



**Washington State
Department of Transportation**

Traffic Manual

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Engineering and Regional Operations

Traffic Operations

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Foreword

The *Traffic Manual* is intended to provide instruction and guidance to department personnel who conduct traffic operations and design activities. This manual identifies state and federal laws and departmental directives, policies and publications that are used to aid in decision making for traffic operations and design issues. It also provides standards to assure uniform application of operational methods and traffic control devices statewide.

Updating the *Traffic Manual* is a continuing process and revisions are issued periodically. Questions, observations and recommendations are invited. The next page is provided to encourage comments.

/s/ Theodore J. Trepanier

Theodore J. Trepanier
State Traffic Engineer
Co-Director,
Maintenance and Operations Programs

Comment Form

From: _____

Date: _____
Phone: _____

To: WSDOT
Traffic Engineer
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Subject: *Traffic Manual* Comment

Comment (marked copies attached):

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1.1 Overview

The Washington State Department of Transportation (WSDOT) publishes the *Traffic Manual* to provide guidance on applicable policies, establish uniform methods and procedures, and communicate vital information about traffic operations on state highways. The intended audience is the department's employees and others who develop traffic projects or conduct traffic engineering studies on state highways. The information, guidelines, and references herein are intended to support and complement sound engineering judgment.

The *Traffic Manual* is available on the Internet and in print. It can be accessed electronically at www.wsdot.wa.gov/publications/manuals/m51-02.htm.

The online version allows you to do a word search of the entire manual.

1.2 Subject Matter

The *Traffic Manual* is composed of eight additional chapters:

[Chapter 2](#), Signs

[Chapter 3](#), Delineation

[Chapter 4](#), Signals and Illumination

[Chapter 5](#), Work Zone Traffic Control

[Chapter 6](#), Traffic Regulations

[Chapter 7](#), Specialized Highway Uses

[Chapter 8](#), Highway Advertising Control

[Chapter 9](#), Safety Management System

Each chapter provides information, guidelines, and references relating to a specialized area of traffic operations. Because traffic control device systems and their application are dynamic, the *Traffic Manual* is updated periodically to reflect state-of-the-art traffic engineering practices.

The *Traffic Manual* does not attempt to address all the possible traffic operations situations or questions. Contact the Headquarters Traffic Office for discussion and guidance on unique traffic operations matters.

1.3 WSDOT Traffic Functions

Most traffic activities within WSDOT are administered by the Headquarters Traffic Operations Division and the Regional Traffic Offices. The Transportation Data Office (TDO), the Highways and Local Programs Division, and the Urban Planning Office (UCO) provide specialized support.

The following subsections briefly describe how each of these work groups contributes to the goals of the department's traffic program.

A. **Headquarters Traffic Operations Division (Headquarters).** Under the Director of Traffic Operations, the Headquarters Traffic Operations Division is responsible for traffic engineering and related safety functions in three fundamental areas:

- **Statewide Traffic Expertise.** Headquarters provides expertise to the regions and other agencies, focusing on traffic design, traffic operations, ITS operations, work zone traffic control, traffic engineering training, and highway advertising control. The Traffic Operations Division also coordinates statewide traffic activities including consultation with Attorney General's Office on matters of traffic law, offering advice or guidance when requested by the regions or other WSDOT offices, and facilitating statewide meetings with regional traffic personnel.
- **Statewide Policy Development.** Headquarters develops policy and responds to issues and questions on traffic engineering to ensure statewide consistency and uniformity. These tasks often require efforts to research, coordinate, and summarize issues for executive level decision-making. Policies include traffic design, and traffic operations standards and procedures.
- **Statewide Resource Development and Deployment.** Headquarters identifies the resources required to fund traffic operations for the state highway system, and for statewide traffic and "spot" safety investments. Decision packages are developed and submitted to the legislature for approval each biennium and once approved, the funds are allocated. Traffic operations activities are accomplished primarily under Program Q.

B. **Regional Traffic Offices.** The six Regional Traffic Engineers report to one of the regional senior managers, typically the regional Maintenance and Operations Engineer. Regionally administered traffic engineering and safety services include:

- Traffic engineering investigations and studies.
- Collision analyses.
- Operational analyses.

- Compliance with Rules and regulations.
 - Regional traffic expertise.
 - Freeway and arterial management.
 - Traffic control device inventories.
 - Public and media relations.
 - Administering Program Q allocations.
- C. **Transportation Data Office.** The Transportation Data Office (TDO) is part of Headquarters Strategic Planning and Programming. The TDO collects, analyzes, reports, and stores much of the data the department uses to identify and address operational deficiencies on our state highways. Data includes information about the type of roadway surface, width of the travel lanes and shoulders, number and types of vehicles using the highway each day, and the location and severity of collisions. The TDO also provides technical support for planning functions, maintains video and digital imaging of state highways, and maintains the milepost system.
- D. **Highways and Local Programs Division.** The Local Agency Traffic Services program provides traffic engineering assistance to cities, counties, tribal governments, transit and other agencies, as well as other organizations. They assist with traffic safety, operations, and design issues, help advance projects, and promote information sharing. Traffic Services also operates as a contact point between local agencies, tribal governments, WSDOT, Federal Highway Administration, and other state agencies. Traffic Services answers general questions about state highways, but directs questions about specific locations to the appropriate WSDOT region.

Examples of the services offered are available at www.wsdot.wa.gov/localprograms/traffic/default.htm.

Traffic Services also chairs the Urban Traffic Engineers Council (UTEC), a group of Washington State city and county traffic, transportation, and public works engineers and technicians, public works directors, managers, planners, and related professionals. UTEC provides a forum for local agencies to share ideas and information about traffic issues affecting local agencies, through e-mail, listserv, and regular meetings. Meeting dates and topics are listed at www.wsdot.wa.gov/localprograms/traffic/utec.htm.

For more information about these services, contact the Traffic Services Branch Manager at www.wsdot.wa.gov/localprograms/staff.htm#traffic-services-manager.

- E. **Urban Planning Office.** The Urban Planning Office provides leadership and advocacy towards implementing an efficient regional transportation network. They represent the state, as the owner and operator of major portions of the Puget Sound regional transportation system.

The Urban Planning Office:

- Plans transportation improvements for a variety of travel modes including transit, carpools, freight, general-purpose highway use and non-motorized travel.
- Coordinates with local agencies, sub-area transportation management forums, the Puget Sound Regional Council (PSRC), and other transportation providers to determine cost-effective investments for the state transportation system that meet the mobility needs of people and goods while systematically working to meet greenhouse gas reduction goals set in state law.
- Improves the performance of the existing highway system by implementing new technology, and developing congestion pricing and tolling strategies.
- Coordinates state transportation facility planning between WSDOT's Olympic and Northwest Regions, Tolling Organization, Washington State Ferries, and with local jurisdictions and the Puget Sound Regional Council.

1.4 Key Reference Material

The following reference materials are essential to personnel involved with traffic operations and traffic design duties.

- ***Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) and Washington State Modifications to the MUTCD (M 24-01).*** [RCW 47.36.030](#) directs WSDOT to adopt a uniform standard for the application and location of traffic control devices installed along public roadways in the state of Washington. The MUTCD, published by FHWA, has been adopted into [Chapter 468-95](#) of the Washington Administrative Code (WAC). To comply with state law, modifications to specific MUTCD sections have also been adopted into [WAC 468-95](#).

Amendments to the MUTCD are developed by the FHWA through the Federal Register process. The amendments become effective in our state after the department receives notification of the approved changes from the FHWA and adopts them into [WAC 468-95](#).

- **WSDOT *Design Manual* (M 22-01)**. The *Design Manual* provides guidance for developing traffic components included in design reports and contract plans. Many of the components may also apply to traffic operations. Where possible, the *Traffic Manual* avoids duplication of *Design Manual* materials but provides appropriate cross-references.
- **WSDOT *Sign Fabrication Manual* (M 55 05)**. The *Sign Fabrication Manual* provides sign fabricators and designers with detailed layout information for official traffic signs used in Washington State.
- **WSDOT *Standard Plans for Road, Bridge, and Municipal Construction* (M 21-01)**. The “Standard Plans” provides plans for the following traffic items:
 - Sign Bridges
 - Sign Installation
 - Cantilever Sign Structures
 - Roadway Striping (typical layouts)
 - Guide Posts
 - Pavement Markers
 - Illumination
 - Signals
 - Concrete Barrier
 - Guardrail
 - Earthberms
- **WSDOT *Standard Specifications for Road, Bridge, and Municipal Construction* (M 41-10)**. The *Standard Specifications* provide detailed requirements and techniques for construction and installation of the following traffic-related items:
 - Guide Posts
 - Plastic Traffic Buttons
 - Lane Markers
 - Signing (materials and fabrication)
 - Illumination
 - Signals (electrical)
 - Pavement Markings (temporary and permanent)
 - Work zone traffic control items (flagging, signs, delineation devices, etc.)

Other Documents

The following reference documents may also be helpful in conducting traffic related designs and analyses:

WSDOT Manuals www.wsdot.wa.gov/publications/manuals/

- *Plans Preparation Manual* (M 22-31)
- *Construction Manual* (M 41-01)
- *Maintenance Manual* (M 51-01)
- *Highway Advertising Control Act* (M 22-95)

FHWA (Federal Highway Administration) www.fhwa.dot.gov/

- *Traffic Control Systems Handbook*
- *Traffic Monitoring Guide*

AASHTO (American Association of State Highway and Transportation Officials) www.transportation.org

- *A Policy on Geometric Design of Highways and Streets*
- *Guidelines for Traffic Data Programs*

TRB (Transportation Research Board) www.trb.org/main/public/home.aspx

- *Highway Capacity Manual*

ITE (Institute of Transportation Engineers) www.ite.org/

- *Traffic Control Devices Handbook*
- *Traffic Engineering Handbook*
- *Manual of Transportation Engineering Studies*
- *Traffic Detector Handbook*

Other Reference Sources

The following internal reference sources may also be helpful in conducting traffic engineering investigations and analyses:

- SR View
- Interchange Viewer
- Washington State Highway Log
- TRIPS — WSDOT corporate mainframe database for transportation data
- Internet Information — www.wsdot.wa.gov

1.5 Abbreviations

Common abbreviations used in the *Traffic Manual* and other traffic engineering related publications are:

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ARM	Accumulated Route Mileage
CMS	Changeable Message Sign
CVISN	Commercial Vehicle Information Systems Network
DMI/LRS	Distance Measuring Instrument/Linear Referencing System
FHWA	Federal Highway Administration
GPS/LRS	Global Positioning System/Linear Referencing System
HAR	Highway Advisory Radio
HAC	High Accident Corridor
HAL	High Accident Location
HOV	High Occupancy Vehicle
HPMS	Highway Performance Monitoring System
HSIS	Highway Safety Information System
ITE	Institute of Traffic Engineers
ITS	Intelligent Transportation Systems
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways
NHS	National Highway System
PAL	Pedestrian Accident Location
PSRC	Puget Sound Regional Council
PTR	Permanent Traffic Recorder
RCW	Revised Code of Washington
SMS	Safety Management System
SP&P	Strategic Planning and Programming
SRMP	State Route Milepost
TEA-21	Transportation Equity Act for the 21st Century
TDO	Transportation Data Office
TRAC	Transportation Research Center (University of Washington)
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
WSP	Washington State Patrol
WTSC	Washington Traffic Safety Commission

2.1 General

Effective signing is the primary method to provide regulatory, warning, and guidance information to transportation system users. Signing that is clear, concise, and accurate supports safe, legal, and orderly travel on public roadways and transportation facilities. Sign use must be limited and conservative since signs can lose their effectiveness when used to excess. Signs are not typically used to confirm Rules of the Road.

This chapter contains information about signing on the state roadway system and is intended for persons involved in traffic operation or design. Specific policies and guidelines are included that clarify the *Manual of Uniform Traffic Control Devices* (MUTCD) information. Situations not addressed in this chapter or the MUTCD may need to be determined on a case-by-case basis using engineering judgment.

Where a change to the current sign installation is indicated by information in this chapter, replace as the current sign’s service life is reached. MUTCD compliance dates for some replacements are noted where applicable.

State law requires the department to adopt uniform standards for traffic control devices, including signs, along public roadways. WAC 468-95 adopts the MUTCD and Washington State Modifications to the MUTCD M 24-01 as these standards. The MUTCD and WSDOT modifications provide guidance on the intended use and placement of regulatory, warning, guide, and motorist information signs, as well as specific information on sizes and installation. This chapter supplements the MUTCD and WSDOT modifications with specific interpretations and unique applications for signs on the state highway system.

Guidelines for the use of traffic control signs are discussed in the following MUTCD chapters:

MUTCD Location	Sign Type
Chapter 2B	Regulatory Signs, Barricades, and Gates
Chapter 2C	Warning Signs and Object Markers
Chapter 2D	Guide Signs – Conventional Roads
Chapter 2E	Guide Signs – Freeways and Expressways
Chapter 2F	Toll Road Signs
Chapter 2G	Preferential and Managed Lane Signs
Chapter 2H	General Information Signs
Chapter 2I	General Service Signs
Chapter 2J	Specific Service Signs

Chapter 2L	Changeable Message Signs
Chapter 2M	Recreational and Cultural Interest Signs
Chapter 2N	Emergency Management Signs
Part 6	Work Zone Signs
Part 7	School Area Signs
Part 8	Railroad and Light Rail Signs
Part 9	Bicycle Facility Signs

2.2 Sign Design

The WSDOT *Sign Fabrication Manual* M 55-05 contains geometric layout details for most signs used by the department.

The sign number codes indicated in the *Sign Fabrication Manual* and other departmental publications are exclusive to WSDOT and may not correspond to MUTCD number codes for similar signs.

Any modification to a symbol regulatory or warning sign requires FHWA experimentation approval.

(1) Designing a Sign Message

This section contains information about layout and fabrication of signs that are not addressed in the *Sign Fabrication Manual*.

- (a) **Message Content** – A sign message must convey the necessary information in a simple, direct manner using clear and concise wording. English language is used on signs on the state transportation system. Historical names (including non-English) may be used for place names such as for a town or natural or cultural feature.
- (b) **Letter Sizing** – Letter sizes for primary and supplemental guide signs are determined by roadway type and operating speed. A sign message must be large enough to give the viewer adequate time to read and comprehend the information, and to respond with a driving task or other action as required. MUTCD Tables 2E-2 through 2E-5 show the appropriate standard letter sizes to be used. Signs on non-roadway portions of the transportation system (i.e., bicycle or pedestrian paths, transit stations) are sized to reflect the specific conditions of use.

Studies indicate the average driver comprehends three words per second, after a message perception time of up to two seconds. Unique messages require more perception time than messages that are commonly used. Determine the needed letter height for a particular sign by using the following formula that combines the comprehension rate and the perception time with the operational speed of the roadway.

$$\text{LETTER HEIGHT} = (N/3 + 2) f$$

Where: N = Number of words in the message.

f = Legibility factor (see [Table 2-1](#)).

(Found by dividing vehicle speed in feet per second (fps) by 30, the legibility distance per inch of letter height.)

*MPH	(fps)	f
25	37	1.2
30	44	1.5
35	51	1.7
40	59	2.0
45	66	2.2
50	73	2.4
55	81	2.7
60	88	2.9
65	95	3.2
70	103	3.4

*Speed (legal speed limit or 85th percentile speed).

'f' Values by Speed

Table 2-1

The following example applies the formula and calculates desirable letter height:

Example message: "SNOQUALMIE PASS RADIO
TRAFFIC INFO 1 MILE"

Roadway Speed = 65 mph

N = 7

f = 3.2

Height = $(7/3 + 2) 3.2 = 14$ inches

LETTER HEIGHT = Use 14-inch letters

- (c) **Message Layout and Spacing** – Sign message layout and spacing requirements are specified in the [Sign Fabrication Manual](#).
- (d) **Abbreviations** – Abbreviations must be immediately recognizable by the viewer and are only used to avoid excessively long sign messages. Do not use abbreviations if the controlling (longest) message line is long enough to allow use of the complete word. Do not abbreviate place names except for those approved in the list below.

To maintain statewide uniformity, the Headquarters Traffic Office must approve abbreviations other than those listed below. Periods are not used in sign abbreviations, except for British Columbia (B.C.) and United States (U.S. Customs).

The following are the only pre-approved abbreviations:

AFB	Air Force Base
Alt	Alternate
Ave	Avenue
B.C.	British Columbia
Bch	Beach
Blvd	Boulevard
Coll	College
Comm	Community
Co	County
Cr	Creek
Ct	Court
Ctr	Center
DNR	Department of Natural Resources (campground, etc.)
Dr	Drive
E	East
Elev	Elevation
FS	Forest Service
Ft	Fort
Fwy	Freeway
Fy	Ferry
Hist	Historic (as in "Nat'l Hist District")
HOV	High Occupancy Vehicle
Hts	Heights
Hwy	Highway and State Route
Info	Information
Int'l	International
Jct	Junction
km	Kilometers
Lab	Laboratory
Lk	Lake
Ln	Lane
Lp	Loop
Lt	Left
M	Meters
Max	Maximum
Med	Medical
Mi	Mile(s)
Min	Minimum
MPH	Miles Per Hour
Mt	Mount (Rainier)
Mtn	Mountain
N	North
NE	North East
NW	North West
NAS	Naval Air Station
Nat'l	National
Ore	Oregon

ORV	Off Road Vehicle
Ped	Pedestrian
Pkwy	Parkway
Pl	Place
Pop	Population
Pt	Port or Point
Rd	Road
Rec Area	Recreational Area
Res	Reservation
RR	Railroad
Rt	Right
RV	Recreational Vehicle
S	South
SE	South East
SW	South West
Sea-Tac Airport	Seattle-Tacoma Airport
St	Street
Temp	Temporary
Thru	Through
Univ	University
U.S.	U.S. (Customs, etc.)
USA	United States of America
USFS	U.S. Forest Service
W	West
Wy	Way
WSDOT	Washington State Department of Transportation
State Patrol	Washington State Patrol
Xing	Crossing

(2) Reflective Sign Sheeting Material Requirements

Traffic control signs are fabricated using various types of reflective sheeting material. Each sheeting type has different retroreflective properties and different practical applications. The sign type and its location determine the specific sheeting to be used. The following sheeting types are designated in ASTM Specification D 4956:

- **Type I** – Medium-intensity retroreflective sheeting, referred to as “Engineer Grade.” Warranty life of 7 years.
- **Type II** – Medium-high-intensity retroreflective sheeting referred to as “Super Engineer Grade.” Warranty life of 10 to 12 years.
- **Type III** – High-intensity retroreflective sheeting referred to as “High Intensity.” Warranty life of 10 years.
- **Type IV** – High-intensity prismatic retroreflective sheeting, referred to as “High Performance.” Warranty life of 10 years.
- **Type VIII** – Super high-intensity prismatic retroreflective sheeting, referred to as “Super High Performance.” Warranty life of 10 years.

- **Type IX** – Very high-intensity prismatic retroreflective sheeting, referred to as “VIP Diamond Grade” or “Omni-View.” Warranty life of 12 years.
- **Type X** – Super-high-intensity prismatic retroreflective sheeting, referred to as “Fluorescent Orange Prismatic.” Warranty life of 3 years.

The following table shows the specific sheeting type to use, based on the sign type, location, and lighting environment. When ordering a sign from the WSDOT Yakima sign shop, specify the sheeting type.

Sign Type	Roadway Illumination	Sheeting Type (Background)	Sheeting Type (Legend, Symbols, Border)
Regulatory			
• Ground Mounted	N/A	III or IV	N/A ¹
• Overhead	N/A	IV	N/A
Warning			
• Ground Mounted	N/A	III or IV	N/A
• Overhead	N/A	VIII or IX	N/A
Guide Signs			
• Ground Mounted	N/A	II	III or IV
• Overhead Exit Only	Continuous ²	III or IV ³	VIII or IX
• Overhead Exit Only	Non-Continuous – Sign Light Required	II	III or IV
• Overhead Left Side Exits	Sign Light Required	II	III or IV
• Other Overhead Guide	N/A	III or IV	VIII or IX
• Overhead Street Name	N/A	III or IV	IV
Route Markers (M-Series Signs)	N/A	II	III or IV
General Information (I-Series Signs)	N/A	II	III or IV
School (S-Series Signs)⁴ (S1-1, S4-3, “School” portion of S5-1, and S5-101)	N/A	VIII or IX	N/A
Milepost Markers	N/A	II	III or IV
Blue and Brown Background Signs	N/A	II	III or IV
Fluorescent Orange (Work Zone Signs)	N/A	X	N/A

¹Red is Type III or IV, black is non-reflective.

²Continuous Illumination. There is continuous roadway illumination between interchanges.

³For Yellow Background sheeting, use Type VIII or IX Fluorescent sheeting.

⁴Fluorescent Yellow Green (FYG) sheeting.

Table 2-2

2.3 Sign Location, Installation, and Storage

(1) Sign Location

Signs shall be located and positioned according to standards outlined in the [MUTCD](#) Section 2A.16–2A.21, [Design Manual](#) M 22-01 Chapter 1020, and [Standard Plan](#) G-20.10-00. These standards address sign mounting height and lateral and longitudinal placement.

- Signs must be placed to provide a clear view for the roadway user and to not obstruct other signs.
- Signs must be sufficiently spaced to allow the roadway user time for making required decisions and to safely execute any necessary maneuver.
- Overloading roadway users with too much information may cause confusion.
- Signs should be located as far from the traveled way as possible, while remaining visually effective. They should be placed on the backslope of a ditch, rather than the inslope or bottom.

(2) Sign Installation

Signs shall be installed according to standards contained in [Design Manual](#) Chapter 1020, [Standard Plans](#) Section G, and [MUTCD](#) Section 2A.16–2A.21. Refer to these documents for installation standards for:

- Ground mounted signs on steel, wood, and box beam posts.
- Overhead sign installations, including service walkways.
- Height of sign (vertical clearance or “v” dimension).
- Horizontal location of sign (“w” dimension).
- Sign post break-away safety features.
- Windload information is shown at www.wsdot.wa.gov/design/traffic/signing/.

(3) Temporary and Permanent Attention Devices

Attention getting devices, such as flags, may be used temporarily with newly installed warning or regulatory signs. They can draw attention to a traffic revision such as a speed limit change or the addition of a traffic signal. Temporary attention devices are fluorescent yellow in color. They are generally displayed for a minimum of two weeks and a maximum of one month. Devices may be displayed up to two months when greater impact is needed.

Attention devices may be permanently placed only when a high impact continues to be needed to improve compliance with a specific traffic regulation or other traffic control. Permanent attention devices have been used on Interstate or other major roadways where there is a speed limit reduction of 10 mph or greater. Permanent attention devices shall be fluorescent yellow prismatic sheeting and must be approved by the region traffic engineer following an engineering investigation, which includes a review of crash and speed data. The unnecessary

use of attention devices erodes their effectiveness and must be avoided. Therefore, permanent attention devices must be re-evaluated every six to 12 months for continued effectiveness and re-approved by the region traffic engineer.

(4) Controlling Vegetation Around Signs

The department's maintenance crews are responsible for maintaining visibility to signs by clearing vegetation that obscures the full view of a sign face. Thoughtful sign placement can reduce the need for vegetation control.

The following guidance will generally provide sign visibility. Greater clearing may be necessary in some situations to achieve full visibility to the sign.

Area Description	Distance*	Width**
Low Speed Urban	200 feet	Varies
Rural	500 feet	Varies
Freeways and All Guide Signs	800 feet	Varies

*Distance is measured in the direction that the sign faces, along the edge of the traveled way.

**Width varies. Clear vegetation from edge of pavement to 5 feet beyond the sign edge that is farthest from the roadway, or to the edge of the right of way.

Table 2-3

(5) Sign Storage

Signs must be stored properly to prevent damage to the sign face. Sign sheeting is damaged by exposure to dirt and water during storage, which can reduce its retroreflectivity. **Never store signs laying flat. Moisture accumulation between signs will cause sheeting failure.**

Store all packaged signs on edge and indoors. If packaged signs become wet, unpack them immediately and separate the signs to dry (clothespins work well). Provide ample space between signs to allow free air circulation and moisture evaporation from each sign face.

If outdoor storage is required for short periods, remove all packing materials so nothing is against the sign face. Store signs on edge, separated with clothespins, and set above the ground in a clean area.

2.4 Sign Installation and Maintenance Jurisdiction

Jurisdictional responsibility for traffic control signs (and other traffic control devices) on public highways is assigned through several state statutes.

- The department is responsible for erecting and maintaining traffic control signs upon every state highway ([RCW 47.36.050](#)). Local jurisdictions are assigned the responsibility to erect and maintain traffic control signs on roadways within their jurisdiction ([RCW 47.36.060](#)).

These responsibilities are further defined:

- On limited access roadways, including any interchange cross-streets, the department is responsible for signing ([RCW 47.52.020](#) and [RCW 47.24.020\(2\)](#)). This can be superseded by an agreement with a local agency that designates other responsibility arrangements ([RCW 47.52.090](#)).
- Responsibility for signing along city streets that are part of the state highway system is assigned based on the population of the city ([RCW 47.24.020\(12\)](#) and (13)) and is shown in [Table 2-4](#). Population is determined by the Washington State Office of Fiscal Management and can be found at www.ofm.wa.gov/pop/april1/finalpop.pdf.

It is important to work with each city to ensure that city signs are not installed on department sign posts and that adequate sign spacing is maintained.

Sign Type	Responsibility Based on City Population	
	Over 25,000	Under 25,000
Regulatory	City	State
Parking	City	City
Warning	City	State
Route Markers	State	State
Primary Guide Signs	State	State
Street Name	City	City
School	City	State
MIS Logo	City	City*
Informational	City	City
DUI Victim Memorial	City	City

*The department may install these signs, if authorized through a specific agreement with a city or town.

Sign Installation and Maintenance Responsibility Non-Limited Access Highways

Table 2-4

2.5 Traffic Sign Management System (TSMS)

TSMS is a statewide sign inventory computer program that provides both a complete inventory and a history of maintenance actions for each sign on the state highway system.

The Headquarters and region Traffic Offices use TSMS to provide accurate records regarding:

- Sign location.
- Original installation and replacement dates.

- Sign message.
- Sign size.
- Letter height.
- Direction of sign face.
- Sheeting type and color.
- Maintenance history.

The region Traffic Offices are responsible for keeping the TSMS up to date including:

- Entering new sign data.
- Collecting the Sign Activity Reports (SAR) from region maintenance personnel and inputting that data to keep the TSMS current and factual.
- Conducting periodic field inventories.
- Inventorying all signs installed by contract.
- Updating inventory after construction projects are completed.
- Night reflectivity review.

The region maintenance personnel are responsible for filling out a Sign Activity Report (SAR) that details each activity performed. This provides important history and identifies needed maintenance actions. The SAR is sent to the region Traffic Office for input into the TSMS. In some regions, maintenance personnel input SAR data in cooperation with the region Traffic Office

Regions also provide TSMS reports to Traffic, Maintenance, or other offices as requested.

The Headquarters Traffic Operations Office is responsible for maintaining and updating the TSMS program to meet the department's business needs, including data storage and selective retrieval of sign inventory and maintenance activity data.

2.6 State Traffic Laws and Regulations Requiring a Sign for Enforcement

Some Rules of the Road ([RCW 46.61](#)) are not enforceable unless appropriate signs are posted. The following signs must be installed to enforce a regulation (RCW). Place these signs at the point of regulation or where the prohibition begins and ends.

Sign Message	Sign Number	RCW
STOP & YIELD	R1-1 & R1-2	47.36.110
SPEED LIMIT	R2-1	46.61.405
SPEED LIMIT, TRUCKS	R2-2	46.61.410
MINIMUM SPEED LIMIT	R2-4	46.61.425
HOV FACILITIES	R3-10, 11, 12, 13	46.61.165
BICYCLES MUST EXIT	R5-601	46.61.160
NO MOTORIZED FOOT SCOOTERS	R5-1003 & R5-1004	46.61.710
PARKING RESTRICTIONS	R7 SERIES	46.61.575
RESERVED PARKING FOR DISABLED PERSONS	R7-801	46.61.581
NO STOPPING RESTRICTIONS	R8 SERIES	46.61.570
NO HITCHHIKING	R9-4 & R9-4A	46.61.255
PEDESTRIAN PROHIBITION	R5 SERIES	WAC 468-58-030
WEIGHT RESTRICTIONS, etc.	R12 SERIES	46.61.450
SCHOOL SPEED LIMIT	S5-1	46.61.440
RANGE AREA	I2-401 & I2-501	16.24.060
LIMITED ACCESS	I2-601 & I2-701	47.52.110
HITCHHIKING PERMITTED	I7-901	46.61.255
SLOW VEHICLES MAY USE SHOULDER	I8-501	46.61.428

Signs Needed for Enforcement

Table 2-5

2.7 Regulatory Signs

Regulatory signs alert transportation system users to applicable traffic laws or regulations, and provide information and instructions required for compliance. Regulatory signs, whose installation is required for enforcement of a law, are listed in [Section 2.6](#).

(1) Stop Signs

The department shall install and maintain all STOP (R1-1) signs at the intersections of county roads with state highways ([RCW 47.36.100](#)). The department shall install and maintain all STOP signs at the intersections of city streets with state highways within the corporate limits of cities having populations less than 25,000 ([RCW 47.24.020\(13\)](#)).

STOP signs shall be a minimum 36 x 36 inches on all roadways. A 48 x 48 inch sign may be used on divided highways with at-grade intersections or where otherwise indicated by a traffic and engineering study. On low-volume roads (under 400 ADT), a 30-inch STOP sign may be used.

(2) Yield Signs

YIELD (R1-2) signs are installed to assign right of way to traffic on certain approaches to an intersection. In addition to guidance in the [MUTCD](#), YIELD signs are installed as follows:

- They shall be installed to assign right of way at the entrance to a roundabout intersection per the [MUTCD](#).
- They should be installed along freeway or expressway on-ramps where acceleration ramp geometry and/or sight distance do not meet [Design Manual](#) minimum standards. Install the Yield sign so that it is primarily visible only to ramp traffic.
- They may be installed at entrances to ramp and standard intersection right turn islands.

Use the tables in [Design Manual](#) Chapter 1360 to determine the appropriate minimum length for the acceleration lane portion of an on-ramp.

(3) Speed Limit Signs

SPEED LIMIT (R2-1) signs are installed to display the maximum allowable vehicle speed as established by law or regulation. Install a TRUCKS XX (R2-2) sign below the standard speed limit sign where a special speed limit is mandated for trucks over 10,000 pounds gross weight, or vehicles in combination, or where the maximum speed limit for cars and trucks is different.

Speed limit signs are prominently located for maximum awareness at the following locations:

- At the point of change from one speed limit to another.
- On the far side of major interchanges or intersections, including between state highways.
- At entrances to Washington State and at boundaries of cities and towns.
- In rural areas, at 10- to 20-mile intervals.

On **conventional roadways**, locate a sign for each direction of travel, opposite one another at the speed zone boundary. If existing features prohibit opposite installation, the signs may be offset up to 150 feet in either direction from the speed zone boundary and located a maximum of 300 feet apart. If the signs cannot be installed within these parameters, the speed zone boundary may be changed by the State Traffic Engineer to accommodate sign installation.

On **multilane divided highways**, install signs on both the right and left sides of the roadway at speed zone boundaries. Confirmation speed limit signs may be installed on the right side only.

On **freeways**, install signs a minimum of 1,500 feet beyond on-ramp acceleration lanes ([MUTCD](#) Section 2E-38). Where interchange ramps are closely spaced, conduct a traffic engineering analysis to determine the most effective intervals for posting speed limit signs.

Do not place a speed limit sign between a CURVE or TURN warning sign and the roadway curve or turn itself. Adjust the speed limit boundary location if necessary, to avoid this placement.

See [Appendix 2-1](#) for typical Speed Limit sign layout. See [Section 2.08\(4\)](#) for use of the SPEED REDUCTION (W3-5) warning sign.

See [Chapter 6](#) for information on setting permanent speed limits and [Chapter 5](#) for guidelines on temporary construction zone speed limits.

(4) U-Turns

U-Turns are allowed at some roadway intersections, both inside and outside of cities and towns. Signing may be installed to designate where U-turns are allowed and that the side street must yield to the U-turn movement. [Appendix 2-2](#) shows typical U-turn signing associated with left turn lanes at signalized intersections.

(5) U-Turn Prohibition

The [MUTCD](#) states that TURN PROHIBITION signs (R3-1 through R3-4, R3-18) shall be installed where U-turns are prohibited. U-turns are allowed where the maneuver can be made safely, without interfering with other traffic, and at least 500 feet from a horizontal or vertical curve ([RCW 46.61.295](#)).

On limited access roadways, with median sections, restricted U-turn locations are installed for use by law enforcement, maintenance, and emergency vehicles only ([RCW 47.52.120](#)). Sign these median locations with a NO U-TURN (R3-4) sign.

(6) Two-Way Left Turn Lane

TWO-WAY LEFT TURN ONLY signs may be installed where a lane in the center of a highway is reserved for the use of left-turning vehicles (in either direction) and is not used for passing or overtaking. The post-mounted (R3-9a or R3-9b) or the overhead mounted (R3-9) sign may be used to supplement two-way left turn lane pavement markings. A plaque indicating BEGIN or END may be mounted above either sign to identify the limits of the two-way left turn area.

Additional WSDOT criteria apply to the use of two-way left turn lane signs:

- Install the initial sign near the beginning of the two-way left turn lane and repeat installation as necessary, based on an analysis of operating conditions.
- BEGIN or END plaques are not installed where a two-way left turn lane is interrupted by left turn channelization on either one or both intersection approaches.

(7) Auxiliary Climbing and Passing Lanes

For sections of state highway that include auxiliary climbing lanes:

- Install a TRUCK LANE XXX FEET (R4-6) sign in advance of the climbing lane.

- Install a SLOWER TRAFFIC KEEP RIGHT (R4-3) sign near the beginning of the climbing lane.
- Install a RIGHT LANE ENDS (W9-1R) in advance of the climbing lane terminus, where spacing allows.
- Install a LANE ENDS (W4-2L) sign in advance of the climbing lane terminus. A distance plaque may be installed as a supplement to this sign.

See [Appendix 2-3](#) for signing layout.

For sections of state highway that include auxiliary passing lanes:

- Install a PASSING LANE XXX MILES (R4-601) sign $\frac{1}{4}$ to $\frac{1}{2}$ mile in advance of the passing lane. Show the approximate distance to the passing lane, measured to the nearest $\frac{1}{4}$ mile.
- Install a KEEP RIGHT EXCEPT TO PASS (R4-301) sign at the beginning of the passing lane.
- Install a RIGHT LANE ENDS (W9-1R) sign in advance of the passing lane terminus, where spacing allows.
- Install a LANE ENDS (W4-2L) sign in advance of the passing lane terminus. A distance plaque may be installed as a supplement to this sign.
- An optional NEXT PASSING LANE XXX MILES (R4-602) sign may be installed up to 500 feet beyond the passing lane terminus to show the approximate distance to the next passing lane.

See [Appendix 2-4](#) for signing layout.

(8) Keep Right Except to Pass

The KEEP RIGHT EXCEPT TO PASS sign (R4-301) may be used on multi-lane roadways to remind motorists of state law [RCW 46.61.100](#) which requires vehicles to stay in the right lane of multilane roadways, except to pass. The sign has also been installed at the request of law enforcement agencies to aid their enforcement efforts at specific locations.

Use the following criteria when determining sign locations:

- The preferred sign location is in the median.
- Signs are not to be placed within $\frac{1}{2}$ mile in advance of an interchange.
- Signs are not to be placed through an interchange area.
- Signs are not to be placed within 5 miles of each other in the same direction of travel.

(9) Vehicles Over 10,000 lbs. Prohibited in Left Lane

VEHICLES OVER 10,000 LBS. PROHIBITED IN LEFT LANE (R4-302) signs shall be installed on multilane roadways with three or more lanes in one travel direction to remind large vehicles that they are prohibited from travel in the left lane per [RCW 46.61.100\(3\)](#) and [WAC 468-510-020](#).

(10) Do Not Enter and Wrong Way Signing

DO NOT ENTER (R5-1) signs shall be installed at every location where traffic is prohibited from entering a restricted roadway. ONE WAY (R6-1) signs are to be installed above DO NOT ENTER signs. Install WRONG WAY (R5-1a) signs as a supplement to the DO NOT ENTER signs at each location. WRONG WAY signs are placed further from the crossroad than the DO NOT ENTER sign.

Complete WRONG WAY signing for freeway at-grade intersections, interchange ramps, and roundabouts shall be installed as shown in [Appendices 2-5, 2-6](#) and [2-7](#).

(11) Bicycle and Motorized Foot Scooters Prohibition

As part of vehicular traffic, bicycles are permitted on all state highways except where restricted by regulation ([RCW 46.61.160](#) and [WAC 468-58-050](#)). Additionally, “*motorized foot scooters may have access to highways of the state to the same extent as bicycles*” ([RCW 46.61.710\(5\)](#)); thus, they are also restricted in the same areas as bicycles. Restrictions are located primarily on limited access freeways, but may be determined for other locations based on an engineering investigation. They are noted at www.wsdot.wa.gov/bike/closed.htm.

Install advance signing to inform bicyclists and motorized foot scooter riders of the upcoming restricted section, and to give alternate route directions.

- On the mainline, install a BICYCLES AND MOTORIZED FOOT SCOOTERS MUST EXIT 1/4 MILE (R5-602) sign in advance of the prohibited area.
- Install a BICYCLE AND MOTORIZED FOOT SCOOTERS MUST EXIT (R5-601 with arrow) sign at the closest off-ramp or intersection in advance of the restricted segment.
- Install a BICYCLES AND MOTORIZED FOOT SCOOTERS PROHIBITED (R5-1003) sign at a prohibition point such as an on-ramp to a prohibited freeway segment.
- Install PEDESTRIANS, HITCHHIKERS, BICYCLES, AND MOTORIZED FOOT SCOOTERS PROHIBITED (R5-1004) sign at on-ramp entrances to prohibited areas.

(12) No Pedestrian Crossing

NO PEDESTRIAN CROSSING signing (R9-3 or R9-3A) may be installed at a signalized intersection or other locations, based on engineering judgment, where pedestrian crossing is prohibited. Locate the sign so that it is visible to all pedestrians who may consider crossing, normally on the opposite side of the roadway in line with the travel path of the pedestrian. The supplemental sign USE CROSSWALK (R9-3B R or L) may be installed below.

