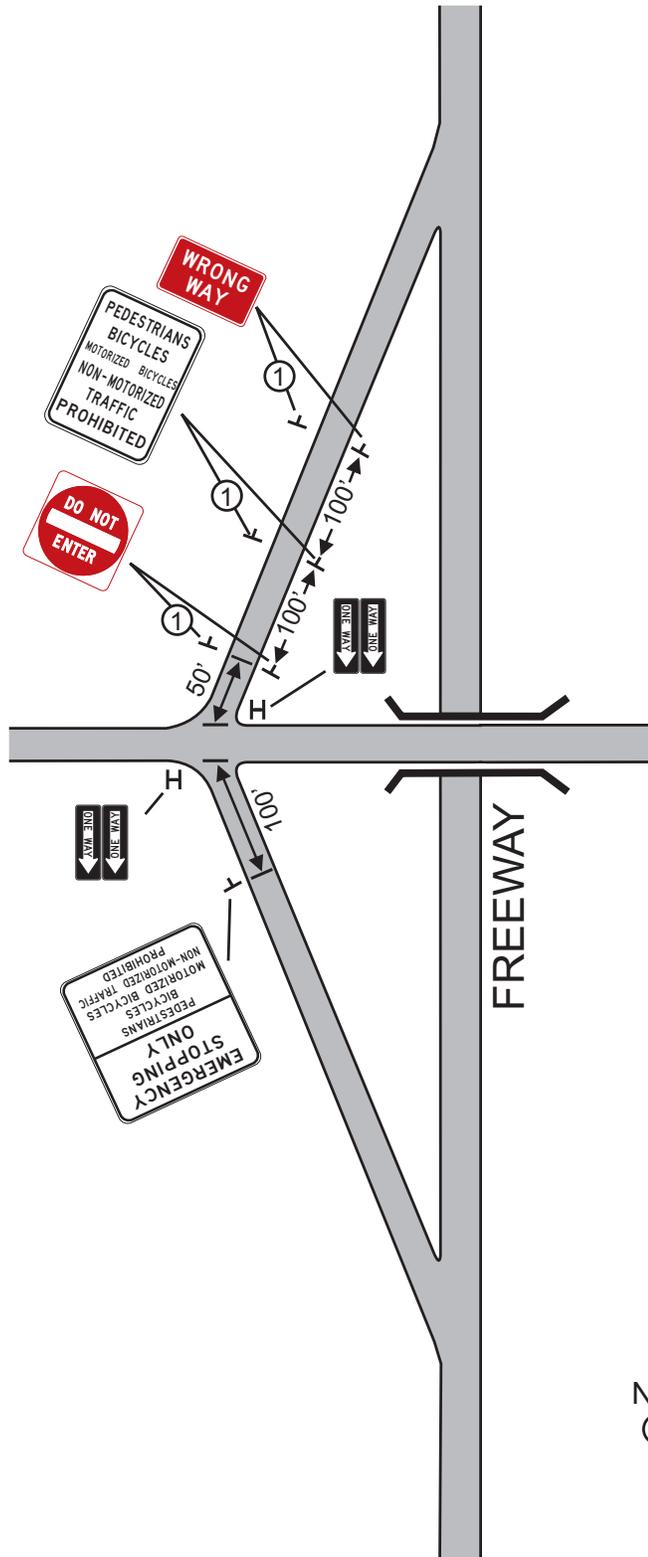
March 1, 2008

HIGHWAY INTERSECTIONS WITH ONE-WAY STREET/RAMP

FIGURE 6.12



NOTE:
1. See Chapter 7 for application of markings

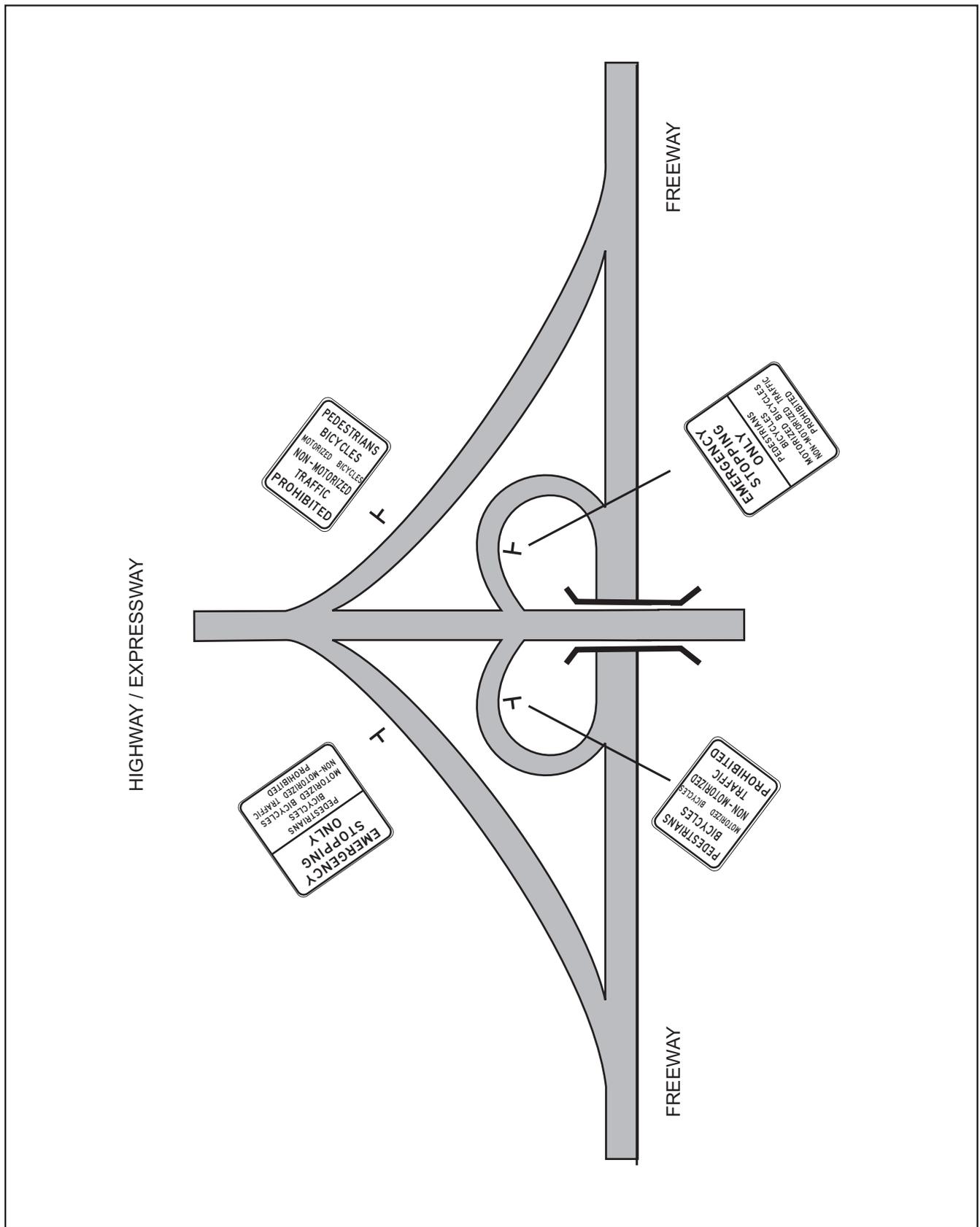


NOTE:
 ① Additional sign required on left when ramp is 3 lanes or wider.

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**STANDARD SIGN PLACEMENT REGULATORY
 WRONG WAY, AND EXCLUSIVE SIGNS ON
 FREEWAY DIAMOND INTERCHANGE RAMPS**

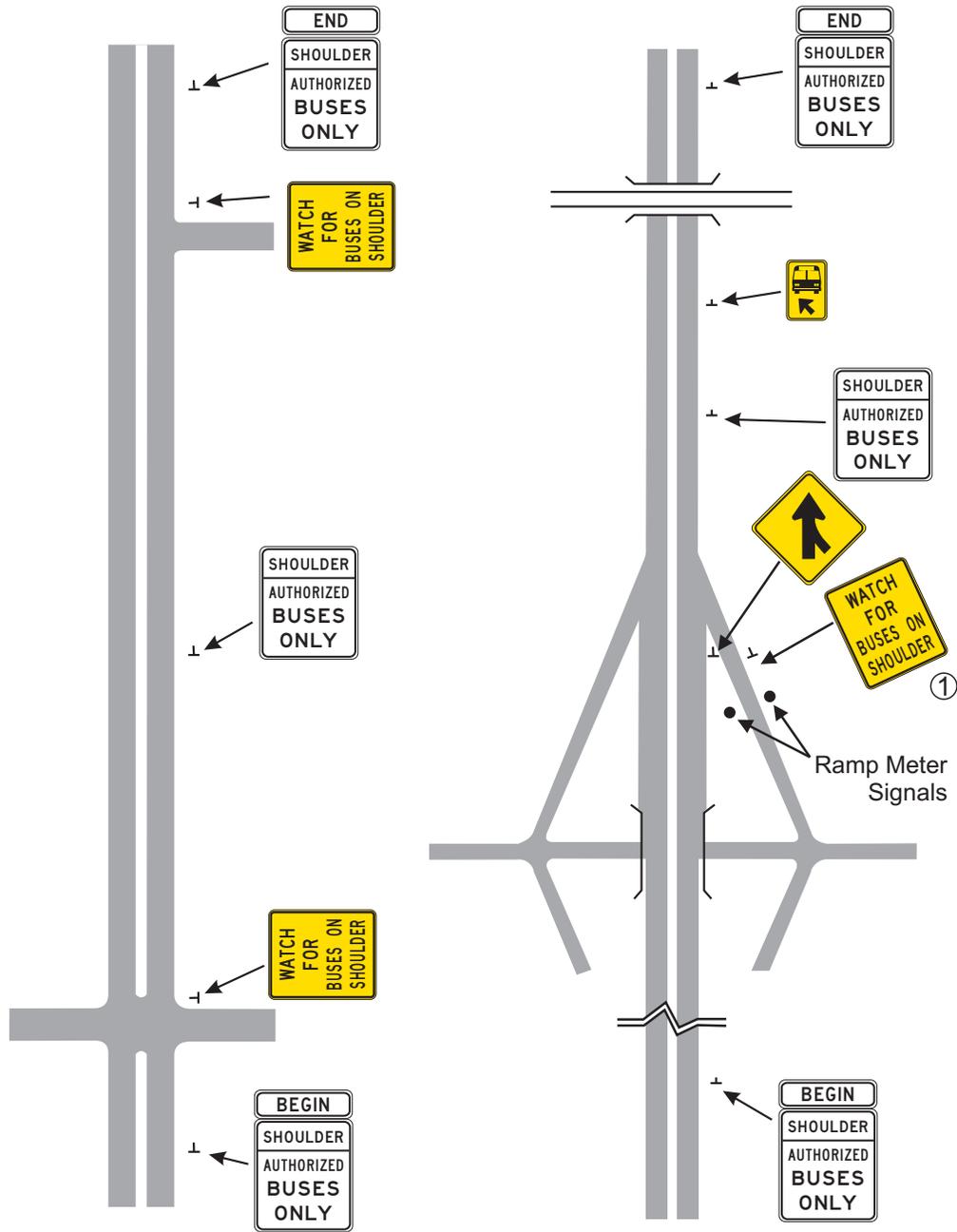
FIGURE
6.14



March 1, 2008

REGULATORY SIGNS ON CLOVERLEAF INTERCHANGE RAMPS

FIGURE 6.15



NOTE:

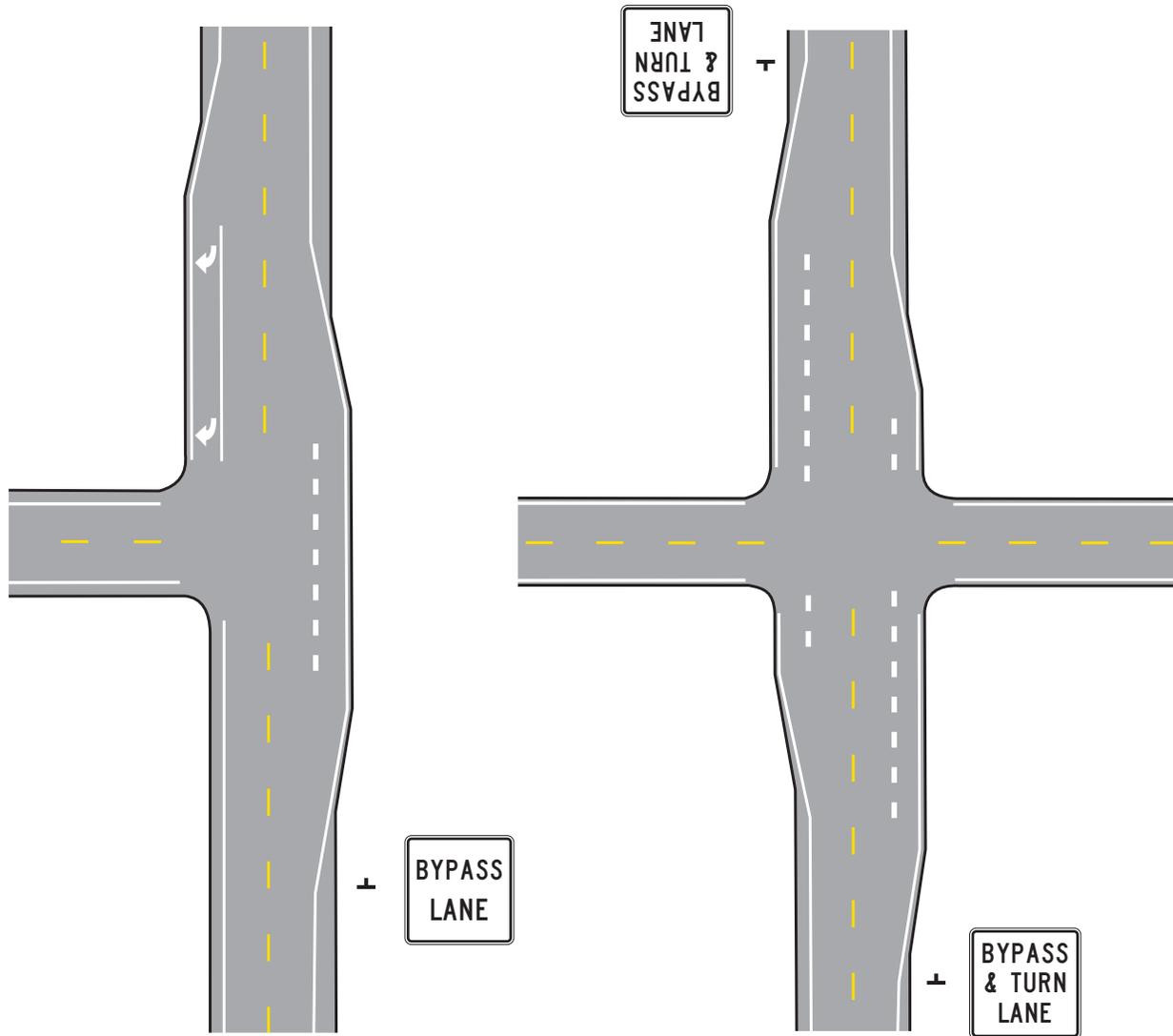
- ① The WATCH FOR BUSES ON SHOULDER signs shall be located beyond the ramp meter signals.

Text Ref.: 6-5.04

March 1, 2008

AUTHORIZED BUS ONLY SHOULDER SIGNING

FIGURE
6.16



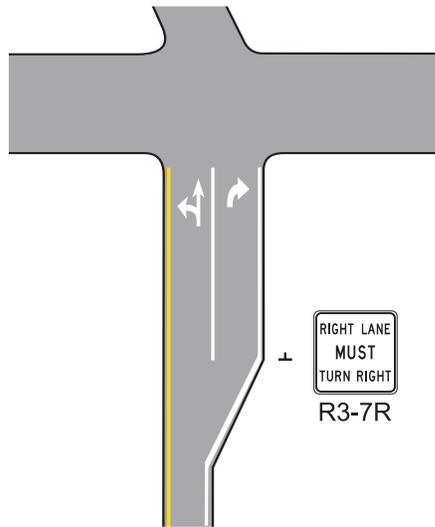
Note:
See Chapter 7 for application of markings.

Text Ref.: 6-5.05

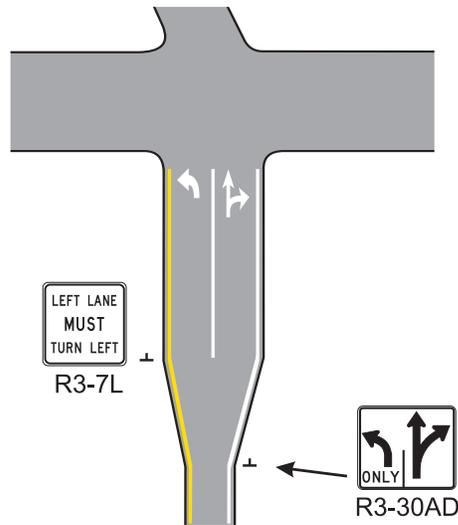
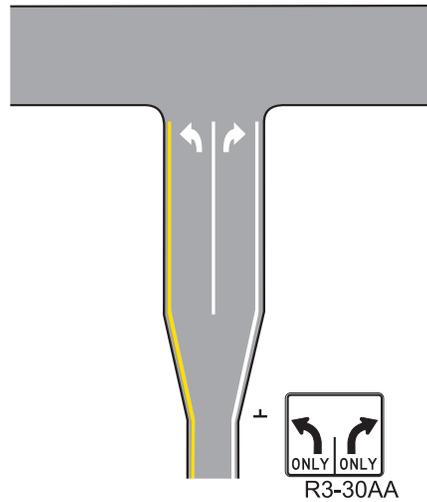
March 1, 2008