(13) Pedestrian Prohibition

Install a PEDESTRIANS PROHIBITED sign (R5-10 series) at access points to limited access highways where pedestrians are prohibited by a department regulation ([WAC 468-58-050](#)).

(14) Shoulder Driving

Shoulder driving is permitted on selected portions of two-lane highways ([RCW 46.61.428](#)). [Chapter 7, Section 7.14](#), of this manual defines the roadway characteristics required to designate a shoulder driving area. Identify designated shoulder driving areas by installing signs to inform vehicular traffic of the permitted action.

- Install a SLOW VEHICLES MAY USE SHOULDER (I8-501) sign at the beginning of the shoulder driving zone.
- Supplement with a NEXT XXX MILES (I7-702) advisory distance plaque and a DAYLIGHT HOURS ONLY (I8-701) sign.
- Repeat this signing as appropriate at a maximum interval of 5 miles.
- Install an END SHOULDER DRIVING (I8-601) sign at the end of the designated shoulder driving zone.

See [Appendix 2-8](#).

(15) Slow Vehicle Turnouts

Slow vehicle turnouts provide passing opportunities along state roadways and are identified by specific signing to inform motorists of the turnout location:

- Install a SLOW VEHICLES USE TURNOUTS NEXT XXX MILES (I8-101) sign where turn-outs occur at several consecutive locations. Place in advance of the initial turnout.
- Install the DELAY OF 5 VEHICLES ILLEGAL (I8-201) sign in advance of each turnout.
- Install the SLOW VEHICLE TURNOUT XXX FT/MILE (I8-401) sign in advance of each turnout.
- Install a SLOW VEHICLE TURNOUT “arrow” (I8-301) sign at the beginning of each turnout.
- NO PARKING (R8-3) or NO PARKING SYMBOL (R8-3A) signs may be installed within the turnout area.

See [Appendix 2-9](#).

(16) Range Area

A RANGE AREA sign (I2-401) shall be installed wherever a state highway enters an open range area, as determined by the local county government ([RCW 16.24.060](#)). Repeat signing at points designated by the governing county

commissioners and install signs at county boundaries if the range area spans adjoining counties. Some county websites list the designated range areas within their county.

Install the LEAVING RANGE AREA (I2-501) sign where a state highway leaves an open range area.

(17) Unmuffled Compression Brakes

It is against the law to use **unmuffled** compression brakes ([RCW 46.37.395](#)). The department installs signs (R4-605) at border crossings, just inside state boundaries and along the ramps to or from weigh stations to inform drivers of this regulation.

Use these guidelines to determine spacing between this and other roadway signing:

- On freeway installations, use a minimum spacing of 500 feet.
- On multilane high speed roadways with at grade intersections, use a minimum spacing of 400 feet.
- On two-lane, high-speed roadways, use a minimum spacing of 300 feet.
- On multilane and two-lane, low speed facilities within incorporated areas, use a minimum spacing of 150 feet.

The department will not install these signs on non-access controlled highways within incorporated areas. The local agency may install and maintain such signing.

(18) Compression Brake Prohibition

Signs prohibiting compression brake use may be installed only where a local agency ordinance prohibiting their use has been adopted ([RCW 70.107.060\(3\)](#)) and where sign spacing is available. The local agency must agree to pay the fabrication, installation, and subsequent maintenance costs.

Install signs (R4-604) before the restricted area as follows:

- On limited access routes, install sign beyond major interchanges.
Locate between the route marker assembly and the speed limit signs.
Where sign space is limited, install below the city entrance marker.
- Along non-access controlled routes outside corporate limits, install signs upon leaving corporate limits, and beyond the junction of major intersections, not to exceed one sign every 5 miles.
- Along non-access controlled city streets that are also state highways, the local agency may work with the department to install signs about the prohibition.

Note: Compression brake regulations are noise regulations rather than traffic regulations. The department does not regulate compression brake use.

2.8 Warning Signs

Warning signs are installed to alert roadway users to unexpected conditions on or adjacent to the roadway that require special attention and that may require a reduction in speed or other action to maintain safe vehicle operation.

Determine the appropriate placement of warning signs based on the [MUTCD Guidelines for Advanced Placement of Warning Signs, Table 2C-4](#), and on an engineering and traffic investigation. The guidelines provide minimum advance placement distances, based on vehicle speeds and location specific conditions.

Warning signs are installed on both sides of the road on multilane divided roadways that have two or more lanes in one direction. Speed limit signs should never be located between any warning sign and the condition warned for, when the warning sign indicates a need to reduce speed.

Yellow is the standard background color for warning signs. Fluorescent yellow/green (FYG) may be used for bicycle, pedestrian, or playground signs where there are an unusual number of conflicts or where strong attention must be drawn to the sign because of distracting surroundings.

Minimum Warning Sign Sizes	
Roadway Type	Minimum Sign Size
Freeways and Expressways	48" x 48"
Multilane and Conventional Roadways	36" x 36"

(1) *Turn and Curve (Horizontal Alignment) Signs and Advisory Speed Plaques*

TURN and CURVE signs are installed to alert motorists to horizontal curvature in the roadway alignment. Advisory speed plaques supplement the signs as determined by a traffic and engineering study (generally using a ball banking instrument to provide readings as the study vehicle traverses each curve). WSDOT has adopted the following application when determining curve and advisory speed signing installations:

Advisory Speed (mph)	Maximum Ball Bank Reading
20 mph or less	14
25 and 30 mph	12
35 mph and greater	10

The TURN (W1-1) sign is used where the engineering and traffic investigation indicates the advisory speed for a horizontal turn to be 30 mph or less.

The CURVE (W1-2) sign is used where the engineering and traffic investigation indicates the advisory speed for a horizontal curve to be from 35 mph to 65 mph.

Install the appropriate TURN or CURVE sign where the recommended curve speed is at the posted speed limit.

Install a supplemental ADVISORY SPEED PLAQUE (W13-1) below the TURN or CURVE sign if the advisory speed is 5 mph or more below the posted speed limit, or if an engineering and traffic investigation indicates the need for the sign.

If a supplemental DISTANCE PLAQUE is used, such as beneath a WINDING ROAD (W1-5L/R) sign, show the distance as a fraction of a mile rather than a decimal ($\frac{1}{2}$ mile rather than .5 mile). The fraction is more quickly read and easily understood by the motorists.

(2) Hairpin Curve

Install a HAIRPIN CURVE sign (W1-901L/R) where the change in the roadway horizontal alignment is 135 degrees or more, and:

- A traffic engineering analysis of roadway, geometric, and operating conditions shows the recommended curve speed to be 30 mph or less.
- The recommended curve speed is equal to or less than the posted speed limit.

Install a supplemental advisory speed plaque (W13-1) below the HAIRPIN CURVE sign if an engineering and traffic investigation indicates the need for the sign. A large arrow sign (W1-6) or chevron alignment signs (W1-8) should be used in conjunction with the hairpin curve sign.

(3) Chevron Alignment

CHEVRON ALIGNMENT (W1-8) signs are used to provide emphasis and guidance for a change in horizontal road alignment. When the curve advisory speed is 15 mph or more below the speed limit, CHEVRONS shall be installed. Refer to [MUTCD Table 2C-5](#) for additional guidance.

If used, CHEVRONS shall be installed on the outside of a turn or curve, in line with and at approximately a right angle to approaching traffic. Install a minimum of three signs in a series, with at least two signs visible to the motorist at all times throughout the curve.

They should be installed on circular interchange ramps, or on other curving alignments where run off the road crashes have demonstrated an operational deficiency.

(4) Speed Limit Reduction Ahead

The SPEED LIMIT REDUCTION AHEAD (W3-5) warning sign has replaced the black on white “SPEED LIMIT AHEAD XX” regulatory sign. The SPEED LIMIT REDUCTION AHEAD sign is installed at locations where the speed limit reduces by 10mph or greater. On multilane divided roadways, install a SPEED LIMIT REDUCTION AHEAD sign on both the left and right sides. Locate the sign to allow sufficient distance to safely slow the vehicle to the reduced speed as shown in [Table 2-6](#).

		Approach Speed Limit (mph)								
		70	65	60	55	50	45	40	35	30
Reduced Speed Limit (mph)	65	430								
	60	720	390							
	55	1000	660	350						
	50	1250	910	600	310					
	45	1470	1140	820	540	270				
	40	1670	1340	1030	740	470	230			
	35	1850	1520	1200	920	650	410	200		
	30	2000	1670	1360	1070	810	570	350	160	
	25	2140	1800	1490	1200	940	700	480	290	120
	20	2240	1910	1600	1310	1040	800	590	390	230

Speed Reduction Signs Advance Location
Table 2-6

(5) Truck Tipping

The TRUCK ROLLOVER (W1-13) sign may be installed in advance of a horizontal curve where there is a history of truck tipping crashes, a Ball Bank indication of 12 degrees or more, or a side friction factor of $f > 0.21^*$. Display the recommended speed on an ADVISORY SPEED PLAQUE (W13-1) below the TRUCK ROLLOVER sign. Install the TRUCK ROLLOVER sign in addition to standard CURVE, TURN, LARGE ARROW, and/or CHEVRON warning signs.

*Use the following formula for a third method to determine the truck speed of a curve:

$$V^2 = 15 R (e + f)$$

Where:

- V = Speed in miles per hour
- R = Radius curve in feet
- e = Rate of super-elevation in feet per foot
- f = > 0.21 (Safe coefficient of side friction)

(6) Low Clearance

LOW CLEARANCE (W12-301) warning signs shall be installed where there is 15'3" or less of vertical clearance between the roadway surface and an overhead obstruction such as an overpass.

The maximum legal vehicle height permitted on state highways is 14 feet ([RCW 46.44.020](#)). At the direction of the [MUTCD](#), and through operational experience, a 15-inch buffer (which includes 3 inches for frost heave) has been added to the 14-foot maximum legal height, setting the minimum LOW CLEARANCE signing threshold at 15'3". [Appendix 2-10](#) shows signing details.

Install LOW CLEARANCE signing in the following situations:

- (a) At locations where the clearance is **14 feet or greater but less than 15'3"**, install the following:
 - The LOW CLEARANCE (W12-301) or the LOW CLEARANCE w/ARROW (W12-302) at the low point on the structure.
 - The advance LOW CLEARANCE (W12-2) sign on the right shoulder.
 - Display the clearance height to the nearest inch, but not exceeding the actual clearance.
- (b) At locations where the clearance on any portion of the structure is **less than 14 feet**:
 - Install the LOW CLEARANCE (W12-301) or LOW CLEARANCE w/ARROW (W12-302) sign at the low point on the structure. Where the clearance varies, such as at arched structures or tunnels, additional signs may be used to provide effective clearance information.
 - Install the LOW CLEARANCE (W12-2) sign in advance of the closest intersecting road that provides a detour around the low clearance obstruction. Supplement with an ADVISORY DISTANCE (W13-501) plaque, showing the distance to the obstruction.
 - Install an additional advance LOW CLEARANCE (W12-2) sign before the obstruction, in accordance with [MUTCD](#) Table 2C-4 (Advanced Placement of Warning Signs).
 - Display the clearance height to the nearest inch, but not exceeding the actual clearance.

Roadway reconstruction or surface overlays can reduce the overhead clearance. When a project is completed, region personnel must measure the revised clearance and change the sign message accordingly.

Vertical clearance for all overhead signs shall be in accordance with [Design Manual](#) Chapter 1020.

(7) Stop Ahead/Signal Ahead

Install a STOP AHEAD (W3-1A) sign if the stop sign is not visible for at least the minimum distance indicated in [MUTCD](#) Table 2C-4 (Advanced Placement of Warning Signs). Install a SIGNAL AHEAD (W3-3) sign if the traffic signal is not visible for at least the minimum distance indicated in [MUTCD](#) Table 4D-2 (Minimum Sight Distance for Signal Visibility). On county or city road approaches to state highways, the county or city is responsible for installation and maintenance of these signs.

(8) Signal Ahead Sign With Flashing Beacons

Install a SIGNALIZED INTERSECTION WARNING (SIW) sign assembly to warn motorists of the signal installation when:

- The operating speed is 55 mph or above; and
- The intersection is more than 2 miles away from the adjacent signalized intersection; or
- The visibility requirements to the signal in Table 4D-2 of the [MUTCD](#) cannot be met.

The recommended SIW sign assembly consists of:

- A modified 48" x 48" W3-3 sign on an optional black back plate for added target value.
- Two 8-inch LED yellow beacons.
- A flasher circuit activated continuously by a separate circuit from the service.
- A lighting circuit.

Locate the sign per the [MUTCD](#) Table 2C-4.

The use of a PREPARE TO STOP WHEN FLASHING (PTSWF) system may also be considered. If used, region Traffic Offices shall follow the *Prepare to Stop When Flashing (PTSWF) Systems Pilot Project Interim Guidelines* white paper dated August 10, 2006. The white paper is available from Headquarters Traffic Operations or at www.wsdot.wa.gov/design/traffic.

(9) Merge

Install the MERGE (W4-1) sign to warn mainline motorists of upcoming merging movements, where sight distance to the merge point is less than [MUTCD](#) Table 2C-4 (Advanced Placement of Warning Signs) Condition A. Locate the sign on the major alignment in advance of the point where two roads converge. An additional MERGE sign may be placed on the entering roadway, particularly where acceleration ramp geometry and/or sight distance do not meet [Design Manual](#) minimum standards. Do not use this sign where roads converge with added lanes and no merging movement is required.

(10) Added Lane

An ADDED LANE (W4-3) sign is used in advance of a point where two roadways converge, but merging movements are not required. The sign should be used at all added lane conditions to eliminate unnecessary mainline lane changes. Install the sign so it is visible from both roadways, if possible. Otherwise, install an ADDED LANE sign on each roadway.

(11) Lane Ends

Install a LANE ENDS (W4-2) sign:

- To warn of a reduction in the number of same direction traffic lanes on a multilane highway.
- To emphasize that a parallel on-connection is ending, as shown in *Standard Plan* M-1.80-02.
- In advance of the downstream end of an extra lane provided for slower vehicles.

The LANE ENDS sign shall not be used in drop-lane situations.

(12) Exit Advisory Speed

Install the EXIT ADVISORY SPEED (W13-2) sign at freeway/expressway exit ramps to inform motorists of the recommended exit speed. Locate the sign along the right shoulder of the deceleration lane prior to the exit gore, at a point that allows time for the motorist to make a safe slowing and exiting maneuver. Exit speed is determined by an engineering and traffic study.

In some locations, a CURVE sign is warranted beyond the exit gore. Install standard curve advisory signs in accordance with *MUTCD* Table 2C-4 as space allows. Otherwise, consider the advisory speeds for the entire ramp when determining the speed to put on the exit speed sign.

(13) Ramp Advisory Speed

Install a RAMP ADVISORY SPEED (W13-3) sign to inform motorists of the recommended speed for traversing a ramp alignment with curvature or other unexpected conditions. Use this sign where needed on freeway/expressway entrance ramps, and freeway/expressway to freeway/expressway connection ramps. Locate signs in accordance with *MUTCD* Table 2C-4. Ramp speed is determined by an engineering and traffic study.

In addition, if an advisory speed condition is located well beyond the gore or ramp entrance from surface streets, install a standard TURN or CURVE sign with an advisory speed plaque (W13-1) in accordance with *MUTCD* Table 2C-4 as space allows. Otherwise, consider the advisory speeds for the entire ramp when determining the speed to put on the ramp advisory sign.

(14) Intersection Warning

The INTERSECTION WARNING (W2 Series) sign indicates the presence of an intersection and the possibility of turning or entering traffic. Consider installing this sign where the side road approach is not continuously visible to mainline traffic for a minimum distance as shown in *MUTCD* Table 2C-4 and where any of the following conditions exist:

- The intersection is not channelized.
- Left-turning vehicles may queue in the traveled lane.
- Approach to the intersection does not provide adequate stopping sight distance.

Do not use INTERSECTION WARNING signs on approaches controlled by STOP or YIELD signs, signals, or at channelized intersections.

INTERSECTION WARNING signs may be modified to show offset intersection geometrics or approach curves. The relative importance of the roadways may be shown by varying the line widths used.

As guidance to motorists, the INTERSECTION WARNING sign shall be supplemented with the black on yellow ROAD NAME (D3-201) sign. The road name should be upper/lower case letters. Refer to the MUTCD Section 8B.06, for installation criteria for railroad/intersection signs, W10-2, W10-3, and W10-4.

(15) Roundabout Ahead

ROUNDABOUT AHEAD (W2-6) signs shall be installed in advance of any roundabout established on a state highway and be supplemented with the ROUNDABOUT plaque (W2-6P) and SPEED ADVISORY (W13-1) plaque.

(16) Tunnel Ahead

A TUNNEL AHEAD (W14-501) sign should be installed in advance of any tunnel that has an obscured entrance, is not illuminated, or does not have full shoulder width. A TUNNELS AHEAD sign may be used to address a series of tunnels.

(17) Vehicular Traffic Signs

Vehicular traffic signs may be used to alert roadway users to locations where entering traffic would be unexpected or where sight distance to traffic ahead is restricted.

- (a) **Bicycle** – A BICYCLE SYMBOL (W11-1) may be used to alert road users to locations where there is restricted sight distance or where unexpected entries into the roadway by bicyclists may occur, such as at bicycle path crossings. It may also be considered where there are bicycle/car conflicts. Use Fluorescent yellow green sheeting as the background color in areas where extra attention must be drawn to the crossing, such as urban areas with many distractions.
- (b) **Bikes on Road** – The BICYCLE SYMBOL sign (W11-1) may be used with the BIKES ON ROAD plaque (W11-101) to alert motorists to narrow shouldered roadway sections where bicyclists may be in the lanes. Use a mileage plaque to inform motorists of the distance they can expect to encounter bicyclists in the traveled lane. Do not install these signs on highways that have designated bicycle lanes.

Consider using these signs on sections of state highway where the paved shoulder width is less than 4 feet and one or more of the following conditions are met:

- Average Daily Traffic volume is greater than 1,700 vehicles, based on the most current WSDOT Annual Traffic Report.

- The state highway is part of a recreational or commuter bicycle route that is officially recognized by the department, or a county or regional transportation organization, such as an Regional Transportation Planning Organization or Municipal Planning Organization.

Install the BICYCLE sign with BIKES ON ROAD plaque within the first 300 feet of the narrow shoulder area. If the narrow shoulder distance is between 3 and 8 miles, a reminder sign should be placed at mid-point. If the mileage distance exceeds eight miles, reminder signs should be placed at 5-mile spacing.

These signs can be modified to say “BIKES ON BRIDGE” and installed at bridge locations where there is inadequate shoulder (less than 4 feet) for bicyclists.

- (c) **Share the Road** – WSDOT **does not** use the supplemental SHARE THE ROAD (W16-1) plaque. Instead, use BIKES ON ROAD or a warning sign that indicates the specific roadway condition, such as NO SHOULDERS or NARROW SHOULDERS.
- (d) **Fire Station/Emergency Vehicle** – FIRE STATION/EMERGENCY VEHICLE (W11-8) signs with the EMERGENCY SIGNAL AHEAD (W11-12P) supplemental plaque shall be placed in advance of all emergency vehicle traffic control signals. The signs may also be installed at locations where there is limited sight distance to the fire station road approach or where the approach is in an area where a motorist would not normally expect to see a fire truck or emergency vehicle enter the roadway. Fire station/emergency vehicle warning signs are not generally used at intersections, unless an emergency vehicle traffic control signal is present.
- (e) **Snowmobile** – A snowmobile crossing which is located at least 100 feet from any public roadway intersection ([RCW 46.10.100](#)) may be signed with SNOWMOBILE (W11-6) signs. This sign is seasonal and should be removed, folded, or covered when the condition does not exist.
- (f) **Farm Machinery** – FARM MACHINERY signs (W11-5, W11-5A) may be installed at locations where farm machinery or equipment enters, crosses, or travels along a roadway and where there is limited sight distance or an operational concern. If the farm machinery will be on the roadway for more than ¼ mile, a supplemental DISTANCE PLAQUE (W13-401) may be added.

Consider sign installation where:

- There is limited sight distance to the farm machinery crossing or entrance onto the roadway.
- The road user would not normally expect to see a farm vehicle, such as where a farm is operating in an area that has or is being developed for residential or commercial use.
- There is inadequate stopping sight distance to a slow moving vehicle along the roadway.

- There is a history of police, farmer, or public complaints, or operational conflicts.

To reduce operational conflicts, work with the farmer to restrict highway driving to daylight hours and non-peak periods, to drive on the shoulder if possible, and to use alternate routes if available.

Farm equipment used on the roadway must be equipped with a reflective hazard triangle sign and a flashing beacon ([RCW 46.37.160](#)).

(18) Nonvehicular Traffic Signs

NONVEHICULAR TRAFFIC signs may be used to alert road users to general locations where unexpected entries into the roadway or shared use of the roadway may occur.

- (a) Pedestrian** – A PEDESTRIAN CROSSING sign (W11-2) may be installed where attention needs to be drawn to the pedestrian presence, as evidenced by a traffic engineering analysis. Fluorescent yellow green may be used as a background sign color where extra attention needs to be drawn to a crossing, such as in urban areas with many distractions. When used at a specific crossing, the sign shall be supplemented with a diagonal downward pointing arrow plaque (W16-7P) showing the crossing location.
- (b) Deer Crossing** – Install DEER CROSSING (W11-3) signs to alert motorists when approaching an area where deer or elk may unexpectedly enter the roadway.

Gather information from the following sources when considering sign installation:

- Region Maintenance personnel.
- WSDOT Headquarters Environmental Services Office, Fish and Wildlife program. They compile a Wildlife Carcass Removal data base which notes deer and other wildlife killed on state highways.
- Records of crashes with wildlife, maintained by the WSDOT Travel and Collision Data Office.
- The Department of Fish and Wildlife's regional biologists have additional information on concentrations and migratory routes of deer.

Consider the following criteria before installing DEER CROSSING (W11-3) signs:

- Minimum of five documented deer/vehicle collisions per mile per year for at least two of the past 10 years.
- Minimum of 10 carcass counts per mile per year for at least three of the past 10 years.
- Concurrence from region maintenance personnel

Existing DEER CROSSING sign locations should be reviewed every five years.

- (c) **Cattle Crossing (Livestock)** – The CATTLE CROSSING (W11-4) or HORSE CROSSING (W11-7) sign may be used where there are frequent cattle, horse, or other livestock crossings at a specific site. Consider each request based on roadway type, traffic volumes, and number of crossings. A crossing site used once a day would warrant a sign, whereas one used once a month would not.

Cattle signs are not used for the movement of livestock along a highway such as a sheep or cattle drive. Requests for temporary traffic control to accommodate livestock movement are handled by the region on a case by case basis.

(19) Congested Area

CONGESTED AREA (W14-2202) signs may be installed at locations where traffic congestion occasionally occurs. Examples include rural areas where businesses or other community development periodically generate traffic volumes greater than normally would be expected at that location.

(20) Congestion Ahead

The CONGESTION AHEAD (W14-2203) sign is only used where sight distance to the congested area is restricted.

(21) Grated Bridge Deck

The GRATED BRIDGE DECK sign (W8-2101) shall be installed in advance of all bridges with grated decks on any portion of the roadway. Because deck grates may affect the handling characteristics of some vehicles, particularly motorcycles and bicycles, it is important to alert these road users to the road condition.

(22) Pavement Ruts

The PAVEMENT RUTS sign (W8-2201) may be installed on roadway sections where there are longitudinal wheel track ruts. Such ruts may cause vehicle vibration or other unexpected movements when a vehicle crosses them to change lanes or exit the roadway. The region Traffic Office should determine appropriate placement of these signs, based on an engineering and traffic investigation. On multilane divided roadways, post signs on both sides of the roadway.

(23) Rocks

The ROCKS sign (W8-1701) may be installed to alert roadway users to roadway sections that are known to have or are subject to frequent rockfall occurrences. Maintenance crews or the Washington State Patrol often supply this information. The department Material Lab developed a numerical rating system for unstable slopes at wwwi.wsdot.wa.gov/systems/slope/inventory/slope_search.cfm.

When a potential rockfall location has a numerical rating of 200 points or greater, a ROCK sign should be installed. A separate sign is not required at each location if adjacent locations can be combined using a FOR NEXT XX MILES sign.

Category	3 Points	9 Points	27 Points	81 Points
Problem Type: Soil	Cut or Fill Slope Erosion	Settlement or Piping	Slow Moving Landslides	Rapid Landslides or Debris Flow
Problem Type: Rock	Minor Rockfall Good Catchment	Moderate Rockfall Fair Catchment	Major Rockfall Limited Catchment	Major Rockfall No Catchment
Average Daily Traffic	< 5,000	5,000 to 20,000	20,000 to 40,000	> 40,000
Decision Sight Distance	Adequate	Moderate	Limited	Very Limited
Impact of Failure on Roadway	< 50 Feet	50 to 200 Feet	200 to 500 Feet	> 500 Feet
Roadway Impedance	Shoulder Only	½ of Roadway	¾ of Roadway	Full Roadway
Average Vehicle Risk	< 25% of the Time	25% to 50% of the Time	50% to 75% of the Time	> 75% of the Time
Pavement Damage	Minor – Not Noticeable	Moderate – Driver Must Slow	Severe – Driver Must Stop	Extreme – Not Traversable
Failure Frequency	No Failures in Last 5 Years	One Failure in Last 5 Years	One Failure Each Year	More Than One Failure per Year
Annual Maintenance Costs	< \$5,000 per Year	\$5,000 to \$10,000 per Year	\$10,000 to \$50,000 per Year	> \$50,000 per Year
Economic Factor	No Detours Required	Short Detours < 3 Miles	Long Detours > 3 Miles	Sole Access No Detours
Accidents in Last 10 Years	0 or 1	2 or 3	4 or 5	> 5

Rating Criteria
Table 2-7

(24) Transit Stop Ahead

Install the TRANSIT STOP AHEAD (W14-1101) symbol sign in advance of a region Traffic office approved transit stop in the travel lane of a state highway when:

- The transit stop is located in an unincorporated area; and
- There is less than 500 feet of sight distance to the transit stop.

Install the sign in accordance with [MUTCD Table 2C-4](#) (Advance Placement of Warning Signs). Refer to [WAC 468-46](#) and [Chapter 7, Section 7.9](#), of this manual, for further information about the transit stop approval process.

(25) Left Turns Ahead

The LEFT TURNS AHEAD (W2-601) sign may be used in advance of intersections to alert to possible left turning movement conflicts, as determined by an engineering and traffic investigation. Consider installing this sign at locations where any of the following conditions exist:

- The intersection is not channelized.
- Left-turning vehicles may queue in the traveled lane.
- Approach to the intersection does not provide adequate stopping sight distance.

(26) Lateral Clearance Markers (Object Markers)

The department installs Type 3 OBJECT/LATERAL CLEARANCE MARKERS (W12-401 L/R) to identify objects or conditions within or adjacent to the roadway such as:

- narrow bridges with reduced width shoulders
- drop-offs
- small traffic islands
- underpass piers
- bridge abutments
- barriers
- handrails
- culvert headwalls

IMPACT ATTENUATOR MARKERS (W12-501 and W12-502) are used to identify the nose section of an impact attenuator. Install a W12-501 when traffic approaching an attenuator passes only one side of the attenuator. Install a W12-502 when approaching traffic passes on both sides of the attenuator.

[MUTCD](#) Section 2C.64 and 2C.65 addresses appropriate use and installation requirements of lateral clearance markers. See [Appendix 2-11](#) and [2-11A](#).

(27) Water Over Roadway

The WATER OVER ROADWAY (W8-501) sign may be installed where water periodically and consistently accumulates. Hinge the sign to allow crews to open and close it as needed.

(28) Severe Side Winds Ahead

The SEVERE SIDE WINDS AHEAD (W14-801) sign may be installed where geologic or geographic features or other unique situations create unexpected and severe windy conditions that can impact the handling of a vehicle.

(29) Watch for Ice

The department no longer routinely uses WATCH FOR ICE (W8-1601) signs.

They may be considered in unique conditions such as where a natural or manmade feature causes consistent roadway wetness and where ice is likely to form during cold temperatures. Examples may include, but are not limited to locations where:

- A waterfall causes roadway moisture.
- An industrial facility consistently causes spray on the roadway.
- There is wetness from short or long-term drainage problems.
- Pavement sensors connected to the WATCH FOR ICE sign discern the outside temperature and flash an alert to motorists about the potential of ice on the roadway.
- Moisture vapor forms on the highway.

Any decision to post a WATCH FOR ICE sign must be based on a traffic engineering analysis and approved by the State Traffic Engineer, in consultation with the appropriate region traffic engineer.

(30) Grooved Pavement

Install the GROOVED PAVEMENT sign (W8-2001) where the roadway surface features closely spaced longitudinal grooves. Do not use this sign in areas of rutted pavement. [RCW 47.36.200](#) notes that where a GROOVED PAVEMENT sign is used, a MOTORCYCLES USE EXTREME CAUTION (W21-1701) sign must also be used.

2.9 School Areas

School related signing is installed to alert motorists to an upcoming school bus stop or school crossing, and the possible presence of children standing near, walking along, or crossing the roadway. Fluorescent yellow-green (FYG) is the standard background color for school signs.

The department is responsible for school bus stop and crossing related signing. Additional signs (such as an overhead School Crossing sign) are generally the responsibility of the school district requesting them.

(1) School Bus Stops

Install a SCHOOL BUS STOP AHEAD (S3-1) sign where there is less than 500 feet of sight distance to the bus stop, or when other operational factors indicate the need for a warning sign. Where there is not at least a minimum of 500 feet sight distance to the bus stop, it should be relocated if possible to provide ample visibility.

All school bus stops requiring an advance school bus stop sign must be reviewed and approved by the region Traffic Operations staff. Because of the frequent changes to bus stop locations, they should be periodically reviewed for possible sign removal or relocation.

The region traffic engineer must approve any school bus stops on limited access facilities ([WAC 468-58-030](#)) and provide this information to the State Traffic Engineer who maintains an inventory of the locations.

(2) School Bus Turnaround

The SCHOOL BUS TURNAROUND sign (S3-201) may be installed to alert motorists to an upcoming school bus turnaround location, where minimum sight distance to the turnaround is less than that shown in [MUTCD Table 2C-4](#), or when other operational factors indicate the need for a warning sign. Department policy is to not use the SCHOOL BUS TURN AHEAD sign as shown in the [MUTCD](#).

(3) Signing for Reduced School Zone Speed Limit

Reduced speed limits in school zones are established in compliance with [RCW 46.61.440\(1\)](#) which establishes a 20 mph speed zone **at a marked school or playground crosswalk** when the crosswalk is posted with standard school or playground speed limit signing. See [Section 6.4](#) for additional information on reduced school speed zones.

Standard reduced school zone speed limit signing at a marked school or playground crosswalk is shown in [Appendix 2-12](#) and includes:

- The SCHOOL (S1-1) sign with AHEAD plaque (W16-9P).
- The SCHOOL SPEED LIMIT (S5-101) sign assembly.
- The SCHOOL (S1-1) sign with ARROW plaque (W16-7P).
- The END SCHOOL ZONE (S5-2) sign with the subsequent SPEED LIMIT (R2-1) sign below.

The SCHOOL SPEED LIMIT (S5-501) sign assembly consists of three sections:

1. SCHOOL legend (S4-3) with black letters on a fluorescent yellow green background.
2. 20 MPH SPEED LIMIT sign (R1-1).
3. WINDOW OF ENFORCEMENT legend.

The enforcement legend is determined by the school district and can be any of the following:

- WHEN FLASHING (S5-1) used in conjunction with a flashing beacon above the sign, as described in [MUTCD Section 4L.04](#).
- WHEN CHILDREN ARE PRESENT (S5-101) used in conjunction with definitions provided in [WAC 392-151-035](#) and [WAC 468-95-350](#).
- WHEN FLAGGED (S5-102) used in conjunction with warning flags that are installed on the sign during the window of enforcement. The school is responsible for installation and removal of the flags.
- X:00 A.M. TO X:00 A.M./P.M. (S4-5) used to display the specific hours of the school speed limit.

(4) Flashing Beacons or Flags

The SCHOOL SPEED ZONE sign assembly may be supplemented with flashing beacons or flags to draw attention and increase compliance with the reduced speed zone. A Washington State Traffic Safety Commission study noted that WHEN FLASHING school zone signs were more effective in slowing vehicles than either WHEN CHILDREN ARE PRESENT or WHEN FLAGGED signs. The study notes that where the approach speed to a school speed zone is 35 mph or above, schools with WHEN FLASHING signs had significantly fewer vehicles travelling in excess of 35 mph (only 3 percent) than WHEN CHILDREN ARE PRESENT signs (30 percent) and WHEN FLAGGED signs (23 percent).

On highways where the approach speed to a school speed zone is 35 mph or more, or where a wide roadway increases children's exposure, consider the use of flashing beacons above the SCHOOL SPEED ZONE assembly. Beacons are generally paid for by the school district requesting the speed zone.

(5) School Crossings

School crossings may be established either adjacent to the school or as part of a school pedestrian route. Install the SCHOOL sign (S1-1) with a Diagonal Arrow plaque (W16-PL) at or near the crossing, and a SCHOOL sign (S1-1) with an AHEAD plaque (W16-9P) in accordance with [MUTCD](#) Table 2C-4.

- The SCHOOL (S1-1) sign may be installed at a crossing controlled by a traffic signal.
- Do not install a SCHOOL (S1-1) sign at an intersection crossing controlled by a STOP or YIELD sign.

(6) Overhead School Crosswalk Sign

The OVERHEAD CROSSWALK (W11A-301) sign is used only at marked school crosswalks where a traffic engineering analysis has determined that conventional traffic control measures are not adequate. It is installed in addition to the standard school crosswalk signing. The OVERHEAD CROSSWALK sign must include pedestrian or school activated flashing lights. The [MUTCD](#) allows the option to use the STOP FOR PEDESTRIANS overhead sign (R1-9a) instead. Consider these factors when determining installation of this sign:

- Approach speed of traffic.
- Width of crossing.
- Number of lanes.

Costs associated with installing and maintaining this traffic control device generally are the responsibility of the requesting school district.

2.10 Guide Signs

Guide signs direct roadway users along roads and highways by providing information about:

- Route designation.
- Directional and distance information.
- Geographical, recreational, or cultural points of interest.
- Motorists services.

The department receives frequent requests for guide signs. The quantity and spacing of guide signs is controlled so that the roadway user has adequate time to read, understand, and respond to the sign messages.

The *Design Manual* notes that guide sign plans are needed for Interstate highways and require Headquarters Traffic approval. Where a highway passes through a national forest or national park, there may be agreements in place that designate which agency is responsible for each sign type, as well as design requirements for signs. Sign design must consider these requirements.

Review sign requests by considering both the [MUTCD](#) sign purpose and the sign spacing criteria. Work with local groups to review conflicting requests, and to determine the most essential and effective signing. It may be necessary to remove or relocate existing signs to accommodate the addition of a more important sign, while avoiding sign proliferation.

Guide signs shall not include advertising.

(1) *Types of Guide Signs*

Guide signs are grouped by their purpose. Their use is determined according to standards and guidance in the [MUTCD](#).

- **Route Markers** display the official highway number and direction of travel.
- **Primary Guide Signs** include advance directional signs, exit directional signs, diagrammatic signs and pull-through signs. They direct roadway users to exit points for principal destinations served by intersections or interchanges, and to cities located on intersecting state routes.
- **Distance Signs** display distances to destinations and junctions along state routes.
- **Supplemental Guide Signs** provide direction to major traffic generators or other points of interest, or to destinations preempted from the primary guide sign.
- **Follow-Through Signs** provide continued direction, beginning at the point of exit from the state highway, and following through to the destination displayed on the guide sign.

- **General Motorist Service Signs (MSS)** provide information for the unfamiliar traveler about services available at or accessed from upcoming intersections and interchanges.
- **Motorist Information Signs (MIS)** provide information about specific businesses that meet certain service criteria. The MIS program is regulated by [RCW 47.36.310](#), [RCW 47.36.320](#), and [WAC 468-70](#).

Where sign space is available, guide signs on expressways or freeways generally include:

- One or two advance directional signs where interchange spacing allows.
- An exit directional sign.
- One supplemental guide sign, installed approximately halfway between the advance directional and exit directional sign. It is only installed if spacing requirements can be met.

[MUTCD](#) minimum spacing requirements between directional guide signs are:

- 800 feet for freeway and expressways.
- 500 feet for two-lane, high-speed roadways.
- 300 feet for high speed multilane with at-grade intersections
- 200 feet for two-lane and multilane low speed highways within incorporated areas.

(2) Guide Sign Color

Guide signs are generally white letters on a green background. However, some types of signs use other background colors to distinguish the type of destination to which they are signing.

Following are standard guide sign background colors:

- **Brown** – Heritage Markers, State Parks, National parks, U.S. Forest Service facilities, Department of Natural Resources campgrounds, Recreation Activity signs with symbols, Watchable Wildlife, State Public fishing areas.
- **Blue** – Motorist Service signs (MSS), Motorist Information signs (MIS), Washington State Patrol, fire district boundary, fish related signs.
- **Green** – All other guide signs.

(3) Guide Signs On Conventional Roads

Install guide signs in accordance with guidelines in [MUTCD](#) Chapter 2D.

Guide sign installation for route intersections is shown in [Appendix 2-13](#) for:

- Junctions of state highways.
- Junctions of county roads or city streets that lead to significant destinations.

(4) Guide Signs On Expressways and Freeways

Install guide signs in accordance with guidelines in [MUTCD Chapter 2E](#). Guide sign installation illustrations are shown in [Appendices 2-14](#) through [2-21](#) for:

- Crossroad Interchange Approach ([Appendix 2-14](#))
- Expressway Intersection Approach ([Appendix 2-15](#))
- Expressway Interchange Approach ([Appendix 2-16](#))
- Freeway Interchange Approach ([Appendix 2-17](#))
- Freeway Exit Ramp ([Appendix 2-18](#))
- Freeway Post Interchange ([Appendix 2-19](#))
- Auxiliary Freeway Lane – Less than ¼ mile long ([Appendix 2-20](#))
- Auxiliary Freeway Lane – More than ¼ mile long ([Appendix 2-21](#))

2.11 Route Signs

A route sign assembly consists of a route sign and auxiliary signs that further identify the route and indicate direction of travel. For conventional roadways, [MUTCD Section 2D.29](#) through [2D.32](#) provide guidance for the various types of route sign assemblies.