BYPASS LANES

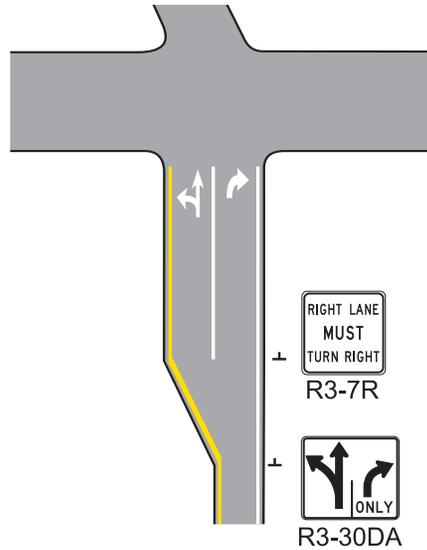
FIGURE
6.17



Single right or left turn lane



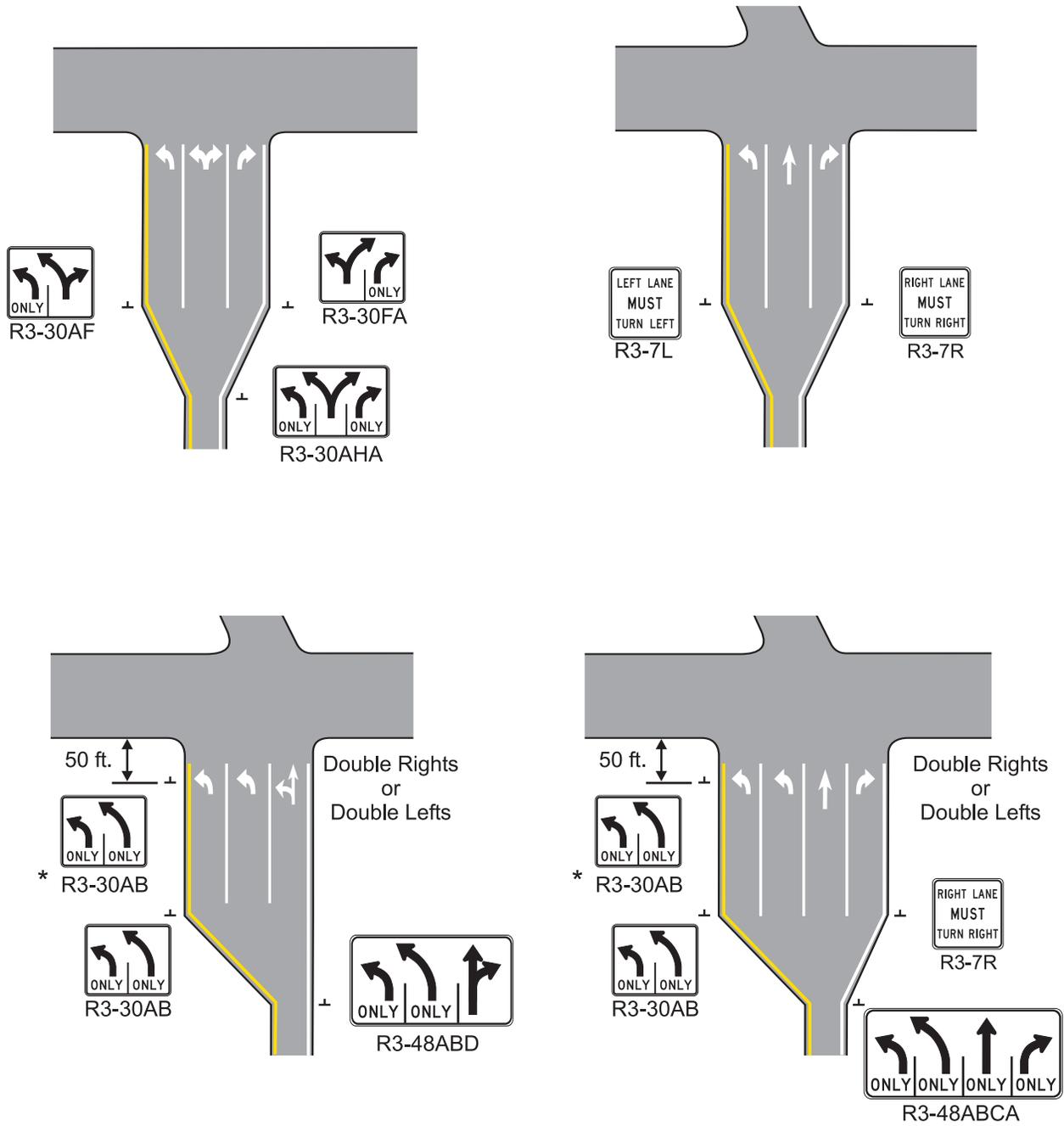
Shared through/right or left turn lanes w/ or w/o through lanes



NOTE:

1. Arrows are not pavement marking arrows.

Text Ref.: 6-5.09

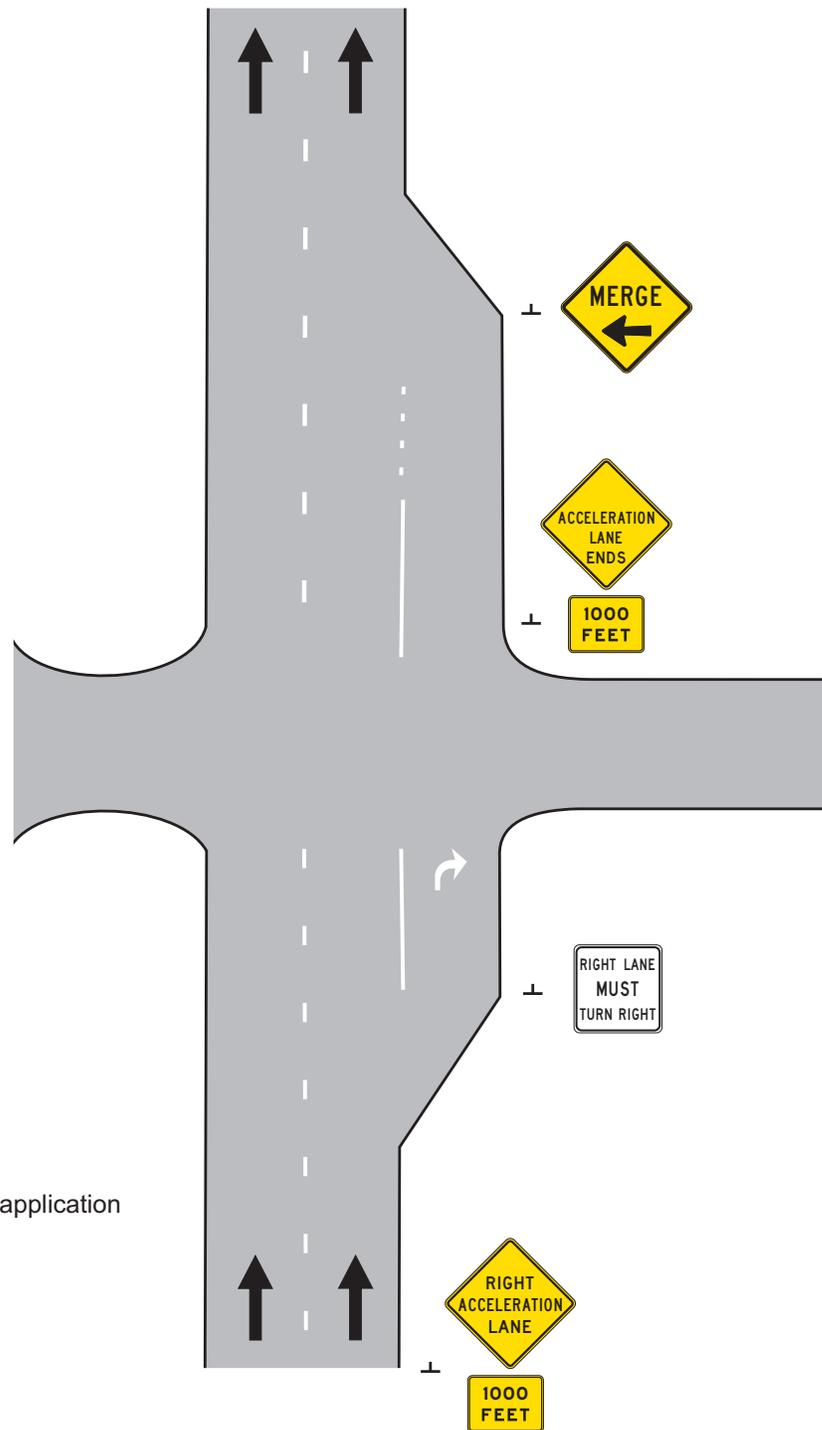


* Required if turn lane is longer than 300 feet.

NOTE:

1. Arrows are not pavement marking arrows.

Text Ref.: 6-5.09



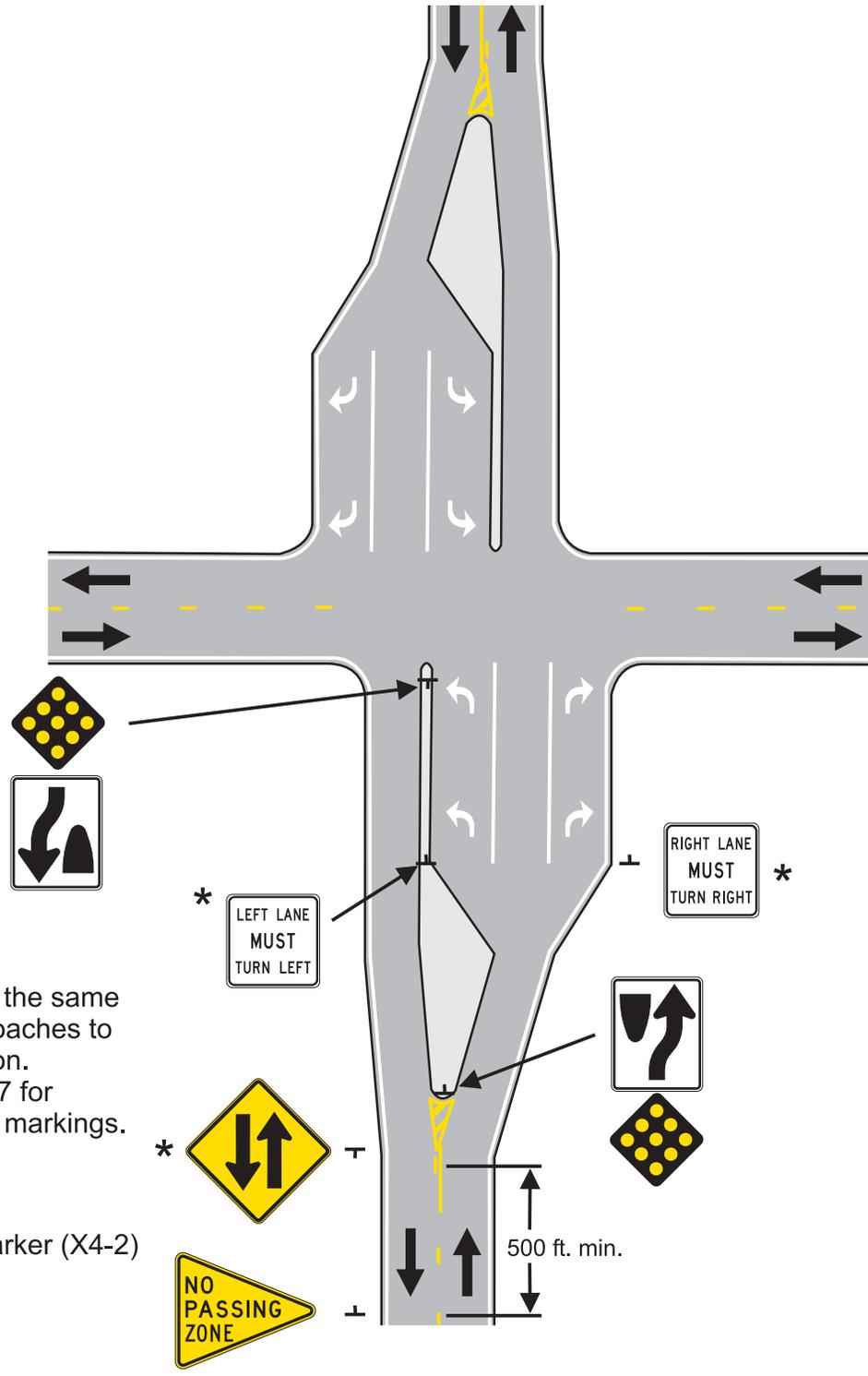
NOTE:
1. See Chapter 7 for application of markings.

Text Ref.: 6-6.02

March 1, 2008

ACCELERATION LANE SIGNING/STRIPING OPTIONS

FIGURE
6.19



- NOTES:**
1. The signing is the same for both approaches to the intersection.
 2. See Chapter 7 for application of markings.

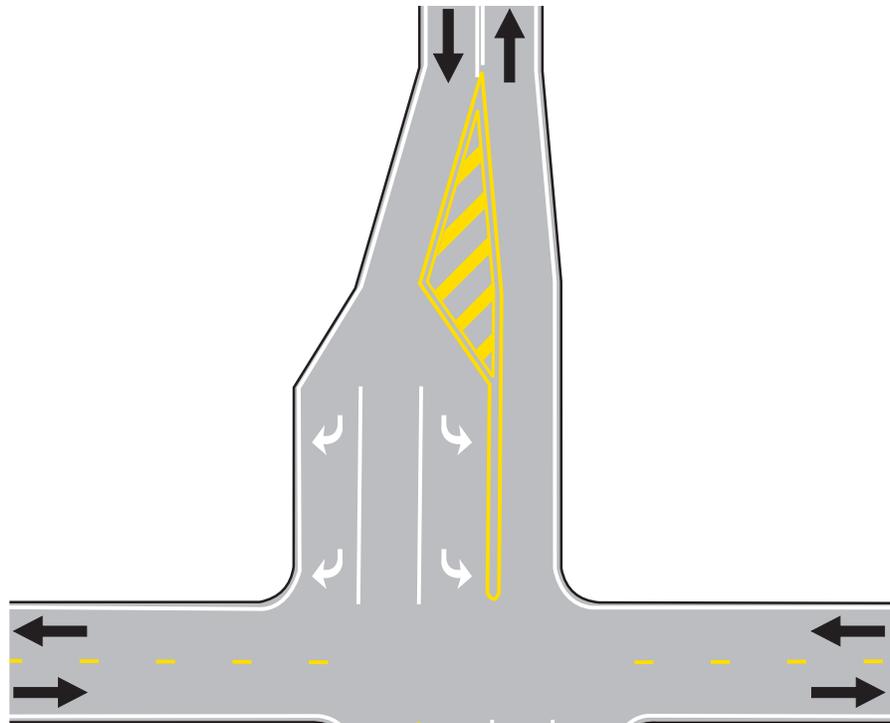
LEGEND

 Hazard marker (X4-2)

* - Optional

Text Ref.: 6-6.06

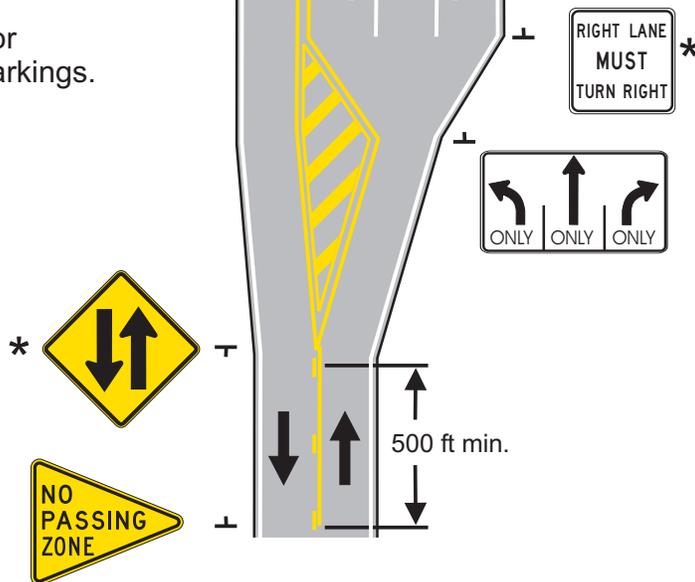
<p>March 1, 2008</p>	<p>CHANNELIZED INTERSECTION SIGNING RAISED MEDIAN</p>	<p>FIGURE 6.20A</p>
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NOTE:

1. The signing is the same for both approaches to the intersection.
2. See Chapter 7 for application of markings.

* - Optional

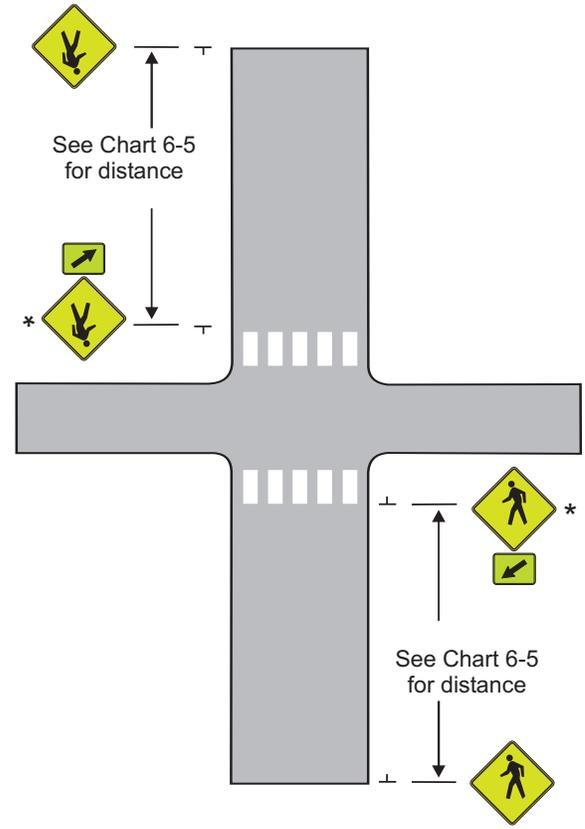
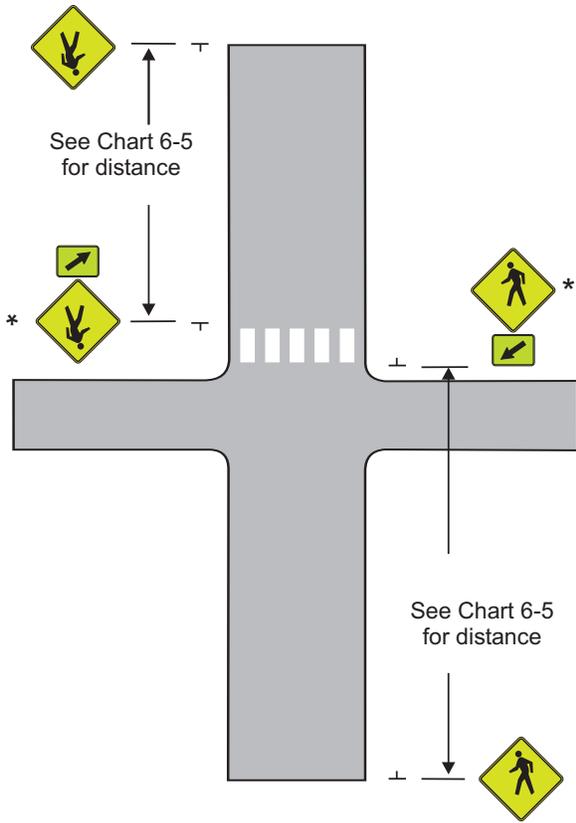


Text Ref.: 6-6.06

March 1, 2008

**CHANNELIZED INTERSECTION SIGNING
PAINTED MEDIAN**

**FIGURE
6.20B**



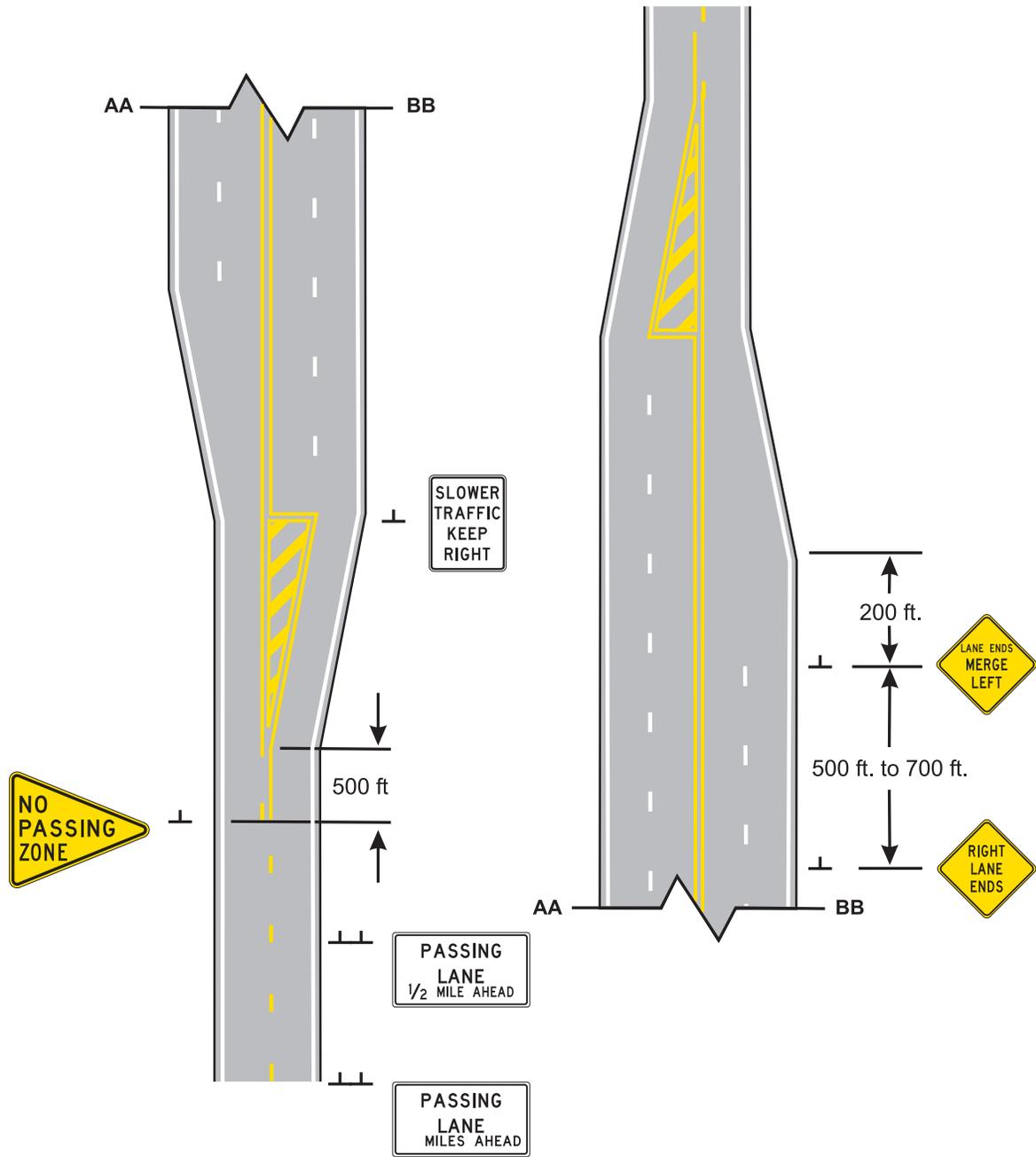
NOTES:

1. Intended for use where a definite need exists:
 - Heavy pedestrian volumes
 - Mid-block crossings, etc.
2. See Chapter 7 for application of markings.

* Optional

Text Ref.: 6-6.09.01

<p>March 1, 2008</p>	<p>PEDESTRIAN CROSSING SIGNING AT UNSIGNALIZED LOCATIONS</p>	<p>FIGURE 6.21</p>
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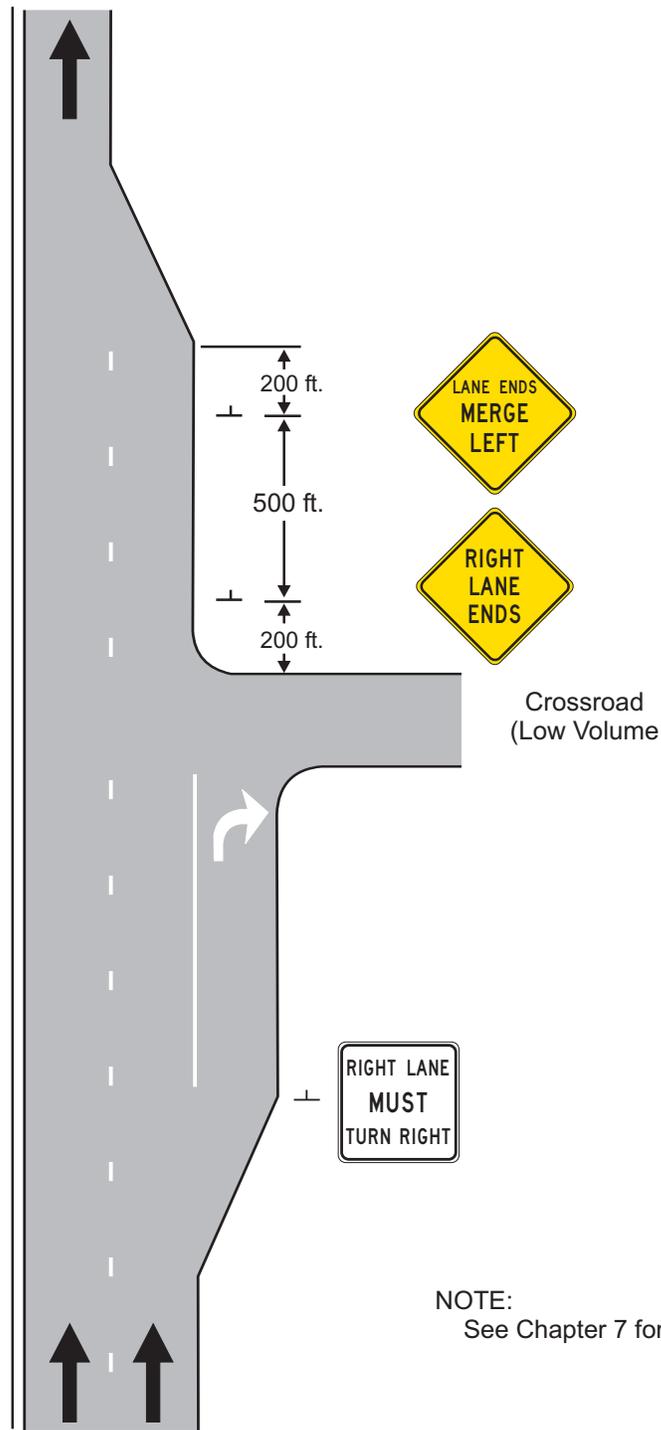
See Note 2

NOTES:

1. The signing shall be the same for both approaches.
2. Desirable location 2 - 5 miles in advance of passing lane.
3. Lane skip striping shall end approximately 50 feet beyond the Lane Reduction Transition sign.
4. See Chapter 7 for application of markings.

Text Ref.: 6-6.13.03

<p>March 1, 2008</p>	<p>PASSING LANE SECTION SIGNING</p>	<p>FIGURE 6.22A</p>
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Text Ref.: 6-6.13.03

March 1, 2008

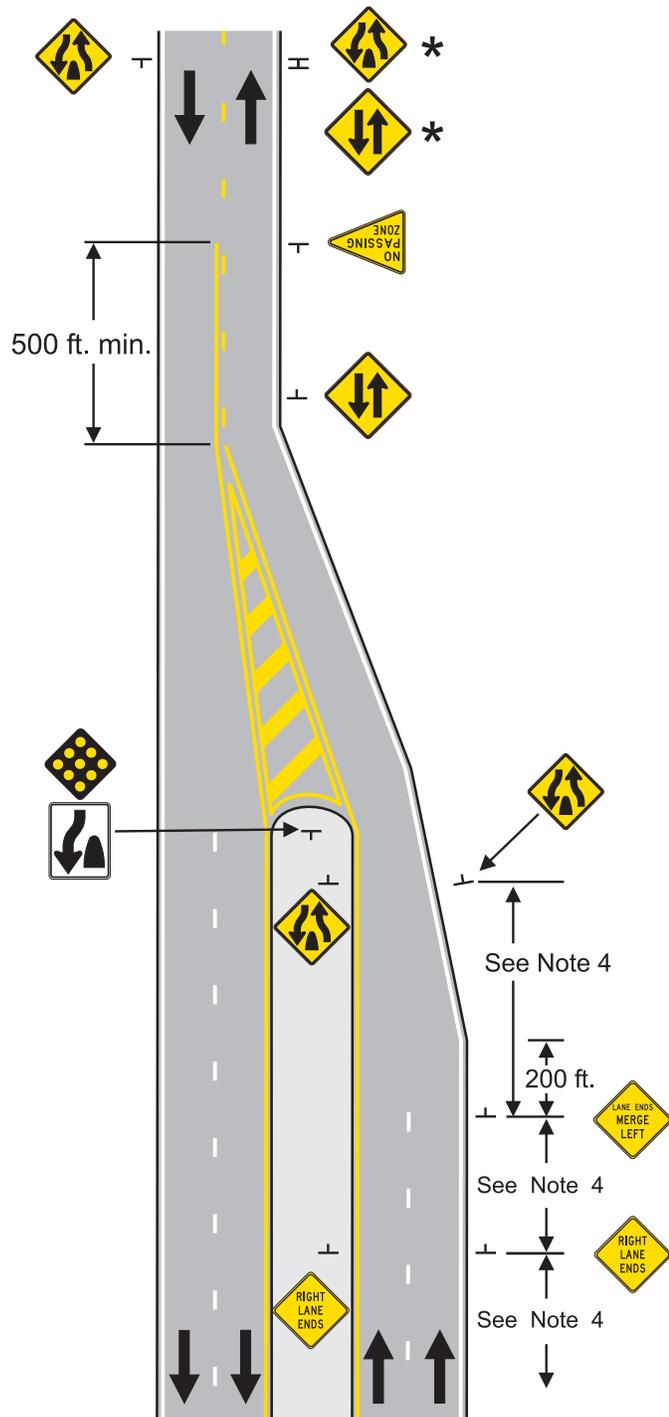
**PASSING LANE SIGNING
NEAR LOW VOLUME CROSS ROAD**

FIGURE
6.22B

NOTES:

1. All sign location distances are approximate.
2. Distances between advance signs in the two-lane, two-way section to the painted gore are 500-1200 feet.
3. See Chapter 7 for application of markings.
4. On high speed roadways (45 mph and greater), the spacing should be 400-500 feet. On low speed roadways (40 mph and less), the spacing should be 200-400 feet.
5. Do not use Divided Highway Begins and Divided Highway Ends signs when the highway is divided only at intersections or junctions.

* - Optional

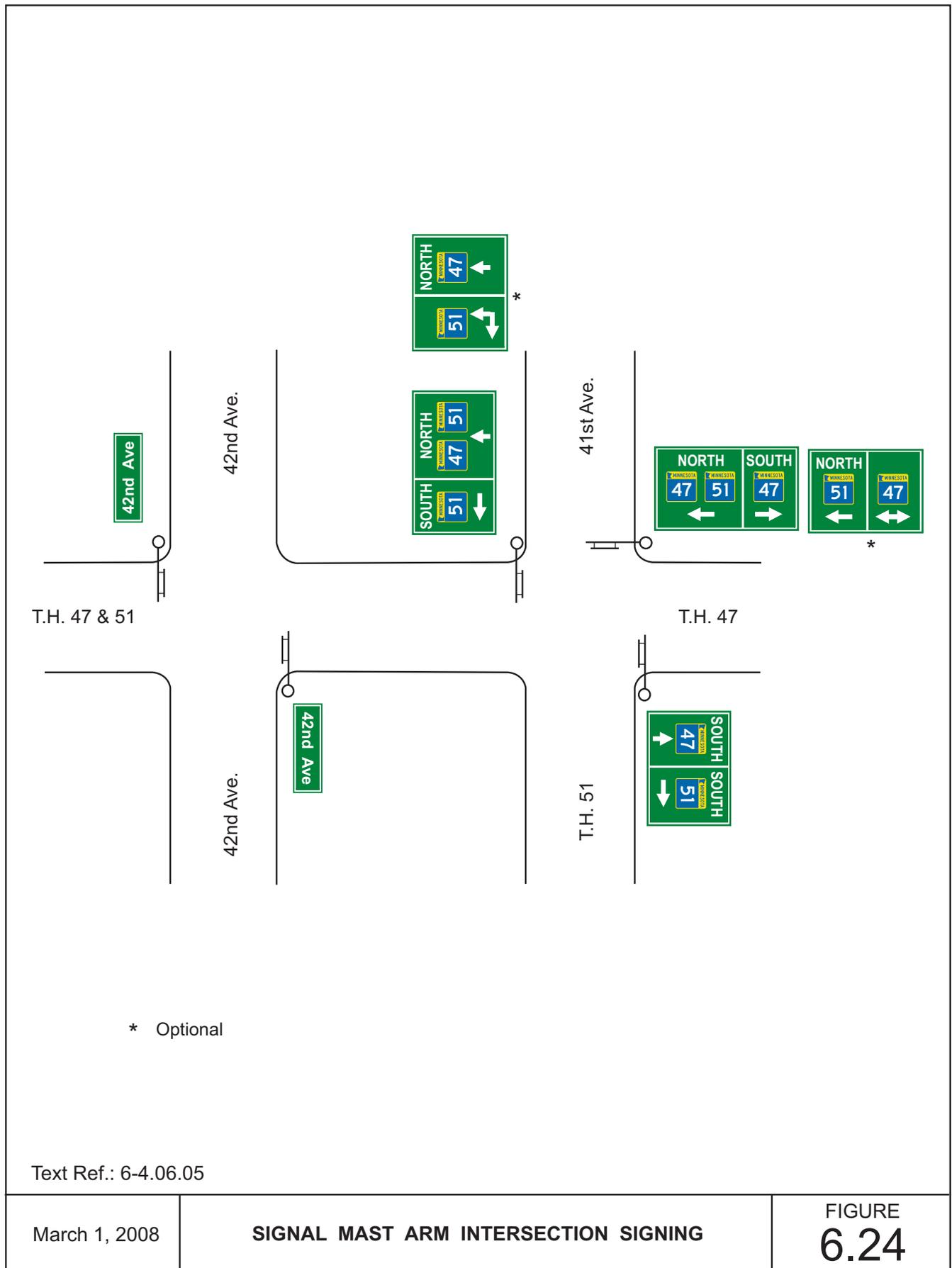


Text Ref.: 6-6.18

March 1, 2008

TRANSITION SIGNING
DIVIDED AND UNDIVIDED ROADWAYS

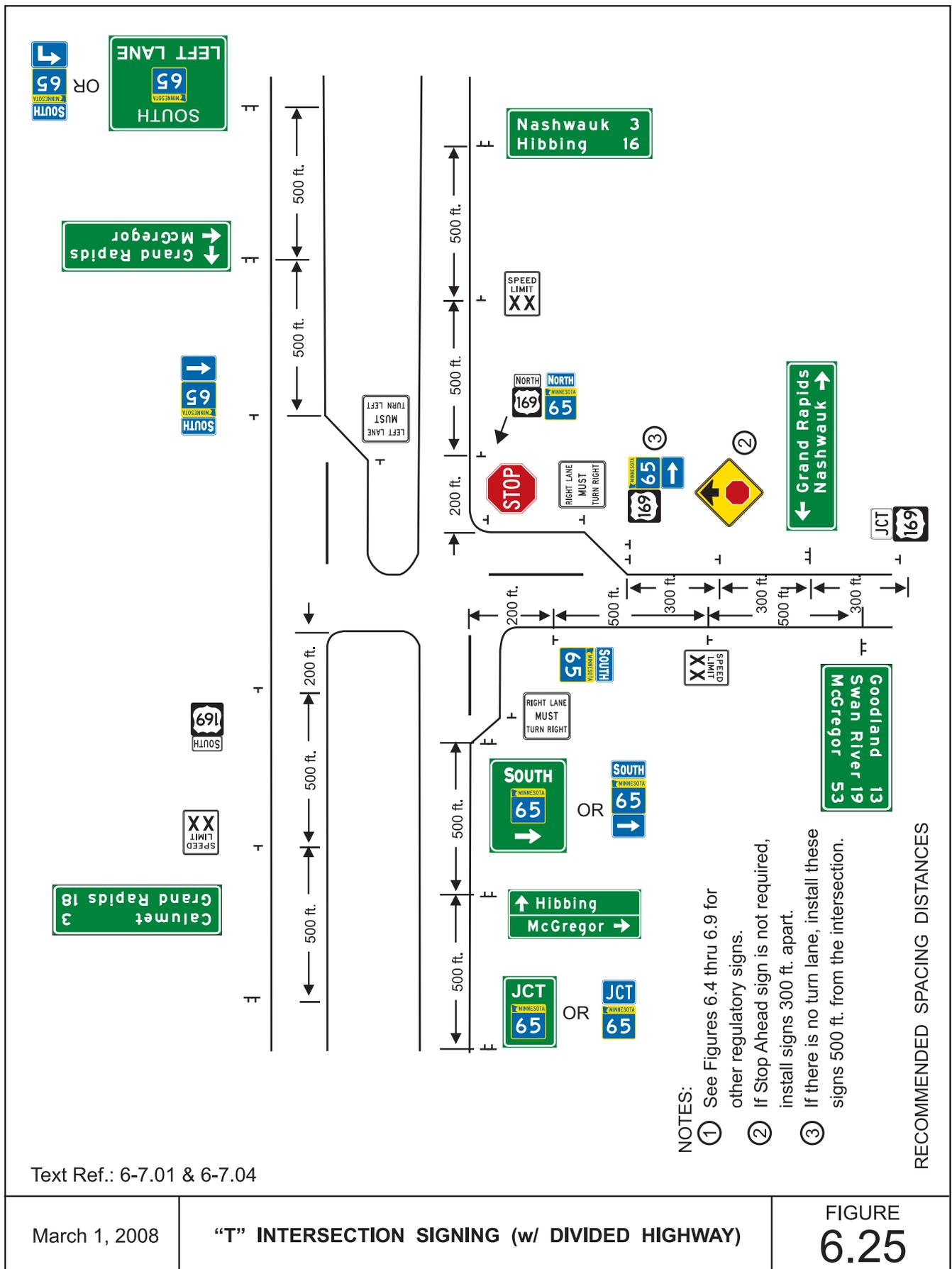
FIGURE
6.23



March 1, 2008

SIGNAL MAST ARM INTERSECTION SIGNING

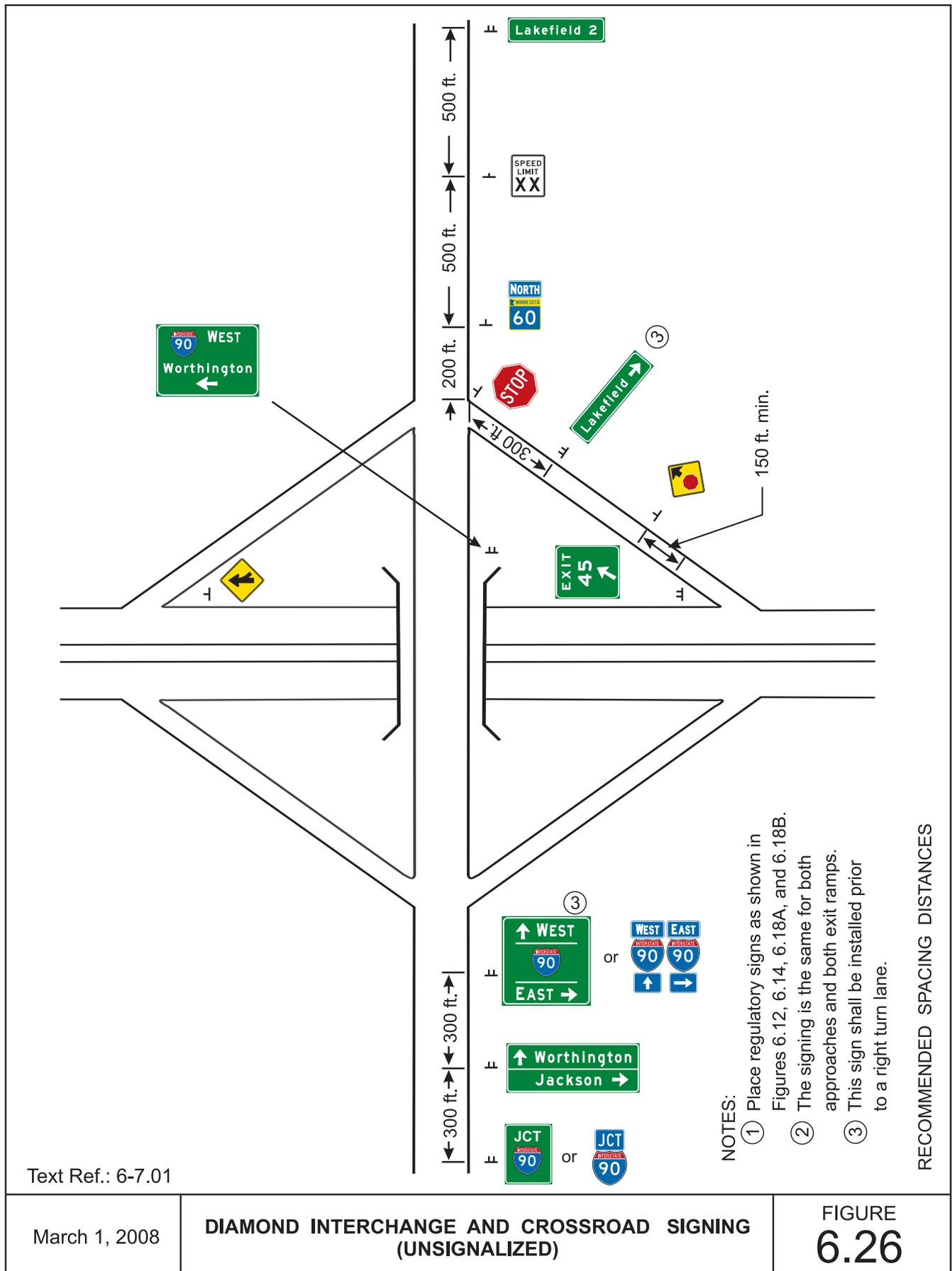
FIGURE
6.24



March 1, 2008

"T" INTERSECTION SIGNING (w/ DIVIDED HIGHWAY)