For expressways and freeways, route sign assemblies are typically used for route confirmation and trailblazing purposes. In addition to the guidance provided in [MUTCD Section 2E.25](#), install route confirmation sign assemblies at these locations:

- Entrances to Washington State.
- Beyond interchanges.
- On the far side of intersections with other numbered routes or major local roads.
- Beyond city limits.

In urban and residential areas, install route confirmation sign assemblies at intervals that will keep an unfamiliar motorist informed of the route. Note that where interchanges and intersections are closely spaced and available sign space is limited, speed limit signs are a higher priority than route confirmation sign assemblies.

2.12 Primary Guide Signs

(1) General

Advance directional, exit directional, diagrammatic, and pull-through signs are all considered primary guide signs that provide guidance to the motorist about destinations served by upcoming exits or intersections. The [MUTCD](#) defines the required and allowable numbers of guide signs for the various roadway types and interchange classifications. Information is also provided about installation, location, and letter/legend criteria for these signs.

On Conventional roads, a maximum of three lines of destinations may be displayed on a primary guide sign ([MUTCD Section 2D.07](#)). On Freeways/ Expressways, a maximum of two destinations may be displayed on a primary guide sign ([MUTCD Section 2E.10](#)). A sign support having two or more signs may display a maximum of three destinations. Display the same message on all advance and exit directional signs installed in a series. This provides consistent and effective information to the roadway user, especially the unfamiliar traveler.

Department guidelines require that any freeway exit that is a left-hand rather than right-hand exit must be signed with a yellow LEFT EXIT plaque on both the advance directional and the exit directional sign.

(2) Destination Selection

Display the primary destination(s) served by the upcoming exit or intersection and a second destination using the prioritized list below.

Consider:

- The control city along the intersecting route.
- A junction with another numbered highway.
- The name of a city or town.
- A tribal reservation.
- A street or roadway name.
- Other major destination such as mountain passes, National Parks, or major airports.

Apply the same destination selection criteria for signs on all conventional roads, expressways, and freeways. As development occurs, it may be necessary to replace existing destinations with ones that have become more essential.

Ventures operated by private entities for profit, and to other ventures not of general interest to the traveling public are not signed on guide signs on state highways. These entities may instead qualify for Motorist Service Signs (MIS), Tourist Activity signs, or Recreation signing. Current ventures must be signed under the new criteria when the current sign service life is over. Shopping malls that qualify for signing under [RCW 47.36.270](#) are an exception and may be signed on primary or supplemental guide signs.

(3) Control City on Destination Signing

A control city is used on guide signs at junctions with other highways ([MUTCD Chapter 2D](#)). The designated control city for selected state routes is shown as follows:

US 2	
EB from Everett	Wenatchee
EB from Wenatchee	Spokane
EB from Spokane	Newport
WB from Idaho State Line	Spokane
WB from Spokane	Davenport
WB from Davenport	Wenatchee
WB from Wenatchee	Everett
I-5	
NB from Vancouver, WA	Seattle
NB from Seattle	Vancouver, B.C.
SB from Vancouver, B.C.	Seattle
SB from Seattle	Portland
US 12	
EB from Aberdeen	Olympia
EB from Elma	Centralia
EB from I-5	Yakima
EB from Yakima	Richland
EB from Pasco	Walla Walla
EB from Walla Walla	Lewiston
WB from Idaho State Line	Walla Walla
WB from Walla Walla	Pasco
WB from Richland	Yakima
WB from Yakima	Interstate 5
WB from I-5	Aberdeen
SR 14	
EB from Vancouver	I-82/Kennewick
WB from I-82	Vancouver
SR 20	
EB from Keystone	Anacortes
EB from Anacortes	Burlington
EB from Burlington	Okanogan
EB from Okanogan	Colville
EB from Colville	Newport
WB from Idaho State Line	Colville
WB from Colville	Okanogan
WB from Okanogan	Burlington
WB from Burlington	Anacortes
WB from Anacortes	Coupeville

I-82	
EB from Ellensburg	Yakima
EB from Yakima	Richland
EB from Richland	Pendleton
WB from Oregon State Line	Kennewick
WB from Kennewick	Yakima
WB from Yakima	Ellensburg
I-90	
EB from Seattle	Ellensburg
EB from Ellensburg	Spokane
EB from Spokane	Coeur d'Alene
WB from Idaho State Line	Spokane
WB from Spokane	Ellensburg
WB from Ellensburg	Seattle
US 97	
NB from Oregon State Line	Yakima
NB from Ellensburg	Wenatchee
NB from Wenatchee	Okanogan
NB from Okanogan	Penticton, B.C.
SB from Canadian Border	Wenatchee
SB from Wenatchee	Ellensburg
SB from Yakima	Goldendale
US 101	
NB from Oregon State Line	Aberdeen
NB from Aberdeen	Port Angeles
NB from Olympia	Port Angeles
SB from Port Angeles (East Leg)	Olympia
SB from Port Angeles (West Leg)	Aberdeen
SB from Aberdeen	Astoria
I-182	
EB from I-82	Richland
EB from Richland	Pasco
WB from Pasco	Richland
WB from Richland	I-82/Yakima
US 195	
NB from Idaho State Line	Spokane
SB from Spokane	Lewiston

I-205	
NB from Oregon State Line	Seattle
SB from Jct. I-5	Salem
US 395	
NB from Oregon State Line	Kennewick
NB from Pasco	Spokane
NB from Spokane	Colville
NB from Colville	Grand Forks, B.C.
SB from Canadian Border	Spokane
SB from Ritzville	Pasco
I-405	
NB from Jct. I-5 (Southcenter)	Renton
NB from Renton	Bellevue
NB from Bellevue	Everett
SB from Jct. I-5 (Lynwood)	Bellevue
SB from Bellevue	Renton

2.13 Distance Signs

(1) General

A distance sign can display up to three destinations ([MUTCD Chapter 2D](#)). Apply the same destination selection criteria for signs on all conventional roads, expressways, and freeways.

- On the first line, identify the next city with services available, or the next intersected numbered route.
- On the second line, if used, identify communities of general interest along the route. Vary the named community on successive distance signs to provide maximum information to the traveler.
- On the third or bottom line, display the next control city along the route or terminal destination.

Install distance signs at the following locations:

- Beyond intersections and interchanges of numbered state highway routes.
- Beyond city limits or urban boundaries.
- In rural areas at 10- to 15-mile intervals.
- At entrances to Washington State.

Where two or more of these locations occur within 10 miles, sign the most effective location.

(2) Determining Mileage Displayed on Distance Signs

- (a) **Freeways and Expressways** – Display the distance (in miles) from the sign to either the first interchange/intersection within the destination city limits, or to the city center. Regions must work with city administration to determine the preferred city center reference location.
- (b) **Conventional Highways** – Display the distance in miles from the sign to the destination city limits. For destinations such as Mt. Rainier National Park, display the distance to the park boundary.

2.14 Supplemental Guide Signs

(1) General

Supplemental guide signs direct unfamiliar motorists to additional destinations or points of interest that are not displayed on the primary guide signs. *The MUTCD allows only one supplemental guide sign to be installed for each interchange approach and it shall display a maximum of two destinations. Supplemental guide signs shall be installed only when MUTCD minimum spacing requirements can be met.*

Supplemental guide signs should not be installed for a traffic generator that would require a motorist to travel on the interchanging road beyond a second state highway (i.e., I-5 to SR 18 to SR 164).

In general, destinations that generate the greatest traffic volume or have the widest scope of recognition are given highest priority. Nationally recognized traffic generators receive priority over those that have state, regional, or local recognition. Evaluate the given interchange and select the destinations that provide the most benefit to the highway user.

As development occurs, it may be necessary to replace existing destinations with ones that have become more essential.

(2) Destination Selection Factors for Supplemental Guide Signs

Apply the destination selection criteria equally, whether the signs are on conventional roads, freeways, or expressways. Consider the following factors when evaluating a supplemental sign request:

- On an expressway or freeway, determine if the destination meets criteria contained in the American Association of State Highway and Transportation Officials (AASHTO) publication *Guidelines for the Selection of Supplemental Guide Signs for Traffic Generators Adjacent to Freeways*, which has been incorporated in the MUTCD (www.normas.com/aashto/pages/gsglc-4.html).
- State law mandates destination signing for State Parks and regional shopping centers when distance criteria are met.

- Consider how the proposed signing will affect local roadway traffic operations. Work with the local agency to determine the route to a destination and the sign locations. In general, sign to the supplemental destination from the interchange or intersecting road that provides the most direct route to the destination.
- Determine if follow-through signing is needed and work with the local agency to determine sign locations. Local agencies assume responsibility for sign installation and maintenance and must concur with any proposed signs.
- Avoid signing to destinations that require complex navigation on multiple highways, unless the activity is of national significance.

(3) **Destination Selection Priorities**

- (a) **Over-Flow Messages From Primary Guide Signs** – Occasionally, essential messages cannot be included on primary guide signs due to space limitations. Instead, place these essential messages on supplemental guide signs, giving them priority over any other supplemental sign messages.

(b) **Destinations Mandated by Statute**

1. **State Parks** – State law ([RCW 47.36.290](#)) directs the department to install guide signing on interstate highways to State Parks located within 15 miles of the highway. These destinations have first priority on supplemental guide signs on interstate highways. Additionally, WSDOT policy is to install guide signs to a State Park within 15 miles of *any* state highway.

The department installs and maintains these signs and provides follow through signing on any state route that connects the state highway to the park. All State Park signs shall have white letters, symbols, and border on a brown background.

The State Parks and Recreation Commission is responsible for any State Park signing not located on a state highway.

a. **Freeway and Expressway Interchanges**

Mainline – Install signs displaying the name of the STATE PARK and a directional message, such as NEXT EXIT, in advance of the interchange, located to meet guide sign spacing requirements. If the park has restricted hours or days of operation, add a supplemental plaque displaying the operating schedule (i.e., CLOSED TUESDAYS) below the STATE PARK sign. No other supplemental plaques are used on the freeway mainline sign. Do not install mainline signing until all follow through signing is in place.

Ramp – Install signs displaying the message STATE PARK and a directional message, with a maximum of four recreational symbol plaques. Display the mileage to the park from the ramp terminal, using ¼ mile increments if the distance is less than 1 mile.

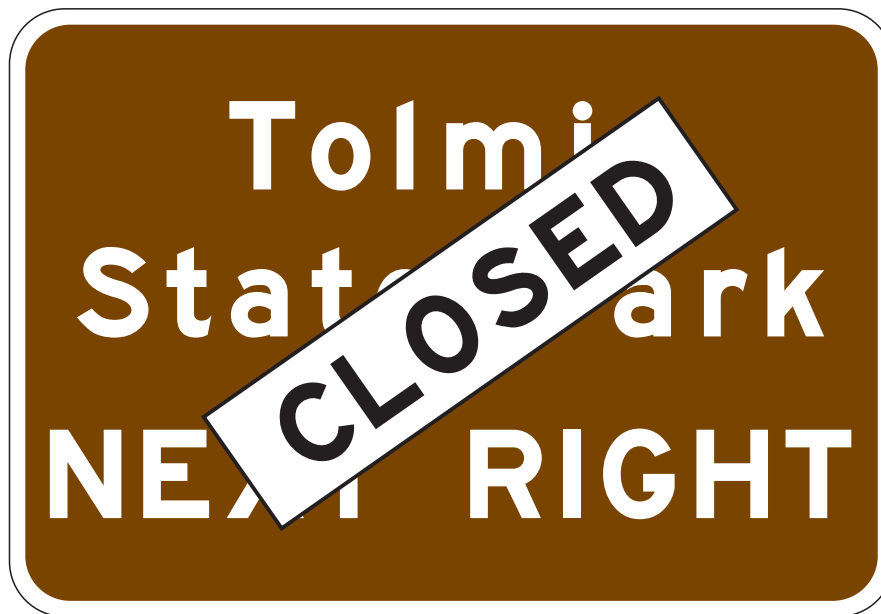
- b. **Conventional Roadway Intersections** – Install signs displaying the name of the STATE PARK and a directional message (NEXT RIGHT/NEXT LEFT) in advance of the intersection leading most directly to the park. Install a maximum of four recreational symbol plaques below.

Install a white on brown sign with the message STATE PARK (D1-101) and a directional arrow at the intersection of a state route and roadway leading to a state park. Display the mileage to the park from the intersection. Use ¼-mile increments if the distance is less than 1 mile.

- c. **Recreational Symbol Plaques** – A maximum of four recreational symbol plaques may be displayed under a state park directional sign, on both conventional roads and on freeway off-ramps.
- Plaques are 24 inch x 24 inch with white message on a brown background.
 - If the park does not have camping facilities, display the text message NO CAMPING as one of the recreational plaques.
 - If a park has restricted hours or days of operation, display the operating schedule (i.e., CLOSED TUESDAYS) as one of the plaques.
 - The park manager for each individual park will determine the additional supplemental symbols to be displayed.
 - If a BEACH message is to be shown, use a text message plaque instead of a symbol.
 - Before replacing any state park sign, contact the park manager, to determine if any plaque changes are needed.
 - If the symbols are seasonal, a written agreement is developed between the state park manager, the local maintenance superintendent, and region Traffic Operations. The agreement outlines who will be responsible for changing the symbols, at what specific time periods, as well as any cost reimbursement that may be involved.
 - Headquarters Traffic Office maintains an inventory of the recreational symbols used at each state park. Inform Headquarters Traffic when symbol plaques are changed, added, or removed.
- d. **Additional Signs** – CAMPGROUND FULL signs may be used at off-ramps and on conventional highways in conjunction with a State Park directional sign. It can be either a post mounted stand-alone sign or a changeable message plaque under the ramp or conventional highway sign. CAMPGROUND FULL signs may not be displayed on a freeway mainline.

A written agreement is developed between the state park manager, the local maintenance superintendent, and region Traffic Operations. The agreement outlines who will be responsible for changing the CAMPGROUND FULL sign, and for the sign fabrication, installation, maintenance, and removal. State Parks will be responsible for all associated costs, administered through a J account.

During seasonal closures, STATE PARK CLOSED plaques are installed on all state parks guide signs, including those on the freeway mainline. This is done rather than removing or turning them. Mount the plaque diagonally from lower left corner to upper right corner on the sign face. Use a panel size that is large enough to effectively cover the legend and a letter size at least as large as the upper case letters in the STATE PARK message. See [Figure 2-1](#).



State Park Closed
Figure 2-1

2. **Regional Shopping Centers** – State law ([RCW 47.36.270](#)) and [WAC 468-95-140](#) requires that regional shopping centers be signed from state highways, if spacing requirements can be met and the shopping center:
 - Has at least 500,000 square feet of leasable retail space.
 - Contains at least three major department stores owned by a national or regional retail chain.
 - Is located within 1 highway mile of a state highway.
 - Generates a minimum of 9,000 daily one-way vehicle trips.

All costs associated with fabricating, installing, and maintaining signs shall be the responsibility of the shopping center.

If the shopping center is not clearly visible from the state highway point of exit, follow-through signing must be in place on city or county roads prior to mainline sign installation.

Signing on the state highway to a county road or city street that bears the name of the regional shopping center fulfills the statutory requirements for signing to those centers.

- (c) **Other Supplemental Guide Sign Destinations** – The following non-prioritized list includes examples of destinations (traffic generators) that may warrant supplemental guide signing. It is intended to aid in determining appropriate destinations.

Airports
 Amtrak/Other Railroad
 Business Routes
 Colleges/Universities
 Event Venues, Fairgrounds
 Ferries
 Historic District (may be signed as a Tourist Activity under MIS program if guide signs are full)
 Industrial Parks
 Military Installations
 National Parks
 Natural/Cultural/Historic Attractions
 Park and Ride Lots
 Ports/Port Districts
 Recreational Areas
 Scenic Byways
 Stadiums (Sports Facilities)
 Tribal Reservations
 USFS (Headquarters Facilities/Campground)

2.15 Destination Selection Requirements and Installation Details for Specific Types of Traffic Generators

Specific traffic generators (destinations) must meet the criteria listed below to warrant a message on a supplemental guide sign. [Appendix 2-22](#) contains the criteria for freeway installations in a table format. Supplemental guide signing shall be installed in accordance with the specific details shown below.

(1) **Airports**

Airports are eligible for signing if they are included in the National Plan of Integrated Airport Systems and meet these criteria:

- Associated with an area population of 10,000 or more.
- Located within 5 miles of interchange or intersection.
- Airport runway shall be paved, lighted and 2,500 feet or more in length.

- Municipally or privately owned, and used for commercial enterprise with the following minimum number of regularly scheduled commercial flights per day:
 - 35 flights per day in major metropolitan area (greater than 50,000).
 - 20 flights per day in an urban area (5,000-49,999).
 - 15 flights per day in rural areas.

Contact the WSDOT Aviation Division to determine if a specific airport meets these criteria.

Airports that have scheduled flights can be signed with the airport name. All other airports are signed with the airport symbol or word message.

Airports at remote locations serving a smaller population may be signed when their location is not obvious from the state highway, even if there are no commercial flights.

Existing signs to airports that do not meet these criteria may remain in place until a higher priority destination warrants a supplemental sign.

(2) Amtrak/Other Passenger Rail Stations

Install Amtrak logo signing to Amtrak stations as described below. For other types of rail passenger stations such as those of a Public Transit Authority, a specific logo may be cooperatively developed with Public Transit Authority and department approval, and installed as described below.

(a) Conventional Roadways

- Use Amtrak symbols or other approved logo signs in the trailblazer format with the appropriate directional arrows.

(b) Multilane Highways

- If there is enough space to install an individual sign, the Amtrak symbol plaque or other approved logo may be placed on a green background panel with either of these messages: NEXT RIGHT or EXIT XXX ([Appendix 2-23](#), part a).
- If there is not enough space to install an individual sign, the Amtrak symbol plaque or approved logo sign may be installed below the advance exit or the exit directional sign, on the post closest to the traveled way ([Appendix 2-23](#), part b).
- If the sign cannot be installed as above, the Amtrak symbol plaque or approved logo sign may be installed below the supplemental guide sign, on the post closest to the traveled way ([Appendix 2-23](#), part c).
- Install Amtrak trailblazer signs or other approved logo signs along freeway ramps or at ramp terminals. All trailblazer signs must be in place before any mainline signs are installed.

- The Amtrak symbol plaque or other approved logo sign may be installed as part of a multi-modal transportation logo board, along with approved symbols for other modes of transportation.

(3) Business Route

BUSINESS ROUTE signs (M4-3) direct motorists to alternate routes passing through the business portion of a city or through a district of continuous business development. BUSINESS ROUTE signing is generally installed at the request of a local agency. It is not permitted where MOTORIST INFORMATION (MIS) signing is installed.

Any addition or deletion of an Interstate or US highway segment as a Business Route must first be approved by AASHTO. Proposals to add or delete such routes should be sent to the department's GeoMetrix Office.

Designated Business Routes may be signed as follows:

- Install signing on a state highway business route only if it passes adequately and logically through a business district.
- BUSINESS LOOP (M1, 2, or 3) trailblazers along the route are installed and maintained by the local agency which has jurisdiction over the business route. A written agreement clarifies the jurisdiction.

(4) Colleges and Universities

Supplemental signing may be considered for a State College or University, their satellite campuses, other regional public or private colleges and universities, and technical schools if they meet the guidelines below and if sign spacing requirements can be met.

Signing is installed from the state highway nearest the campus and is limited to the nearest and most direct interchange or intersection. Signing may also be installed from a freeway or expressway to a conventional state highway where the conventional highway is used primarily by local traffic. Signing is not provided from a freeway or expressway to another freeway or expressway.

Supplemental signing may be installed when:

- The school is accredited in Washington State. Accredited schools are listed on the Northwest Commission on Colleges and Universities (NWCCU) agency website at www.nwccu.org.
- The main or satellite campus is located within 5 miles of a state highway.
- Enrollment criteria are met. Call the Higher Education Coordinating Board at 360-753-7800 for the current enrollment figures.

Enrollment criteria (including part time and full time) based on any semester or quarter within the last school year:

- 4,500 students in a major metropolitan area (50,000 or greater).
- 2,500 students in an urban area (5,000-49,999).
- 1,000 students in a rural area.

In metropolitan and urban areas where two or more colleges or universities share a common campus, enrollments may be combined. The enrollment for the minor school should be at least 1,000 students. Metropolitan and urban area boundaries can be determined from the state urban boundary map.

If school enrollment falls below the minimum number for one year, the school will be given written notice that the highway signing will be removed if the following fall semester or quarter enrollment does not reach the minimum number.

Two schools may not share the same sign, if they do not share a common campus. If two schools are located in the same area, but do not share a common campus, determine which school is shown on the sign by the following order of priority:

- State university.
- State college.
- Private university or college.
- Technical college or school.

University Mascot Logos – At a University’s request, a University mascot logo may be installed on guide signs under the following conditions:

- It is a State University.
- The university name is already displayed on the guide sign.
- Mascot logos may be added only on signs for main campuses.
- The university must supply the logos and pay all costs including engineering, fabrication, installation, and traffic control.
- Maximum logo size is 30" x 30".

If there is insufficient space to display a mascot logo on the sign face, the logo will be installed directly above the upper left-hand corner of the guide sign. If the university wants the logo incorporated onto the face of the guide sign, they have the option of paying for a complete new guide sign to include the logo.

When the guide sign is due for replacement, it may be enlarged to incorporate the mascot logo onto the sign face at no cost to the university.

(5) Event Venues, Arenas, Auditoriums, Convention Halls, Fairgrounds, Stadiums

Event venues may be considered for supplemental guide signs using the following criteria, but only where **MUTCD** spacing guidelines are met.

- In a major metropolitan area of 50,000 or greater population, the venue must be within 2 miles of the state highway, and the annual attendance at the facility must be at least 300,000.
- In an urban area of 5,000-49,999 population, the venue must be within 2 miles of the state highway, and the annual attendance at the facility must be at least 250,000.
- In rural areas, the venue must be within 5 miles of the state highway, and the annual attendance at the facility must be at least 200,000.
- Signs may be installed directing venue traffic from one state highway to another.

(6) Industrial Parks

Supplemental guide signing to an industrial park may be considered using the following criteria, but only where **MUTCD** spacing guidelines are met.

- The industrial park has at least 500,000 square feet of space available for lease (may include a mix of manufacturing, service, and warehouse facilities).
- The industrial park is within 5 miles of the state highway.

(7) Natural, Historic, and Cultural Attractions

- (a) **General Criteria** – Consider supplemental guide signing to natural, historic, and cultural attractions if the attraction meets guidelines shown below, but only where **MUTCD** sign spacing guidelines can be met. Signing is not provided if the attraction is readily visible from and has direct access to the state highway. Privately operated commercial attractions (i.e., Wild Waves) are signed as part of the Motorist Information Sign (MIS) program as a Tourist Activity.

Periodic reviews by region personnel ensure that signing is displayed only for attractions that meet eligibility criteria and that signs are removed or covered when the attraction is closed for the season, no longer meets criteria, or is no longer in operation. Reviews may also identify new attractions that meet eligibility criteria.

Natural, historic, and cultural attractions must meet the following general criteria to be considered for supplemental signing:

- The attraction must have regional or national significance and meet destination or traffic generator guidelines. Do not sign attractions that are primarily of local interest.

- The attraction must be located within 10 miles of the interchange or intersection being signed. Signing is installed only on the state highway nearest to the attraction. Any necessary follow-through signing shall be in place prior to installing state highway signs.
 - The attraction must be open without appointment to the general public.
 - Attractions must be accessible by a two-lane, all-weather road as a minimum.
 - The attraction must be maintained in good repair and presented in a professional manner.
 - If the attraction charges an entrance fee, the activity is responsible for all costs for fabrication, installation, maintenance and replacement. A co-signed agreement with the business or organization establishes the approximate costs and payment method. Examples are Fort Vancouver Historic Site and Maryhill Museum.
 - If the activity is operated by a governmental agency or organization, the department will install the signs at no cost to that agency or organization.
 - The signs shall be white letters on a green background. This color change increases the reflective service life of the signs. All existing white on brown signs should be replaced with white on green as normal service life expires. **Signing for Heritage Markers, State Parks, National Parks, or U.S. Forest Service facilities will remain white on brown.**
 - For attractions located more than 1 mile from the interchange or intersection, display mileage information on the ramp terminal or direction signs.
 - For seasonal operations, signs must be removed or covered with a CLOSED plaque during the off season. See [Figure 2-1](#) for example
- (b) **Natural Attractions** – In addition to the general criteria above, consider signing to natural attractions if they are unique or of a type not generally accessible to the public. Examples of natural attractions are the Palisades Rock Formation, the Ice Caves west of Trout Lake, Hurricane Ridge, and the Snake River Canyon.
- (c) **Historic Attractions** – In addition to the general criteria above, historic attractions may be considered for signing if:
- They are included in the Washington Heritage Register as designated and maintained by the Washington State Department of Archaeology and Historic Preservation.
 - They have been approved by the Washington State Historical Society.
 - The attraction includes one or more of the following features at the site:
 1. An interpretive center and/or a guided tour.
 2. Visible historic buildings, features, or ruins with interpretive markers.

Examples of historic attractions are the Whitman Mission, Steptoe Battlefield, Jackson House, Fort Simcoe, and the Monticello Convention Site. The application form ([Appendix 2-24](#)) may be used to document if the attraction meets the eligibility criteria.

Determine if the attraction is included on the Washington Heritage Register at www.dahp.wa.gov/pages/historicsites/washingtonheritageregister.htm.

To determine if the Washington State Historical Society has approved the attraction, contact:

Washington State Historical Society
Outreach Services Division
211 21st Avenue SW
Olympia, WA 98501
360-586-0219

- (d) **Cultural Attractions** – In addition to the general criteria above, consider signing to cultural attractions if they are similar to, or fall within, one of the following categories:
- **Museums** – Endorsed by the Washington State Historical Society.
 - **Religious** – Sites, shrines, etc., that are of a unique religious nature and provide visitor facilities or tours.
 - **Educational** – Centers other than public or private schools, vocational schools, or colleges and universities that are of outstanding educational value and provide visitor facilities or tours.
 - **Scientific** – Locations used for research or scientific advancement that provide visitor facilities or tours.

Examples of cultural attractions are the Maryhill Museum, St. Mary's Mission, the Forest Learning Center near Mount St. Helens, and the Goldendale Observatory. The form in [Appendix 2-24](#) may be used as an application for cultural attractions.

(8) Heritage Markers

HERITAGE MARKER signs (15-103/104) guide motorists to historical or other interpretive markers located along state highways (see [Section 7.11](#)). They are used where there is a marker but no building or other facility. Use both the advance sign as well as the “at point” sign to give adequate guidance and time for a motorist response. HERITAGE MARKER signs are white on a brown background and replace existing HISTORIC MARKER and ROADSIDE ATTRACTION signs. Examples of HERITAGE MARKER sites include Willy Keil's Grave, the Bridge of the Gods, and Earthquake Point north of Entiat.

Do not use a HERITAGE MARKER sign to direct motorists to a historical site on either the national or state registers. These sites are signed using Historical attraction criteria and signing.

(9) Ports/Port Districts

Supplemental guide signing to Ports or Port Districts may be considered if sign space is available per the [MUTCD](#), using the following criteria:

- The facility is served by two or more modes of transportation and is generating commercial traffic.
- Goods move in and out of the facility.

(10) Recreational Activities and Areas

Supplemental guide signs to specific recreation activities open to the public (such as Emerald Downs racetrack, Cheney Stadium, or Northwest Trek) may be considered if [MUTCD](#) spacing guidelines are met, together with the following attendance criteria:

- Major Metropolitan Area – 300,000
- Urban Area – 250,000
- Rural Area – 100,000

Install RECREATION AREA (D7-7701) signing to guide motorists to public or private recreational activities that meet the criteria below. Display a maximum of four activity symbol plaques below the RECREATION AREA and direction message.

- The activity is not readily visible from the highway, and has no direct access to the highway.
- The activity is within 10 miles of the interchange or intersection being signed, and is served by at least a two lane, all-weather road.
- The activity is open to the public, without appointment, at least eight hours a day, five days a week including a Saturday and/or a Sunday.
- The destination facility must be maintained in good repair and presented in a professional manner.
- Location shall include free public restroom facilities with a sink and running water for hand washing, a flush toilet, toilet tissue, and sanitary towels or other hand-drying devices. Restroom facilities shall contain appropriate locks for occupant security and must be ADA accessible.
- If the activity charges an entrance fee, all costs for fabrication, installation, maintenance, and replacement are paid by the activity or organization. A co-signed agreement with the business or organization establishes the approximate costs and method for payment.
- Privately owned or operated recreational activities should be signed under the Motorist Information Signing Program, where applicable.
- Signing is installed only on the state highway nearest to the attraction. Follow-through signing shall be in place prior to installing state highway signs.

- For activities more than 1 mile from a freeway interchange, display mileage information on the ramp terminal sign. On conventional roads, show the mileage on the direction signs. The hours of operation may also be shown.
- Recreation signs without symbols shall be white letters on a green background. Replace existing brown and white signs as service life expires.



Figure 2-2

- For seasonal operations, signs must be removed or covered with a CLOSED plaque during the off season.

Along non-access controlled city streets that are part of the state highway system, within incorporated cities or towns with populations over 25,000, the local agency has jurisdiction for this signing.

Supplemental guide signs to specific **recreation areas** may be considered when the area is of regional significance such as Quinault Recreation Area. Signs and the symbol plaques shall be white on brown. See [Figure 2-3](#).



Figure 2-3

Public Recreation Areas – Display the AREA NAME (e.g., CAPITAL FOREST).

Multiple Agency Recreation Areas – Display the AREA NAME (e.g., CUSHMAN-STAIRCASE RECREATION AREA) and each agency’s logo. Do not include recreational activity symbols on multi-agency signs. Requesting agencies shall coordinate installation of follow-through signing with local road jurisdictions.

The following symbol plaques may be used:

Recreational Activity	Sign Fabrication Number
Picnic Area	D7-2201
Fishing	D7-1301
Trailer Camping	D9-3a
Boat Launch	D7-1101
Swimming	D7-1401
Hiking*	D7-501
Skiing	D7-2001
Snowmobile Area	D7-2101
Public Golf Course	D7-701
Public Beach Area	D7-1402

*Note: Sign trails of regional or statewide significance such as the Pacific Crest Trail, the John Wayne Trail, the Willapa Trail, and the Pacific Northwest Trail. Trail signs shall be a white on brown trail symbol with trail name below. Provide additional arrows and/or distance information as necessary.

(11) Tribal Reservations

- (a) **Reservation Boundary Signing** – ENTERING/LEAVING and (NAME OF) RESERVATION signs may be installed at reservation boundaries where the state highway passes through a tribal reservation. The boundary limits indicated are to be the original treaty boundary limits. If the reservation has a “patch work” boundary layout, place the boundary signs to encompass the entire patch work layout rather than installing individual sets of signs for each boundary crossing location. Signs shall be white letters on a green background.
- (b) **Directional/Distance Signing** – As sovereign nations, a tribal reservation may be considered as a primary or supplemental destination along with other local jurisdictions (a city or town). Tribal logos may be incorporated on directional signs. Any wording that refers to or implies a commercial enterprise is not allowed. Directional and distance signs shall be white letters on a green background.

Signing may be from one state highway to another if sign space is available. Ramp follow-through signing should show the mileage if the reservation is more than 1 mile away. Additional signing for the Tribal Center or Community Center may be considered at the nearest and most direct interchange or intersection, if it meets heritage, cultural, historic, or museum criteria.

Examples:

(NAME OF) RESERVATION
NEXT RIGHT or “X” Miles

(NAME OF) TRIBAL CENTER
NEXT RIGHT or “X” Miles

(12) United States Forest Service (USFS) Facilities

Supplemental guide signing to a USFS facility (campground, Visitor’s Center, or a Headquarters building) may be considered if distance criteria are met and sign space in accordance with the [MUTCD](#) is available.

The facility must be located within 1 mile of an interchange or intersection in a major metropolitan or urban area, and within 10 miles in a rural area. These signs are white letters on a brown background per agreement with the USFS (MOU NFS 00-MU-11060000-040). Contact the Headquarters Traffic Office for further guidance.

2.16 Unwarranted Traffic Generators/Destinations

Guide signs to activities operated by private entities for profit, and to other activities not of general interest to the traveling public are not permitted on state highways.

Traffic generators that do not warrant guide signing include:

Businesses

TV/Radio Stations
Theaters
Casinos
Nurseries

Cemeteries

Local or State
Private/Public
Military (exception: A National Cemetery or VA Granted Cemetery, as designated by the U.S. Dept. of Veteran Affairs, that is located within 10 miles of the nearest intersection or interchange, may be signed.)

Communities

Civil Centers
Libraries
Churches
Subdivisions
Neighborhoods

Governmental

Research/Experimental Facilities
County Facilities
Courthouses
Vehicle Emissions Testing Facilities
Drivers and Vehicle License Centers
Transportation Buildings
Civil Defense Facilities
Maintenance Facilities
Power Plants

Schools

Grade/High
Seminaries

Medical

Mental Facilities
Research Facilities
Sanitariums
Infirmaries or Treatment Centers
County, Fraternal, or Nursing Homes
Retirement Facilities
Humane Facilities

Military Sites or Detachments

Armories
Arsenals

Tree Nurseries/Arboretums***Camps***

Scout, Church, 4-H, Youth, and YMCA/YWCA (because these are not open to the public).

2.17 Follow-Through Signing

Follow-through signing provides motorists (after being directed off the state highway) with confirmation to destinations. Signs are installed and maintained by the agency responsible for the local roadway and must be in place before any directional signs are installed on the state highway.

When considering a destination for a supplemental guide sign, determine whether the local agency will install follow-through signing on the local roadway and coordinate the signing plan with them. Provide [MUTCD](#) guidelines for follow-through sign sizing to local agencies. Use 6-inch D series letters in high traffic volume or high speed areas. Use 5-inch C series letters, as a minimum, on lower volume or slower speed roadways. Include directional information or arrows as part of the legend.

Install follow-through signing in advance of decision points where route changes are required. Additional trailblazer signs may be placed at mandatory stop locations, but do not install these signs in combination with regulatory or warning signs.

2.18 General Motorist Service Signs (MSS)

(1) General

The [MUTCD](#) directs States to establish signing guidelines for several types of motorist services. Install GENERAL MOTORIST SERVICE (MSS) signs where the services are not readily apparent to the motorist and where they meet the criteria noted below. GENERAL MOTORIST SERVICE signs are not installed along a designated business route.

Do not combine GENERAL MOTORIST SERVICE signing and MOTORIST INFORMATION (MIS LOGO) signs on the same back panel. If a specific MIS back panel is in place do not also install GENERAL MOTORIST SERVICE signs for that service. (e.g., if a FOOD back panel exists then a general MSS food sign will not be installed). A specific business can join the MIS program instead.

Periodic reviews by region personnel ensure that signing is displayed only for services and facilities that meet eligibility criteria and that signs are removed or covered when the service or facility is closed for the season or no longer in operation.

The following motorist service signs may be installed:

Sign Symbol	Sign Fabrication Number
Gas	D9-11
Food	D9-8
Lodging	D9-9
Phone	D9-1
Hospital	D9-2
Emergency Medical Care Facility	D9-13
Camping	D9-3
Recreational Vehicle Park (text only)	D9-301
RV Sanitary Station	D9-12
Restrooms	D9-7
Propane	D9-15

Table 2-8

Install one GENERAL MOTORIST SERVICE sign assembly at an interchange or intersection, with a maximum of four plaques. Combine the MOTORIST SERVICE message with a directional message such as NEXT RIGHT, SECOND RIGHT, or the EXIT NUMBER (D9-101, D9-102, or D9-103).

The NEXT SERVICES ____ MILES (D9-1601) sign may be placed below the MOTORIST SERVICE sign if the next services are more than 20 miles away.

A separate word message VISITOR INFORMATION sign may be installed under the GENERAL MOTORIST SERVICE sign.

When services are not readily visible from an interchange, install follow-through signs at ramp terminals, using the same legends or symbols as on the mainline signs. If the services are located more than 1 mile from the interchange or intersection, display the distance to the services on the ramp terminal or direction sign respectively.

Signs have white symbols or letters on a blue background.

GENERAL MOTORIST SERVICE plaques may be installed in conjunction with other **guide** signs:

- On ground mounted signs, install the plaque on either post below the sign.
- If more than two MOTORIST SERVICE plaques are required, place them on a bracket below the guide sign, in a manner that does not interfere with the breakaway safety features of the sign structure.
- On overhead signs, a MOTORIST SERVICE plaque is installed above the guide sign.

The department uses the following criteria to determine if a motorist service sign is warranted. The State Traffic Engineer can approve minor deviations on a case-by-case basis.

(2) Gas, Diesel, and/or L-P Gas

- Vehicle services must include fuel, oil, and water.
- Location shall include free ADA accessible public restroom facilities with a sink and running water for hand washing, a flush toilet, toilet tissue, and sanitary towels or other hand-drying devices. Restroom facilities shall contain appropriate locks for occupant security.
- A free potable water drinking fountain and free cups as necessary must be supplied for public use.
- The facility must operate for at least 16 uninterrupted hours per day, seven days per week.
- A telephone must be available to the public.
- The facility must be within 1 mile of an interstate highway interchange, or within 5 miles, and not readily visible from a noninterstate highway.

(3) Food

- The facility must be licensed or approved by the appropriate county health agency.
- The facility must operate for at least 12 uninterrupted hours per day, seven days per week, and serve breakfast, lunch, and dinner.
- Location shall include free ADA accessible public restroom facilities with a sink and running water for hand washing, a flush toilet, toilet tissue, and sanitary towels or other hand-drying devices. Restroom facilities shall contain appropriate locks for occupant security.
- A telephone must be available to the public.
- Seating capacity for a minimum of 20 patrons and parking for a minimum of ten vehicles, or drive-in service facilities must be provided.
- The facility must be within 1 mile of an interstate highway interchange, or within 5 miles, and not readily visible from a noninterstate highway.

(4) Lodging

- The facility must be licensed by the Washington State Department of Health. Check licensed facilities at <https://fortress.wa.gov/doh/facilitysearch/>.
- Facilities signed from an interstate highway must have 12 units or more, each with a private bath.
- Facilities signed from non-interstate highways must have six units or more, each with a private bath.
- A telephone must be available to the public.
- The facility must be within 1 mile of an interstate highway interchange, or within 5 miles, and not readily visible from a noninterstate highway.

(5) Phone

- Phone must be available 24 hours per day, seven days per week.
- The phone must be located within 1 mile of an interstate highway interchange.
- Phone signing is not required if another service near the interchange has met the phone criteria as part of qualification.

(6) Hospital

- Continuous emergency care service must be available, with a doctor on duty, or on immediate call 24 hours per day, seven days per week.
- Written certification of emergency care capability must be obtained from the Washington State Department of Health and provided to the department prior to sign installation.
- The hospital must be located not more than 20 minutes driving time from the interchange or intersection.

- For an area with two or more qualifying hospitals, provide signs to the closest facility, by approach direction, located within 20 minutes driving time from the interchange or intersection.
- Follow-through trailblazer signs are required from the highway to the hospital. They shall be installed and maintained by the local agency.

(7) Emergency Medical Services Facility

- The facility must operate continuously 24 hours per day, seven days per week.
- Written certification of emergency care capability must be obtained from the Washington State Department of Health and provided to the department prior to sign installation.
- The facility must at all times have:
 - A Physician, a Registered Nurse, or a Paramedic on duty.
 - Or, an Emergency Medical Technician on duty, plus a Physician, Registered Nurse, or Paramedic on immediate call.
- Emergency transportation capabilities must be available.
- The facility must be located within 20 minutes driving time of the highway.
- For an area with two or more qualifying emergency care facilities, install signs to the closest facility (by approach direction).
- Do not use the Emergency Medical Services Facility sign if a hospital sign is installed at that intersection or interchange.

(8) Camping

- Must be licensed or approved.
- Campground facilities must be within 5 miles of an interstate highway interchange, or within 8 miles of, and not readily visible from a non-interstate highway.
- Facilities must have at least 20 camping sites, 10 of which will accommodate tents.
- Facilities shall provide free ADA accessible public restrooms with a sink and running water for hand washing, a flush toilet, toilet tissue, and sanitary towels or other hand-drying devices. Restroom facilities shall contain appropriate locks for occupant security.
- Facilities shall provide free potable drinking water and free cups, as necessary, for public use.
- Camp area facilities must be available 24 hours per day with a full-time attendant on duty.
- For seasonal operations, the department removes or covers the sign with a CLOSED plaque during the off season.

(9) Recreational Vehicle Park

- Recreational vehicle parks must be licensed or approved by the appropriate county office.
- Adequate parking must be provided for at least 10 recreational vehicles (camper truck, motor home, or recreational trailer).
- Facilities shall provide free ADA accessible public restrooms with a sink and running water for hand washing, a flush toilet, toilet tissue, and sanitary towels or other hand-drying devices. Restroom facilities shall contain appropriate locks for occupant security.
- Facilities shall provide free potable drinking water and free cups, as necessary for public use.
- All facilities must be available 24 hours per day.
- A telephone must be available to the public.
- The RV Park must be within 5 miles of either an interstate highway interchange or a non-interstate highway.
- For seasonal operations, the department removes or covers the sign with a CLOSED plaque during the off season.

(10) Police (Local or State)

- The law enforcement agency must have an officer on the premises at all times, or a dispatcher on duty with an officer within radio or local telephone contact.
- The law enforcement agency must be located within a reasonable distance from the state highway.

(11) Visitor Information Centers (VIC)

VISITOR INFORMATION CENTER (VIC) signs direct the unfamiliar traveler to a facility whose sole function is to provide tourist information and that meets the following criteria:

- The Visitor Information Center must operate a minimum of eight hours per day, seven days a week from Memorial Day to Labor Day, or during the months that tourists customarily visit the area. The region traffic engineer may approve different operating hours if the Visitor Center operators can document that a variance is reasonable and justified.
- The VIC must be operated by a nonprofit organization; however, the center may be sponsored by a commercial enterprise. For example, the VIC could be located within a commercial establishment such as a mall or shopping center provided the VIC is visibly separate from the commercial activity.
- Literature and information on visitor attractions must be provided to the public free of charge
- The VIC must have either a full-time attendant on duty during the hours of operation, whose primary duty is to provide visitor information, or a functioning electronic means available to answer visitor questions.

- The VIC must be large enough to accommodate the anticipated number of visitors and provide the necessary display space for material of local and statewide interest.
- Parking space, for both cars and recreational vehicles, must accommodate the expected number of visitors.
- A telephone must be available to the public during operating hours.
- The VIC must be within 1 mile of an interstate highway interchange, or within 5 miles of a non-interstate highway, and not readily visible from it. Follow-through signing is required if the VIC is not visible from the interchange or intersection.
- During hours of operation, the center shall provide free ADA accessible public restroom facilities with a sink and running water for hand washing, a flush toilet, toilet tissue, and sanitary towels or other hand-drying devices. Restroom facilities shall contain appropriate locks for occupant security.
- Facilities shall provide free potable drinking water and free cups for public use.

Only one Visitor Information Center may be signed from an interchange or intersection. Where more than one facility requests signs, work with each to determine which best serves the public. Consider which VIC provides the most complete information, the ease of travel from the highway to the Center, and the amenities of each facility. Request that the signed VIC provide motorists with information including directions to the other.

The VISITOR INFORMATION CENTER sign can be combined with a second message for either a museum, historical, cultural, or recreational attraction, if that attraction meets the appropriate guidelines. The VIC must provide information about the attraction, through an on-premise outdoor kiosk or within the Center.

For seasonal operation, remove the sign or cover with a CLOSED plaque. VIC supplemental signing must meet [MUTCD](#) sign spacing criteria. Where there is not adequate sign space available, a VIC text message plaque may be installed on an existing ground mounted sign.

The department generally provides VIC signing. However, if a Center changes locations within a one or two year period, it may be asked to pay for all relocation costs.

2.19 Other Essential Guide Signs

(1) *Street Name and Advance Street Name Signs*

STREET NAME (D3 Series) signs are useful navigational tools for the roadway user and are installed at roadway intersections. Street name signs are white letters on a green background. Upper and lower case letters are used.

Signs showing the historical street name may be used in conjunction with a current street name sign. All costs associated with the historic street name shall be the responsibility of the local agency making the request.

In urban areas, STREET NAME signs are installed at the intersection. For significant cross streets, channelized intersections, and at signalized intersections, ADVANCE STREET NAME signs should also be installed. Place them 200 feet or more in advance of intersections to alert motorists to the upcoming roadway and the possibility of turns or lane changes, etc. A directional chevron may be used on the street name sign indicating the direction of the side street.

In rural areas, where a county road intersects the state highway, a STREET NAME sign identifying the state route is installed above the state installed STOP sign. The county is responsible for the original installation, and the department maintains these signs.

Where ADVANCE INTERSECTION WARNING signs are used, (primarily in rural or suburban areas) it is WSDOT policy to install the black on yellow ROAD NAME (D3-201) sign above or below the INTERSECTION WARNING sign.

On city streets that are part of state highways, the local agency shall install and maintain street signs within the corporate limits ([RCW 47.24.020](#)).

Use this table to determine appropriate letter size for street name signs:

Roadway Type	Single or Multilane	Single Lane	Single Lane	Multilane	Multilane	Signal Mast Arm
Posted Speed Limit (mph)	25	30–45	50+	30–40	45+	N/A
Street Name Letter Size	4"/3"	6"/4.5"	6"/4.5"	6"/4.5"	8"/6"	12"/9" #
Advance Street Name Letter Size	6"/4.5"*	6"/4.5"	6"/4.5"	6"/4.5"	8"/6"	N/A
Fabrication Number	D3-101 D3-102	D3-101 D3-102 D3-103 D3-201 D3-301 D3-302** D3-401	D3-101 D3-102 D3-103 D3-201 D3-301 D3-302** D3-401	D3-101 D3-102 D3-103 D3-201 D3-301 D3-302** D3-401	D3-101 D3-102 D3-201 D3-301 D3-302** D3-401	D3-501

*Use only at urban signalized intersections and channelized intersections with exclusive turn lanes.

**Use at Advance Street Name sign installations only.

#For posted speed limits less than 40 mph, 8"/6" letter heights may be used.

Table 2-9

(2) Canadian Customs

Several Canadian Customs border crossing stations have limited hours of operation and are closed to motorists outside these hours. For these crossing stations, install signing to inform motorists of the hours of operation and locate the signs to provide them an opportunity to find an alternate route or to delay their crossing. Place the sign in advance of the closest exit before the border where overnight accommodations are available.

Canadian Customs at 24-hour border crossings do not need advance signing showing hours of operation.

(3) City and County Entrance

The department is responsible for installing CITY and COUNTY ENTRANCE signs (I2-201/301) on state highways ([RCW 47.36.120](#)). The signs shall be white on green. These signs are placed at city and county boundary limits and are different than CITY ENTRANCE MARKERS discussed in Section 2.18(3).

Instead of the standard ENTRANCE (I2-201/I2-301) sign, the city or county may supply and maintain a sign with a political jurisdiction logo, per the [MUTCD](#).

(4) Unincorporated Community

COMMUNITY ENTRANCE signs (I2-301) may be installed on each non-limited access state highway approach to an unincorporated community that includes:

- A United States Postal Service office.
- At least two motorist services, which may be any combination of gas, food, or lodging.

Supplemental destination guide signing to the community may be considered if it is within 10 miles from a rural state highway interchange or intersection. Do not install destination signing to unincorporated communities from an urban area interchange.

(5) City Center

Historically, the department has provided CITY CENTER signs at the request of local governments, to direct motorists to local government buildings (i.e., city hall, courthouse). Currently, requests for CITY CENTER signs often come from local business communities to direct motorists to business areas within a city. CITY CENTER signing requests should include the following information:

- Description and location of all city center exits within the corporate limits.
- The interchange or intersection name of the proposed sign location.
- Verification of local agency agreement on the location of the city center.

When reviewing CITY CENTER signing requests, conduct a field review to determine the effectiveness and feasibility of sign locations and confirm other details of the request letter. Include the local government, business community, and other interested groups to assure agreement on the location of the city center.

All costs for sign fabrication and installation are the responsibility of the city making the signing request.

(6) Milepost Markers

MILEPOST MARKERS are numbered location markers installed along all state highways and used primarily for reference purposes. The Statewide Travel and Collision Data Office establishes each milepost location, which is signed with a MILEPOST MARKER in accordance with the following criteria (adopted from rescinded department Directive D32-20).

- On two-lane roadways, install the double-faced MILEPOST MARKER (D10-101, D10-102, and D10-103) on the right side of the roadway, in the direction of increasing milepost.
- On multilane highways, install the single faced MILEPOST MARKER (D10-1, D10-2, and D10-3) for each roadway direction, on the right side of the roadway.
- MILEPOST MARKERS on spur routes display the letter “S” below the mileage figure.
- MILEPOST MARKERS must be installed within 50 feet of their designated location. If that is not physically possible, do not install that MILEPOST MARKER.

When a milepost marker is relocated it must be documented in the Traffic Sign Maintenance System (TSMS). Headquarters Traffic supplies this information to the Roadway Data Office annually so the milepost marker can be accurately relocated in the State Highway Log. See [Standard Plan G-10.10-00](#) and [G20.10-00](#) for installation details.

(7) Highway and Freeway Entrance

Install the HIGHWAY ENTRANCE sign (E12-101) on two-lane two-way undivided highways where interchanges are provided at intersecting crossroads. Install signs on both sides of the on-ramp, facing approaching traffic, to clearly identify the entrance to the on-ramp.

Install the FREEWAY ENTRANCE sign (E12-201) on both sides of each freeway or expressway on-ramp, facing approaching traffic, to identify the ramp entrance.

(8) Other Agencies

Consider installation of supplemental guide signs to facilities of other federal, state and local agencies when space is available per the [MUTCD](#). Sign colors are determined by the type of sign destination (recreation, emergency, or direction).

- **Department of Natural Resources Campgrounds** – White letters on brown background.
- **State Patrol** – White letters on blue background.
- **State Public Fishing Areas** – White letters on brown background.
- **Government Fish Hatcheries Open to the Public** – White letters on green background.
- **Department of Corrections Facilities** – White letters on green background.

2.20 Miscellaneous Signing

(1) *Adopt-a-Highway*

ADOPT-A-HIGHWAY (AAH) signs are installed to recognize both volunteer groups and businesses that sponsor litter pick up or other roadside enhancement activities as part of the AAH program. The program is administered through the Headquarters Maintenance Office, with regional coordinators assigning locations to groups. Adopted roadside sections can include one or both sides of the roadway.

AAH signs are placed at or near the beginning of an adopted section. Lateral placement of the AAH signs may be up to 50 feet from the edge of the travel lane, if right of way is available and the signs are still visible from the traveled lanes. All AAH signs mounted on the same post must be the same width. The name displayed on the AAH recognition sign shall be the official name of the organization, individuals, or business sponsoring the section and must be pre-approved by the department.

Volunteer adoption sections are signed as follows:

- Sections adopted by volunteer groups are signed using I6-901, I6-901A, I6-902, I6-902A, I6-904, and I6-905A signs.
- If the section includes both directions of travel, install signs for each.
- On divided highways, AAH signs are installed on the right shoulder only.

Sponsored adoption sections are signed as follows:

- Sections adopted by businesses are signed using an I6-906 sign.
- On divided highways, AAH signs may be installed on either the median or the right shoulder.
- The sponsor's logo/name plaque is provided to the region for WSDOT installation on the AAH sign. The plaque will be an 0.050 inch aluminum overlay.
- Size requirements are a maximum of three lines, with 20 spaces per line. If a sponsor's name will not fit within the sign width, the letter height will be reduced until it can.

AAH recognition signs may also be installed for special enhancement projects such as landscaping at interchanges, or other areas. In these cases, the smaller sign shall be used and the region traffic engineer shall determine sign placement on a case-by-case basis.

Spacing between AAH signs and other traffic control signs shall conform to [MUTCD](#) Section 2H.08. AAH signs are shown in [Appendices 2-25](#) and [2-26](#).

(2) DUI Victim Memorial

The Headquarters Traffic Office administers the DUI Victim Memorial signing program and approves all locations for signing. Refer citizen requests for Victim Memorial signs to the Headquarters Traffic Office.

Install the PLEASE DON'T DRINK AND DRIVE (I20-201) sign with the IN MEMORY OF (I20-203) or SPONSORED BY (I20-204) plaque at approved locations.

Specific sign locations are determined on an individual basis during the review of the sign request. In general, along non-interstate highways, one sign is installed for each direction of travel. Install the sign near the physical crash location, while considering sign spacing, sight distance, and other factors that may preclude using the exact crash site.

For the Interstate system, one sign is installed along the on-ramp nearest to the collision scene, in the direction of travel that the collision occurred.

Information on the Victim Memorial program is available at www.wsdot.wa.gov/operations/traffic/signs/duisign.htm.

(3) City/Community Entrance Markers

WSDOT may allow cities or communities, either by permit or agreement, to construct and maintain city/community entrance beautification areas on state highway right of way. The agreement may include a CITY or COMMUNITY ENTRANCE MARKER.

On a state highway, one ENTRANCE MARKER may be installed for each direction of travel near where it enters a city or community. Any landscaping associated with the marker shall be in compliance with the WSDOT [Roadside Classification Plan](#) M 25-31, and approved by the region Landscape Architect.

An ENTRANCE MARKER for a neighborhood community that lies within the corporate limits of a city or town may be allowed if the city or town approves the neighborhood's marker. This marker will count as one of the two allowed per city or town.

An ENTRANCE MARKER visible to any state highway must meet these guidelines:

- Be simple, dignified, and devoid of advertising.
- Be positioned so it is not a roadside safety hazard, is not likely to be struck by an errant vehicle, and is not an obstruction to sight distance.
- Shall not interfere with, nor distract from any existing or future traffic control or safety device.
- Any lighting associated with the marker shall comply with [RCW 47.36.180](#).
- Be sponsored by the city or a community group in which it is located.

The city or community group is responsible for maintaining the marker and any associated landscaping. Inadequate maintenance of either, as determined by the department, may result in marker removal.

If a highway project (such as roadway widening) will displace an ENTRANCE MARKER, the city or community group is responsible for relocating and/or removing it. Markers not relocated shall be removed by WSDOT, with removal and disposal costs billed to the city or community group.

- (a) **Entrance Markers on Limited Access Highways** – The total marker area shall not exceed 100 square feet, and the message area shall not exceed approximately 60 square feet. At highway interchanges, the marker must be oriented so it can be read by the motorist leaving the ramp and not by the motorist on the highway mainline.

Non-Profit Service Club Plaques (i.e., Kiwanis, Lions, Rotary) may not be installed on ENTRANCE MARKERS within limited access highways. These signs are considered to be Type (1)(c) signs and are regulated under the Scenic Vistas Act ([RCW 47.42](#) and [WAC 468-66](#)).

1. **Interstate** – ENTRANCE MARKERS installed on Interstate right of way require FHWA approval. The State Traffic Engineer reviews the design and placement of city ENTRANCE MARKER requests on interstate roadways before recommending approval to the FHWA. If approved, the marker is placed between the interchange ramp and the right of way line, in the area of the ramp terminal with the connecting city street, and not visible to mainline traffic.
2. **Non-Interstate** – The region traffic engineer approves the design and placement of the marker on non-interstate routes. If there are any deviations from the guidelines above, the design must be submitted to the State Traffic Engineer for approval. For undivided highways, the marker is placed just inside corporate limits, or at the far side of an intersection located inside corporate limits.

- (b) **Entrance Markers on Non-Limited Access Highways** – The total marker size shall not exceed 150 square feet, including the border and trim, and service club plaques. The service club plaque area of the sign shall not be disproportional to the marker message. The maximum size for each service club plaque is 24" x 24".

Non-Profit Service Club Plaques (i.e., Kiwanis, Lions, Rotary) may be installed on a city ENTRANCE MARKER along a state highway if the marker is located within corporate limits and is not within a limited access area. These signs are considered to be Type (1)(b) signs and are regulated by the Scenic Vistas Act ([RCW 47.42](#) and [WAC 468-66](#)).

The region traffic engineer shall approve the design and placement of the marker. If there are any deviations from the guidelines, the design and placement must be submitted to the State Traffic Engineer for approval.

Install the city ENTRANCE MARKER inside the city limits, beyond the curb line or outside edge of the roadway. ENTRANCE MARKERS for unincorporated communities may be considered for placement on state highway right of way. The marker must be located beyond the clear zone if it does not meet break-away standards.

(4) Carpool Information

CARPOOL INFORMATION signs (D12-201, D12-202) may be installed along conventional two-lane roads, on-ramps to multilane highways, and in park and ride lots. They should not be placed on the mainline of multilane facilities. Transit logos may be included in the sign design in accordance with MUTCD Section 2D-48. These signs are considered incidental and can be removed if sign space is needed for a higher priority sign.

The requesting agency is responsible for sign fabrication and initial installation costs. WSDOT is responsible for the sign maintenance.

Sign spacing:

- Use a 300-foot spacing between signs on conventional two-lane, high-speed roadways.
- Use 150-foot spacing for freeway on-ramps, and for both multilane and two-lane, low-speed roadways in incorporated areas.

(5) Commercial Dump Prohibition

Some rest areas along state highways provide Recreation Vehicle dump stations for use by noncommercial vehicles. Install the COMMERCIAL VEHICLE USE PROHIBITED (I8-704) sign in the rest area at these RV dump sites. This is the only valid application for this sign on state highways.

(6) Fire District Boundary

The ENTERING FIRE DISTRICT and LEAVING FIRE DISTRICT signs (I8-804) may be installed at Fire District boundaries along state highways using these guidelines:

- Upon region approval, signs shall be installed and maintained by the jurisdiction requesting the sign(s). A General Permit issued by the area maintenance office is required.
- Signs should be installed at the district boundary, if possible, or no further than 1,000 feet from the boundary.
- Signs may be placed away from the roadway near the edge of the right of way. They shall not obstruct a driver's view or constitute a hazard by their location.
- Mounting posts shall be of wood, no larger than 4 inches x 4 inches, or they may be perforated square steel. Mounting height shall be 7 feet to the bottom of the sign.
- The sign color shall be white letters on blue background.
- A jurisdictional logo may be included on the sign.

(7) Fire Danger Information

FIRE DANGER INFORMATION signs (with arrow indicator) are requested or sponsored by either the Department of Natural Resources (DNR) or the local fire district authority who submits a written request to the region Traffic Office.

DNR or the fire district shall be responsible for the sign fabrication, installation, and maintenance costs, as well as for the daily message changes. WSDOT can fabricate and/or install the sign via a J Agreement, or the fire district can fabricate and install the sign if the department approves. A General Permit issued through the area maintenance office is required.

The fire district must agree to properly maintain the sign and to cover it during the winter when there is no fire danger, or to replace the sign when the message or colors begin to fade or fail.

Signs are not allowed on Interstate right of way. Install the FIRE DANGER sign at or near the right of way line. If the sign is within the clear zone, it must have appropriate safety breakaway features. Mounting posts shall be of wood, no larger than 4 inches x 4 inches, or they may be perforated square steel. Mounting height shall be 7 feet to the bottom of the sign.

(8) Fire Hydrant Marker

FIRE HYDRANT MARKER (I7-401) signs may be installed on limited access highways to help fire department personnel locate fire hydrants that are outside of the right of way. The sign shall be placed parallel to, and facing the roadway. The sign shall be visible from the shoulder, mounted either on the right of way fence or on a post, and shall display the distance from the edge of traveled way to the fire hydrant. If requested by the fire department, a 24-inch plaque may be added below the sign to indicate the nearest street or intersection.

The region traffic engineer shall contact local fire departments to determine signing needs for fire hydrants located near limited access highways. The department is responsible for installing and maintaining these signs.

(9) Apple Maggot

Many people carry homegrown fruit throughout the state without realizing that they may also be transporting harmful pests, such as the apple maggot, thereby increasing the insects' range. Washington State Department of Agriculture (WSDA) established specific geographical boundaries where the transport of homegrown fruit is prohibited. At their request, signs were installed at several locations throughout the state in an effort to stop the transport of homegrown fruit. Sign fabrication, installation, and maintenance costs are paid for by WSDA through an Interagency Agreement. Contact Headquarters Traffic before replacing any apple maggot signs. Signs locations and messages are:

State Borders and Quarantine Area Borders	"Entering/Leaving apple maggot quarantine area"
Within Quarantine Areas	"Do not transport homegrown fruit"

(10) Landscape and Vegetation Acknowledgement

Community, local groups, or businesses sometimes install and/or maintain landscaping or vegetation plantings within state highway right of way, generally as part of beautification of a community entrance. A General Permit issued by the department is required.

One sign acknowledging the group may be allowed as described below:

- The sign design, including size, message layout, color, and sign fabrication material is submitted to the region Traffic Office for review and approval.
- Sign size is limited to 3 feet x 3 feet; letter size is limited to 2 inches. This is not considered a highway sign and is not intended to be read by motorists.
- The sign shall not contain any advertising or service club information, or resemble a city/community entrance sign.
- The sign is installed at or near the right of way line. On limited access facilities, the sign is placed between the ramp and right of way line, and not visible to mainline traffic.
- The sign sponsor shall be notified and instructed to replace the sign when needed. The sign shall be removed if it is not replaced in a timely manner.
- When the General Permit expires without renewal, or the landscaping/vegetation is no longer maintained, the sign shall be removed.

(11) Limited Access

For state highways that operate with intermittent access control, install ENTERING LIMITED ACCESS AREA (I2-601) and LEAVING LIMITED ACCESS AREA (I2-701) signs in accordance with [RCW 47.52.110](#). Fully controlled limited access highways do not need signs.

(12) Litter Control

Install LITTER AND IT WILL HURT signs (I6-102) in areas where littering is a common problem and where a minimum sign spacing of 300 feet is available. Use the appropriate logo below the sign:

- Install the THROWING AWAY BURNING MATERIAL PROHIBITED (I6-301) sign in areas where fire hazards are known to be high.
- Install the DEPOSIT LITTER ____ MILE (I6-101) sign in advance of the deposit site.
- The LITTER (I6-201) symbol sign should be located at the litter barrel site, facing approaching traffic.
- Install the AUTOMOBILE LITTER ONLY (I6-801) sign adjacent to the litter barrel. This sign is intended to discourage the deposit of litter that is not normally accumulated by a motorist.

Note: The litter symbol is a registered trademark. All signs utilizing the symbol shall have a small ® located near the lower right corner of the symbol.

(13) Post Offices

Post offices may be signed from state highways in unincorporated areas if the post office is not visible from the state highway and there is a demonstrated need for the sign (D1-101). Cities or towns may sign for post offices inside incorporated limits.

(14) Private Roads

WSDOT does not supply, fabricate, install, or maintain STOP signs or STREET NAME signs for private roadways that intersect with state highways. Citizens may install their own signs at such intersections, in accordance with the [MUTCD](#), and working with the area Maintenance Superintendent. A general permit is required when a STOP sign or private ROAD NAME sign is installed on WSDOT right of way at a private road approach. The citizen requesting the sign must secure the permit and coordinate installation details with the area Maintenance Superintendent. Maintenance for private road signs is the responsibility of the citizen installing the signs.

Private road name signs (D3-104) shall be fabricated in accordance with the [Sign Fabrication Manual](#) and must indicate the road is private either by a sign header or by words (“Private” or “PVT”) on the sign. White letters on a green background is the preferred color but a local jurisdiction may determine that white on blue or black on white are acceptable.

(15) Refuse Station

REFUSE STATION signing may be installed under the following conditions:

- The site must be county or city owned and open to the general public. Private refuse stations will not be signed.
- The site must be a major refuse station, not just a drop-off location.
- Signs are not installed on any freeway facility.
- The refuse station must be located within ½ mile of the state highway.
- Use the word “Refuse” instead of the word “Transfer” to avoid possible confusion with transportation hub centers that may also be called Transfer stations. The word “Garbage” is not used.
- The REFUSE STATION sign shall be a 24 inch x 24 inch white on green plaque.
- Install the plaque below any ground mounted guide or information sign at the intersection. If there are no signs, the plaque may be placed on its own sign post.
- A city or county may install a REFUSE STATION sign on its right of way at an intersection, instead of a highway sign. The sign would be considered a Type 1 sign under the Scenic Vistas Act ([WAC 468-66-050](#)).

(16) Salmon and Other Fish

WSDOT receives requests from fish related user groups to sign a stream or body of water with a specific fish related message. Signs related to preserving the fish habitat may be installed along a state highway; however, only one type of fish related sign will be allowed for a location. Where several user groups (i.e., salmon, steelhead, or trout) request signing in a location, suggest that they work together to develop a single fish related sign message and to seek support from the local jurisdiction. An overall signing plan with support documentation should be submitted to the region Traffic Office, preferably by the local jurisdiction or by an official organization or agency.

- The stream crossing or body of water must be year round.
- Multiple signs, supported, endorsed, or maintained by different user groups (i.e., salmon, steelhead, and trout) will not be allowed.
- The requesting user group is responsible for the sign fabrication, installation costs, and all maintenance and replacement costs. A J account can be set up to administer the funds. Sign installation and removal will be by WSDOT personnel.
- Sign size will be 18" x 24", 24" x 24", or 24" x 36", dependant on the fish logo and line message approved by WSDOT.
- Sign colors are white letters on a blue background.

(17) Water Crossing

A STREAM NAME or WATER CROSSING (I3-101) sign may be installed on a state roadway to identify a body of water that traverses or parallels a state highway, using these guidelines:

- The body of water must be identified by name on a USGS map.
- If the body of water traverses the highway, the water way must be bridged by a highway structure. A single culvert crossing or a seasonal stream does not qualify for a sign.
- Sign color shall be white on green.
- Maximum sign height is 24"; the sign width is variable.
- On conventional roadways, letter height is 6" upper case and 4½" lower case letters.
- On expressways or freeways, letter height is 8" upper case and 6" lower case letters.

(18) Water Related Signs NOT to Be Installed

The following water related signs shall not be installed on any state highway:

- Conservation District Boundary Area
- Drainage Basin

- Drinking and Ground Water Management Area
- Groundwater Protection Region or Area
- Groundwater Conservation Region or Area
- Surface Water Management Area
- Watershed Signs (this includes entering/leaving signs)
- Wellhead Protection Area

These signs do not assist motorists in their driving, but can be treated as Type 1 signs ([WAC 468-66-050](#)) and installed off the state right of way. Type 1 signs must be supported by an official agency or organization.

(19) Watchable Wildlife

The WILDLIFE VIEWING (D5-907) signs may be installed for locations that are open to the public and within 10 miles of the state highway. Install the sign on the highway exit or intersection nearest the viewing area. Use the BINOCULARS symbol sign for a trailblazer and for site identification if no other signing is posted. Signs are white on a brown background.

(20) Evacuation Route

Install EVACUATION ROUTE (I25-101, I25-201) symbol signs to indicate the route that people should follow to leave an area when a tsunami, volcanic eruption, fire, or other hazard is threatening. Region Traffic Offices are to coordinate the location of Evacuation Route signs with City, County, or Tribal Emergency Management personnel.

2.21 Variable Message Signs

Variable Message Signs (VMS) are traffic control devices designed to display diverse messages to alert roadway users about specific conditions or situations. VMS are part of WSDOT's Traffic Management System and are operated by each region Traffic Management Center (TMC).

VMS are located on many highways throughout the state. Some are used exclusively to provide information about variable speed limits, lane use restrictions, active traffic management, or traction requirements. Others may provide information about:

- Traffic incident information.
- Traffic restrictions or emergency conditions.
- Special event related traffic impact information.
- Upcoming road closures or other impacts.

Operation of the Variable Message Signs is coordinated by the region's TMC and is governed by the Variable Message Sign Use Procedures at www.wsdot.wa.gov/maintops/traffic/pdf/vmsusepolicy.pdf.

2.22 Highway Advisory Radio (HAR) and Traveler Information Station (TIS) Signing

HAR and TIS systems are low power AM radio stations installed to provide the traveling public with traffic alerts or traveler information. They are sometimes used in conjunction with a Variable Message Sign (VMS). Both HAR and TIS installations must comply with Federal Communications Commission (FCC) requirements and must be approved by and coordinated through the WSDOT ITS and Communications office. HAR and TIS system messages are governed by the HAR/TIS procedures which can be found at wwwi.wsdot.wa.gov/maintops/traffic/pdf/harpolicy.pdf.

HAR and TIS signs are secondary to official traffic control signs (i.e., regulatory and warning signs, guide signs) and are installed only when MUTCD and WSDOT sign spacing requirements can be met.

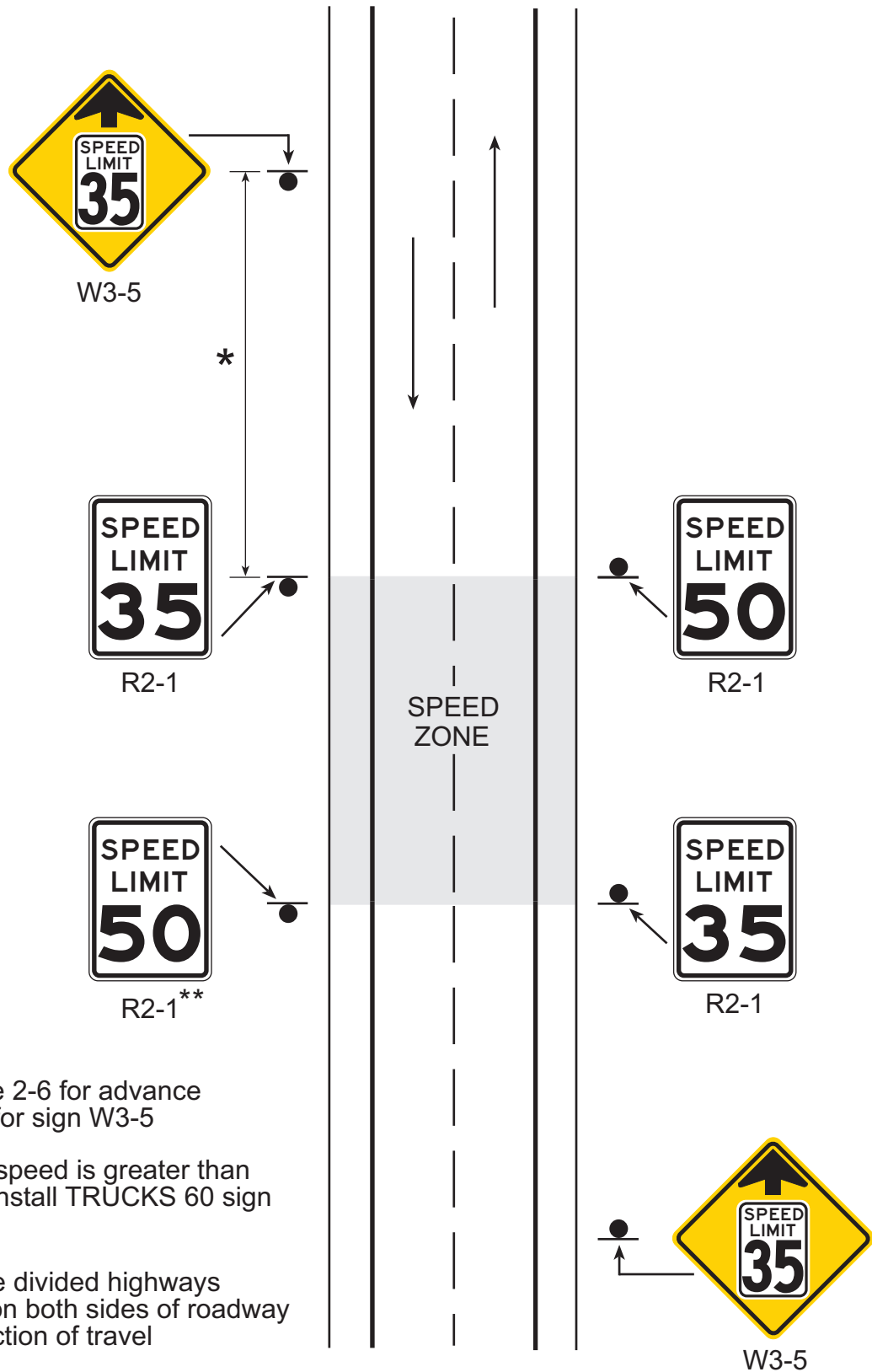
(1) Highway Advisory Radio (HAR) System Signs

- Install a TRAFFIC ADVISORY TUNE XX AM WHEN FLASHING (I35-101) at each HAR location.
- Install flashing beacons above the sign to be activated by the TMC when some message types are being broadcast.
- HAR signs, Traffic Alert/Traffic Advisory signs, and Mountain Pass Information/Road Conditions signs shall be a non-reflective black legend on a reflective yellow background.

(2) Traveler Information Signs (TIS)

TIS systems give tourist and recreational information.

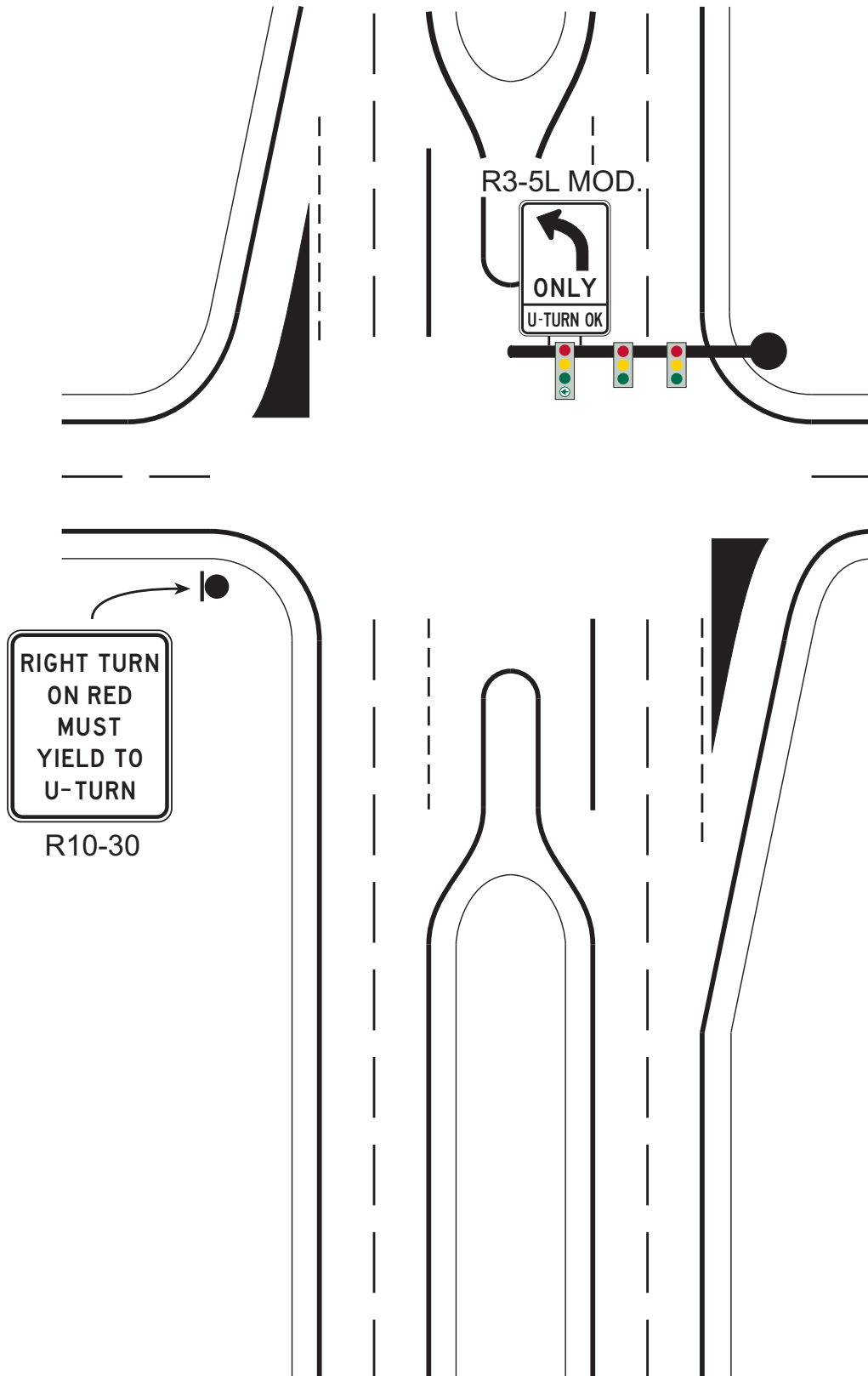
- Install a “TRAVEL INFORMATION TUNE (XXXX) AM” at any TIS location.
- The sign shall be a reflective white legend on a reflective blue background, with the exceptions of TIS signs for recreation in National Parks, National Forests, and National Historic Reserves. These are the **ONLY** TIS signs that may be a white reflective legend on a brown reflective background. As well, these agencies may incorporate their official agency logo on the TIS sign.
- When the preemptive message EMERGENCY INFO WHEN FLASHING is included in the TIS sign, it shall be a non-reflective black message on a reflective yellow background. Flashing beacons shall be installed to be activated by the TMC when emergency messages are being broadcast.
- All TIS sign fabrication, installation, and maintenance costs are the responsibility of the requesting agency. Signs will be fabricated to WSDOT standards and may only be installed by WSDOT crews.