FIGURE 6.25

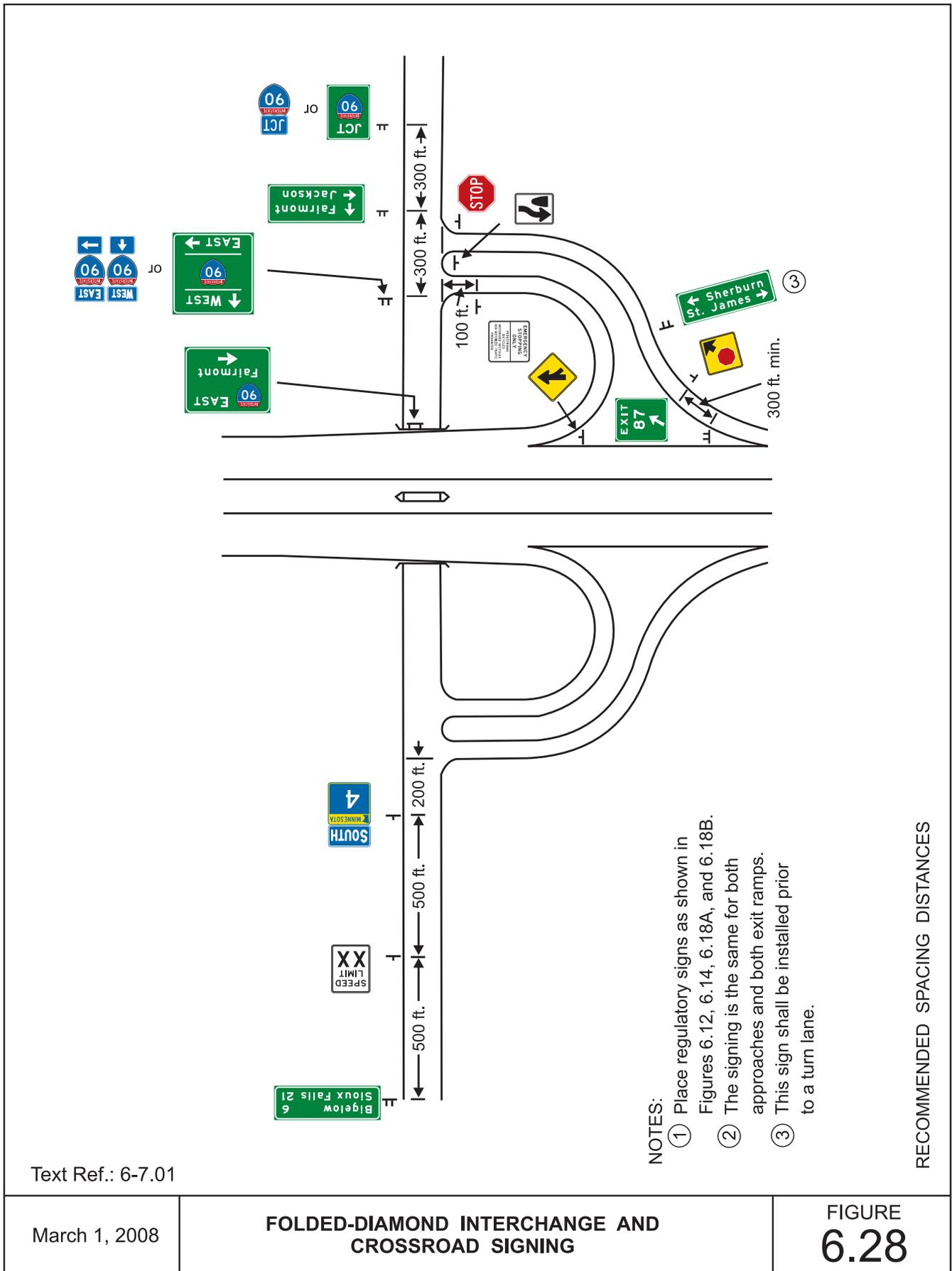


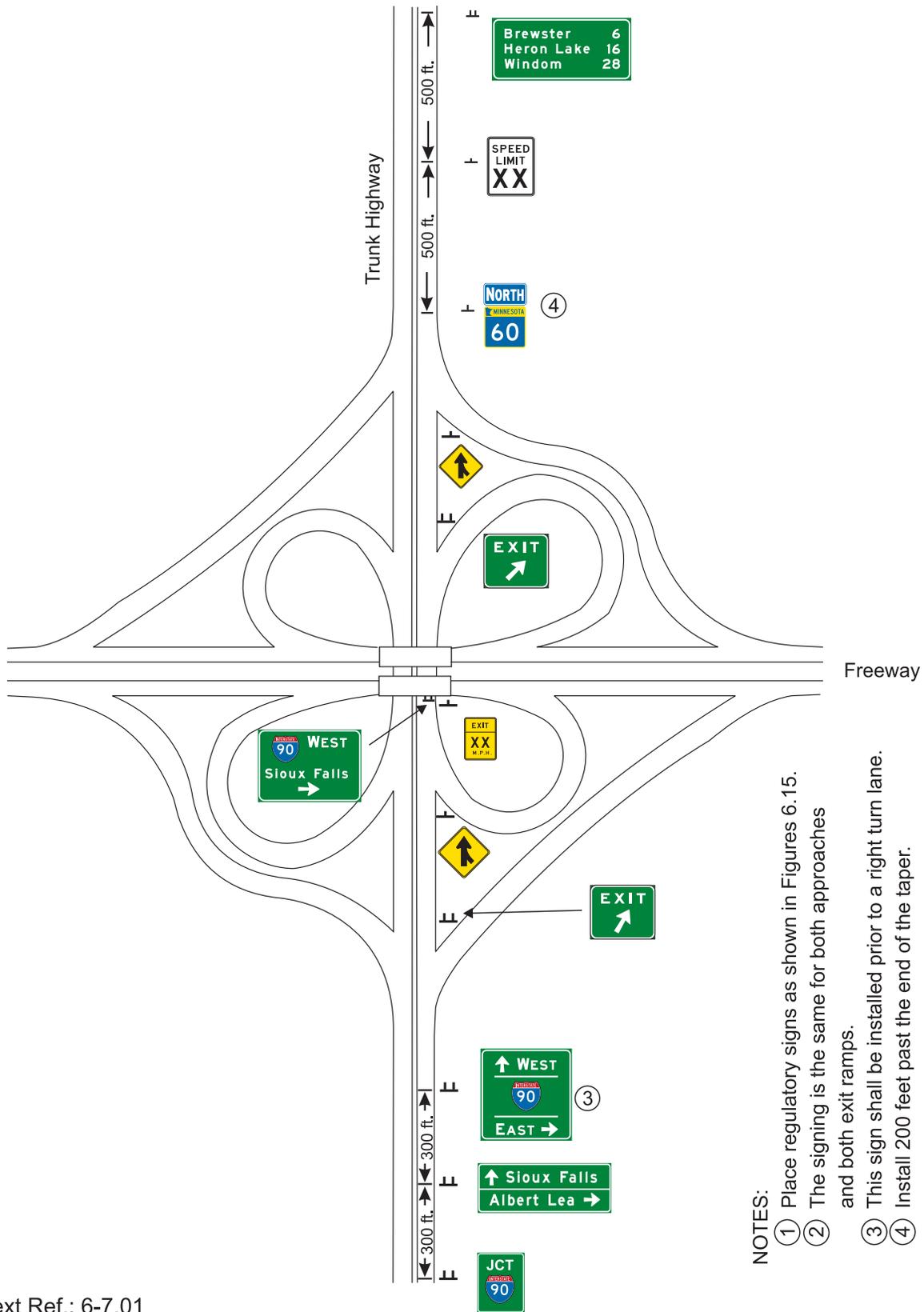
- NOTES:
- ① Place regulatory signs as shown in Figures 6.12, 6.14, 6.18A, and 6.18B.
 - ② The signing is the same for both approaches and both exit ramps.
 - ③ This sign shall be installed prior to a right turn lane.

RECOMMENDED SPACING DISTANCES

DIAMOND INTERCHANGE AND CROSSROAD SIGNING (UNSIGNALIZED)

FIGURE 6.26



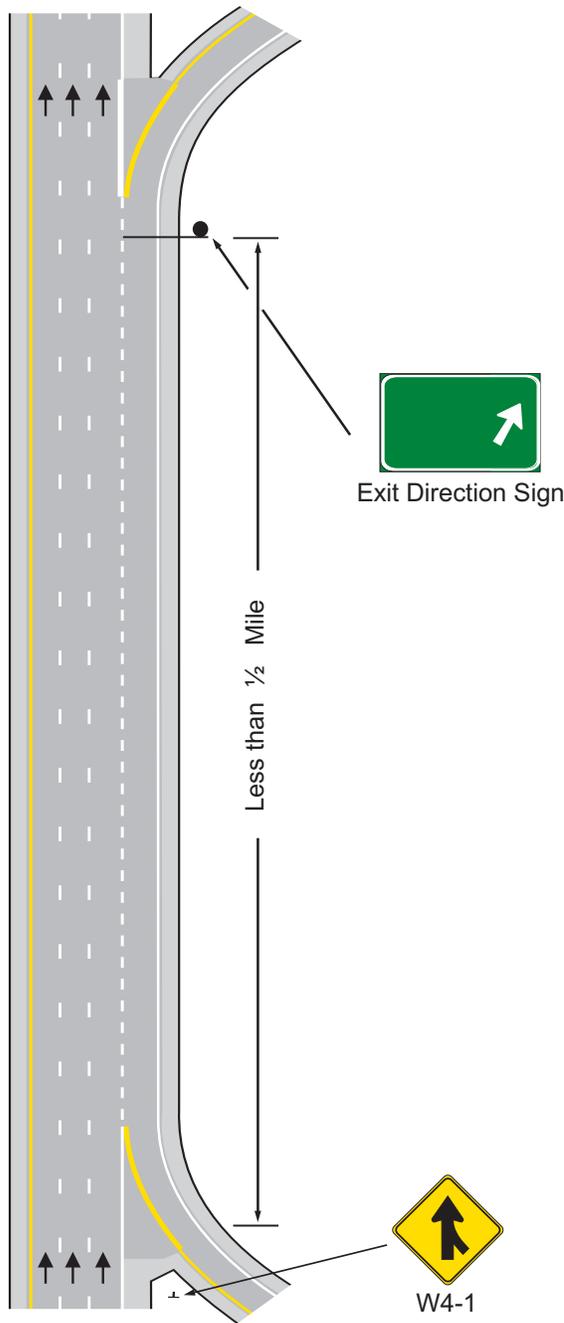


Text Ref.: 6-7.01

July 1, 1999

CLOVERLEAF INTERCHANGE AND CROSSROAD SIGNING

FIGURE 6.29



NOTES:

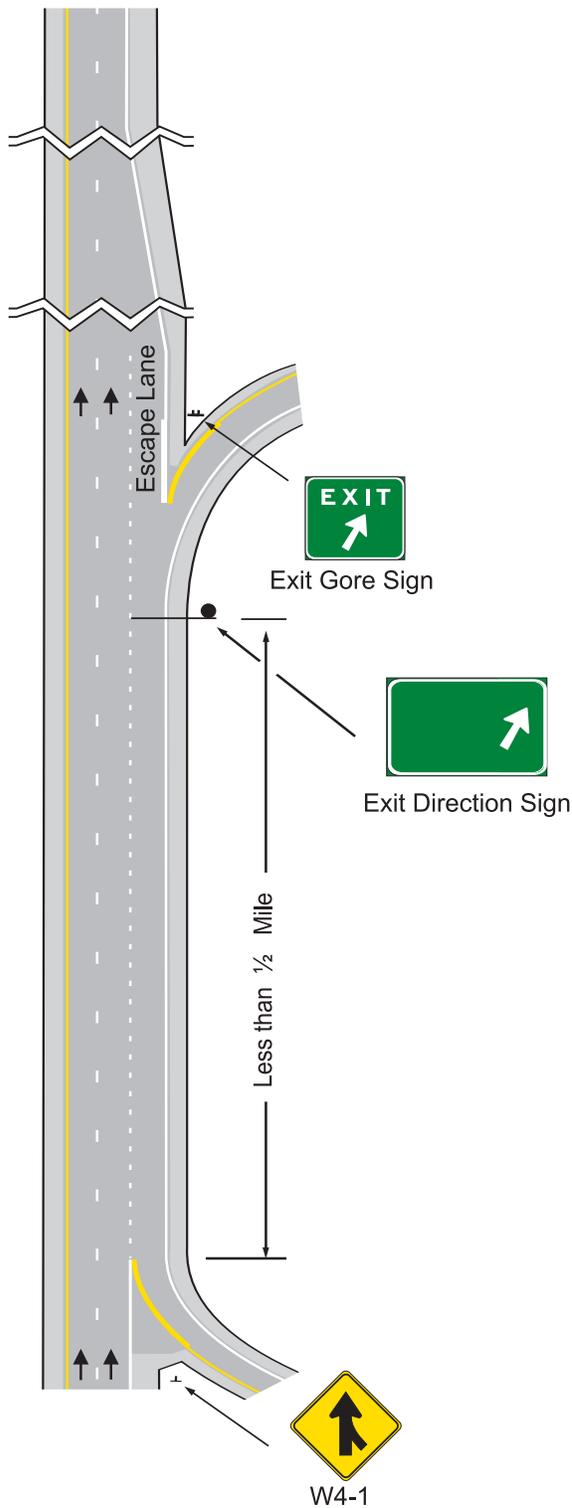
1. This type of auxiliary lane is located either between loops at a cloverleaf interchange or between two closely spaced interchanges.
2. Install a MERGE sign (W4-1) in the gore of the entrance ramp located at the beginning of the auxiliary lane.
3. Install a standard Exit Direction sign (overhead mounted) at the location where the exiting lane begins to diverge from the through roadway.
4. See Figure 7.8A for striping details.

Text Ref.: 6-7.02.03

March 1, 2008

**SIGNING FOR AUXILIARY LANE ON FREEWAY -
LANE LESS THAN 1/2 MILE WITHOUT ESCAPE LANE**

FIGURE
6.30A



Text Ref.: 6-7.02.03

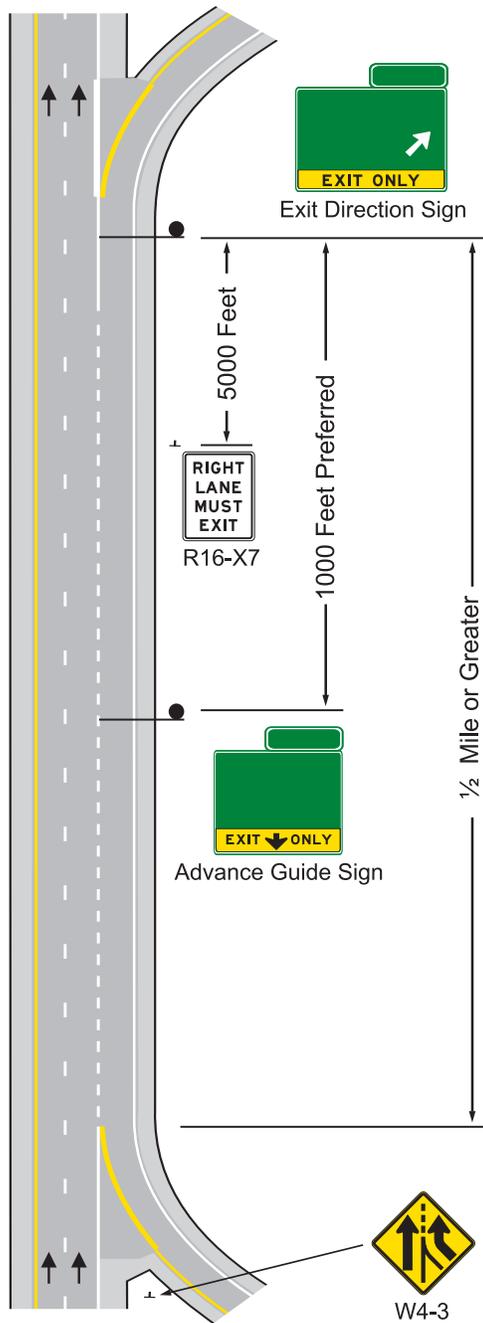
NOTES:

1. This type of auxiliary lane is located either between loops at a cloverleaf interchange or between two closely spaced interchanges.
2. Install a MERGE sign (W4-1) in the gore of the entrance ramp located at the beginning of the auxiliary lane.
3. Install a standard Exit Direction sign (overhead mounted) at the location where the exiting lane begins to diverge from the through roadway.
4. If the full width escape lane extends at least 800 feet past the Exit Gore sign,
 - a. Install a ground mounted RIGHT LANE ENDS sign (W9-1) 600 feet before the end of the full width escape lane, and
 - b. Install a LANE ENDS MERGE LEFT sign (W9-2) 400 feet past the W9-1 sign.
 This sign will provide 200 feet between the W9-2 sign and the end of the full width escape lane.
5. See Figure 7.8A for striping details.

March 1, 2008

**SIGNING FOR AUXILIARY LANE ON FREEWAY -
LANE LESS THAN 1/2 MILE WITH ESCAPE LANE**

FIGURE
6.30B



NOTES:

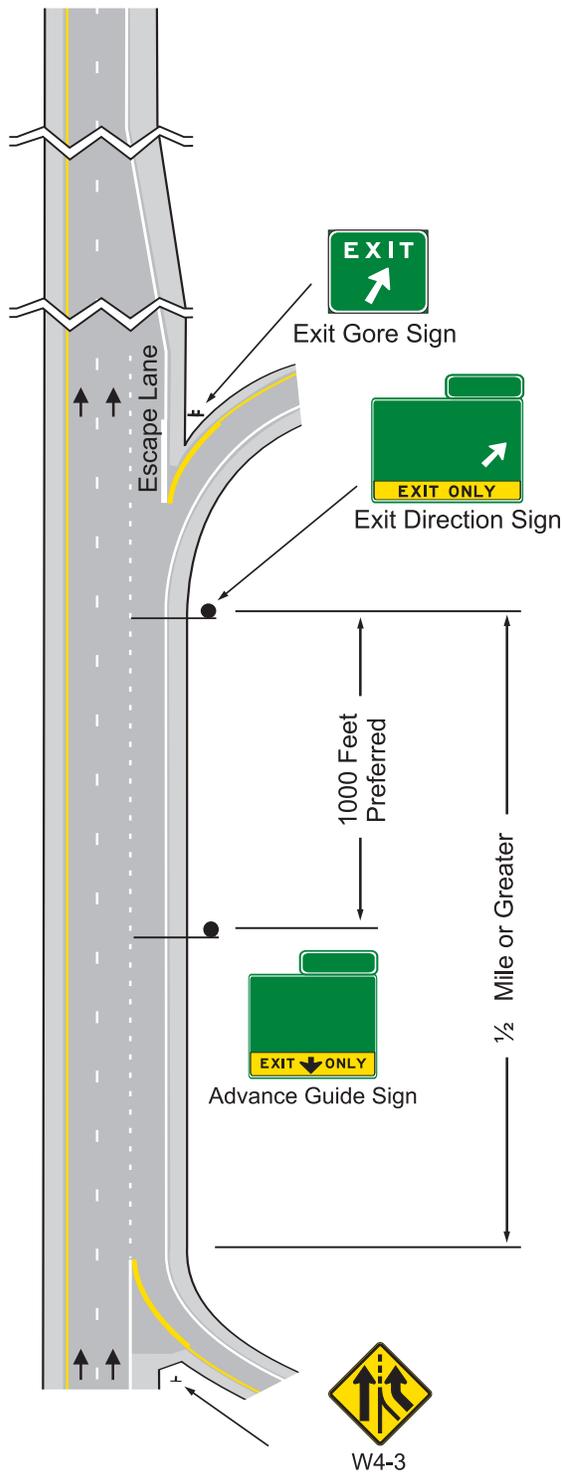
1. Install an Added Lane sign (W4-3) in the gore located at the beginning of the auxiliary lane.
2. Install an EXIT ONLY Advance Guide sign (overhead mounted) 1000 feet preferred, 800 feet minimum, ahead of the EXIT ONLY Exit Direction sign.
3. Install a RIGHT LANE MUST EXIT sign (R16-X7) 500 feet ahead of the EXIT ONLY Exit Direction sign.
4. Install an EXIT ONLY Exit Direction sign (overhead mounted) at the location where the exiting lane begins to diverge from the through roadway.
5. See Figure 7.8A for striping details.

Text Ref.: 6-7.02.03

March 1, 2008

**SIGNING FOR AUXILIARY LANE ON FREEWAY -
LANE 1/2 MILE OR GREATER WITHOUT ESCAPE LANE**

FIGURE
6.30C



NOTES:

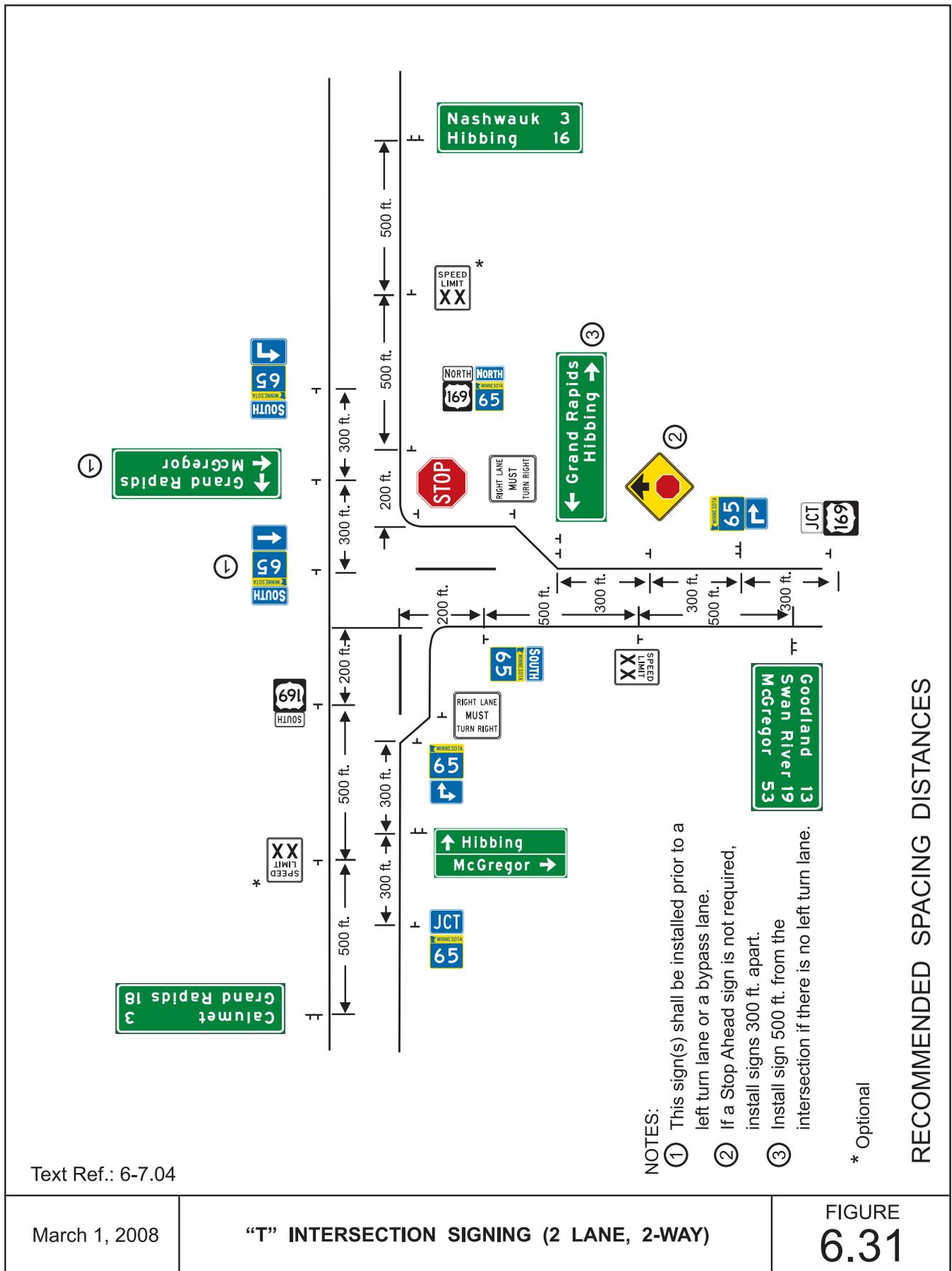
1. Install an Added Lane sign (W4-3) in the gore located at the beginning of the auxiliary lane.
2. Install an EXIT ONLY Advance Guide sign (overhead mounted) 1000 feet preferred, 800 feet minimum, ahead of the EXIT ONLY Exit Direction sign.
3. Install an EXIT ONLY Exit Direction sign (overhead mounted) at the location where the exiting lane begins to diverge from the through roadway.
4. If the full width escape lane extends at least 800 feet past the Exit Gore sign,
 - a. Install a ground mounted RIGHT LANE ENDS sign (W9-1) 600 feet before the end of the full width escape lane, and
 - b. Install a LANE ENDS MERGE LEFT sign (W9-2) 400 feet past the W9-1 sign.
 This sign will provide 200 feet between the W9-2 sign and the end of the full width escape lane.
5. See Figure 7.8A for striping details.

Text Ref.: 6-7.02.03

March 1, 2008

**SIGNING FOR AUXILIARY LANE ON FREEWAY -
LANE 1/2 MILE OR GREATER WITH ESCAPE LANE**

FIGURE
6.30D

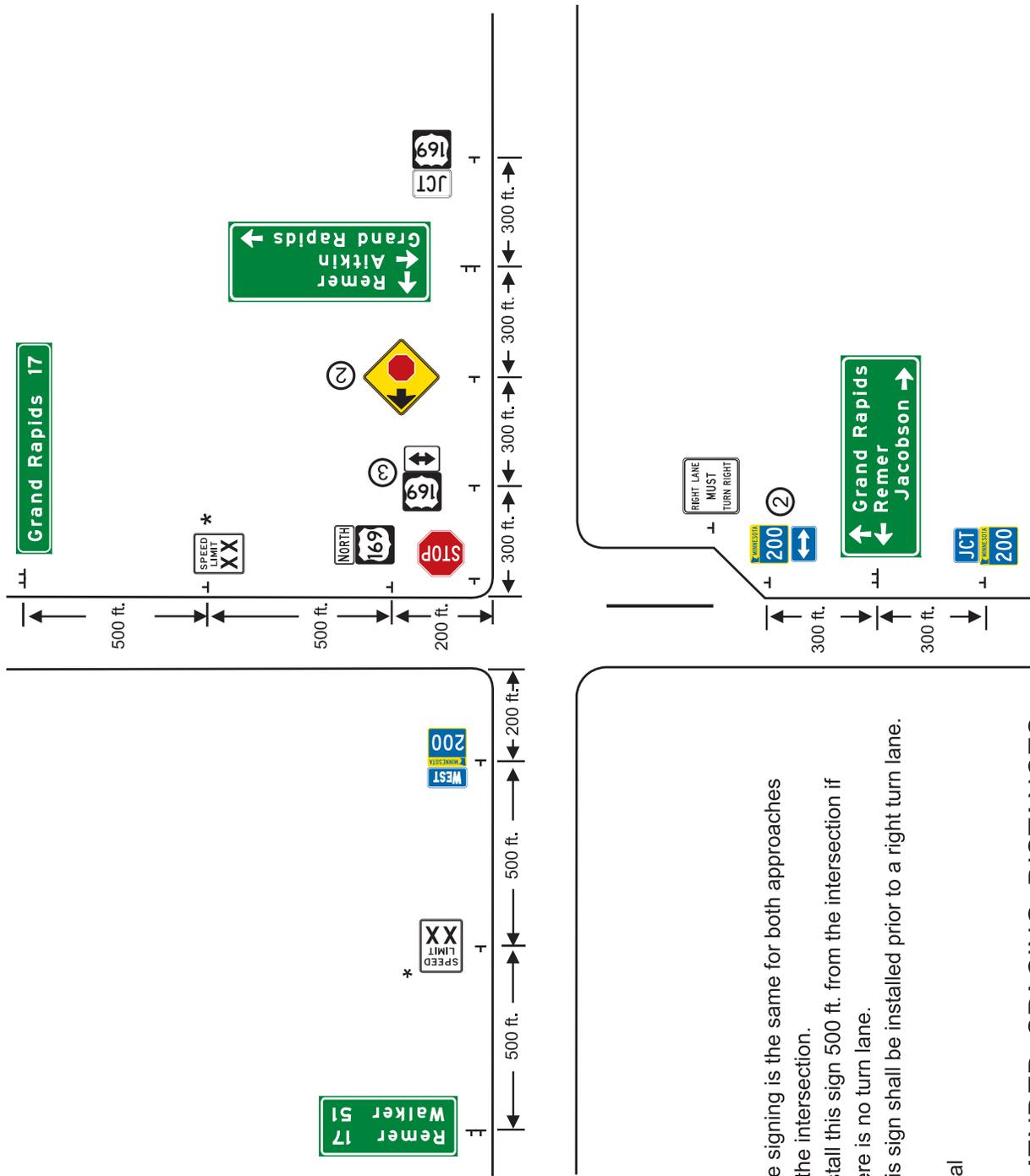


Text Ref.: 6-7.04

March 1, 2008

“T” INTERSECTION SIGNING (2 LANE, 2-WAY)

FIGURE
6.31

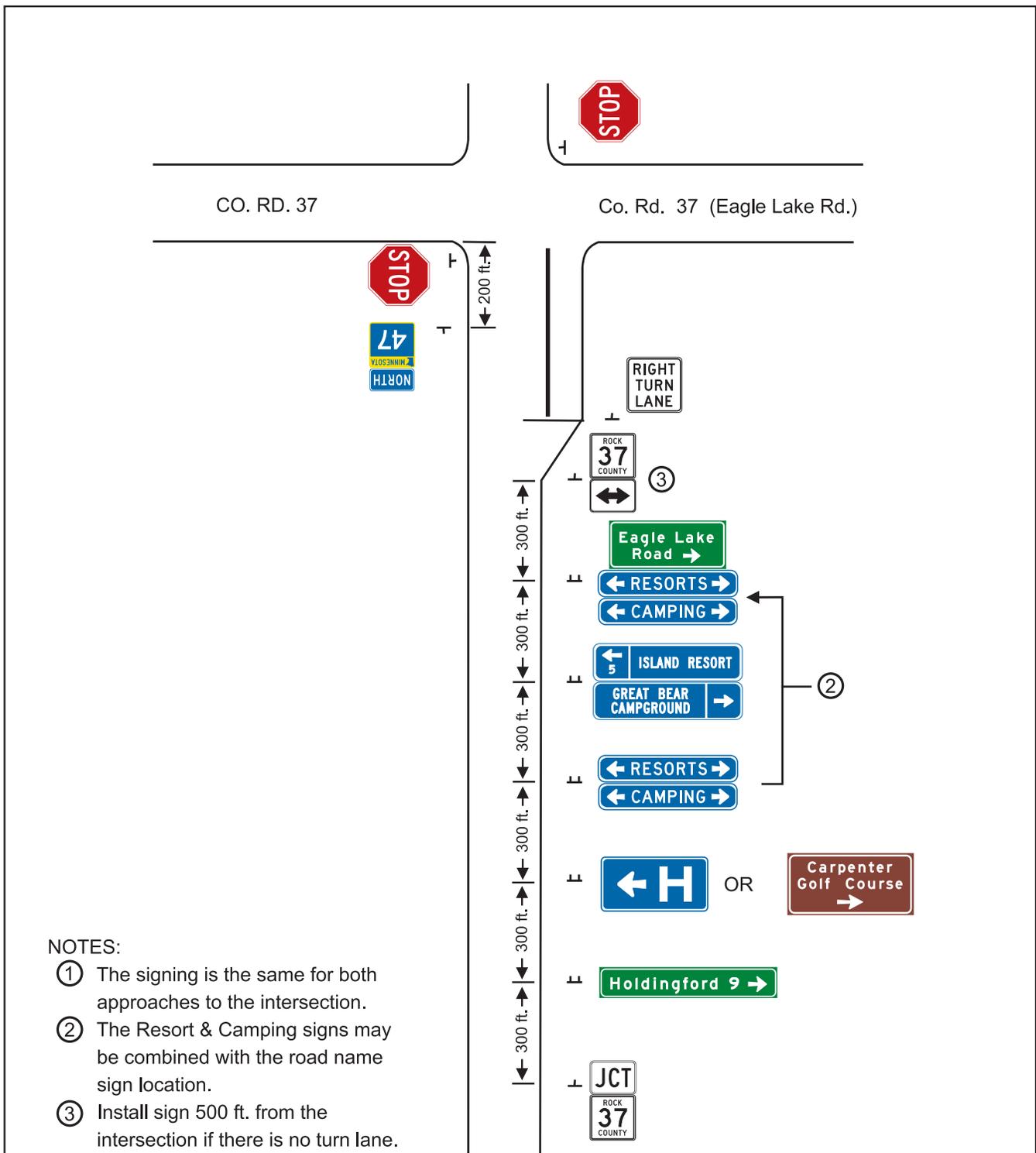


- NOTES:
- ① The signing is the same for both approaches to the intersection.
 - ② Install this sign 500 ft. from the intersection if there is no turn lane.
 - ③ This sign shall be installed prior to a right turn lane.
- * Optional

RECOMMENDED SPACING DISTANCES

Text Ref.: 6-7.04

March 1, 2008	4-LEG INTERSECTION SIGNING	FIGURE 6.32
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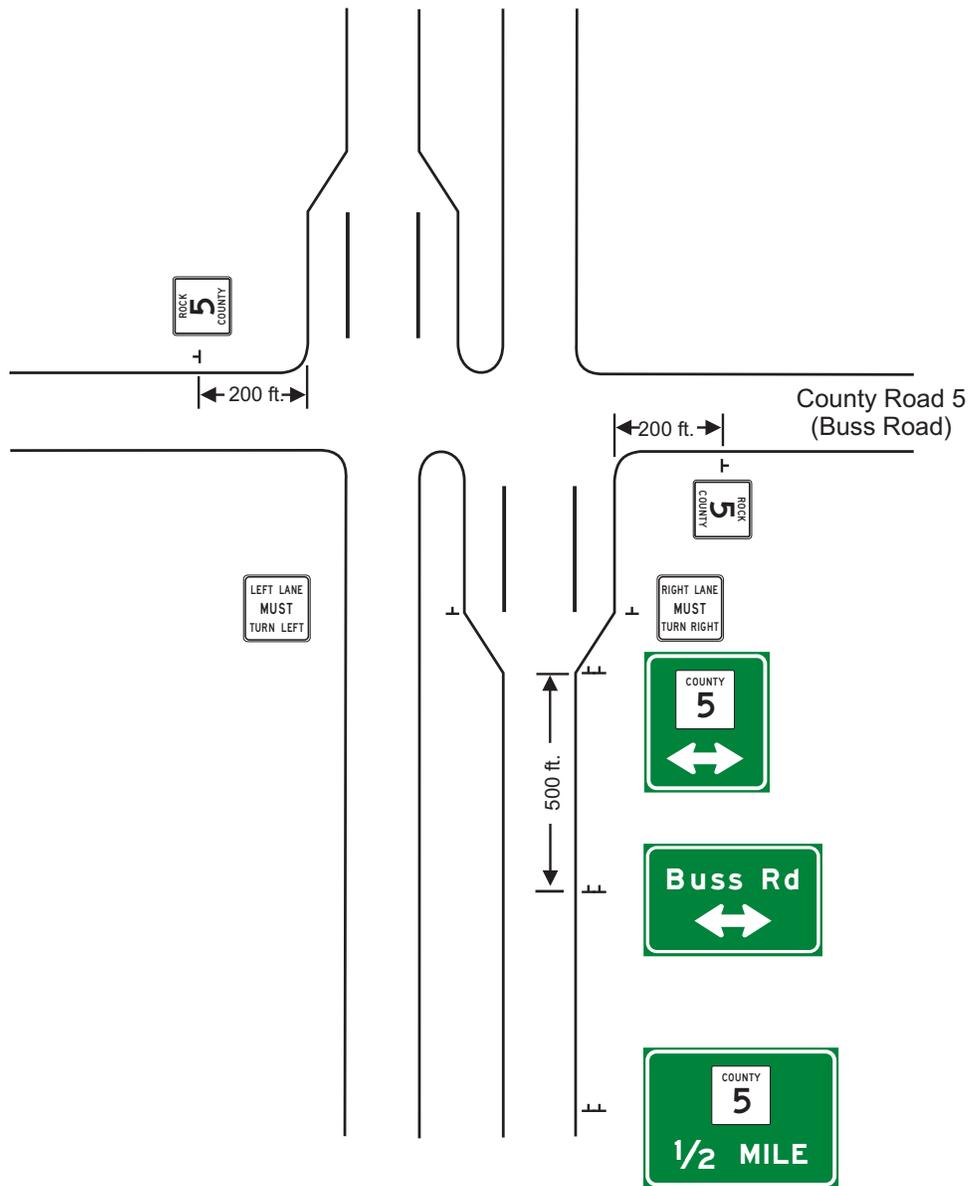
NOTES:

- ① The signing is the same for both approaches to the intersection.
- ② The Resort & Camping signs may be combined with the road name sign location.
- ③ Install sign 500 ft. from the intersection if there is no turn lane.

RECOMMENDED SPACING DISTANCES

Text Ref.: 6-7.04, 6-7.06.03, 6-7.09.05, and 6-7.09.13, item 3, pg. 6-76

<p>March 1, 2008</p>	<p>LOCAL ROAD/STREET INTERSECTION SIGNING</p>	<p>FIGURE 6.33</p>
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NOTES:

- ① The signing is the same for both approaches to the intersection.