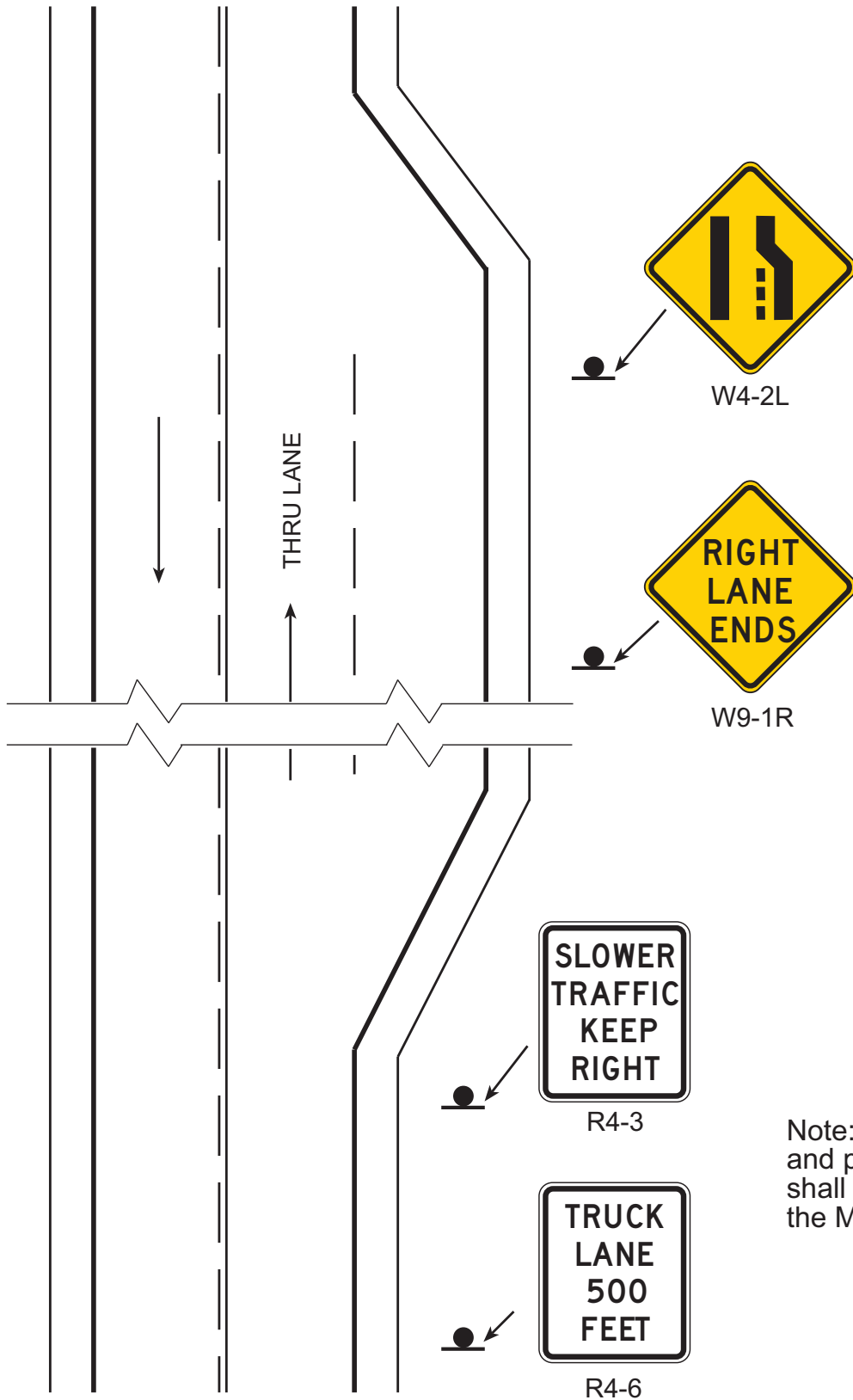


Notes:

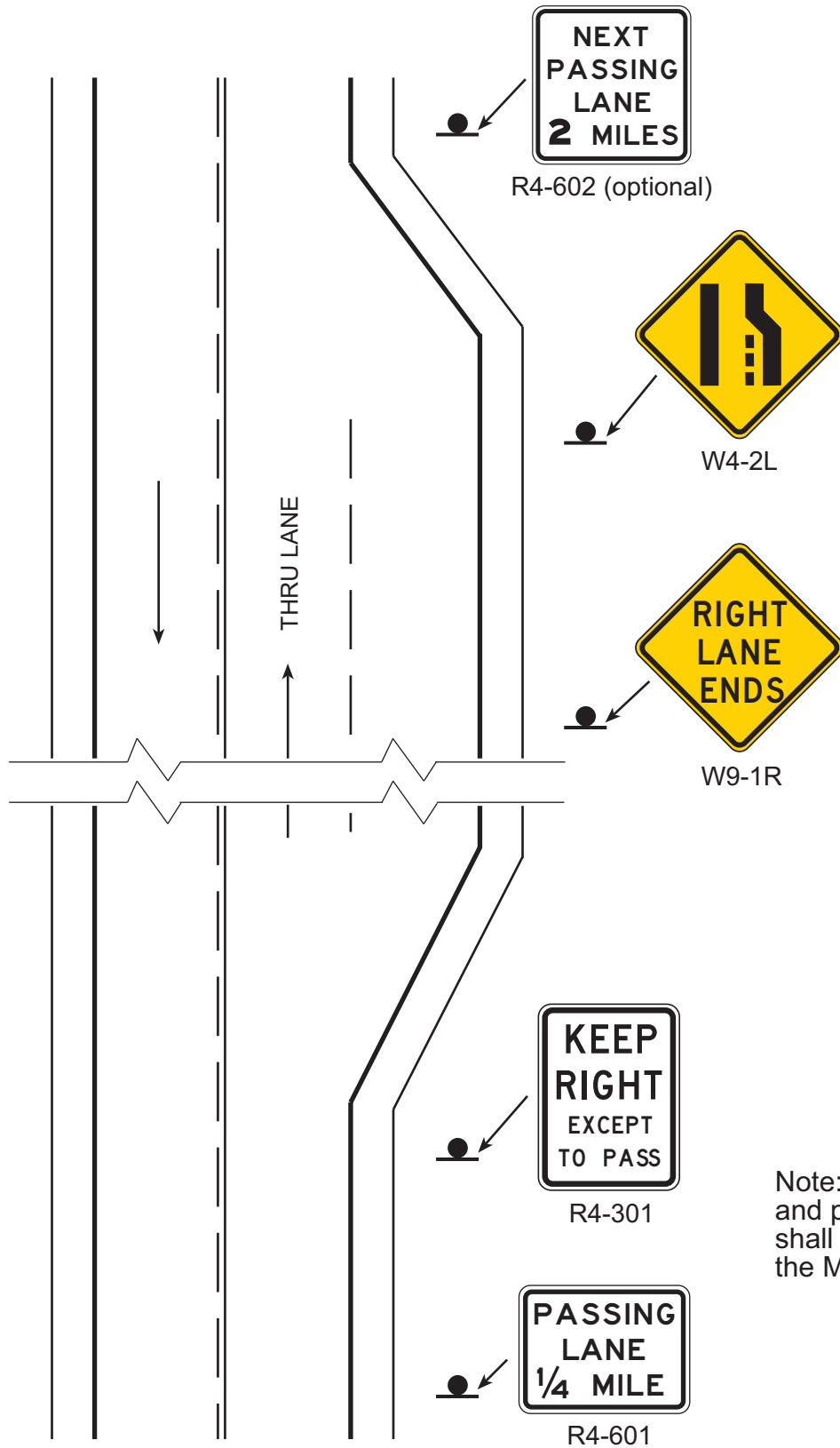
- * See Table 2-6 for advance distance for sign W3-5
- ** If posted speed is greater than 60 mph, install TRUCKS 60 sign (R2-2)

For multi-lane divided highways install signs on both sides of roadway for each direction of travel

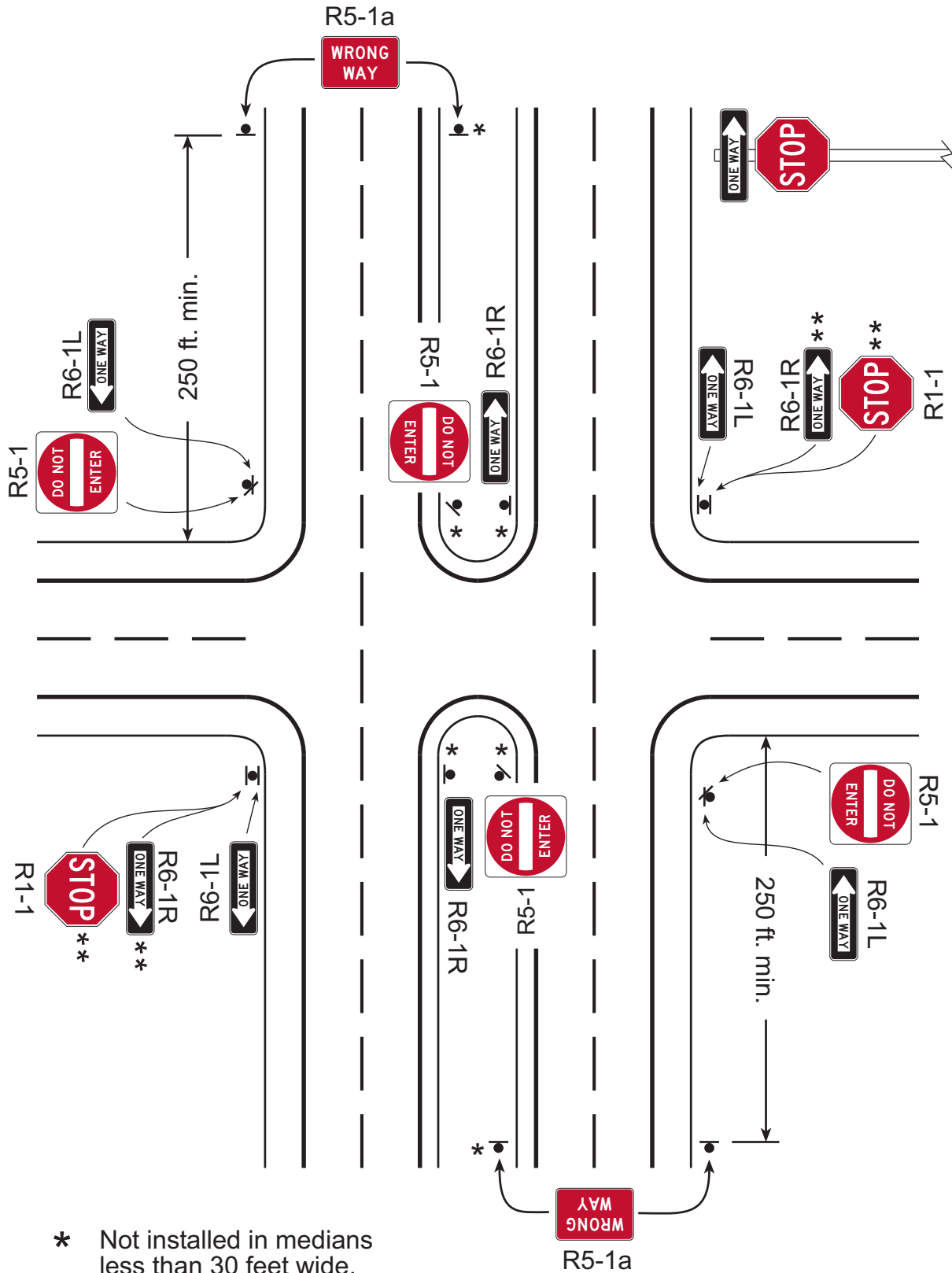


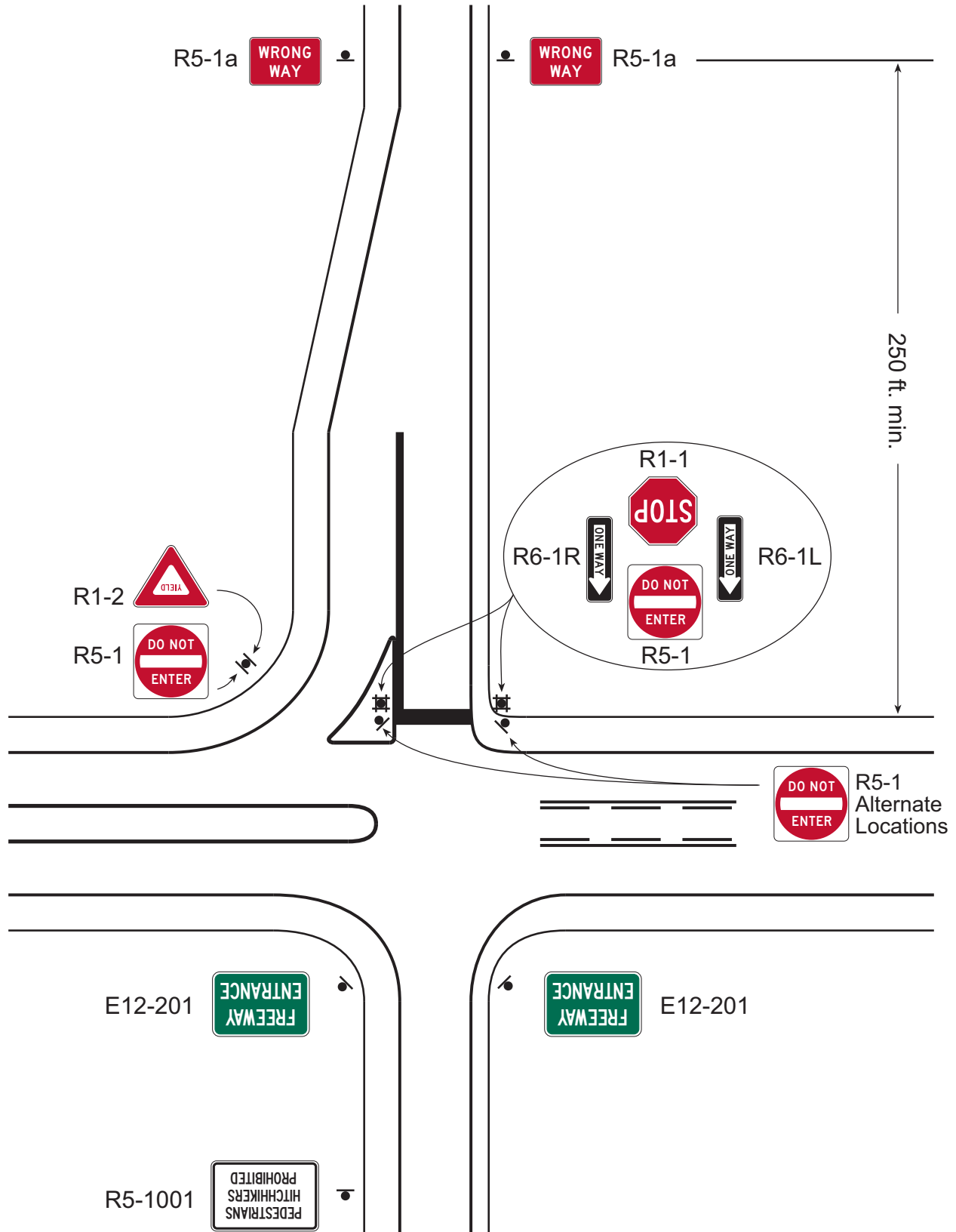


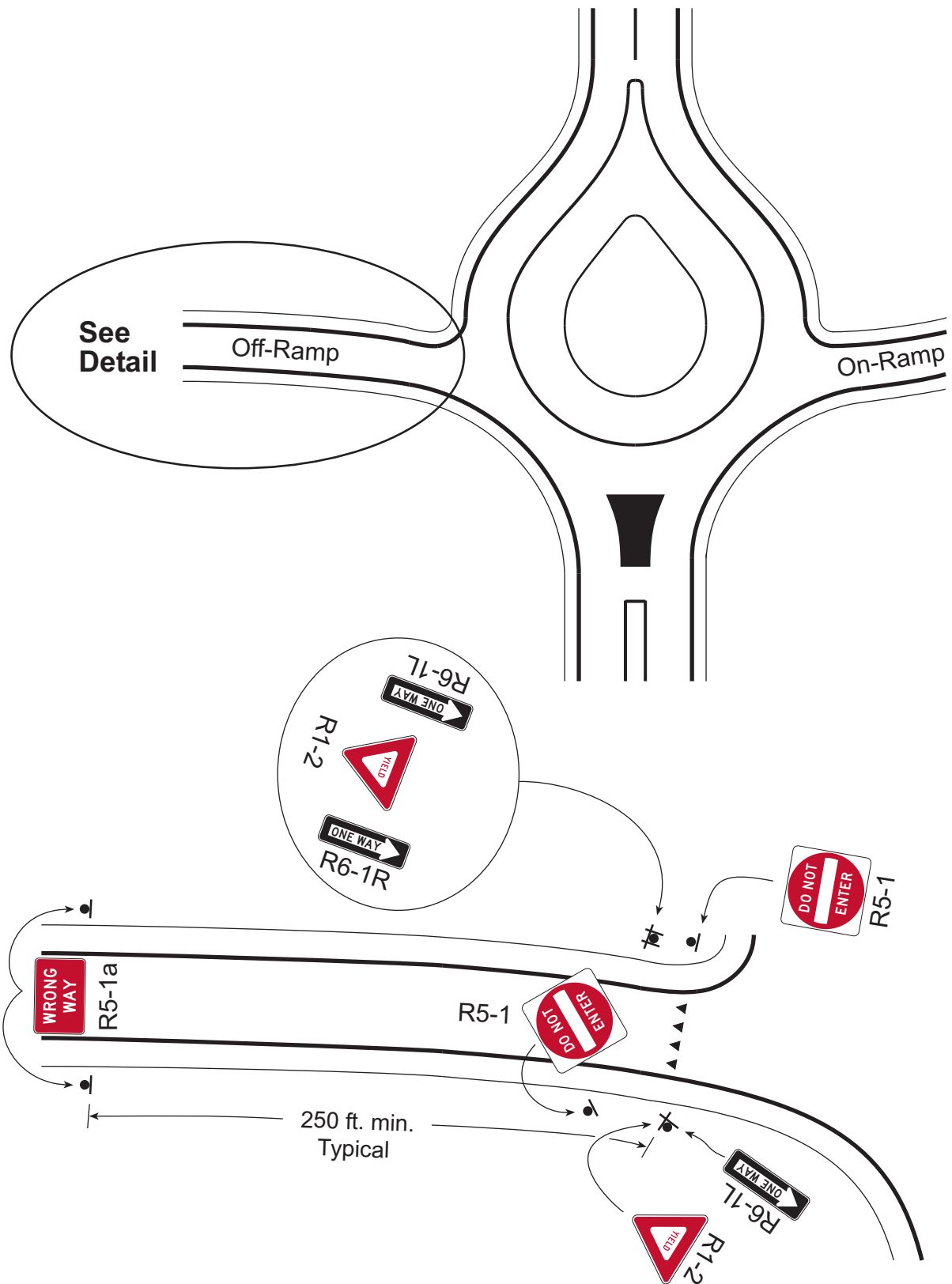
Note: Sign spacing and pavement markings shall be installed per the MUTCD



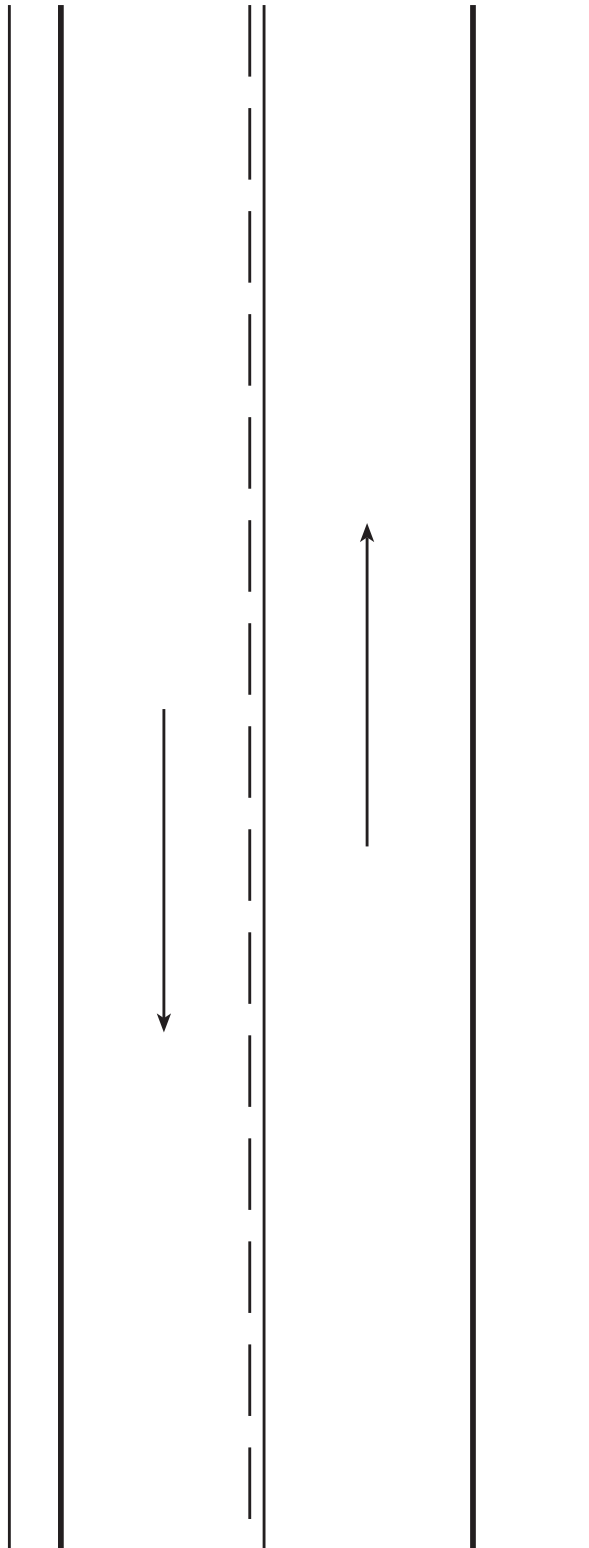
Note: Sign spacing and pavement markings shall be installed per the MUTCD







Note: Sign spacing and pavement markings shall be installed per the MUTCD



18-601



18-501

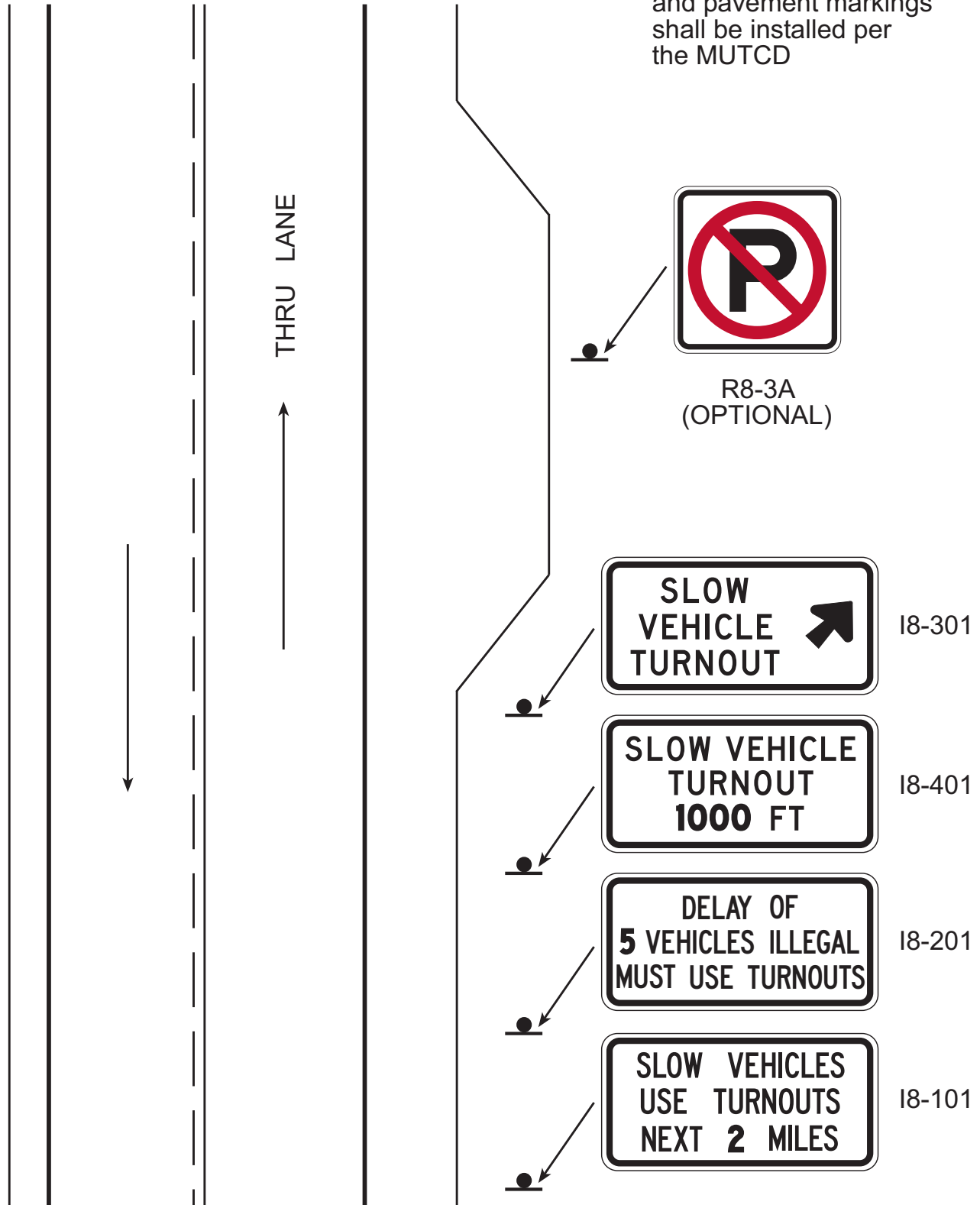


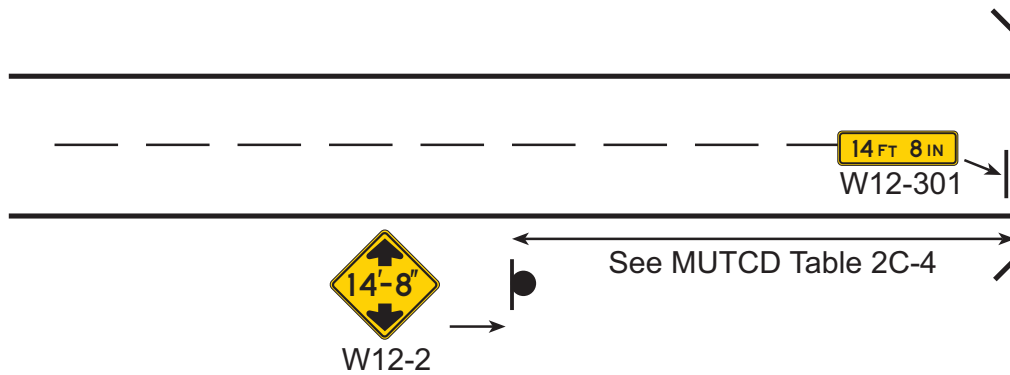
17-702



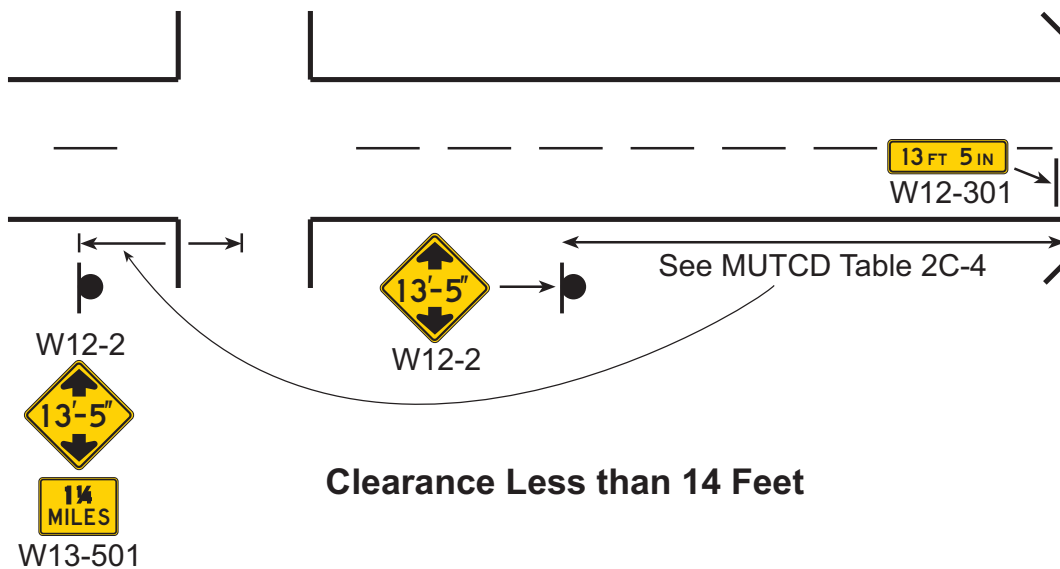
18-701

Note: Sign spacing and pavement markings shall be installed per the MUTCD

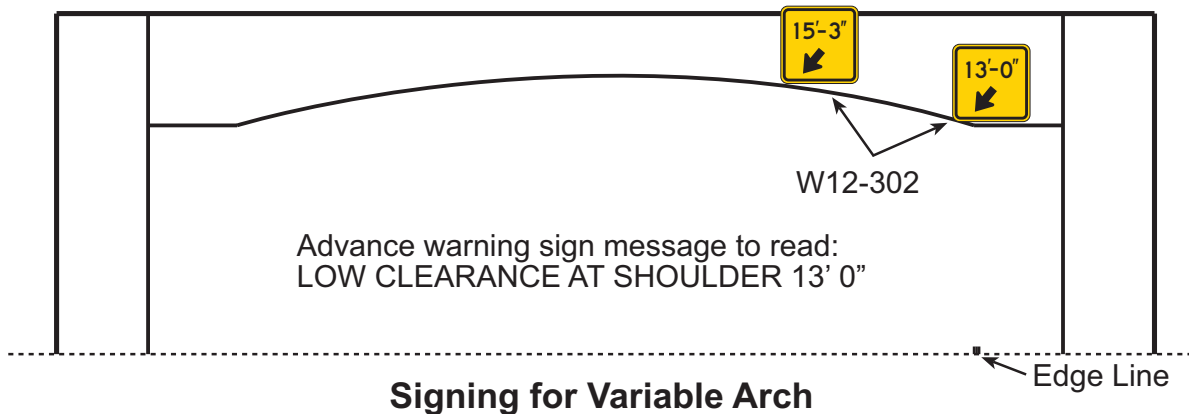




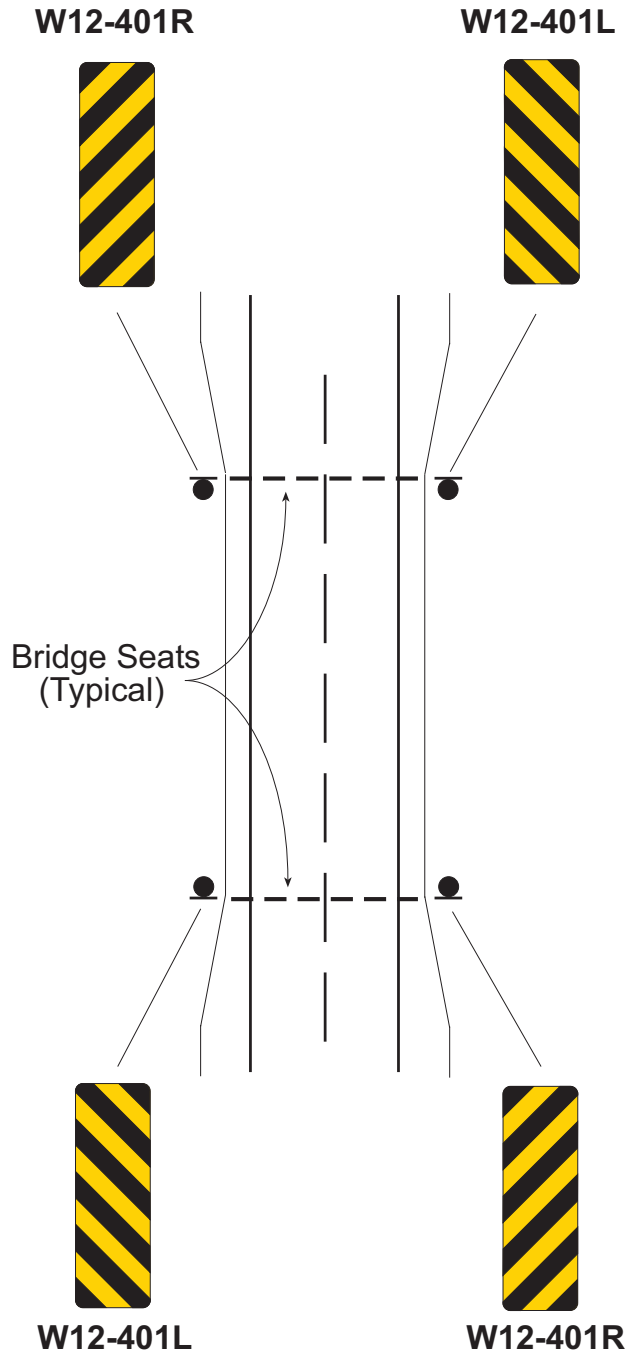
Clearance From 14 Feet to 15' 3"



Clearance Less than 14 Feet



Signing for Variable Arch



Notes:

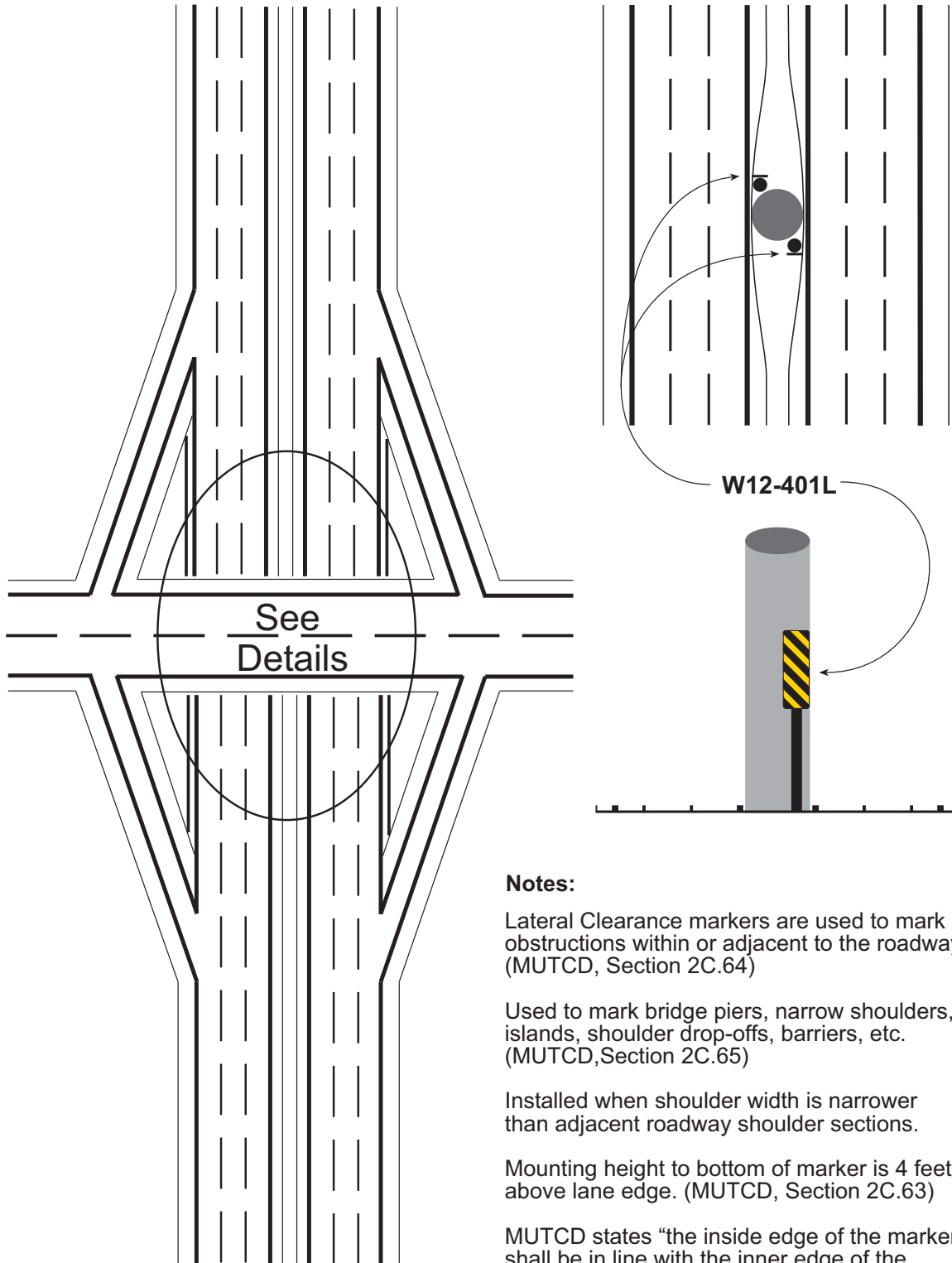
Lateral Clearance markers are used to mark obstructions within or adjacent to the roadway. (MUTCD, Section 2C.64)

Used to mark bridge piers, narrow shoulders, islands, shoulder drop-offs, barriers, etc. (MUTCD, Section 2C.65)

Installed when shoulder width is narrower than adjacent roadway shoulder sections.