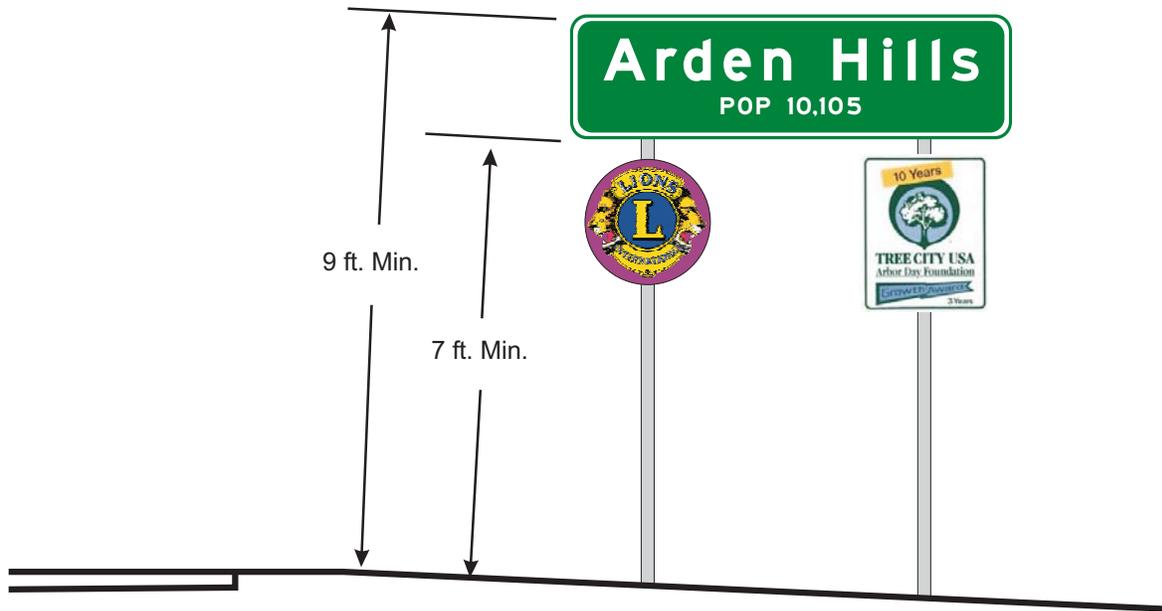
Text Ref.: 6-7.06.03

March 1, 2008

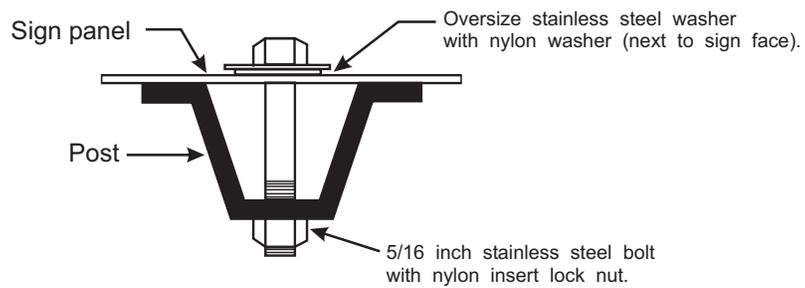
**NAMED COUNTY ROAD SIGNING
ON AN EXPRESSWAY**

FIGURE
6.35

TYPICAL MOUNTING



SIGN PANEL ATTACHMENT DETAIL



U-POST MOUNTING

Text Ref.: 6-7.07.03, section 4

March 1, 2008

COMMUNITY RECOGNITION SIGNING

FIGURE
6.36

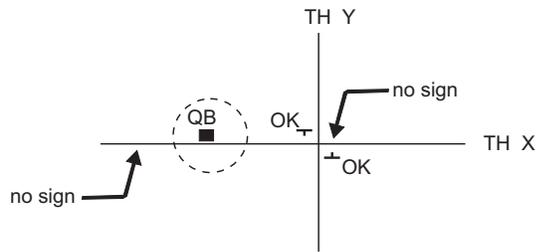


DIAGRAM A

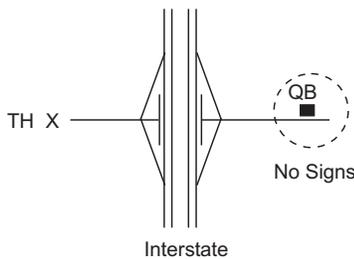
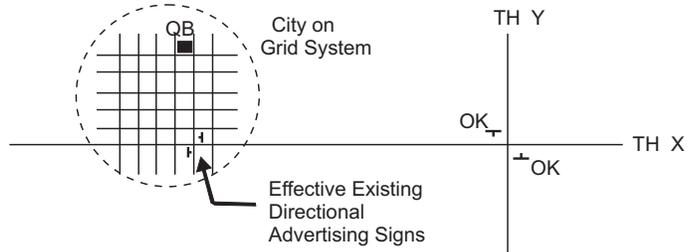
Trunk Highway Intersection
 QB is adjacent to the Trunk Highway

Diagram A is addressed in sections
 6-7.04.04 item 2, 6-7.04.04 items 5a and 5b.

DIAGRAM VARIATION A

Trunk Highway Intersection
 QB on a Grid System

If the QB is located on the city street system OFF the Trunk Highway, signs are permitted on Trunk Highway Y if the QB has effective off R/W directional advertising signs in place on Trunk Highway X, as "trailblazing".



Cannot be used on the Interstate.
 Sign on TH X would be straight ahead signing.

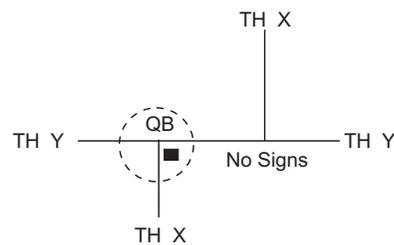
DIAGRAM B

Interstate

Diagram B is addressed in section
 6-7.04.04 item 2.

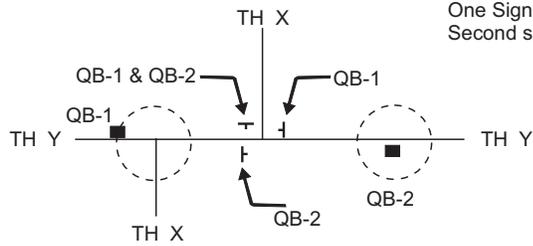
DIAGRAM C

Diagram C signing is considered "straight ahead" on both Trunk Highways, no signing is permitted.



- LEGEND:
- OK - Permissible Sign Location
 - QB - Qualifying Business
 - - City
 - + - Specific Service Sign(s)

Text Ref.: 6-7.09.13, item 3, pg. 6-75



One Sign for each QB qualifies.
Second sign may be purchased.

DIAGRAM D

Trunk Highway X southbound qualifies for signs for QB-1 and QB-2 since it intersects Trunk Highway Y. Section 6-7.04.04 item 6b applies for straight ahead signing.

DIAGRAM E

Trunk Highway X southbound qualifies for a sign for QB-2 and Trunk Highway Y qualifies for a sign for QB-1. Section 6-7.04.04 item 6b applies for straight ahead signing.

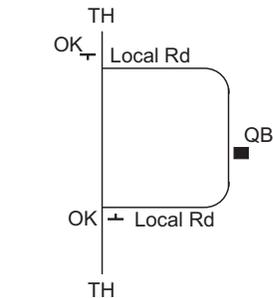
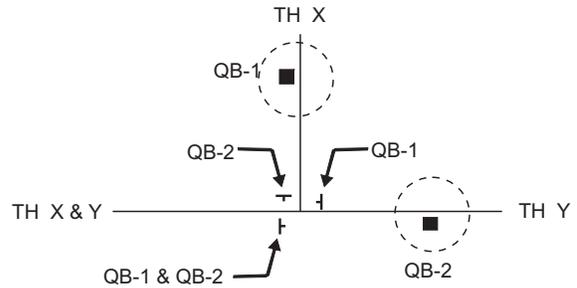


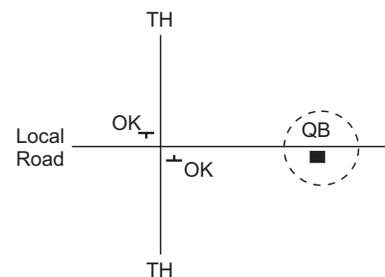
DIAGRAM F
Bypass

Diagram F is addressed in section 6-7.09.13 item 7.

DIAGRAM G

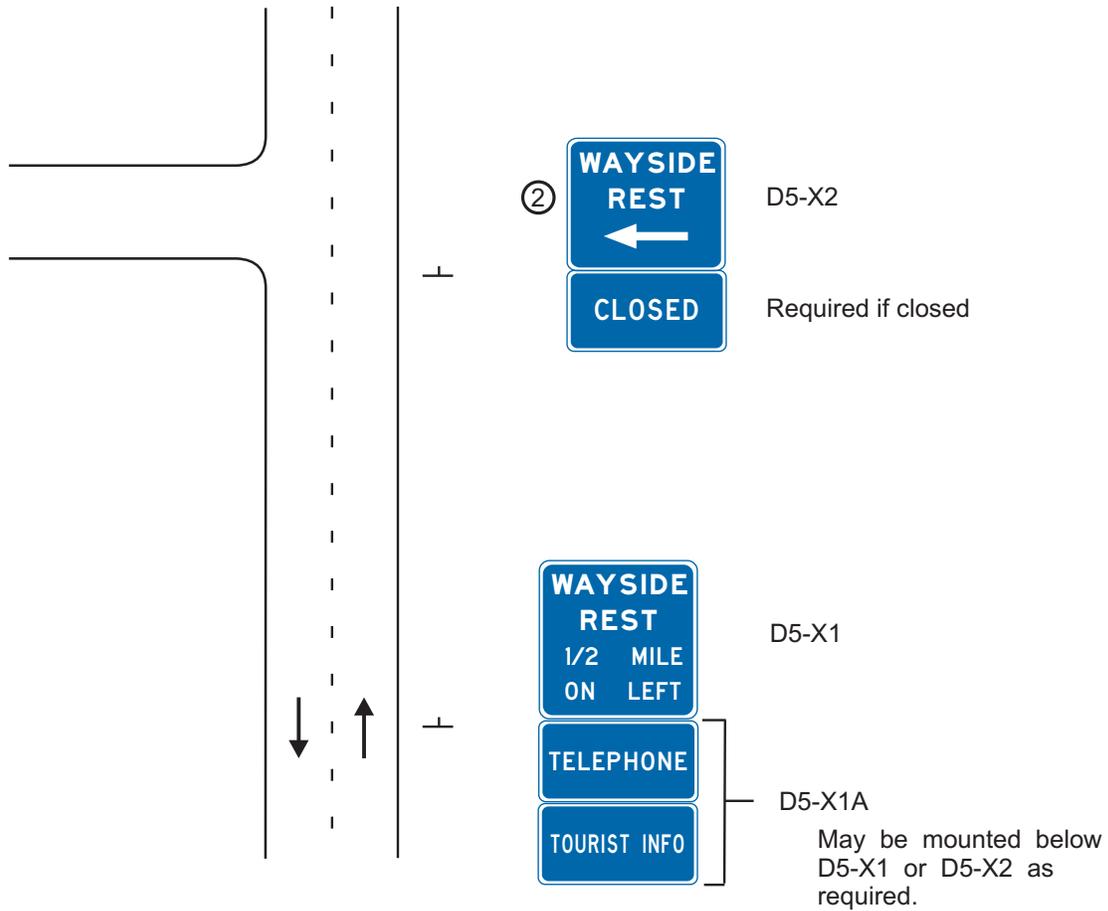
Trunk Highway & Local Road Intersection

Diagram G is addressed in sections 6-7.04.04 item2 and 6-7.04.04 item 5a.



- LEGEND:
- OK - Permissible Sign Location
 - QB - Qualifying Business
 - - City
 - + - Specific Service Sign(s)

Text Ref.: 6-7.09.13, item 3, pg. 6-75



NOTES:

- ① The signing is the same for both approaches to the intersection.
- ② The sign shall be installed prior to a turn lane.

Text Ref.: 6-8.08.03

<p>March 1, 2008</p>	<p>WAYSIDE REST SIGNING</p>	<p>FIGURE 6.38</p>
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MINNESOTA DEPARTMENT OF TRANSPORTATION (MN/DOT)
Installation of Specific Service Signing on Trunk Highways (T.H.)
(PLEASE PRINT) (revised 01-05-07)



Applicant Name
Street Address
City, State, Zip County Phone: ()
Business Name

Signing Location: Rural intersection of state highway and

Is signing requested at a rural interchange? Yes No

Is signing required on the interchange ramp? Yes No
(If the business or business signing is visible from the end of a ramp, a sign is not required on the ramp.)

Number of signs requested: (circle) 1 2 3 4 [all signs must contain the same legend]

Circle the direction of travel to be signed.
Eastbound Westbound Northbound Southbound

Distance from the signed Intersection/interchange to the business: miles.
Businesses must be within 15 miles of the intersection/interchange.

Direction to the business from the signed intersection/interchange (circle one). East West North South

OPTION OF 3 SIGN STYLES (check one)

Name only -- show all characters including spaces (maximum of 12 per line)

See Sample A Line 1

Exact business name to be shown on sign Line 2 (if needed)

Business Panel - design of the business panel is the responsibility of the applicant

See Sample B (name optional) See Sample C

18" long x 12" high OR 30" to 48" long x 12" high (No optional name, business panel is centered on sign.)

Normal Hours of Operations:
Mon. Tues. Wed. Thurs. Fri. Sat. Sun.

Seasonal Businesses:
Months of Operation: to

Applicant must read, complete, and sign the reverse side (Certification of Compliance) prior to the fabrication and installation of the sign(s).

Individual sign fee: \$ x signs = (includes fabrication, installation, and overhead)

Payment for sign installation must be included with the completed application.

Make check or money order payable to: COMMISSIONER OF TRANSPORTATION

Return this form to: Minnesota Department of Transportation
NAME - TITLE
ADDRESS
CITY, MN ZIP CODE
Questions call (xxx)xxx-xxxx

Text Ref.: 6-7.09.13

February, 2008 SPECIFIC SERVICES APPLICATION FORM 6.1A

Installation of Specific Service Signing on Trunk Highways (T.H.)
(revised 01-05-07)

CERTIFICATION OF COMPLIANCE
(page 1)

- RESORT: I, the undersigned, do hereby certify that this business is licensed by the State Department of Health as required by Minnesota Statute 157.16.
- MOTEL: I, the undersigned, do hereby certify that this business is licensed by the State Department of Health as required by Minnesota Statute 157.16.
- RESTAURANT: I, the undersigned, do hereby certify that this business is licensed by the State Department of Health as required by Minnesota Statute 157.16 and that the restaurant provides continuous staffed food service at least 4 hours a day, 5 days a week except holidays as defined in MS 645.44, subd. 5, and except as provided for seasonal businesses; seating capacity for at least 20 people, serve meals prepared on the premises, and possess any required state or local licensing or approval.
- CAMPGROUND: I, the undersigned, do hereby certify that this camping area does possess a State Department of Health license, as required by Minnesota Statute 327.15, and that the following criteria will be met:
 - (1) a minimum of 15 spaces available;
 - (2) modern sanitary facilities (flush, chemical, or incinerator toilet) and drinking water available;
 - (3) services available 24 hours per day
- GASOLINE SERVICE STATION/RETAIL MOTOR FUEL BUSINESS: I, the undersigned, do hereby certify that the "gasoline service station" or "retail motor fuel business" provides services including fuel and oil, restroom facilities and drinking water, public access to a telephone, and provides continuous operation at least 12 hours per day, 7 days per week.
- PLACE OF WORSHIP
- RURAL AGRICULTURAL BUSINESS: Type of business: _____
I, the undersigned, do hereby certify that the "rural agricultural business" is open a minimum of 8 hours per day, 6 days per week, 12 months per year or for a seasonal business 8 hours per day, 6 days per week during the normal seasonal period.
- TOURIST ORIENTED BUSINESS: Type of business: _____
I, the undersigned, do hereby certify that the "tourist oriented business" is open a minimum of 8 hours per day, 6 days per week, 12 months per year or for a seasonal business 8 hours per day, 6 days per week during the normal seasonal period.

Further, I do hereby certify that this business conforms with all applicable laws and regulations concerning the provisions for public accommodations without regard to race, color, creed, religion, national origin, sex, disability, age, and sexual orientation.

I also certify, that to be in compliance with Minnesota Statutes, that (1) my business is not readily visible from the trunk highway intersection to be signed; (2) effective directional advertising is not possible; and (3) no business advertising signs can be legally and effectively located near the intersection.

I agree to accept the sign format, design, and location determined by Mn/DOT, in compliance with all pertinent state signing standards, and to make payment in advance in the amount of \$_____ per sign installation.

February, 2008	SPECIFIC SERVICES APPLICATION	FORM 6.1B
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Installation of Specific Service Signing on Trunk Highways (T.H.)
(revised 01-05-07)

CERTIFICATION OF COMPLIANCE
(page 2)

I do also agree to participate in any additional maintenance and/or sign replacement costs for my specific service sign(s) resulting from damage, vandalism and other such occurrences beyond the control of Mn/DOT. I agree to pay Mn/DOT for all current costs required to repair the sign panel and/or sign structure. If total replacement is required, I agree to provide at my cost a new sign(s) and pay Mn/DOT, in advance, the current cost for installing the sign(s) and/or replacing the sign structure. In addition, I understand that when signs must be refurbished due to natural deterioration, (based on manufactures warranties, an approximate 12 year replacement cycle at Mn/DOT's discretion), I will be required to reapply for signing and pay current replacement costs. I understand that the replacement costs of the background panel and/or the business panels (logos) are entirely my responsibility. I also agree to notify Mn/DOT 30 days in advance if my business name changes, if there is a change in business ownership, or when my business ceases to exist. I understand that Mn/DOT reserves the right to permanently remove or relocate specific service signs due to roadway construction or maintenance, when new or additional regulatory, warning or guide signs are required to be installed or as required by changes in State Statute applying to specific service signs.

Additional guidance (trailblazing) signing from the trunk highway intersection/interchange to the business will be the responsibility of the applicant and the local road authority, as mandated by Minnesota Statute 160.293, and must be in place prior to installation of trunk highway signing.

All signing is installed on a first come, first served basis. If two businesses apply at the same time, year-round businesses have priority over seasonal businesses.

Inappropriate business names and/or business logos are not permitted to be displayed on sign panels.

Applicant may obtain the salvaged sign panel within 30 days of removal, on condition that the sign shall not be reinstalled on any public right of way nor shall it be reinstalled in any location readily visible to any motor vehicle on the Mn/DOT trunk highway system.

I, the undersigned, herewith accept the terms and conditions of the regulations of the Commissioner of Transportation and agree to fully comply herewith to the satisfaction of the Mn/DOT. Mn/DOT may remove the sign(s) for failure to comply with these terms and/or non-payment of any repair or replacement costs.

Date _____ Applicant's signature _____

Business Name _____
(PLEASE PRINT)

MN/DOT Use Only	
Dated _____	Authorized _____
Minnesota Department of Transportation	
Permit No. _____	Area _____ T.H. _____ R.P. _____ C.S. _____

Examples of Specific Service Signs

If the business intends to display a business panel on each Specific Service sign, the business panel design should be submitted to the District for review. A logo on a business panel shall not resemble a traffic control device.

A business, at its expense, shall have the business panel(s) fabricated by a commercial sign manufacturer. Business panels shall be made of aluminum sheeting (min. 0.063 inch thickness) covered with a minimum of DG3 prismatic reflective sheeting. It is acceptable for a sign fabricator to incorporate the logo onto the sign without using a separate business panel.