Mounting height to bottom of marker is 4 feet above lane edge. (MUTCD, Section 2C.63)

MUTCD states “the inside edge of the marker shall be in line with the inner edge of the obstruction”. (MUTCD, Section 2C.65)



Notes:

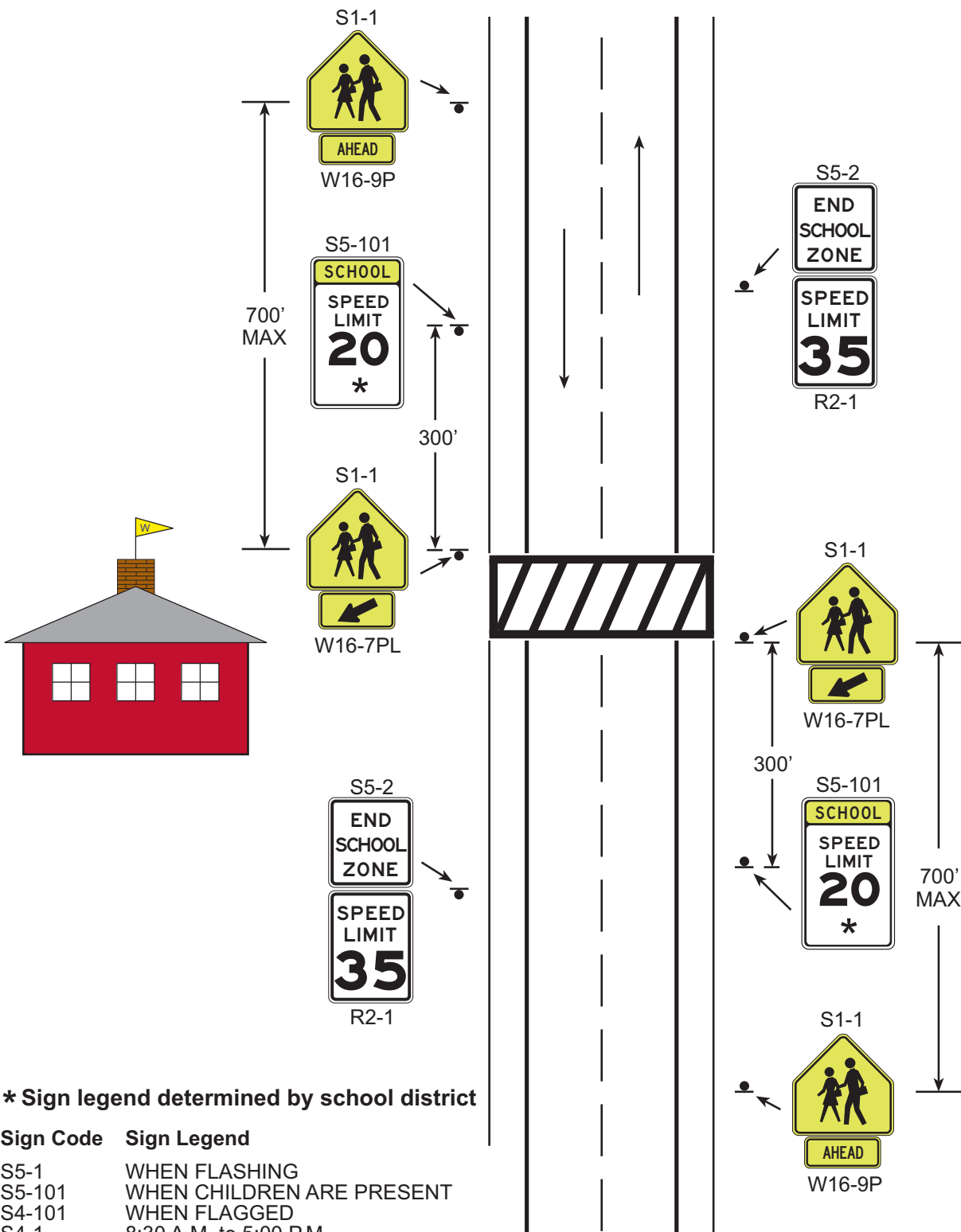
Lateral Clearance markers are used to mark obstructions within or adjacent to the roadway. (MUTCD, Section 2C.64)

Used to mark bridge piers, narrow shoulders, islands, shoulder drop-offs, barriers, etc. (MUTCD, Section 2C.65)

Installed when shoulder width is narrower than adjacent roadway shoulder sections.

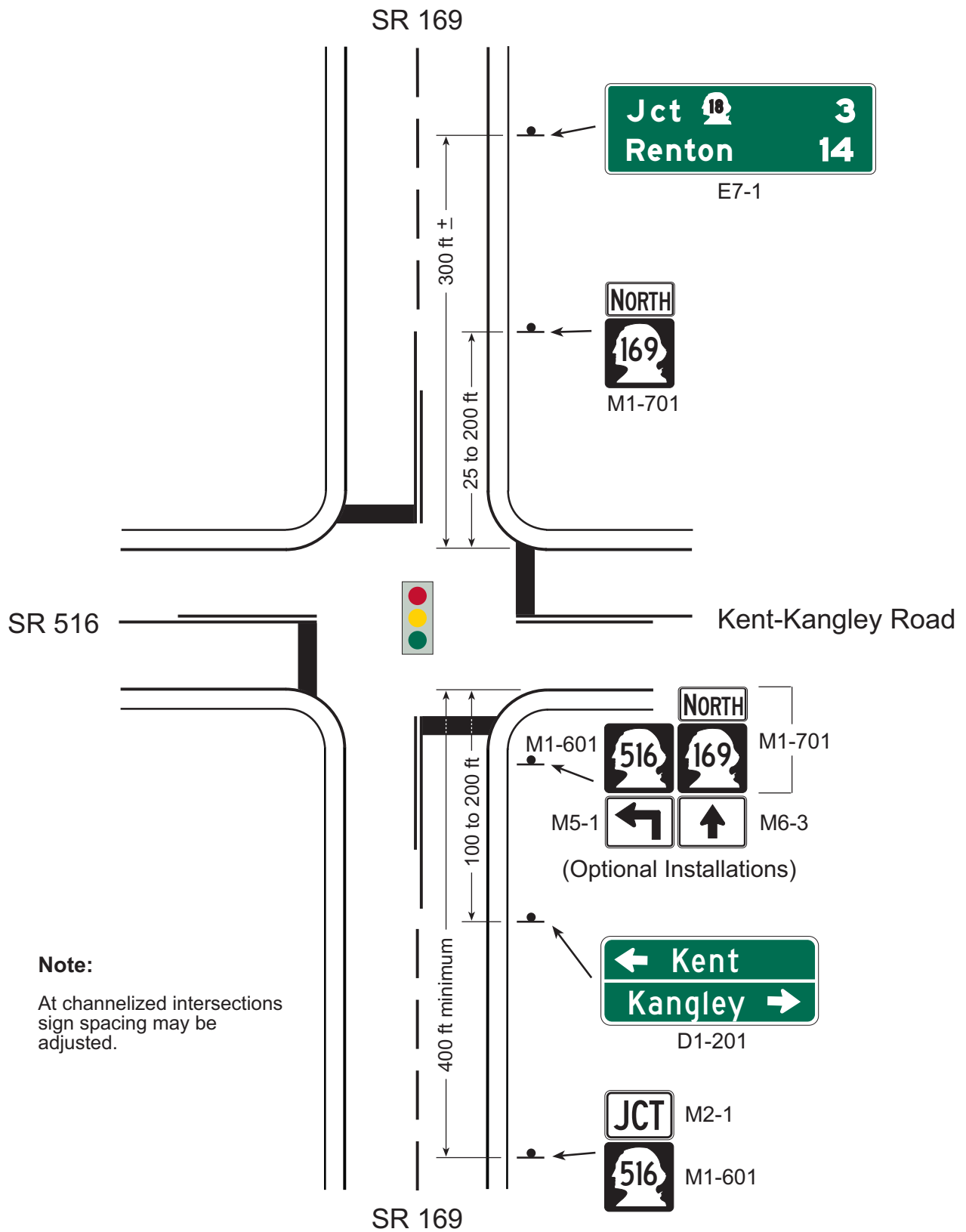
Mounting height to bottom of marker is 4 feet above lane edge. (MUTCD, Section 2C.63)

MUTCD states “the inside edge of the marker shall be in line with the inner edge of the obstruction”. (MUTCD, Section 2C.65)

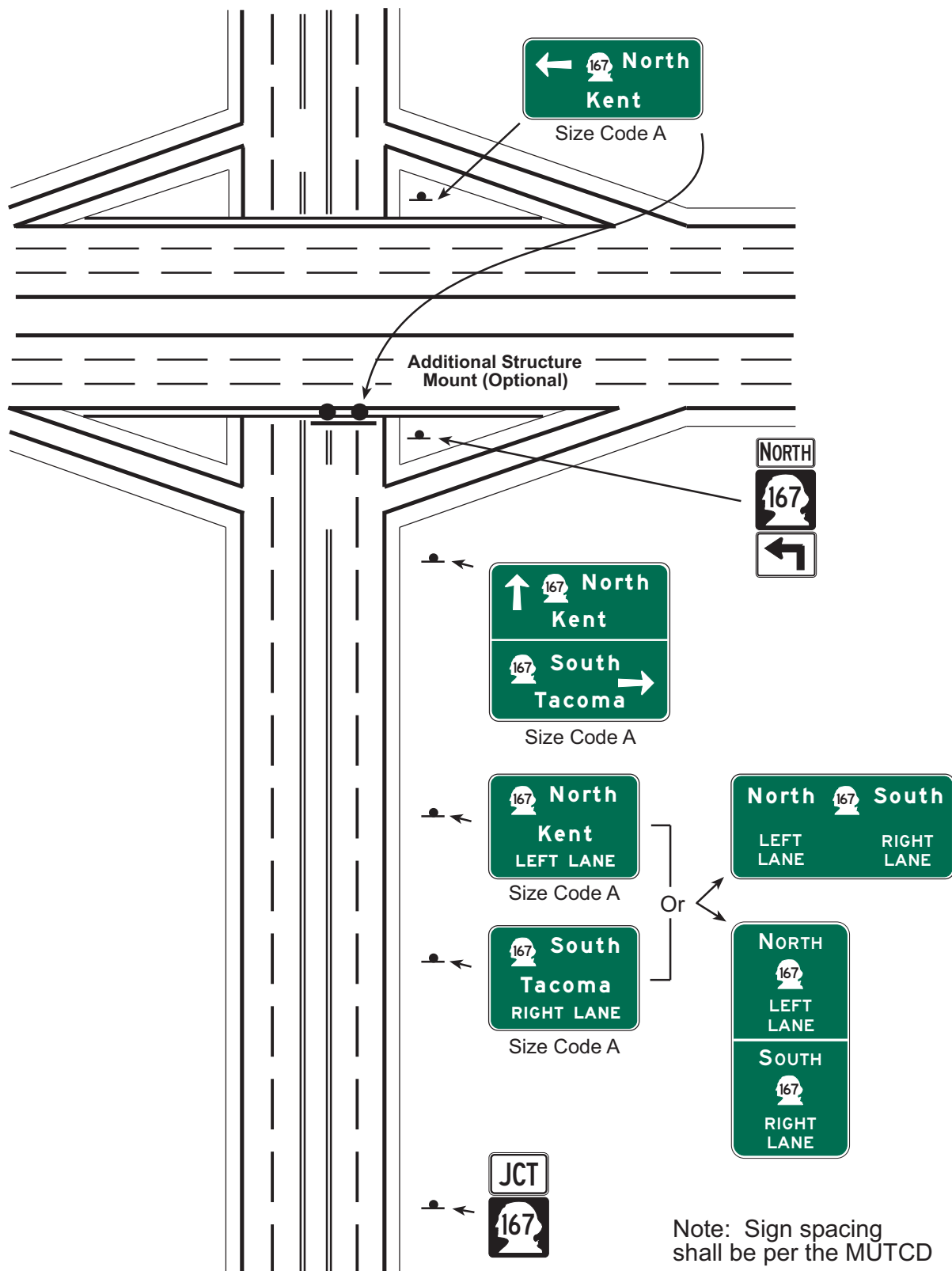


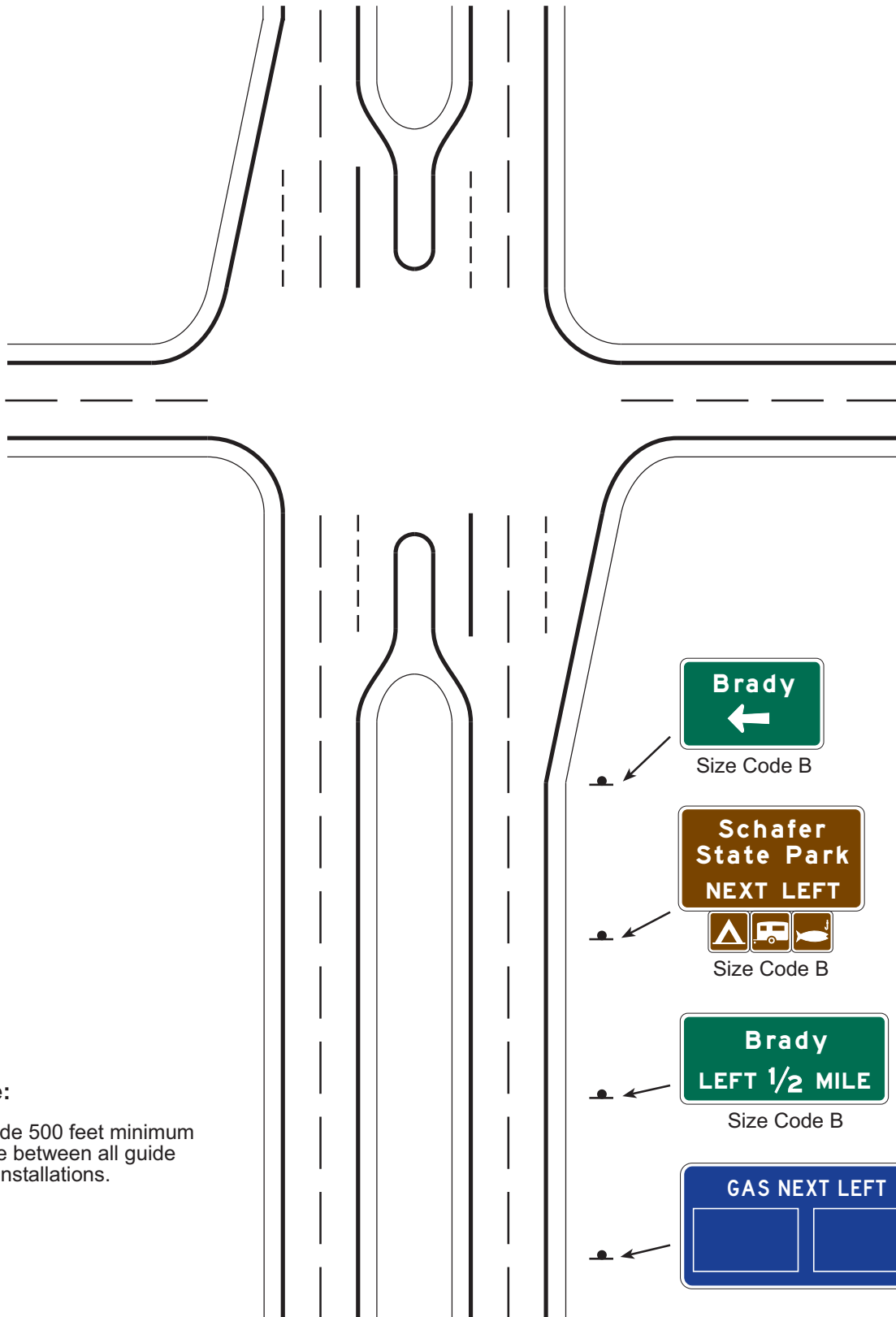
* Sign legend determined by school district

Sign Code	Sign Legend
S5-1	WHEN FLASHING
S5-101	WHEN CHILDREN ARE PRESENT
S4-101	WHEN FLAGGED
S4-1	8:30 A.M. to 5:00 P.M.
S4-5	SCHOOL DAYS X:XX A.M. to X:XX P.M.
S4-5A	SCHOOL DAYS X:XX A.M. to X:XX A.M.
	SCHOOL DAYS X:XX P.M. to X:XX P.M.



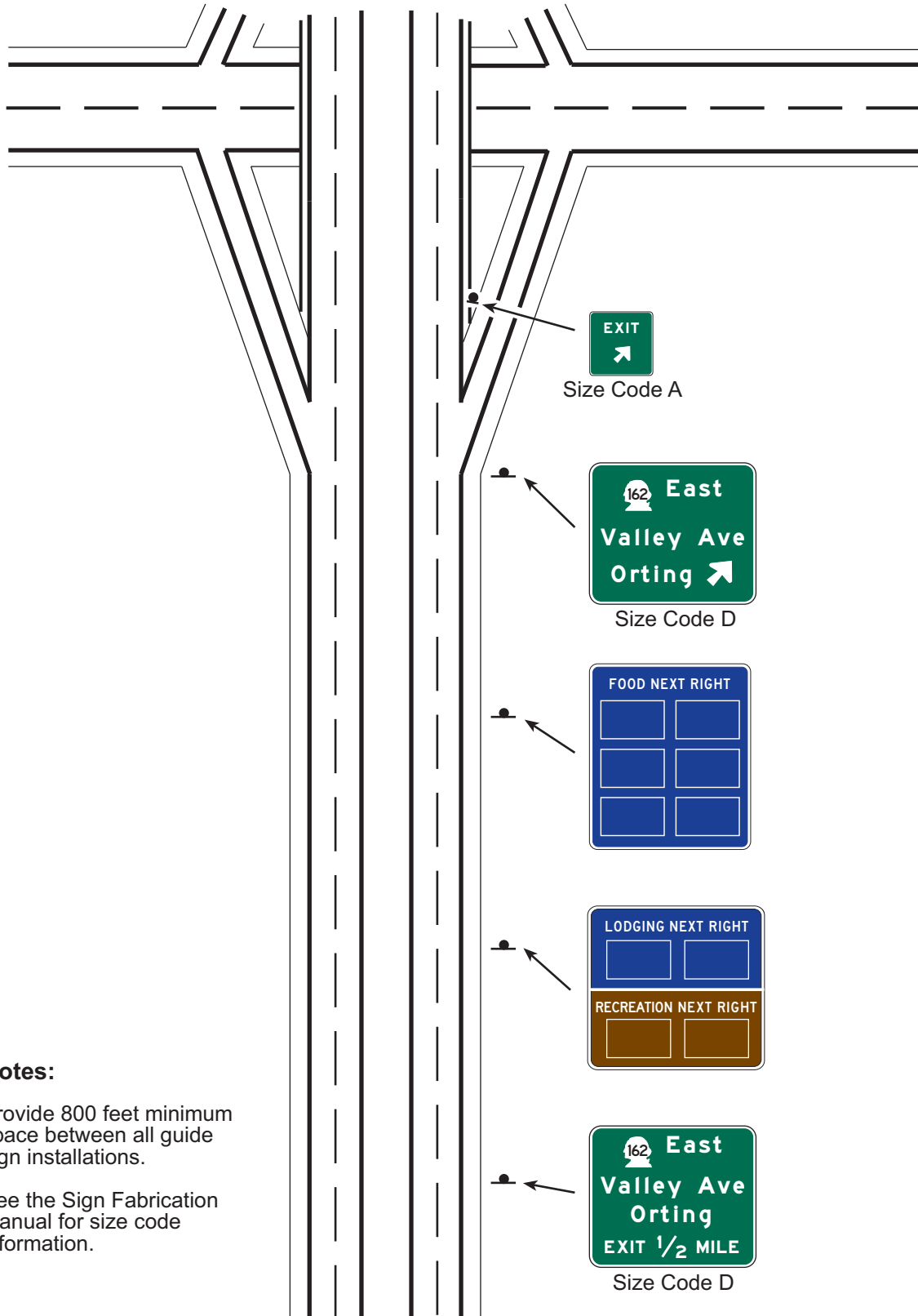
Note:
At channelized intersections sign spacing may be adjusted.





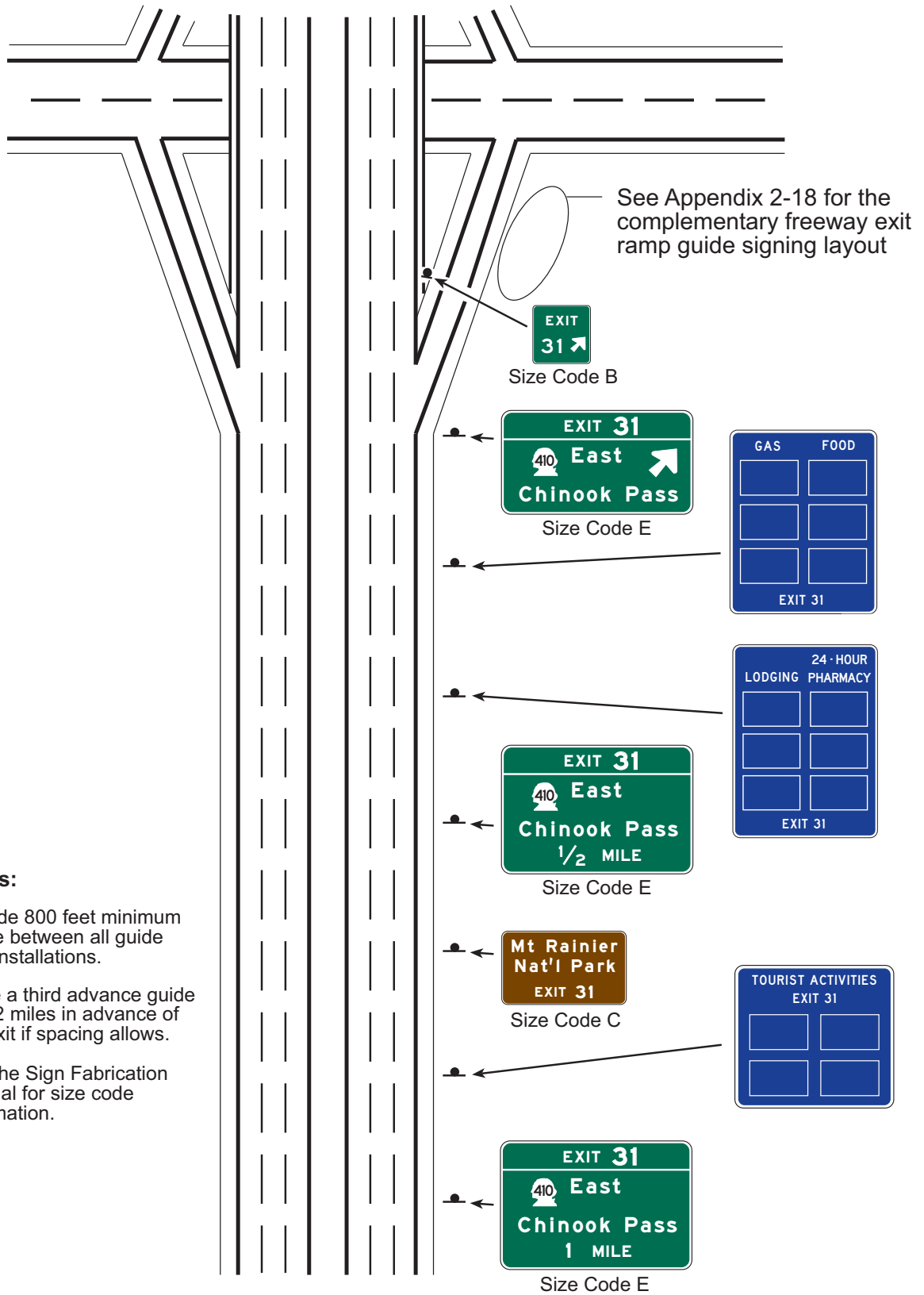
Note:

Provide 500 feet minimum space between all guide sign installations.



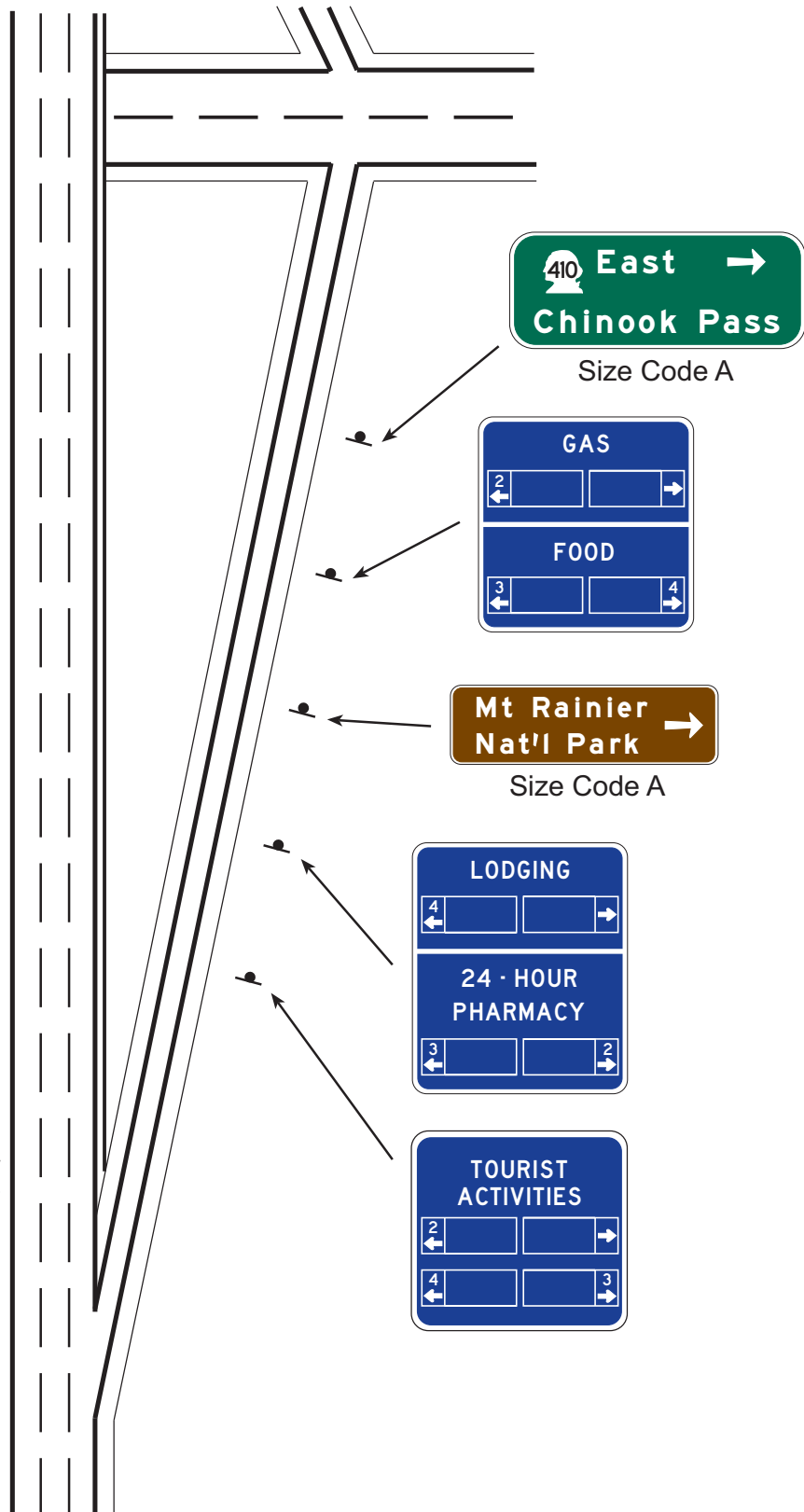
Notes:

- 1) Provide 800 feet minimum space between all guide sign installations.
- 2) See the Sign Fabrication Manual for size code information.



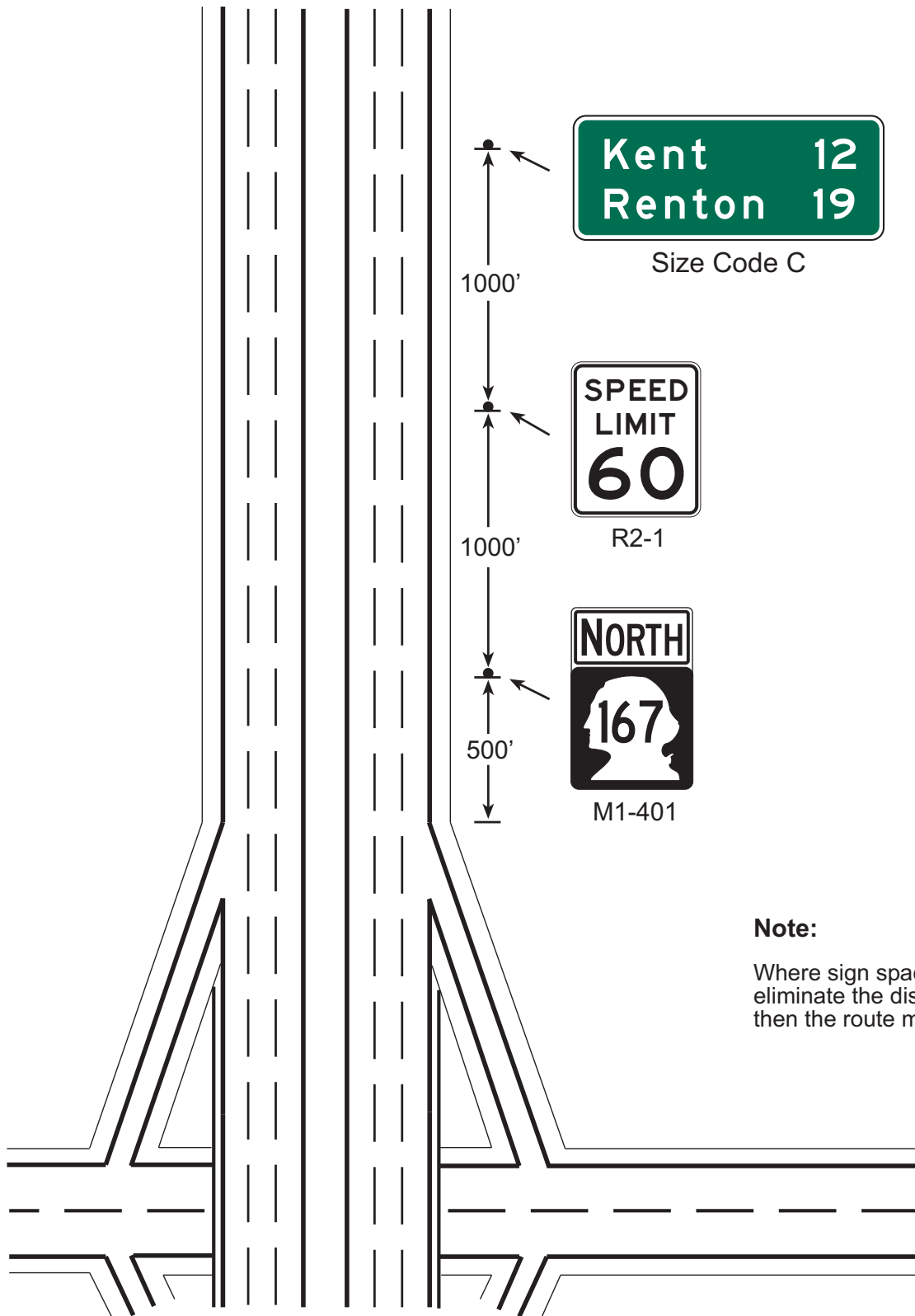
Notes:

- 1) Provide 800 feet minimum space between all guide sign installations.
- 2) Place a third advance guide sign 2 miles in advance of the exit if spacing allows.
- 3) See the Sign Fabrication Manual for size code information.



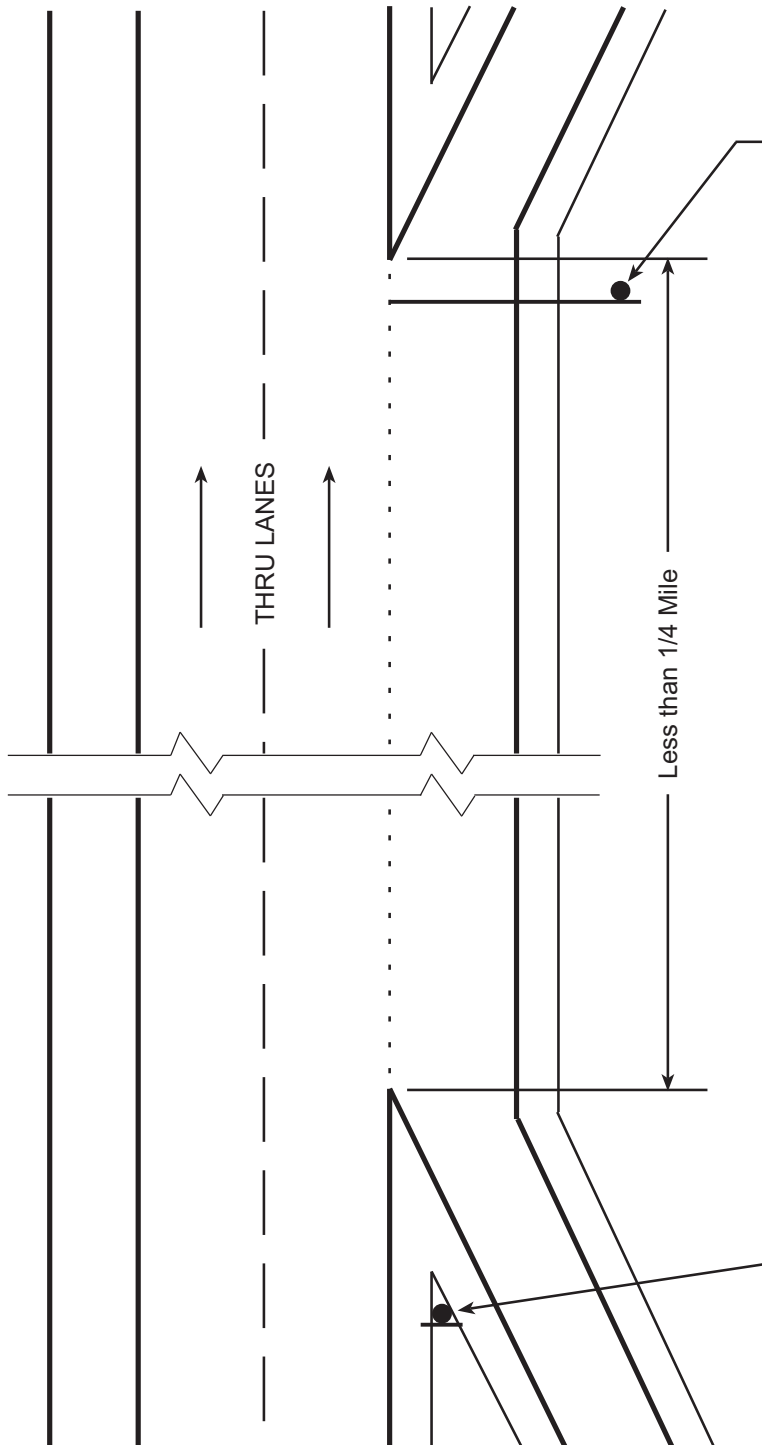
Notes:

- 1) Provide 100 feet minimum space between all guide sign installations.
- 2) See the MUTCD for regulatory signing and marking examples to deter wrong-way entry.
- 3) See the Sign Fabrication Manual for size code information.



Note:

Where sign space is limited, eliminate the distance sign first then the route marker.



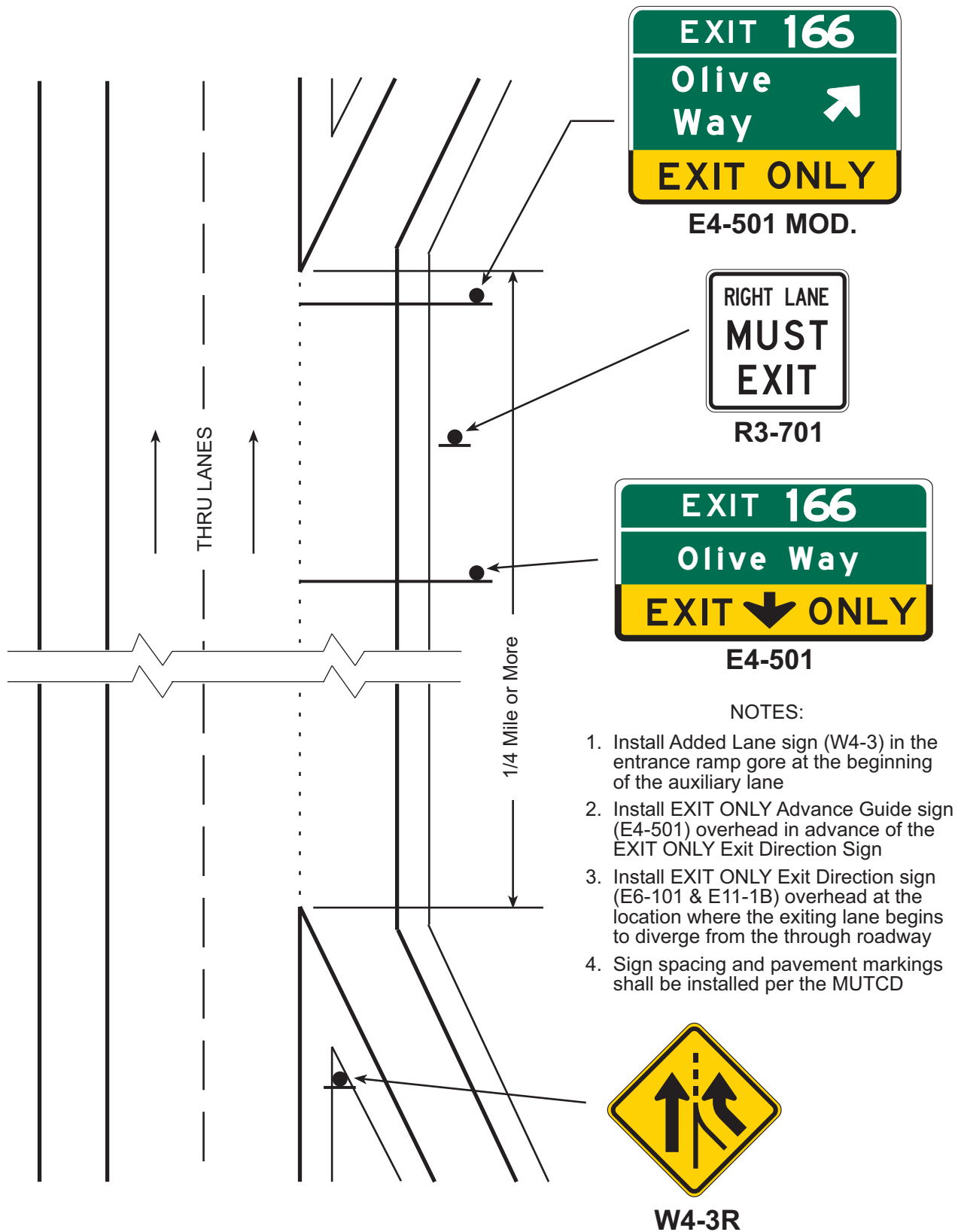
E6-101

NOTES:

1. Auxiliary lane located between cloverleaf loops or closely spaced interchanges
2. Install Merge sign (W4-1) in the entrance ramp gore at the beginning of the auxiliary lane
3. Install Exit Direction sign (E6-101) overhead at the location where the exiting lane begins to diverge from the through roadway
4. Sign spacing and pavement markings shall be installed per the MUTCD



W4-1R



**Criteria for Selecting Traffic Generators
as Destinations on Supplemental Guide Sign**

Type of Generator	Specific Criteria	Major Metro Area ¹	Urban Area ²	Rural Area
Airports (destination name only, not symbol)	Regularly scheduled commercial flights per day.	35	20	15
	Distance from Interchange (miles).	5	5	5
	Paved and lighted runway > 2,500 ft long ³ .	–	–	–
Colleges, Universities, and Branch Campuses	Must be accredited. Total enrollment, full- and part-time students.	4,500	2,500	1,000
	Distance from Interchange (miles).	5	5	5
Regional Shopping Centers	Three major department stores; 500,000 sq ft of leasable space; minimum 9,000 daily one way trips ⁴ .	–	–	–
	Distance from Interchange (miles).	1	1	1
Industrial Parks	500,000 sq ft of leasable space ⁵ .	–	–	–
	Distance from Interchange.	5	5	5
Ports/Port Districts	Served by two or more transportation modes (water, highway, rail, air).			
	Distance from Interchange.	5	5	5
Event Venues	Annual attendance.	300,000	250,000	200,000
	Distance from Interchange (miles).	2	2	2
Major Recreation Areas	Annual attendance (open to public).	300,000	250,000	100,000
National Parks	Sign from major junctions; case by case.			
State Parks ⁶	Distance from Interchange (miles).	15	15	15
USFS Facilities (Campgrounds, HQs)	Distance from Interchange (miles).	1	1	10

¹Population greater than 50,000.

²Population 5,000–49,999.

³See Section 2.15(1) for additional criteria.

⁴See WAC 468-95-140 for additional criteria.

⁵Leasable space can be a mix of manufacturing, service, and warehouse facilities.

⁶Per RCW 47.36.290.



a



b



c

Name of Organization _____

Organization Address

Mailing Address (if different)

Name of Authorizing Official (include title, i.e., Director, Trustee)

Address of Authorizing Official

Telephone Number

E-mail Address

Has your organization been granted nonprofit status (IRS 501(c)(3))? Y N

Please provide the following information about your organization:

- What are your visitation hours and when are you open to the general public (note any seasonal variations to schedule of operation)?

- Is the facility easily accessible to all visitors, including ADA features? Y N
- Is the facility readily visible from the highway? Y N
- If not, how far is your facility from the state highway on which the sign is being requested?

- Is the road serving your facility a two-lane, all-weather road? Y N
- Please indicate the name or number of the road, street, or highway serving your facility.

- Please describe where you would like the sign to be located. Be specific, include the state highway number and milepost or distance to the nearest important intersection or junction.

Please answer the following questions for a historic site:

- Is your site included in the Washington Heritage Register? Y N
- Is there an interpretive center or guided tour? Y N
- Has your facility been approved by the Heritage Resource Center of the Washington State Historical Society? Y N

Sign approved Sign disapproved Reason for disapproval _____

Chair, Review Committee

Date

Two Lane Highway (All Speeds)
Multi-Lane Highway (50 mph or less)



Multi-Lane Highway
(55 mph or greater)



* - Message may be modified to read: WILDFLOWERS, TREE PLANTING or as specified.

Highway Median Sections



Ramp Sections



Multi-Lane Highway
(55 mph or greater)



16-906

3.1 General

Delineation is the pavement markings, guideposts, and raised pavement markers used on and adjacent to the roadway to define vehicular travel paths. The [MUTCD](#), *Design Manual*, and *Standard Plans* provide delineation placement guidelines.

The *Roadway Delineation Practices Handbook*, published by FHWA, discusses specialized materials and delineation treatments for unique applications and situations. This handbook does not establish policies or standards but is only a reference document.

3.2 Pavement Markings

Pavement markings are classified as either longitudinal or transverse. Materials typically used for each are paint for longitudinal markings and thermoplastics for transverse markings. Approved sources for thermoplastic materials are listed in the General Special Provisions. A purchase contract is available for the purchase of paint. Other durable materials are continually being evaluated.

- A. **Intersection Channelization.** The [MUTCD](#) has a provision that allows pavement markings to be extended through an intersection where design or visibility conditions make it desirable to provide control through the intersection. These markings are only installed as the result of a traffic engineering analysis that considers horizontal curvature and other visibility conditions. For statewide uniformity, the dotted line used for this extension is applied as a 2-foot stripe with a 4-foot gap between stripes.

Multilane approaches may provide exclusive or shared lanes for turning and through vehicles. At most intersections through traffic must share a lane with one direction of turning traffic. To minimize delay, through traffic should normally be combined with right-turning traffic unless opposite approach geometrics are unfavorable. An offset centerline and minor widening may help accomplish the proper lane assignments.

Stopbars are to be included at all signalized intersections with or without crosswalks. At nonsignalized intersections stopbars are necessary on the stop sign control approaches when crosswalks are not included. Including the stopbar at stop sign control locations having marked crosswalks is optional.

- B. **Interchange Off Ramps.** At either a parallel or a tapered deceleration lane, the [MUTCD](#) allows the application of an optional dotted extension of the main line right edge line through the ramp opening. The dotted line is a 2-foot stripe with a 4-foot gap.

For statewide uniformity, these optional dotted extensions should only be installed where the exit ramp is located on a horizontal curve, except for locations with continuous illumination, and at locations with prevalent foggy periods. They are generally not needed at ramps exiting from tangent sections. These markings are only to be installed as a result of a traffic engineering analysis.

- C. **Crosswalks.** Marked crosswalks serve to guide pedestrians in the proper paths. Crosswalks should only be marked at locations that are signalized (and have significant pedestrian volumes), where crossing guards are provided, or where pedestrian volumes meet the criteria for signal Warrant 3 in Section 4C-5 of the [MUTCD](#).

Crosswalk markings should not be used at remote locations or where the speed limit exceeds 35 miles per hour unless protection is provided by a traffic signal or stop sign. Studies show that marked crosswalks have higher accident rates than unmarked crossings, thus crosswalks should not be considered safety devices.

Illumination of marked crosswalks is normally provided when pedestrian volumes meet the criteria in [MUTCD](#) Section 4C-5. When markings are requested by others and volumes do not meet those requirements, funding and power for crosswalk lighting is normally provided by the requestor.

- D. **No Passing Zone Marking.** No passing zones are to be established and marked on horizontal and vertical curves in accordance with the [MUTCD](#).

State law, in the Rules of the Road [RCW 46.61.100](#) – [RCW 46.61.165](#), identifies several situations with a statutory no passing zone distance such as “. . . when approaching within 100 feet of or transversing any intersection or railroad crossing . . .” or “. . . the view is obstructed upon approaching within 100 feet of any bridge, viaduct, or tunnel” However, state law does not imply a need to mark no passing zones for such situations.

3.3 Guideposts

Guideposts, discussed in the [MUTCD](#) as delineators, are light retroreflecting devices mounted at the side of the roadway to indicate roadway alignment. They are effective aids for night, wet, or other reduced visibility driving conditions and are intended to guide rather than warn motorists.

Guidepost installation and spacing requirements are included in the *Standard Plans* and the *Design Manual*. The field spacing for guideposts shall be determined from [Figure 3-1](#). Approved sources for guideposts as well as reflective materials are listed in the General Special Provisions.

3.4 Barrier Delineation

Barrier delineation is the extension of guideposts through an area of guardrail or concrete barrier. Spacing is the same as for guideposts.

Guardrail is delineated by mounting guideposts on guardrail posts as shown in the *Standard Plans*.

Concrete barrier is delineated by placing reflective devices on the face of the barrier about 6 inches down from the top. When concrete barrier is placed immediately adjacent to the traveled lane, such as in construction zones, delineator spacing should be a maximum of 40 feet on tangents and 20 feet through curves.

3.5 Chevron Alignment Signs

Although the Chevron Alignment Sign is intended to provide additional emphasis and guidance for drivers through horizontal curves in the roadway, this sign is not a delineator. See the [MUTCD](#) and the warning sign section of this manual for use.

3.6 Raised Pavement Markers

As described in the *Design Manual*, raised pavement markers are extensively used in western Washington to simulate lane lines and to supplement painted pavement markings.

Maintenance of raised pavement markers is discussed in the *Maintenance Manual*.

- A. **Right Edge Lines.** The general use of raised reflective pavement markers to supplement, or in lieu of, right edge lines is strongly discouraged. At night, such markers can be easily mistaken for lane lines.

The State Traffic Engineer has approved the use of reflective markers to supplement right edge lines in these locations:

- On the taper in lane reduction sections, such as from four lane to two lane.
- Through sections with reduced lane width, such as narrow structures.
- At the gore of exit ramps.

- B. **Recessed Markers.** Recessed reflective markers and recessed lane lines appear to be an effective way to provide additional centerline and lane line delineation in areas requiring extensive snow plowing.

The details for installation of the recessed marker are contained in the *Standard Plans*.

Recessed markers and recessed lane lines are expensive and data is still being collected to determine effectiveness and expected life. As a result, the criteria for application and installation are still subject to change and the State Traffic Engineer's office should be contacted when recessed markers or recessed lane lines are being considered.

With prior approval of the State Traffic Engineer, recessed markers may also be installed on bridges. Currently several alternative methods are being considered for this application to minimize the impact on bridge decks.

3.7 Impact Attenuator Marking

The end of impact attenuators adjacent to the roadway and facing traffic are to be marked with a modified type 3 object marker. The design and use of the marker shall be the same as the **MUTCD** type 3 marker except that the attenuator marker shall be square. Attenuators in gore areas or where traffic may pass on either side shall have the stripes in a chevron pattern sloping down from the center of the marker. These designs are provided in the *Sign Fabrication Manual*.

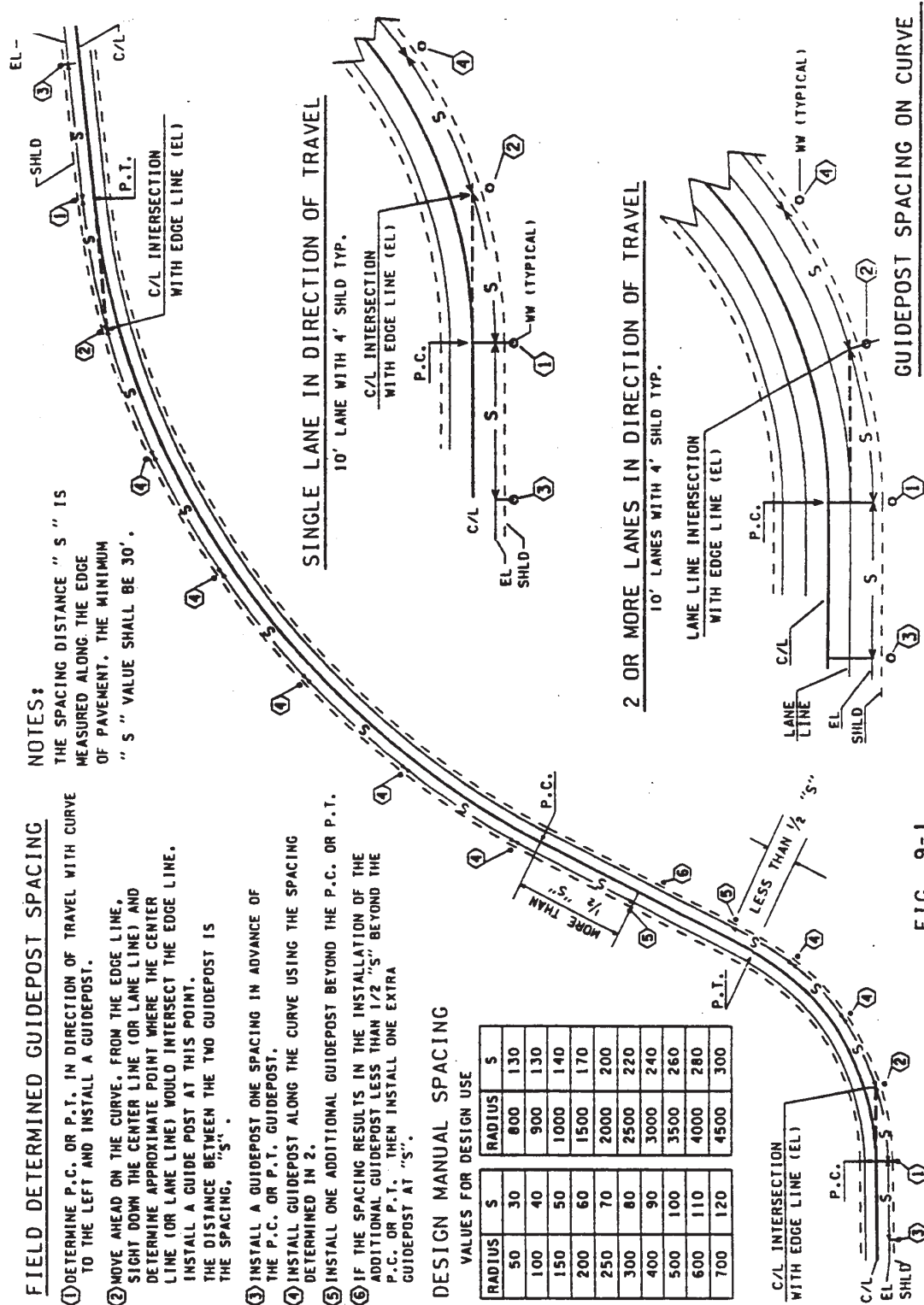


FIG. 9-1

Figure 3-1

4.1 *MUTCD*

The *MUTCD*, Section IV, discusses the types of signals and their application, and provides warrants and other guidelines used to justify signal installations.

4.2 *Design Manual*

Design Manual Section 335 provides the guidelines for signal installations with regard to state laws, department policies, permit approval procedures, design report requirements, preliminary signal plans, phase analysis (level of service/optimum cycle calculations), detection systems, pedestrian considerations, signal supports, and contract plan preparation.

Special attention should be given to signal permit applications submitted by local agencies or developers. The permit application should be submitted to the State Traffic Engineer at least two months prior to the time the approved permit is desired. The request can then be processed for approval in a timely manner.

See [Chapter 6](#), Traffic Regulations, for the information required as support data which must accompany permit applications.

4.3 Flashing Operation

Occasionally traffic signals have been, or are, installed primarily to reduce intersection delay during the morning, noon, and evening peak hours. These signals may not be warranted during off-peak hours. At locations having fixed time signals, flashing operations may be considered for nonpeak hours where there is significantly larger traffic volumes on the major approaches than the minor approaches (i.e., intersections meeting primarily warrant No. 2).

If off-peak flashing operations are implemented, follow-up accident studies should be conducted.

4.4 Intersection Control Beacons

The *MUTCD* states that intersection control beacons are intended for use at intersections where traffic or physical conditions do not justify conventional traffic signals but where accident rates above the statewide average for like locations indicate a special hazard.

The most common application for these beacons is at intersections with minor approach stop control where some approaching vehicles on the controlled legs have failed to stop.

An intersection control beacon should be considered for a problem location only after other remedial measures have been tried and determined to be ineffective based on traffic engineering studies.

Twelve-inch lenses on the intersection control beacon may be desirable to enhance visibility at some locations.

4.5 Audio-Tone Signal Application

Pedestrian crosswalk signals with audio-tone application for the visually handicapped are available, although fairly new on the market. The audio-tone, if installed, should be activated from a push button control mounted on the signal post. This will provide audio-tone only when needed.

4.6 Illumination

A. **General.** Transportation facility illumination enhances visual perception of conditions or features that require additional driver or pedestrian alertness. This is accomplished through the use of materials and techniques that result in optimum energy efficient illumination designs.

B. References

Roadway Lighting Handbook, USDOT, Washington, D.C., December 1978.

AASHTO Pamphlet, *An Informational Guide for Roadway Lighting*.

WSDOT Directive D 22-21 “Truck Weigh Stations and Vehicle Inspection Facilities on State Highways.”

National Electrical Code.

[RCW 47.24.020](#).

Washington Administrative Code [468-18-040](#).

C. Definitions – Area Designations

Commercial Area. A district of continuous adjacent retail businesses at least 1,000 feet in length, with lighted store fronts, parking lots, etc.

Intermediate Area. A partially built-up area consisting of approximately 50 percent adjacent land use for retail businesses at least 600 feet in length, with lighted store fronts, parking lots, etc.

Residential Area. An area of continuous residences with occasional businesses where the local street grid has a continuous illumination system.

Rural Area. Areas not defined as commercial, intermediate, or residential.

Ballast. An electrical device which provides the necessary voltage, current, and wave form to start and operate an electrical discharge lamp.

Basic Illumination. The minimal amount of illumination to be provided at certain transportation facilities.

Basic Interchange Illumination. The minimum amount of illumination at interchanges which consists of two luminaires on each single or double-lane on ramp, two luminaires on each single-lane off ramp, three luminaires on each double-lane off ramp, and one luminaire at each ramp-crossroad intersection.

Candela. A unit of luminous intensity equal to one lumen per steradian.

Candlepower. Luminous intensity expressed in candelas.

Contrast Ratio (CR):

Brightness. The ratio between the photometric brightness, measured in foot lamberts, of any two relatively large areas in the field of view.

Light. The ratio between the maximum and minimum light levels of the design zone.

Coefficient of Utilization (CU). The percentage of the total light output that actually falls on the area to be illuminated.

Dirt Factor (DF). A factor used in illumination calculations to relate the initial illumination provided by a clean, new luminaire to the reduced illumination caused by dirt accumulation on the luminaire components. A dirt factor of 85 percent is normally used.

Footcandle (fc). The unit of illumination used when the foot is the unit of length; the illumination of a surface one square foot in area on which is uniformly distributed a flux of one lumen. A footcandle equals one lumen per square foot.

Design footcandles (Dfc). The average light level on the roadway at the end of rated life.

Initial footcandles (Ifc). The average light level on the roadway after the first 200 hours of operation.

Foot Lambert. A unit of luminance equal to 1/3.14 candela per square foot or to the uniform luminance of a perfectly diffusing surface emitting or reflecting light at the rate of one lumen per square foot.

Glare. The effect of brightness or brightness differences within the visual field sufficiently high to cause annoyance, discomfort, or loss of visual performance.

Hours of Darkness. The time from sunset to sunrise, inclusive of summer and winter conditions.

IES Distribution. Light patterns for luminaires consistent with the Illumination Engineering Society standards for various patterns and distributions.

Isolux Diagram. A graphical representation of points of equal illumination connected by a continuous line. These diagrams usually show footcandle values on a horizontal plane from a single unit having a definite mounting height.

Lamp Lumens (LL). The total light output from a lamp for the position in which the lamp is maintained. LL for a standard luminaire is 37,000 lumens.

Lamp Lumen Depreciation Factor (LF). The factor used in illumination calculations to relate initial rated output to the anticipated output at replacement time. This factor is 0.73 for high pressure sodium sources. Consult manufacturer's data for other sources.

Light. Radiant energy capable of producing a visual sensation.

Light Standard. A support provided with necessary attachments for wiring and luminaire mounting. See Standard Plan J-1.

Lumen. A unit of luminous flux; equal to the flux emitted through a unit solid angle (one steradian) from a uniform point light source of one candela.

Luminance. In roadway lighting luminance is the reflected light from the pavement surface that is visible to the motorist's eye.

Luminaire. The complete lighting unit inclusive of the lamp or light source; the optical system for the control of the light distribution; and the ballast for electrical regulation. The standard luminaire is a cobra head fixture with a Type III medium cutoff distribution, a 310 watt lamp and a flat glass refractor. Decorative cutoff fixtures may be considered for parking area applications.

Maintenance Factor (MF). The percentage of light degeneration through the life of the lamp equal to the product of the lamp lumen depreciation factor (LF) times the dirt factor (DF). The LF for high pressure sodium lamps is 62 percent.

Major Parking Lot. Major parking lots for park and ride, carpool, and ferry terminal facilities are those with nighttime usage exceeding 50 vehicles during the nighttime peak hour.

Mounting Height (MH). The vertical distance between the surface to be illuminated and the center of the light source of the luminaire. Standard mounting height is 40 feet. When nonstandard luminaires are approved, the mounting heights noted in [Figure 4-5](#) are recommended.

Mounting Height Factor (MHF). A factor used in illumination uniformity calculations to correct light values when a different mounting height than the one on the isolux curve is used.

Nighttime. The period of time from one-half hour after sunset to one-half hour before sunrise and any other time when persons or objects may not be clearly discernible at a distance of 500 feet ([RCW 46.04.200](#) Hours of Darkness).

Photometrics. The isolux diagram and coefficient of utilization plot for a particular luminaire and light source.

Spacing (S). The distance in feet measured on centerline between adjacent luminaires. Spacing (S) is equal to the lamp lumens (LL) times the coefficient of utilization (CU) times the maintenance factor (MF) divided by the width (W) and the design footcandle value (Dfc).

Security Lighting. The techniques of providing low level lighting for public safety or theft reduction. Security lighting is not subject to any lighting uniformity requirements.

Uniformity Ratio (UR). The ratio of the average light level on a section to the weak point light level of the same section for those applications when uniformity rates applies. The minimum uniformity rates are 4:1 approaching 1:1. Uniformity ratio requirements do not apply to security or single source applications.

Walkway. The connection between two areas over which the user is required to travel in order to utilize available services. Typical examples are as follows:

- Walkways between parking areas and rest room buildings at rest areas.
- Walkways between drop-off or pick-up points and bus loading areas at flyer stops.
- Walkways between parking areas and bus loading areas.

For the purpose of this section bicycle trails, walking trails, pet trails, etc., are not considered walkways.

Weak Point Light (WPL). The lowest light level within the area being illuminated. The minimum WPL is 0.2 footcandles for applications where uniformity criteria applies.

Width of the Area to Be Illuminated. This measurement is from edge of traveled way to edge of traveled way for highway lighting applications.

D. Approval Requirements

1. **General.** WSDOT is responsible for illumination on state highways with access control regardless of location and for illumination of highways without access control located outside of the corporate limits of any city. Cities are responsible for illumination of state highways without access control located within their corporate limits. In cities with a population under 22,500 where the state is responsible for signalization, the state may assume responsibility for illumination installed on signal standards in the interest of reducing intersection clutter.

When the State Traffic Engineer's approval is required, it will be obtained through the design deviation approval process. See *Design Manual* Chapter 330.

2. **Basic Illumination.** Basic illumination is required at the following facilities:
 - Freeway ramp gore areas.
 - Ramp terminals.
 - Channelized intersections.
 - Signalized intersections.
 - Railroad crossings with gates or signals provided there is nighttime train traffic.
 - Loading areas at flyer stops.
 - Major parking lots.
 - Rest areas.
 - Scale platforms at weigh stations.

Any proposal that provides less than or more than basic illumination at these facilities requires approval of the State Traffic Engineer. Basic illumination applications are shown on [Figures 4-1, 4-2, and 4-3](#).

3. **Illumination Beyond Basic Levels.** Illumination at the locations listed below is divided into two categories depending on whether approval by the State Traffic Engineer is required.

Approval by the State Traffic Engineer is required for illuminating the following facilities:

- All highways with or without access control.
- Unsignalized or unchannelized intersections.
- Tunnels, underpasses, and lids.
- Bridges.

Illumination of the following facilities will not require the State Traffic Engineer's approval.

- Construction zones.
 - Detours.
 - Railroad crossings without gates or signals.
 - Walkways.
 - Bicycle trails.
 - Minor parking lots.
 - Pavement transitions, including drop lanes.
4. **Nonstandard Features.** Approval by the State Traffic Engineer is required for any proposal that incorporates lighting equipment or features other than those identified as standard in the *Traffic Manual*.

E. Warrants

1. **General.** Proposals to install additional lighting at basic illumination locations and to illuminate other locations requires satisfying the warranting conditions listed below. When volumes are used to determine the level of service, the counts should be taken during the nighttime peak hour.

Peaking characteristics in urban areas are related to clock time. Traffic counts taken during daylight hours after 4:30 p.m. and before 7:30 a.m. may be used to satisfy nighttime volume warrants providing seasonal adjustment factors have been applied to demonstrate warrant satisfaction for the applicable portions of the months of November, December, and January.

When accidents are used to warrant illumination, the ratio of nighttime to daytime accidents should be at least 1.5 times higher than the average for similar locations, and a study should indicate that illumination will result in a reduction in nighttime accidents. When comparing similar locations, volumes, speed, land use, and access control should be similar.

2. **Highways With Access Control.** All roadways within the limits of access control are covered in this category and include mainline, ramps, and crossroads.
- a. **Mainline.** Illumination is warranted when the nighttime peak hour level of service is D or below and any two of the following conditions occur:
- Three or more successive interchanges are located within an average spacing of 1½ miles or less.

- The segment is in an urban area.
 - The nighttime accident warrant is satisfied.
- b. **Ramps.** Illumination is warranted when any of the following conditions occur:
- Nighttime peak hour level of service is D or worse.
 - Complex ramp alignment and grade.
 - There are routine queues of five or more vehicles per lane during darkness due to traffic control features at the ramp terminal.
 - The exit advisory speed is more than 20 mph below the posted mainline speed.
 - The nighttime accident warrant is satisfied.
- c. **Crossroads.** Illumination is warranted if any of the following conditions occur:
- Nighttime peak hour level of service is D or below.
 - The nighttime accident warrant is satisfied.
3. **Highways Without Access Control.** Illumination is warranted if the segment is classified as commercial and the nighttime level of service is D or the nighttime accident warrant is satisfied.
4. **Intersections.** Illumination of unsignalized and unchannelized intersections is warranted if channelization warrants are satisfied or the nighttime accident warrant is satisfied.
5. **Tunnels, Underpasses, and Lids.** Daytime illumination is warranted if portal conditions result in a condition where brightness reduction is greater than 15 times and the length to vertical clearance ratio is ten to one or greater.
6. **Construction Zones.** Illumination may be warranted if construction activities take place on the roadway at night.
7. **Detours.** Illumination is warranted if detour alignment and grade are unusual or result in unexpected maneuvers.
8. **Minor Parking Lots.** Security lighting is warranted if vandalism or security problems have developed or are anticipated.
9. **Bridges.** Warrants for illuminating bridges are the same as those for highways with or without access control, whichever is applicable.

10. **Railroad Crossing Without Gates or Signals.** Illumination of these facilities is warranted if there are potential nighttime accidents. The extent of nighttime train activity should be taken into consideration. Also, if there is the probability that railroad cars may be stopped on the crossing during the nighttime, lighting should be considered.
11. **Walkways and Trails.** Security lighting is warranted if security problems have developed or are anticipated.

F. **Design Report.** The design report shall note the following:

- The facilities where basic illumination is proposed.
- Justification for any proposal to install less than or more than the lighting required for basic illumination.
- Justification for any proposal to install illumination at other highway facilities.
- The status of existing illumination before, during, and after construction.

G. **Design Criteria**

1. **Roadway Light Levels.** Design light levels are indicated in [Figure 4-4](#). These levels are the minimum average levels to be provided on the roadway at end of rated lamp life for applications requiring a spacing calculation. Light level requirements do not apply to single source or security level installations.

When illumination is proposed for a roadway with a radius of 450 feet or less, it may be necessary to reduce spacing, thereby increasing the average light level in order to achieve uniformity ratio requirements.

Light levels at railroad crossing shall be consistent with the area classification and highway functional classification.

2. **Nonhighway Light Levels.** Average, maintained end-of-rated-life light levels for various types of nonhighway facilities are indicated in [Figure 4-4](#).

Security light levels are defined as follows:

- **Park and Ride Lots, Ferry Terminal Parking Lots.** Approximately one-fourth of the luminaires required for full illumination are left on.
- **Rest Area Parking Areas.** Typically two luminaires per parking area.
- **Walkways.** Luminaires provided at angle points and shadow areas.
- **Bus Loading Zone.** One luminaire in the immediate vicinity of the loading zone.
- **Weight Stations.** One luminaire at the public telephone, if any.

3. Light Levels for Special Applications

- a. Short tunnels and underpasses with length to vertical clearance ratios of 10:1 or less will normally not require daytime illumination. Short tunnels with length to vertical clearance ratios greater than 10:1 will be treated the same as an entrance zone on a long tunnel to establish daytime light levels. Nighttime light levels in short tunnels on continuously illuminated roadways should be approximately two times, but not exceeding three times, the light level required on the roadway outside the tunnel. Nighttime light levels in short tunnels on noncontinuously illuminated roadways should be consistent with [Figure 4-4](#).
- b. Long tunnels have a portal to portal length greater than the wet pavement stopping sight distance. Long tunnels are divided into zones for the determination of daytime light levels. Each zone is equal in length to the wet pavement stopping sight distance. The entrance zone beginning point is usually taken to be a point outside the portal where the motorist's view is confined to the predominance of the darkened tunnel structure.

The entrance zone light level is dependent upon the brightness of the features within the motorist's view on the portal approach. The brightness level is defined as the average brightness measured over a 20 degree cone at a point 500 feet in advance of the portal. The entrance zone light level produced within the tunnel must be sufficient to provide a brightness level of approximately $1/15$ of the measured portal brightness, after adjustment for the reflectivity of the roadway, walls, and ceiling.

Successive zones should have a daytime light level of $1/15$ of the previous zone light level until a minimum value of 5 foot candles is achieved.

Requirements for nighttime light levels for long tunnels are the same as those noted for short tunnels.

4. **Control Requirements.** The control requirements for various types of illumination systems will vary with the application as follows:
 - a. **Continuous Nighttime Operation.** Controls for continuous nighttime operation will normally consist of a photocell for sunset turn-on and sunrise turn-off. The following types of applications will have controls for continuous nighttime operations.
 - All basic interchange illumination on access controlled highways.
 - All illumination in excess of basic levels that was installed by special condition warrant on access controlled highways.

- Illumination at intersections.
 - Illumination at railroad crossings.
 - Security lighting at bus loading zones at park and ride lots, and at flyer stops.
 - Security lighting in parking areas at park and ride lots, ferry terminals, and pool-it lots.
 - Illumination for walkways at park and ride lots, flyer stops, ferry terminals, and rest areas.
 - Illumination for parking areas and conflict points at rest areas.
 - Detour illumination.
 - Construction illumination.
 - Illumination installed on nonaccess controlled highways by accident warrant.
 - The single luminaire in the vicinity of the public telephone at truck weigh stations.
- b. **Continuous Nighttime Operation With Reduction Capability.** Controls for these applications will normally consist of a photocell control for sunset turn-on and sunrise turn-off along with another mechanism capable of providing independent nighttime turn-off and turn-on. This mechanism will override photocell control only during periods of energy crisis. The following applications will require this type of control:
- Illumination in excess of basic levels on access controlled highways.
 - Illumination in excess of basic levels installed on ramp segments because of nighttime backups that routinely occur due to ramp terminal intersection control.
- c. **Noncontinuous Nighttime Operations.** Controls for these applications will normally consist of a photocell control for sunset turn-on and sunrise turn-off along with another mechanism capable of providing independent nighttime turn-on and turn-off. This mechanism will override photocell control on a regular basis, during periods of low use. If requested by the WSP, manual switching may be provided inside scale houses at truck weigh stations. The following applications will require this type of control:
- Illumination in excess of security levels in parking areas at park and ride lots, ferry terminals, and pool-it lots.

- Illumination in excess of security levels at bus loading areas at park and ride lots and flyer stops.
 - Illumination in excess of security levels at truck weigh stations.
- d. **Special Applications.** Some special applications, such as tunnels with daytime lighting, will require special controls. Circuits for fixtures providing nighttime light levels will be energized continuously throughout the day. Minimum daytime light levels, entrance zone light levels, and any subsequent zone light levels will be accomplished with fixtures in addition to continuously burning nighttime light level fixtures. In most cases, fixtures providing light levels in addition to minimum daytime light levels will be provided with controls so that reduced light levels can be achieved during periods when the portal brightness is less than the design value.

5. Wiring Design

- a. **Line Loss.** Line loss is the voltage drop between the electrical service and the electrical load. Line loss usually controls wire size determination rather than the allowable ampacities listed in Chapter 3 of the National Electric Code. For design purposes, allowable line loss is assumed to be a function of the stage of plan development and the ballast characteristics of the luminaire being utilized. See [Figure 4-6](#) for allowable line loss and lamp load factor requirements.

Loads shall be determined by dividing the lamp wattage by the voltage and then multiplying by the appropriate lamp load factor.

Construction illumination circuits and other temporary circuits that are both installed and removed on the same contract may be designed for 10 percent line loss.

- b. **Voltages.** Illumination systems should operate on 240 or 480 volts, single phase.
- c. **Wire Size.** The minimum wire used by any illumination circuit is No. 8, except for the No. 10 pole and bracket cable included within the light standard. The ampacity of the wire, exclusive of pole and bracket cable which is protected by fusing, shall equal or exceed the branch breaker rating.
- d. **Wire Type.** With the exception of temporary aerial installations where aluminum conductors are allowed, all wiring from the service on shall be copper.

6. **Conduit.** Conduits carrying illumination circuits are to be sized to provide 26 percent fill, maximum, with 1¼-inch minimum size under all roadways and 1-inch minimum size at other locations.
7. **Luminaire Support Locations.** Luminaire supports will normally be located 16 feet from the edge of the traveled lane pavement on the right of the roadway with respect to the driving direction.
8. **Base Types.** Luminaire supports are installed with either fixed base or slip base. The pole schedule in the plans should indicate the required base type. Fixed bases are installed at locations where it is either unwarranted or undesirable to install a slip base. Locations where fixed bases are normally installed are:
 - Parking areas.
 - Where the support location is outside the clear zone.
 - Median lighting applications where the luminaire support is mounted on cast-in-place median barrier.
 - Behind traffic barrier provided the traffic barrier is warranted for reasons other than the luminaire support installation.

Fixed based may be considered for roadways with speeds under 30 mph with considerable adjacent pedestrian activity.

9. **Overcurrent Devices.** Branch breakers are to be sized to carry 140 percent minimum of the computed illumination load. Loads should be computed in accordance with the lamp load factors noted in [Figure 4-6](#).

Main breakers are to be sized to carry 140 percent minimum of the computed illumination load in addition to 125 percent minimum of all other loads on the service. The minimum size main breaker shall be 60 AMP.

Lighting contactors are used to switch the lighting circuits. Lighting contactors shall be rated to equal or exceed the branch breaker rating for the circuit it switches. Lighting contactors are available in 30, 60, and 100 AMP ratings.

H. Example Applications

1. **Spacing and Uniformity Ratio Calculation.** Determine the spacing and uniformity ratio for the intersection in [Figure 4-7](#). Channelization is painted, highway class is other, and area classification is intermediate. Utilize standard luminaires, standard mounting height and standard base location.

Design values are:

- Approach Design Footcandles (Dfc) = 0.8 fc, [Figures 4-3 and 4-4](#).
- Intersection Design Footcandles (Dfc) = 1.5 x 0.8 fc = 1.2 fc, [Figure 4-4](#).
- Uniformity Ratio (UR) = 4:1.
- Weak Point Light (WPL) = 0.2 fc.
- Mounting Height (MH) = 40 feet.
- Luminaire = 310 watt high pressure sodium.
- Dirt Factor (DF) = 0.85.
- Lamp Lumen Depreciation Factor (LF) = 0.73.
- Maintenance Factor (MF) = DC x LF = 0.85 x 0.73 = 0.62.
- Roadway Width (W) = 39 feet, [Figure 4-7](#).
- Initial Lamp Lumens (LL) = 37,000 lumen.

The formula for spacing is:

$$S = \frac{LL \times CU \times MF}{Dfc \times W}$$

- S = Spacing
- LL = Initial Lamp Lumens
- CU = Coefficient of Utilization
- MF = Maintenance Factor
- Dfc = Design Footcandles
- W = Roadway Width

The CU is determined from the utilization curve on [Figure 4-8](#).

The ratio of transverse width (TW) to mounting height (MH) is 39/40 or 0.97. From [Figure 4-8](#) the CU is 0.26.

Spacing for the intersection can now be calculated.

$$S = \frac{37,000 \times 0.26 \times 0.62}{1.2 \times 39} = 127 \text{ feet}$$

Round odd spacing down to the nearest 10 foot increment, therefore, S = 120 feet. Reducing spacing increases Dfc. The adjusted Dfc is:

$$Dfc = 1.2 \times \frac{127}{120} = 1.27 \text{ fc}$$

Check uniformity at mid spacing in center of the roadway.

$$UR = \frac{Dfc}{WPL}$$

The weak point light is determined by entering the isocandle curves on [Figure 4-8](#).