Sample "A"

Name only

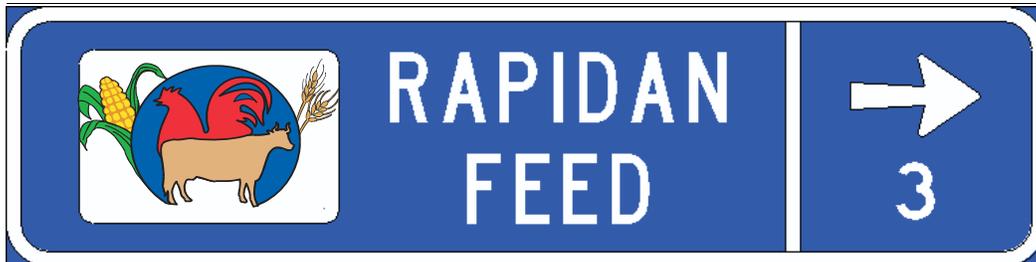
Blue panel (72" x 18")



Sample "B"

Small business panel (18" x 12") and short name

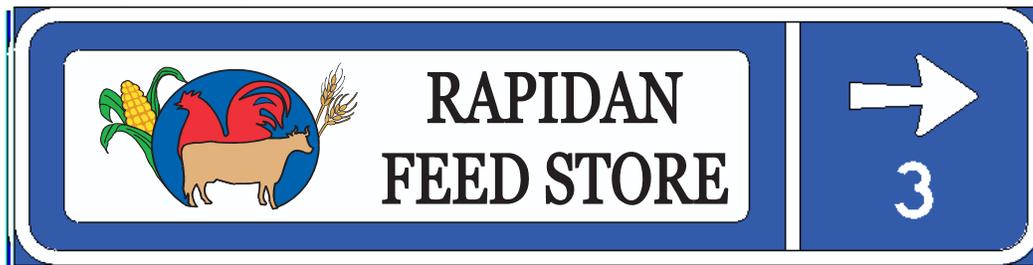
Blue panel (72" x 18")



Sample "C"

Large business panel (maximum 48" x 12") and no name

Blue panel (72" x 18")



MINNESOTA DEPARTMENT OF TRANSPORTATION (MN/DOT)
Installation of Guide and Informational Signing on Trunk Highways (T.H.)
(PLEASE PRINT) (revised 01-05-07)



Applicant Name _____

Street Address _____

City, State, Zip _____ County _____ Phone () _____

Facility Name (as requested to appear on the sign) _____

Exact location of facility _____

Signing location(s): Intersection of T.H. _____ and _____

Number of signs requested: (circle) 1 2 3 4 (all the signs must contain the same legend)

Circle the direction of travel to be signed.

Eastbound Westbound Northbound Southbound

Distance from signed intersection/interchange to business: _____ miles.

Direction to the facility from the signed intersection/interchange: (circle one) East West North South

Applicant must read, complete, and sign the reverse side (Certification of Compliance) prior to the fabrication and installation of the sign(s).

Total current costs = _____ (includes installation, fabrication, and overhead)

Payment for sign installation must be included with the completed application.

Make check or money order payable to: COMMISSIONER OF TRANSPORTATION

Mn/DOT Use Only	
<input type="checkbox"/> Bill (State Agencies only)	<input type="checkbox"/> Payment Received
Dated _____	Authorized _____
Minnesota Department of Transportation	
Permit No. _____	Area _____ T.H. _____ R.P. _____ C.S. _____

Return this form to: Minnesota Department of Transportation
NAME-TITLE
ADDRESS
CITY, MN ZIP CODE

Questions:
call (XXX) XXX-XXXX

Installation of Guide and Informational Signing on Trunk Highways (T.H.)
(revised 01-05-07)

CERTIFICATION OF COMPLIANCE

I, the undersigned, do hereby certify that this facility conforms to all applicable laws and regulations concerning the provisions for public accommodations without regard to race, color, creed, religion, national origin, sex, disability, age, and sexual orientation.

I agree to accept the sign(s) format, design, structure, and location(s) determined by Mn/DOT, in compliance with all pertinent state signing standards, and to make payment in advance for all current costs for the installation of signs by Mn/DOT. I agree to provide at my cost the sign(s) to be installed. If signing needs to be fabricated and installed under contract, I agree to pay the amount determined by contract bid prices.

I do also agree to pay any costs incurred in relocating signs, if feasible, to achieve proper spacing distances.

I do also agree to participate in any additional maintenance and/or sign replacement costs for the guide and information signs(s) resulting from damage, vandalism, and other such occurrences beyond the control of Mn/DOT. I agree to pay Mn/DOT for all current costs required to repair the sign panel and/or sign structure. If total replacement is required, I agree to provide at my cost a new sign(s) and to pay Mn/DOT, in advance, the current cost for installing the sign(s) and/or replacing the sign structure. In addition, I understand that when signs must be refurbished due to natural deterioration, (based on manufacturer's warranties, an approximate 12 year replacement cycle at Mn/DOT's discretion), I will be required to reapply for signing and pay current replacement costs. I also agree to notify Mn/DOT 30 days in advance if the facility name changes, if there is a change in facility ownership, or when the facility ceases to exist. I understand that Mn/DOT reserves the right to permanently remove or relocate guide and information signs due to roadway construction or maintenance, when new or additional regulatory, warning, or guide signs are required to be installed, or as required by changes in State Statutes applying to guide and information signs.

Additional guidance (trailblazing) signing from the trunk highway intersection/interchange to the facility will be the responsibility of the applicant and the local road authority, and must be in place prior to the installation of trunk highway signing.

The applicant may obtain the salvaged sign panel within 30 days of removal, on condition that the sign shall not be reinstalled on any public right of way nor shall it be reinstalled in any location readily visible to any motor vehicle on the Mn/DOT trunk highway system.

I, the undersigned, herewith accept the terms and conditions of the regulations of the Commissioner of Transportation and agree to fully comply herewith to the satisfaction of Mn/DOT. Mn/DOT may remove the sign(s) for any failure to comply with these terms and/or non-payment of any repair or replacement costs.

Date _____ Applicant's signature _____

Facility Name _____
(PLEASE PRINT)

February, 2008

GUIDE AND INFORMATION SIGNS APPLICATION

FORM
6.2B

Adopt-A-Highway Agreement

(check one)

Adopt-A-Highway. The group agrees to pick up litter *at least* three times a year for a minimum of two years.

Pick-A-Highway. The group agrees to pick up litter one time only. Proposed date: _____

The requested highway segment is located on _____ between _____
and _____ for a total of _____ miles.

The Minnesota Department of Transportation (Mn/DOT) reserves the right to refuse, cancel, or revise this agreement if in its sole judgement the nature of the group or its sign is political, controversial or in questionable taste, or if the group is not meeting the terms and conditions of this agreement. By signing this agreement, the group acknowledges the hazardous nature of the work and agrees to comply with the terms and conditions herewith to the satisfaction of the Minnesota Department of Transportation.

Except for the negligent acts of the State, its agents and employees, the volunteers or their agents shall assume all liability for, and save the State, its agents and employees, harmless from any and all claims for damages, actions or causes of action arising out of the work to be done herein.

Any and all volunteers of the group or other persons while engaged in the performance of any work or service performed under this agreement shall not be considered employees of the State, and any and all claims that may or might arise under all claims made by any third party of the group's volunteers or other persons while so engaged in any of the work or services to be rendered shall in no way be the obligation or responsibility of the State.

Name of group _____
(please print)

Name of group representative _____

Signature _____ Date _____

Address _____ City _____ Zip _____

Phone (day) _____ (evening) _____

Name to appear
on sign
(block letters)

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(Maximum 18 characters including spaces and punctuation. *M* and *W* may count as more than one character.)

***** Agreement Confirmation *****

Special Provisions _____

Your Adopt-A-Highway Contact: _____ Phone _____

Mn/DOT Authorized Representative Date

July 1, 1998	ADOPT - A - HIGHWAY APPLICATION	FORM 6.3A
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Adopt-A-Highway Terms and Conditions

The Adopting Group agrees to:

1. Pick up litter on a segment of state highway selected in consultation with the Minnesota Department of Transportation's (Mn/DOT) local office. Recommended length is two miles. At Mn/DOT's discretion, certain highways may not be eligible.
2. Review the safety training materials before each pick up to alert participants to the hazards and precautions of working on a highway right-of-way.
3. Pick up litter during daylight hours only. Pickups may not be allowed at certain times such as on or near holidays.
4. Provide adequate supervision to participants eighteen years of age or younger. Unless specifically permitted, children age eleven or younger shall not participate.
5. Limit work to the area between the outer shoulders and the right-of-way boundary. Participants shall not pick up litter in the median unless specifically permitted by Mn/DOT. Work may not be done on the roadway itself.
6. Coordinate litter pick up date(s) with the Adopt-A-Highways contact in the appropriate Mn/DOT office. The group will be instructed how and where to obtain its supplies.
7. Place filled trash bags on the shoulder grass line. Arrange with Mn/DOT to pick up the bags. Groups are encouraged to recycle appropriate materials for their own benefit.
8. Return borrowed or unused supplies to Mn/DOT when discontinuing participation.

The Minnesota Department of Transportation agrees to:

1. Provide high visibility vests, trash bags, safety training materials and temporary traffic warning signs when necessary and as determined by Mn/DOT.
2. Remove filled trash bags from the adopted highway.
3. Remove large, heavy, or hazardous materials from the adopted highway.
4. Erect a highway sign or otherwise recognize the group's cleanup efforts. Highway signs shall be erected only for groups that agree to adopt a highway for a minimum of two years. The name on the sign shall be limited to two lines of eighteen characters (including punctuation and spaces). Mn/DOT reserves the right to approve and/or edit names or acronyms.

July 1, 1998	ADOPT - A - HIGHWAY APPLICATION	FORM 6.3B
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Minnesota Department of Transportation
Adopt-A-Rest Area Agreement

The below named group agrees to pick up litter once a month from May 1 thru October 31 for a minimum of two years at the _____ Rest Area.

The Minnesota Department of Transportation (Mn/DOT) reserves the right to refuse, cancel, or revise this agreement if in its sole judgement the nature of the group or its sign is political, controversial or in questionable taste, or if the group is not meeting the terms and conditions of this agreement.

Except for the negligent acts of the State, its agents and employees, the volunteers or their agents shall assume all liability for, and save the State, its agents and employees, harmless from any and all claims for damages, actions or causes of action arising out of the work to be done herein.

Any and all volunteers of the group or other persons while engaged in the performance of any work or service performed under this agreement shall not be considered employees of the State, and any and all claims that may or might arise under all claims made by any third party of the group's volunteers or other persons while so engaged in any of the work or services to be rendered shall in no way be the obligation or responsibility of the State.

Name of group _____ (please print)

Name of group representative _____

Signature _____ Date _____

Address _____ City _____ Zip _____

Phone (day) _____ (evening) _____

Grid for name on sign: two rows of 20 boxes each.

Name to appear on sign

(Maximum 20 characters including spaces and punctuation. M and W may count as more than one character.)

Special Provisions _____

_____ Area Maintenance Engineer

_____ Date

Table with 3 columns: July 1, 1999; ADOPT - A - REST AREA APPLICATION; FORM 6.4A



Minnesota Department of Transportation
Adopt-A-Rest Area Terms and Conditions

The Adopting Group agrees to:

1. Pick up litter at a rest area selected in consultation with the Minnesota Department of Transportation’s (Mn/DOT) local office.
2. Review the safety training materials before each pick up to alert participants to the hazards and precautions of working on or near a highway right-of-way.
3. Pick up litter during daylight hours only. Pickups may not be allowed at certain times such as on or near holidays.
4. Provide adequate supervision to participants eighteen years of age or younger. Unless specifically permitted, children age eleven or younger shall not participate.
5. Limit work to rest areas. Work may not be done on the roadway itself.
6. Arrange litter pick up date(s) in advance with the maintenance engineer or his/her designee in the appropriate Mn/DOT office. The group shall obtain their supplies during regular business hours.
7. Return borrowed or unused supplies to the Mn/DOT office within one week.

The Minnesota Department of Transportation agrees to:

1. Provide high visibility vests, trash bags, safety training materials and temporary traffic warning signs when necessary and as determined by Mn/DOT.
2. Remove filled trash bags from the adopted rest area.
3. Remove large, heavy, or hazardous materials from the adopted rest area.
4. Erect a sign or otherwise recognize the group’s cleanup efforts. Signs shall be erected only for groups that agree to adopt a rest area for a minimum of two years. The name on the sign shall be limited to two lines of eighteen to twenty characters (including punctuation and spaces). Mn/DOT reserves the right to approve and/or edit names or acronyms.

July 1, 1999	ADOPT - A - REST AREA APPLICATION	FORM 6.4B
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Community Destination Signing

SAMPLE RESOLUTION

BE IT RESOLVED that the City of _____ agrees to comply with the guidelines adopted by the Minnesota Department of Transportation (Mn/DOT) for Community Destination Signing to be located within the rights of way of state (trunk) highways and city streets/local roads. The city agrees that it is solely responsible for the construction, installation and maintenance of all sign structures and sign panels at its own expense and that if the community destination signs are not properly maintained, the city will remove the signs, at its sole expense, upon request by Mn/DOT. The city also agrees that if the signs are not removed within 30 days of notification by Mn/DOT, Mn/DOT forces will remove the signs if the sole cost and expense of the city.

CERTIFICATION

State of Minnesota
 County of _____
 City of _____

I hereby certify that the foregoing Resolution is a true and correct copy of a resolution presented to and adopted by the Council of the City of _____ at a duly authorized meeting thereon held on the ____ day of _____, _____, as shown by the minutes of said meeting in my possession.

 City Administrator-Clerk

Text Ref.:

February, 2008	SPECIFIC SERVICES APPLICATION	FORM 6.1A
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**GUIDELINE FOR NON-FREEWAY
GUIDE SIGNS**

Sign Type	Speeds < 45 mph	
	2 lane 2 way (inches)	4 or more lanes (inches)
GROUND MOUNTED:		
Destination		
City	6-4.5	8-6
Distance		
Cardinal Direction	6	6
Route Marker	18 OL	18 OL
City	6-4.5	6-4.5
Junction		
Cardinal Direction	8	8
Route Marker	24 OL	24 OL
Action Message	8	8
Directional		
Cardinal Direction	6	8
Route Marker	18 OL	24 OL
City/Street Name	6-4.5	8-6
Supplemental		
Generic	6	6
Proper Name	6-4.5	6-4.5
Route Marker	18 OL	18 OL
Cardinal Direction	6	6
Action Message	5	5
SIGNAL MAST ARM MOUNTED:		
Cardinal Direction	8	8
	DM or EM	DM or EM
Route Marker	24 OL	24 OL
City/Street Name	8-6	8-6
OTHER OVERHEADS:		
Cardinal Direction	8	8
Route Marker	24 OL	24 OL
City/Street Name	8-6	8-6
OL = Overlay	DM = D Modified letters	EM = E Modified letters

- NOTES: 1. Letter fonts are E Modified unless otherwise noted.
 2. In urban areas, limited horizontal space in which to place a sign can occur. It is then permissible to reduce the size of the letters of a sign by one step.
 3. Due to the wide range of roadway designs, see the MN MUTCD, Section 2E.13 and Tables 2E-1 through 2E-4, and/or call the OTSO Signing Unit for additional information.
 4. These are the minimum numeral and letter sizes for Type D Guide signs.

Text Ref.: 6-7.09, and 6-7.09.11, page 6-60

July 1, 1998	GUIDELINES FOR TYPE D GUIDE SIGNS	CHART 6.1A
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**GUIDELINE FOR NON-FREEWAY
GUIDE SIGNS**

Sign Type	Speeds 45 & 50 mph	
	2 lane 2 way (inches)	4 or more lanes (inches)
GROUND MOUNTED:		
Destination		
City	8-6	10.7-8
Distance		
Cardinal Direction	6	8
Route Marker	18 OL	24 OL
City	6-4.5	8-6
Junction		
Cardinal Direction	8	8
Route Marker	24 OL	24 OL
Action Message	8	8
Directional		
Cardinal Direction	8	8
Route Marker	24 OL	24 OL
City/Street Name	8-6	10.7-8
Supplemental		
Generic	6	8
Proper Name	6-4.5	8-6
Action Message	5	6
SIGNAL MAST ARM MOUNTED:		
Cardinal Direction	8	8
Route Marker	DM or EM 24 OL	DM or EM 24 OL
City/Street Name	8-6	8-6
OTHER OVERHEADS:		
Cardinal Direction	8	8
Route Marker	24 OL	24 OL
City/Street Name	8-6	10.7-8
OL = Overlay DM = D Modified letters EM = E Modified letters		

- NOTES: 1. Letter fonts are E Modified unless otherwise noted.
 2. In urban areas, limited horizontal space in which to place a sign can occur. It is then permissible to reduce the size of the letters of a sign by one step.
 3. Due to the wide range of roadway designs, see the MN MUTCD, Section 2E.13 and Tables 2E-1 through 2E-4, and/or call the OTSO Signing Unit for additional information.
 4. These are the minimum numeral and letter sizes for Type D Guide signs.

Text Ref.: 6-7.09, and 6-7.09.11, page 6-60

July 1, 1998	GUIDELINES FOR TYPE D GUIDE SIGNS	CHART 6.1B
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GUIDELINE FOR NON-FREEWAY GUIDE SIGNS

Sign Type	Speed >50 mph	55 mph	>55 mph
	2 lane, 2 way (inches)	4 or more lanes (inches)	4 or more lanes (inches)
GROUND MOUNTED:			
Destination			
City	8-6	10.7-8	13.3-10
Distance			
Cardinal Direction	6	8	8
Route Marker	18OL	24 OL	24 OL
City	6-4.5	8-6	10.7-8
Junction			
Cardinal Direction	8	10	10
Route Marker	24 OL	24 OL	24 OL
Action Message	8	10	10
Directional			
Cardinal Direction	8	8	10
Route Marker	24 OL	24 OL	24 OL
City/Street Name	8-6	10.7-8	13.3-10
Supplemental			
Generic	8	8	* 8
Proper Name	8-6	8-6	* 8-6
Action Message	6	6	* 8
SIGNAL MAST ARM MOUNTED:			
Cardinal Direction	8	8	8
Route Marker	DM or EM 24 OL	DM or EM 24 OL	DM or EM 24 OL
City/Street Name	8-6	8-6	8-6
OTHER OVERHEADS:			
Cardinal Direction	8	8	10
Route Marker	24 OL	24 OL	24 OL
City/Street Name	8-6	10.7-8	13.3-10

OL = Overlay DM = D Modified letters EM = E Modified letters

- NOTES: 1. Letter fonts are E Modified unless otherwise noted.
 2. In urban areas, limited horizontal space in which to place a sign can occur. It is then permissible to reduce the size of the letters of a sign by one step.
 3. Due to the wide range of roadway designs, consult the MN MUTCD tables, sections 2E-11 (expressway) and 2F-11 (freeway), and/or call the O.T.E. Signing Unit for additional information.
 4. These are the minimum numeral and letter sizes for Type D Guide signs.

* These letters may be reduced from 8 to 6 and 8-6 to 6-4.5.

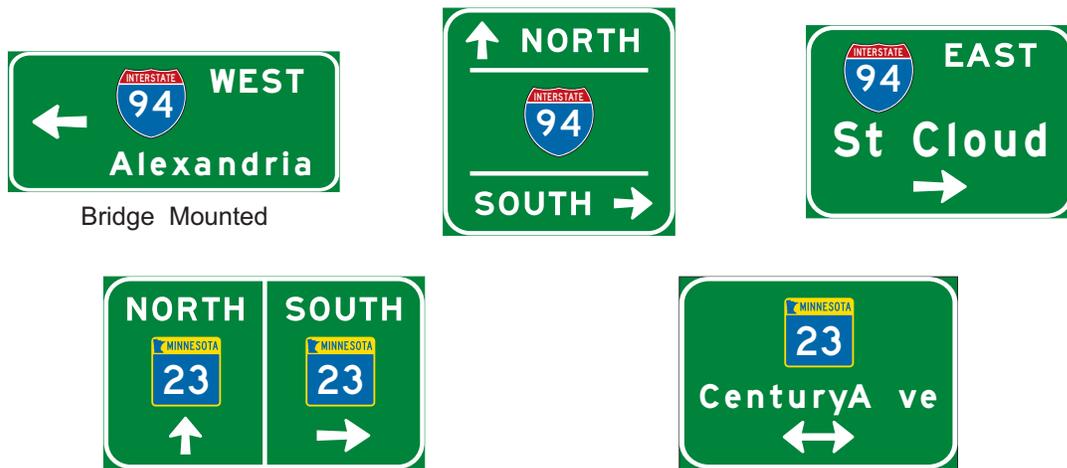
Text Ref.: 6-7.09, and 6-7.09.11, page 6-60

July 1, 1998	GUIDELINES FOR TYPE D GUIDE SIGNS	CHART 6.1C
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Destination Signs



Directional Signs



Distance Signs



July 1, 1998

GUIDELINES FOR TYPE D SIGNS (cont.)

CHART
6.1D

Junction Signs



Signal Mast Arm Mounted Signs

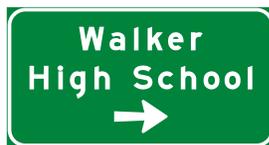
Street Name Signs

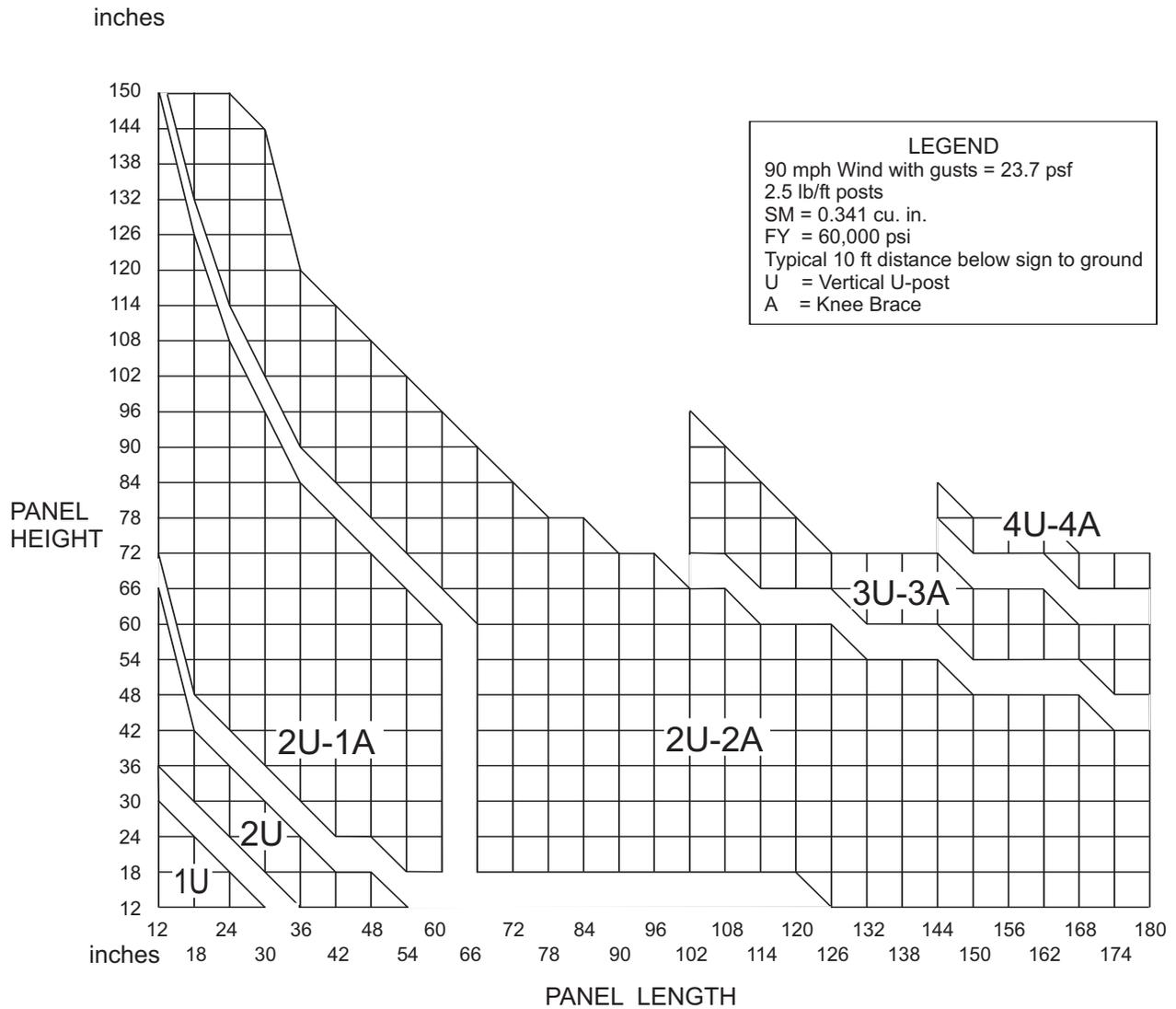


Directional Signs



Supplemental Signs



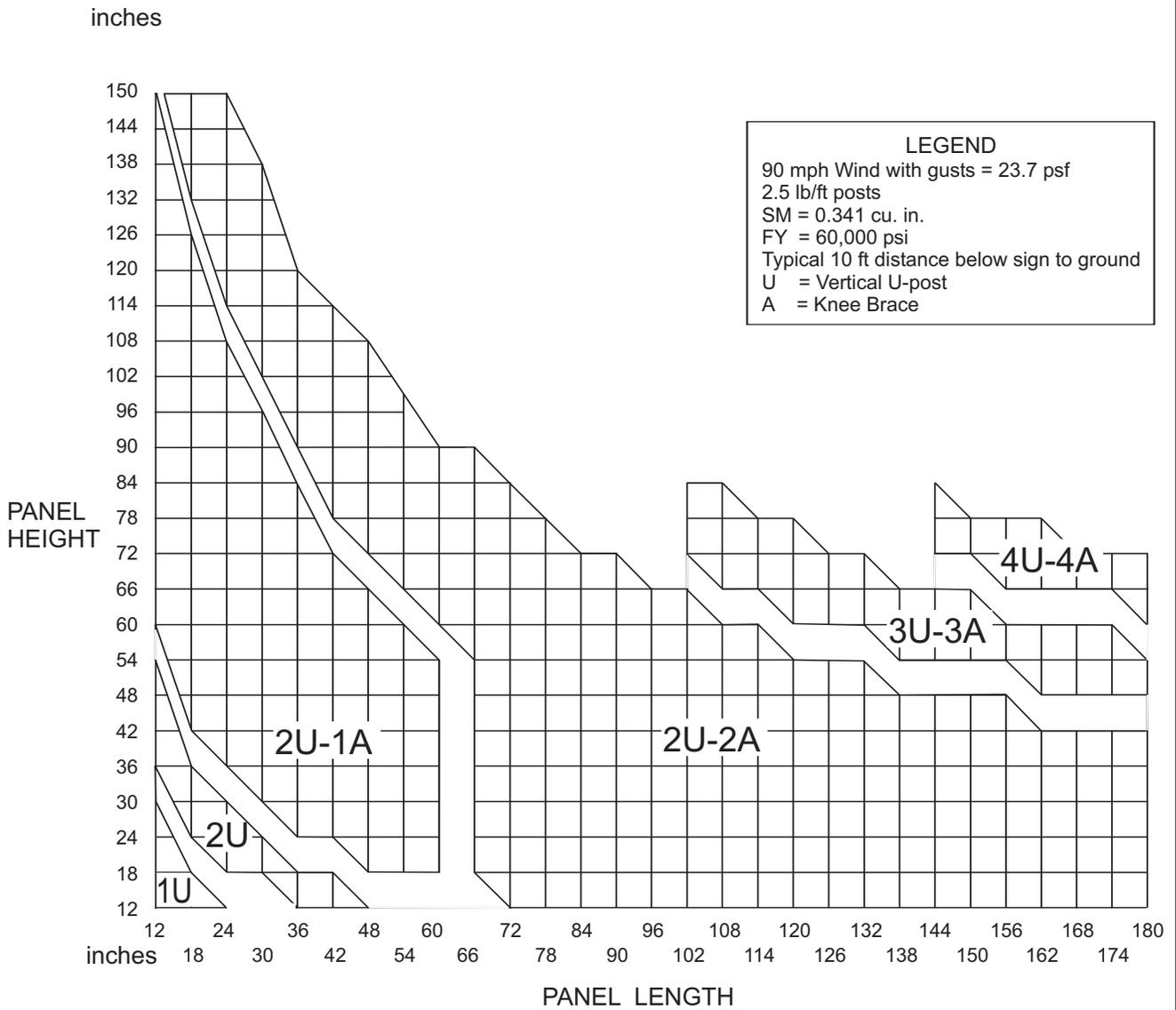


Text Ref.: 6-4.08.01, page 6-18

February, 2008

**U-POST STRUCTURE CHART FOR
 GROUND-MOUNTED SIGNS using 3 lb/ft Posts**

**CHART
 6.2**



Text Ref.: 6-4.08.01, page 6-18

January 1, 1996

**U-POST STRUCTURE CHART FOR
 GROUND-MOUNTED SIGNS using 2.5 lb/ft Posts**

CHART
6.3

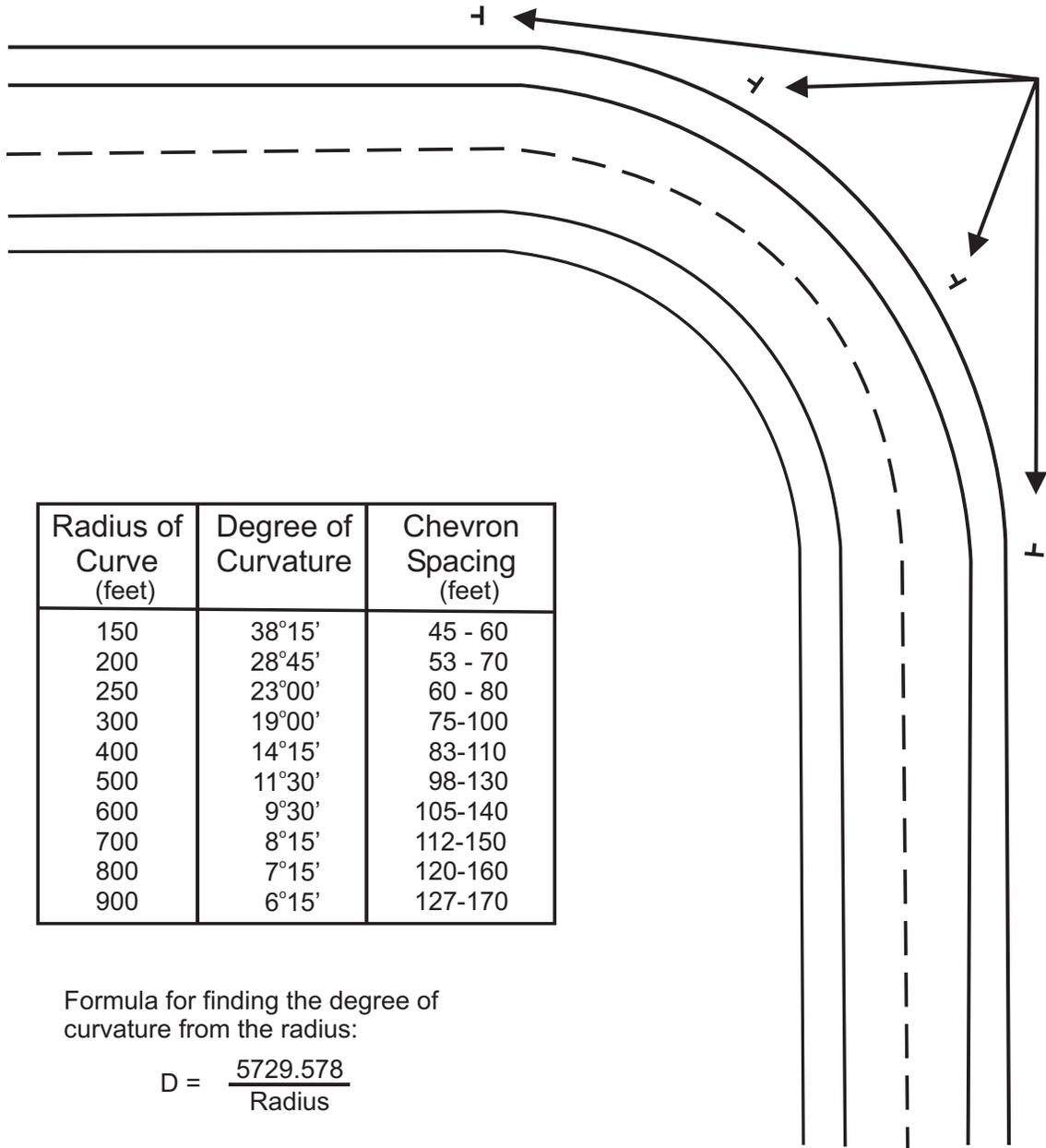
PANEL WIDTH (inches)	POST SPACING		
	2 POSTS (inches)	3 POSTS (inches)	4 POSTS (inches)
36	24	---	---
42	30	---	---
48	30	---	---
54	30	---	---
60	36	---	---
66	42	---	---
72	42	---	---
78	54	---	---
84	54	---	---
90	54	---	---
96	54	---	---
102	60	45	---
108	66	45	---
114	66	45	---
120	72	45	---
126	78	45	---
132	78	45	---
138	78	48	---
144	90	51	45
150	90	54	45
156	90	54	45
162	96	57	48
168	96	60	48
174	102	63	54
180	108	63	54

Use this chart if punch codes cannot be found in the Standard Signs Manual.

Posted or 85th percentile speed mph (mph)	Minimum Advance Placement Distance ¹								
	Condition A: Speed Reduction and Lane Changing in Heavy Traffic ² feet	Condition B: Deceleration to the listed advisory speed (mph) for the condition							
		0 ³ feet	10 ⁴ feet	20 ⁴ feet	30 ⁴ feet	40 ⁴ feet	50 ⁴ feet	60 ⁴ feet	70 ⁴ feet
20	225	see Note ⁵	see Note ⁵	---	---	---	---	---	---
25	325	see Note ⁵	see Note ⁵	see Note ⁵	---	---	---	---	---
30	450	75	see Note ⁵	see Note ⁵	---	---	---	---	---
35	550	125	125	see Note ⁵	see Note ⁵	---	---	---	---
40	650	200	175	150	see Note ⁵	---	---	---	---
45	775	275	250	225	150	see Note ⁵	---	---	---
50	875	350	350	300	225	150	---	---	---
55	975	450	425	375	325	225	see Note ⁵	---	---
60	1125	525	525	475	425	325	200	---	---
65	1200	625	625	575	525	425	300	see Note ⁵	---
70	1275	750	725	700	625	525	400	275	---
75	1375	850	850	800	750	650	525	375	200

NOTES:

- ¹ The distances are adjusted for a sign legibility distance of 175 ft, which is the appropriate legibility distance for a 5 inch Series D word legend. The distances may be adjusted by deducting another 100 feet if alignment symbol signs are used. Adjustments may also be made for grades, limited sight distance, or pavement condition.
- ² Typical conditions are locations where the road user might use extra time to adjust speed and change lanes in heavy traffic because of a complex driving situation. A typical sign is Right Lane Ends. The distances are based on the 2001 AASHTO Policy, Exhibit 3-3, Decision Sight Distance, Avoidance Maneuver E, providing the driver a PIEV/Maneuver time of 14.0 to 14.5 seconds minus the sign legibility distance of 175 feet.
- ³ Typical condition is the warning of a potential Stop situation. Typical signs are Stop Ahead, Yield Ahead, Signal Ahead, and Intersection Warning signs. The distances are based on the 2001 AASHTO Policy, Equation 3-2, providing the driver a PIEV time of 2.5 seconds, a deceleration rate of 8.1 ft/second², minus the sign legibility distance of 175 ft.
- ⁴ Typical conditions are where the road user must decelerate to the advised speed to maneuver through the warned condition. Typical signs are Turn, Curve, Reverse Turn, or Reverse Curve, combined with an Advisory Speed sign. The distances are based on the 2001 AASHTO Policy, Equation 3-2, providing the driver a PIEV time of 2.5 seconds, a deceleration rate of 8.1 ft/second², minus the sign legibility distance of 175 ft.
- ⁵ No suggested minimum distances are provided for these speeds, as placement location is dependent on site conditions and other signing to provide an adequate advance warning for the driver.



Radius of Curve (feet)	Degree of Curvature	Chevron Spacing (feet)
150	38°15'	45 - 60
200	28°45'	53 - 70
250	23°00'	60 - 80
300	19°00'	75-100
400	14°15'	83-110
500	11°30'	98-130
600	9°30'	105-140
700	8°15'	112-150
800	7°15'	120-160
900	6°15'	127-170

Formula for finding the degree of curvature from the radius:

$$D = \frac{5729.578}{\text{Radius}}$$

Ball Bank Indicator Limiting Values in Degrees	Recommended Speed of Curve in MPH	Sign Drawing
14 Degrees	Below 20 MPH	 W1-1(R)
12 Degrees	20 - 30 MPH	 W1-1(R)
Use this sign when two turns are connected by a tangent of less than 600 feet. The lesser of the recommended speeds for the two turns will prevail.		 W1-3(R)
10 Degrees	35 MPH and above	 W1-2(R)
Use this sign when two curves are connected by a tangent of less than 600 feet. The lesser of the recommended speeds for the two curves will prevail.		 W1-4(R)
January 1, 1996	BALL BANK ANGLES FOR SAFE CURVE SPEEDS	CHART 6.7

REQUESTER PAY SIGN COSTS

Table 1: Initial Sign Structure and Sign Panel

Sign size	Total Cost [Base Cost] + [(Cost per sq ft) x (sq ft of sign panel)]	
	Base Cost ⁽¹⁾	Cost per sq ft ⁽²⁾
up to 20 sq ft	\$715.00	\$23.50
20 - 5- sq ft	\$805.00	\$23.50
50 - 90 sq ft	\$921.00	\$23.50

Notes:

(1) Includes structural materials, equipment, and installation labor costs.

(2) Includes aluminum, sheeting materials, and panel fabrication costs.

Table 2: Replace Sign Panel Only

Sign size	Total Cost [Base Cost] + [(Cost per sq ft) x (sq ft of sign panel)]	
	Base Cost ⁽¹⁾	Cost per sq ft ⁽²⁾
up to 20 sq ft	\$278.00	\$23.50
20 - 5- sq ft	\$317.00	\$23.50
50 - 90 sq ft	\$357.00	\$25.00

Notes:

(1) Includes structural materials, equipment, and installation labor costs.

(2) Includes aluminum, sheeting materials, and panel fabrication costs.

Table 3: Sign Relocation Costs

Sign size	Cost to move in place sign
0 to 20 sq ft	\$398.00
20.1 - 5- sq ft	\$437.00
50.1 - 90 sq ft	\$477.00

August 15, 2008

**REQUESTER PAYS SIGNING COSTS
TABLES 1, 2 & 3**

CHART
6.8A

REQUESTER PAY SIGN COSTS

Table 4: Specific Service Sign Costs

Work Type	Total Cost
Initial Sign Structure and Panel Installation	\$926.00
Replace Sign Structure and Sign Panel	\$712.00
Replace Sign Structure or Relocate	\$500.00
Replace Sign Panel	\$490.00

August 15, 2008

**REQUESTER PAYS SIGNING COSTS
TABLE 4**

CHART
6.8B