The ratio of transverse distance to mounting height at midpoint is $39/(2 \times 40) = 0.48$. The ratio of longitudinal distance to mounting height is $120/(2 \times 40) = 1.5$. From [Figure 4-8](#) a value of 0.035 is determined. This value must be doubled since two luminaires are contributing light on the point. The value must also be adjusted for the lumen output of the lamp, the lamp maintenance (MF) and for mounting height correction (MHF).

$$\text{WPL} = \text{chart value} \times 2 \times \frac{37,000 \times \text{MF} \times \text{MHF}}{1,000}$$

The mounting height correction factor (MHF) is 0.56 from [Figure 4-8](#).

$$\text{WPL} = 0.035 \times 2 \times 37 \times 0.62 \times 0.56 = 0.9 \text{ fc}$$

$$\text{UR} = \frac{\text{Dfc}}{\text{WPL}} = \frac{1.27}{0.9 \text{ fc}} = 1.4:1 \text{ OK}$$

Light standard A can now be located as indicated on [Figure 4-7](#).

Check to see if 0.2 fc is provided at the left turn lane full width point.

$$135 \text{ ft}/40 \text{ ft} = 3.37 \text{ MH}$$

Entering [Figure 4-8](#) a chart value of 0.008fc is determined.

$$\text{WPL} = 0.008 \times 37 \times 0.62 \times 0.56 = 0.10 \text{ fc}$$

Since 0.10 fc is less than 0.20 fc, additional light standards will be required to illuminate the approach. A new calculation is required since the design light level on the approach is 0.8 fc versus 1.2 fc for the intersection.

$$X = \frac{37,000 \times 0.26 \times 0.62}{39 \times 0.8} = 191 \text{ feet}$$

Round to 190 feet and adjust Dfc

$$\text{Dfc} = 0.8 \frac{191}{190} = 0.80 \text{ fc}$$

Check WPL at half spacing in the center of the roadway.

Entering [Figure 4-8](#) at 190 (2 x 40) or 2.37 longitudinal and $39 / (2 \times 40)$ or 0.48 transverse yields a chart value of 0.017.

$$\text{WPL} = 0.017 \times 2 \times 37 \times 0.62 \times 0.56 \text{ or } 0.44 \text{ fc.}$$

$$\text{UR} = \frac{0.80}{0.44} = 1.8:1$$

Locate luminaires C & D at 190 feet spacing.

2. **Line Loss Calculation.** Determine the wiring requirements for the circuit in [Figure 4-9](#). The wiring is installed in conduit and conductors are copper. Ultimate loads are known. Service voltage is 240. Luminaires are 310 watt high-pressure sodium vapor. From [Figure 4-6](#) the lamp load factor is 1.2 and the maximum allowable line loss is 8 percent.

The load at each luminaire is:

$$\frac{310 \text{ watts}}{240 \text{ volts}} \times 1.2 = 1.55 \text{ amps}$$

The maximum voltage drop is:

$$240 \text{ volts} \times 0.08 = 19.2 \text{ volts}$$

Line loss is computed in ampere-feet and is the current in the circuit times the distance to the load. Typically the circuit segments with the greatest length and load will control. On this basis the line loss table in [Figure 4-11](#) can be computed. The circuit segment from Luminaire 1 to the service has the highest line loss.

First check No. 8 wiring. From [Figure 4-12](#), the line loss is:

	10,000	amp-ft	=	15.0 volts
	4,000	amp-ft	=	6.0 volts
	800	amp-ft	=	1.2 volts
Total	14,800	amp-ft	=	22.2 volts > 19.2 volts. Not good.

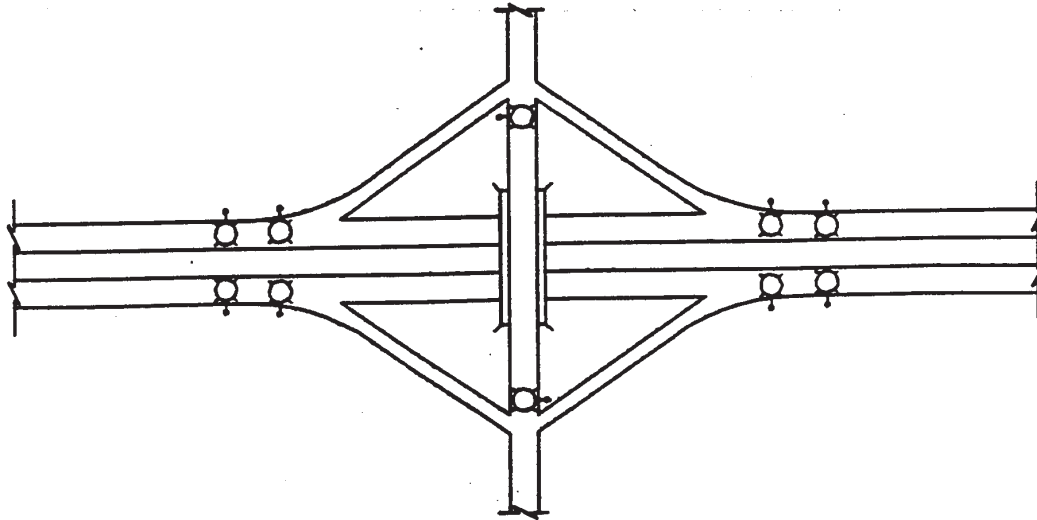
Try changing the wiring from the service to Luminaire 5 to No. 6 wire with the remainder No. 8 wire.

Service to 5 (10,850 amp-ft) No. 6				
	10,000	amp-ft	=	9.7 volts
	900	amp-ft	=	0.9 volts
Total	10,900	amp-ft	=	10.6 volts
5 to 1	(14,800 - 10,900		=	3,900 amp-ft) No. 8
	3,000	amp-ft	=	4.5 volts
	900	amp-ft	=	1.4 volts
Total	3,900	amp-ft	=	5.9 volts

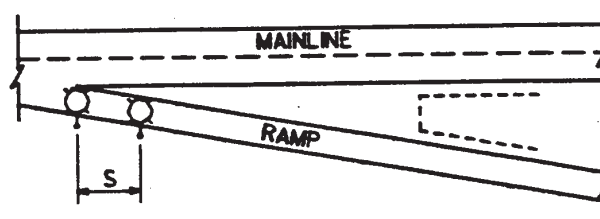
The line loss to Luminaire 1 is:

$$10.6 + 5.9 = 16.5 \text{ volts which is less than 19.2 volts maximum allowed.}$$

Final wire sizes are shown in [Figure 4-10](#).



TYPICAL DIAMOND INTERCHANGE PARTIAL ILLUMINATION
 (Shown for single lane off connections and two lane crossroad without channelization)

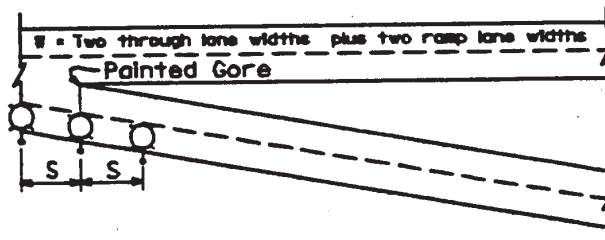


LEGEND

○ Standard luminaire and lighting standard

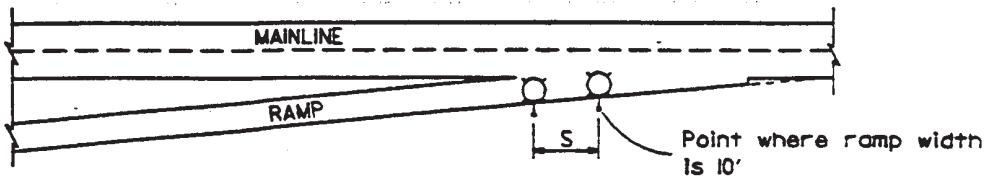
S=220' for off ramps

SINGLE LANE OFF CONNECTION
 (Standards can be shifted up to 100' downstream from gore point)

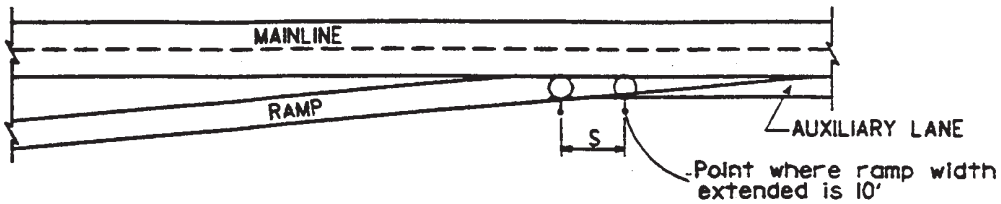


DOUBLE LANE OFF CONNECTION
 (Basic applications)

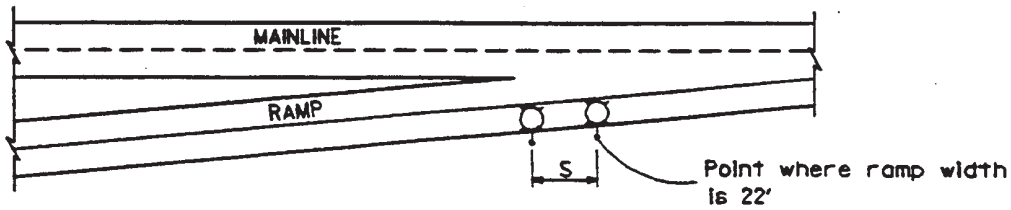
Figure 4-1



STANDARD ON CONNECTIONS



AUXILIARY LANE STARTING AT ON CONNECTION
(Required only if a significant weaving problem exists)

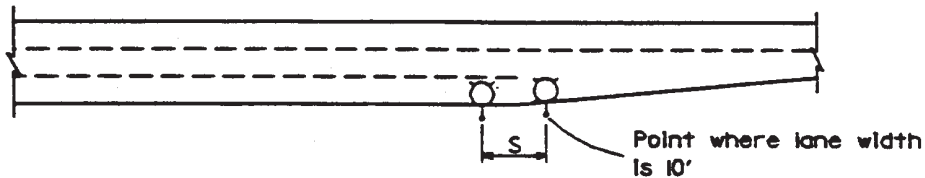


DOUBLE LANE ON CONNECTION

LEGEND

⊙ Standard luminaire and lighting standard

S-240' for on ramps



DROP LANE
(Basic illumination applications)

Figure 4-2

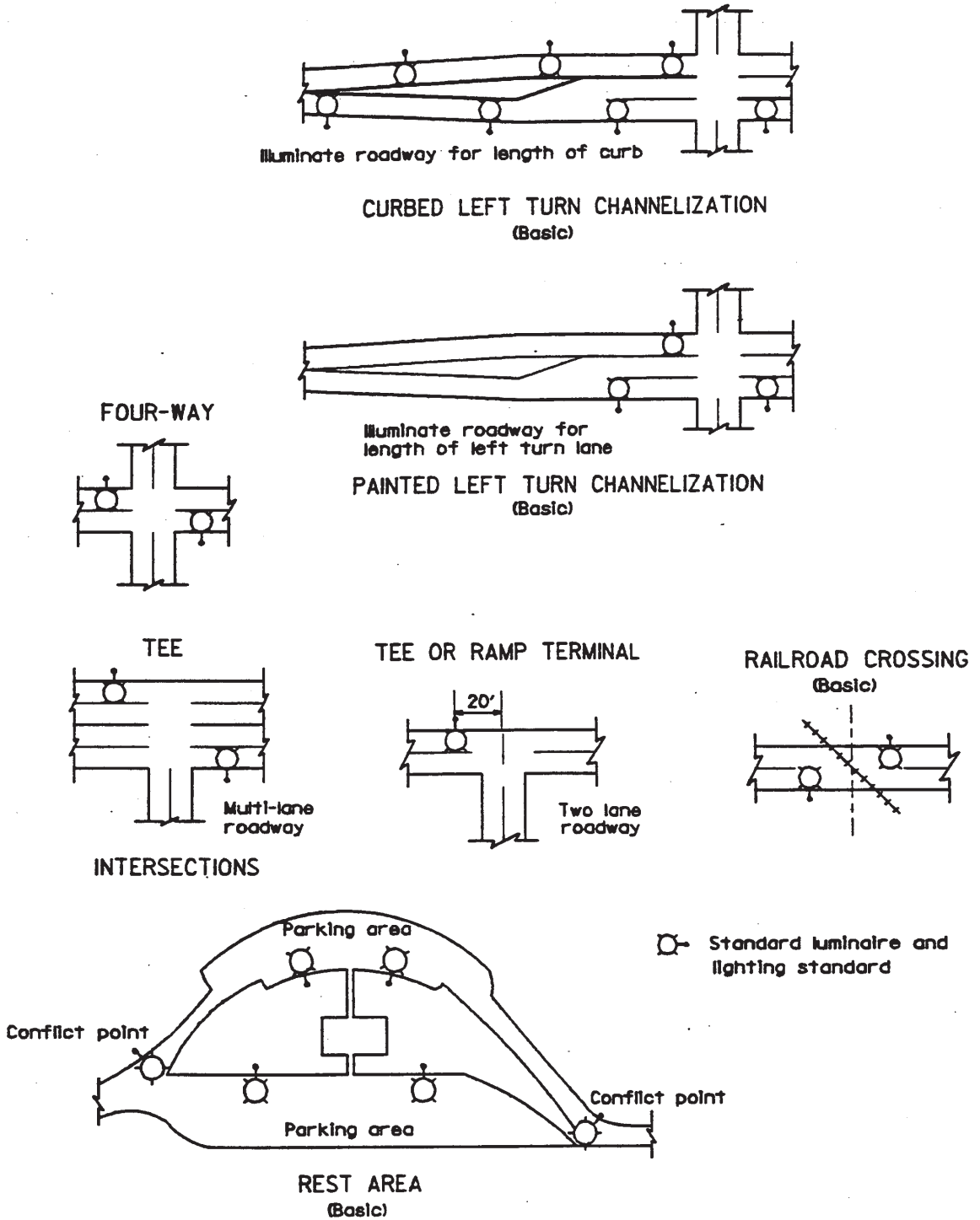


Figure 4-3

Average Maintained Horizontal Illumination Levels (Foot Candles)				
Highway Applications				
Highway Class	Area Classification			
	Commercial	Intermediate	Residential	Rural
Full Access Cont. – Divided	0.6*	0.6*	0.6*	0.6*
Arterials	1.6	1.2	0.8*	0.6*
Other	1.0	0.8*	0.6*	0.6*
Construction Lanes and Detours	1.0	1.0	1.0	1.0
Non-Highway Applications				
	Parking Areas	Bus Loading Areas	Walkways	Weight Scales
Park & Ride Lots	0.8	2.0	0.8	N.A.
Flyer Stops	N.A.	2.0	0.8	N.A.
Ferry Terminals	0.8	2.0	0.8	N.A.
Rest Areas	2 Luminaires	N.A.	Security Level	N.A.
Pool-It Lots	0.8	N.A.	N.A.	N.A.
Weigh Stations	None	N.A.	N.A.	2 Luminaires

*Increase light level by 50 percent at intersections where more than one light standard is installed.

Figure 4-4

High Pressue Sodium	
Wattage	Mounting Height (Ft)
70	20
100	25
200	30
250	35
310	40
400	50
1000	100

Recommended Mounting Heights

Figure 4-5

Lamp	Lamp Load Factor	Maximum Line Loss	
		Ultimate Loads Known	Ultimate Loads Unknown
High Pressure Sodium	1.2	8%	5%
Metal Halide	1.2	8%	5%
Mercury Vapor	1.1	10%	5%

Line Loss and Lamp Load Factor Requirements

Figure 4-6

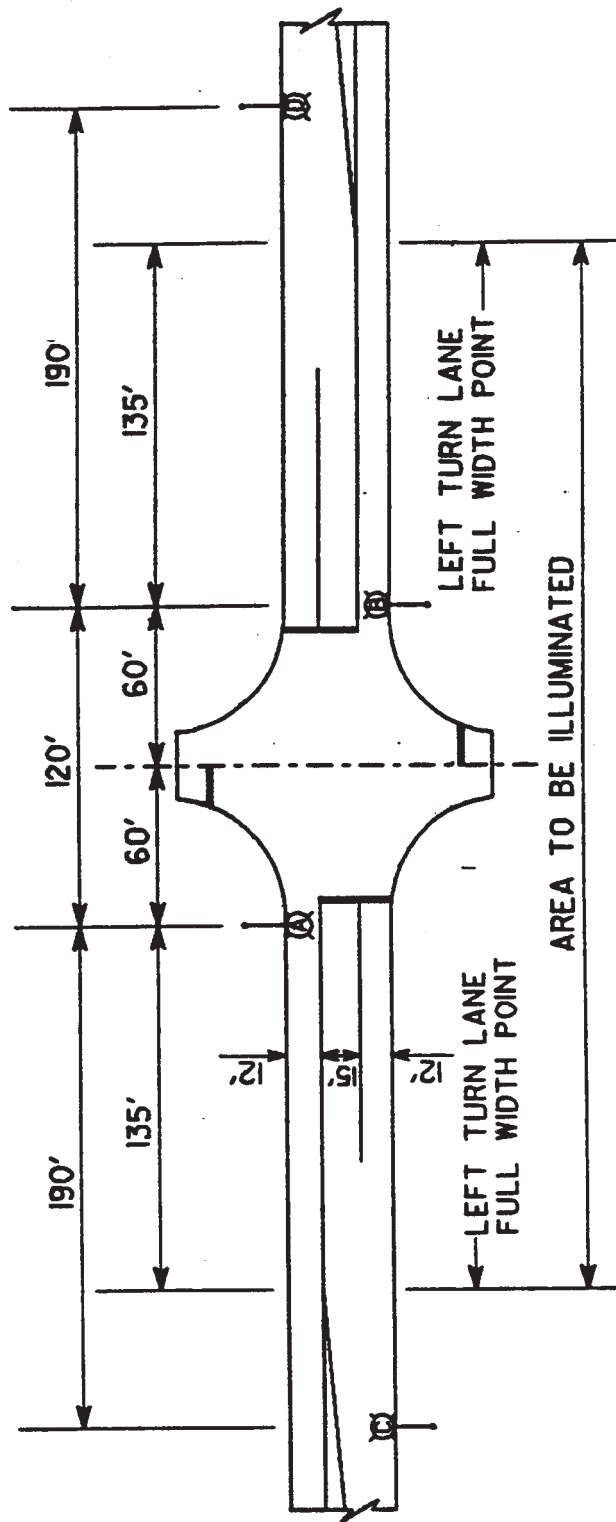


Figure 4-7

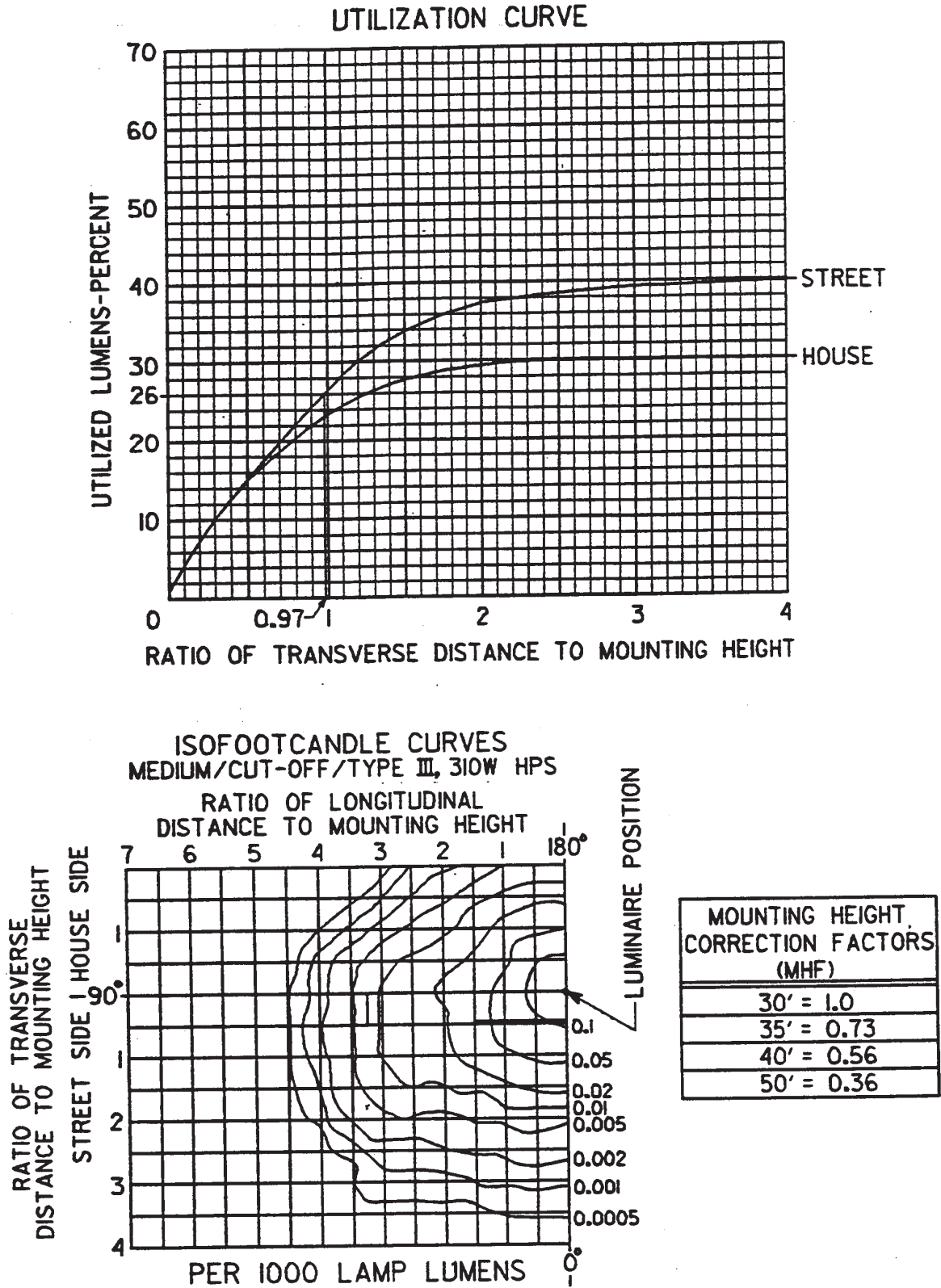


Figure 4-8

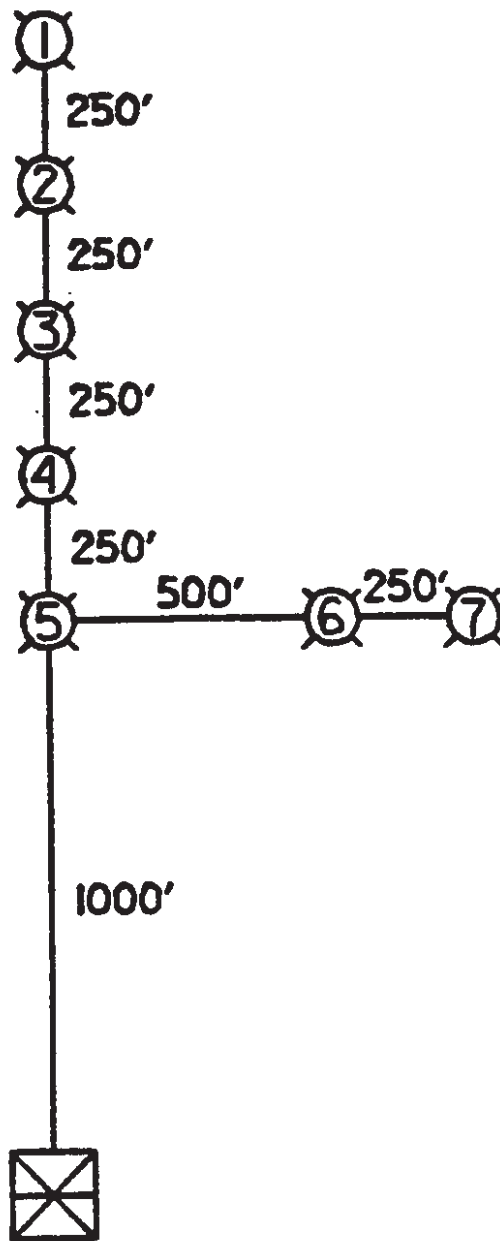


Figure 4-9

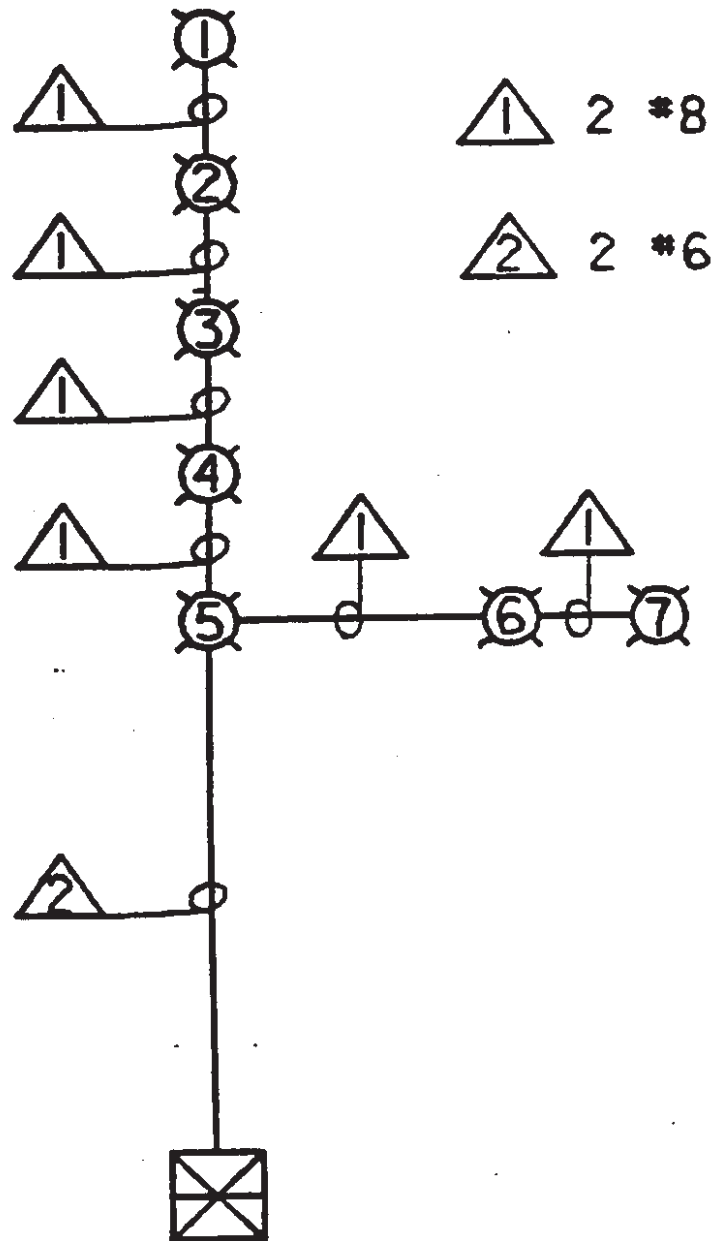


Figure 4-10

Load No.	Load (A) AMPS	Σ Loads (A) (AMPS)	Distance (D) (FT)	A x D (AMP-FT)	Σ AD (AMP-FT)
1	1.55	1.55	250	390	390
2	1.55	3.10	250	780	1170
3	1.55	4.65	250	1,160	2,330
4	1.55	6.20	250	1,550	3,880
5-6-7	4.65	10.85	1,000	10,850	14,730
Service					Say 14, 800
7	1.55	1.55	250	390	390
6	1.55	3.10	500	1,550	1,940
5-4-3-2-1	7.75	10.85	1,000	10,850	12,790
Service					Say 12,800

Line Loss Table
Figure 4-11

WIRE SIZE AWG	4/0	3/0	2/0	1/0	1	2	4	6	8
Amperes Feet	Volts Drop								
500,000	95.9	120.0	151.0	191.0	240.0	303.0	483.0	—	—
400,000	76.8	96.0	121.0	153.0	192.0	241.0	386.0	—	—
300,000	57.6	72.0	90.6	115.00	144.0	182.0	290.0	460.0	—
200,000	38.4	48.0	60.4	76.4	96.0	121.0	193.0	307.0	478.0
100,000	19.2	24.0	30.2	38.2	48.0	60.6	96.6	153.0	239.0
90,000	17.3	21.6	27.2	34.4	43.2	54.6	87.0	138.0	215.0
80,000	15.3	19.2	24.2	30.5	38.4	48.5	77.3	123.0	191.0
70,000	13.4	16.8	21.1	27.6	33.6	42.4	67.6	107.0	167.0
60,000	11.5	14.4	18.1	22.9	28.8	36.4	58.0	92.0	144.0
50,000	9.6	12.0	15.1	19.1	24.0	30.3	48.3	76.7	120.0
40,000	7.7	9.6	12.1	15.3	19.2	24.1	38.6	61.4	95.6
30,000	5.8	7.2	9.1	11.5	14.4	18.2	29.0	46.0	71.7
20,000	3.8	4.9	6.0	7.6	9.6	12.1	19.3	30.7	47.8
10,000	1.9	2.4	3.0	3.8	4.8	6.1	9.7	15.3	23.9
9,000	1.7	2.2	2.7	3.4	4.3	5.5	8.7	13.8	21.5
8,000	1.5	1.9	2.4	3.1	3.8	4.9	7.7	12.3	19.1
7,000	1.3	1.7	2.1	2.8	3.4	4.2	6.8	10.7	16.7
6,000	1.2	1.4	1.8	2.3	2.9	3.6	5.8	9.2	14.4
5,000	1.0	1.2	1.5	1.9	2.4	3.0	4.8	7.7	12.0
4,000	0.7	1.0	1.2	1.5	1.9	2.4	3.9	6.1	9.6
3,000	0.6	0.7	0.9	1.2	1.4	1.8	2.9	4.6	7.2
2,000	0.4	0.5	0.6	0.8	1.0	1.2	1.9	3.1	4.8
1,000	0.2	0.2	0.3	0.4	0.5	0.6	1.0	1.5	2.4
900	0.2	0.2	0.3	0.3	0.4	0.6	0.9	1.4	2.2
800	0.2	0.2	0.2	0.3	0.4	0.5	0.8	1.2	1.9
700	0.1	0.2	0.2	0.3	0.3	0.4	0.7	1.1	1.7
600	0.1	0.1	0.2	0.2	0.3	0.4	0.6	0.9	1.4
500	0.1	0.1	0.2	0.2	0.2	0.3	0.5	0.8	1.2
400	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.6	1.0
300	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.5	0.7
200	—	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.5
100	—	—	—	—	0.1	0.1	0.1	0.2	0.2

Voltage Drop for Aluminum Conductors
(Aerial Installation Only, Underground Installation Prohibited)
Power Factor 100 Percent Single Phase ... 2 Wire
Figure 4-12

WIRE SIZE AWG	4/0	3/0	2/0	1/0	1	2	4	6	8	10	12	14
Amperes Feet	Volts Drop											
500,000	62.4	78.6	98.5	123.0	153.0	194.0	306.0	483.0	–	–	–	–
400,000	50.0	62.9	78.8	98.4	122.0	155.0	244.0	386.0	–	–	–	–
300,000	37.4	47.2	59.1	73.9	91.8	116.0	184.0	290.0	450.0	–	–	–
200,000	25.0	31.4	39.4	49.2	61.2	77.6	122.0	193.0	300.0	480.0	–	–
100,000	12.5	15.7	19.7	24.6	30.6	38.8	61.2	96.6	150.0	240.0	384.0	–
90,000	11.2	14.2	17.7	22.2	27.5	34.9	55.1	87.0	135.0	216.0	345.0	–
80,000	10.0	12.6	15.8	19.7	24.5	31.0	49.0	77.3	120.0	192.0	307.0	487.0
70,000	8.7	11.0	13.8	17.2	21.4	27.2	42.8	67.6	105.0	168.0	269.0	426.0
60,000	7.5	9.4	11.8	14.8	18.4	23.3	36.7	58.0	90.0	144.0	230.0	365.0
50,000	6.2	7.9	9.9	12.3	15.3	19.4	30.6	48.3	74.9	120.0	192.0	304.4
40,000	5.0	6.3	7.9	9.8	12.2	15.5	24.4	38.6	60.0	96.0	154.0	234.0
30,000	3.7	4.7	5.9	7.4	9.2	11.6	18.4	29.0	45.0	72.0	115.0	182.0
20,000	2.5	3.1	3.9	4.9	6.1	7.8	12.2	19.3	30.0	48.0	76.8	122.0
10,000	1.3	1.6	1.9	2.5	3.1	3.9	6.1	9.7	15.0	24.0	38.4	60.8
9,000	1.1	1.4	1.8	2.2	2.8	3.5	5.5	8.7	13.5	21.6	34.5	54.7
8,000	1.0	1.3	1.6	1.9	2.5	3.1	4.9	7.7	12.0	19.2	30.7	48.7
7,000	0.9	1.1	1.4	1.7	2.1	2.7	4.3	6.8	10.5	16.8	26.9	42.6
6,000	0.8	0.9	1.2	1.5	1.8	2.3	3.7	5.8	9.0	14.4	23.0	36.5
5,000	0.6	0.8	1.0	1.2	1.5	1.9	3.1	4.8	7.5	12.0	19.2	30.4
4,000	0.5	0.6	0.8	1.0	1.2	1.5	2.4	3.8	6.0	9.6	15.4	24.3
3,000	0.4	0.5	0.6	0.7	0.9	1.2	1.8	2.9	4.5	7.2	11.5	18.2
2,000	0.3	0.3	0.4	0.5	0.6	0.8	1.2	1.9	3.0	4.8	7.7	12.2
1,000	0.1	0.2	0.2	0.3	0.3	0.4	0.6	1.0	1.5	2.4	3.8	6.1
900	0.1	0.1	0.2	0.2	0.3	0.4	0.6	0.9	1.4	2.2	3.5	5.5
800	0.1	0.1	0.2	0.2	0.3	0.3	0.5	0.8	1.2	1.9	3.1	4.9
700	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.7	1.1	1.7	2.7	4.3
600	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.6	0.9	1.4	2.3	3.7
500	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.5	0.8	1.2	1.9	3.0
400	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.6	1.0	1.5	2.4
300	–	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.5	0.7	1.2	1.8
200	–	–	–	0.1	0.1	0.1	0.1	0.2	0.3	0.5	0.8	1.2
100	–	–	–	–	–	–	0.1	0.1	0.2	0.2	0.4	0.6

**Voltage Drop for Copper Conductors
(In Conduit or Aerial Installtion)
Power Factor 100 Percent Single Phase ... 2 Wire
Figure 4-13**

5.1 General

Work zone traffic control is a major aspect of any roadway project. It must be designed from the motorists point of view to provide the motorists with the necessary information to proceed in a safe and orderly manner through a construction or maintenance work zone which may have unexpected roadway conditions, changes in alignment, and temporary roadside obstacles relating to the work activity. The sudden transition to tighter geometrics and the closer proximity of traffic control must be incorporated into the work area in a manner that will minimize driver uncertainty. Effective work zone traffic control is the result of strategy planning, plan development and preparation, and field applications. The goal of any work zone traffic control plan is to allow no reduction in the level of service for traffic.

TCP (Traffic Control Plans) must be included in the PS&E to provide for the orderly movement of vehicular and pedestrian traffic through construction and maintenance areas.

No single standard sequence of signs or other traffic control devices can be used as an inflexible arrangement for all situations due to the variety of roadway and traffic conditions that may be present in a roadway project. A TCP that adequately address the variables motorists will encounter on each specific project are generally preferred

5.2 Principles

Guidelines for TCPs are found in Section VI of the *Manual on Uniform Traffic Control Devices* (MUTCD). Section VI details the fundamental principles of temporary traffic control, including the design and erection of signing, traffic control layout, pavement markings, delineation, lighting, and flagging standards. This chapter sets forth specific principles for designing traffic control.

A. Traffic Control Features

1. **Lane Geometry.** The approach lane width should be equaled or exceeded throughout the connection. The minimum allowable lane width is 10 feet. Design the lane and the lane width reductions prior to any lane shifts within the transition area.

Every effort should be made to maintain an approach speed that matches the design speed of the facility. Where this is not possible, a 10 mph reduced speed advisory, posted with a warning sign which tells the driver of the hazard, is considered maximum per speed

change. Design for the highest design speed allowed with respect to curve radii. Curve radii and lane width should not be reduced simultaneously.

The objective is to use lane geometrics that will be clear to the driver and keep the vehicle in the intended lane. Lane lines and construction joints must be treated to provide a smooth flow through the transition area. It may also be necessary to modify or remove other existing traffic control devices.

2. **Physical Barriers.** There are three types of barrier protection used in construction workzones: water-filled barriers, moveable barrier, and concrete barriers. Several items as summarized below must be considered when determining their use.

Water-filled Barriers

- Short-term projects (zero to three days) for a minimum 100-foot length.
- Do not use in lane transitions until further testing has been done or unless the situation meets with manufacturer's specifications. In the case of an open construction work area, use in conjunction with TMAs.
- Evaluate risk and site conditions and if used, follow manufacturer's guidelines and specifications. Provide chart for Washington State Department of Transportation (WSDOT) designers to use which shows deflection based on speed of vehicle.

Moveable Barriers

- High volume traffic conditions with very short-term lane closures.
- Continuous operation over extended period of time, where there is a need to get the lane back in operation at some point in the day. (Could be used in lieu of reduced lane widths or lane reduction, i.e., HOV lane additions; wall next to roadway.)

Temporary Concrete Barriers

- High speed roadways and areas where there is a high potential for injury to workers (i.e., internal lane work).
- Work zones in "no escape" areas such as tunnels, bridges, lane expansion work, etc.
- Long-term, stationary jobs (work that occupies a location more than three days).

- Worker and traveling public exposure considerations such as high speed and volume of traffic, when workers are not protected by vehicle, and in proximity to traffic (concrete slab repair in freeways).

Temporary concrete barriers are normally installed for:

- a. The operation of opposing traffic where two-way traffic must be maintained on one roadway of a normally divided highway for an extended period of time.
- b. The separation of opposing traffic where a four-lane divided highway transitions to a two-lane, two-way roadway that is being upgraded to become a divided four-lane roadway.
- c. Projects where existing safety features such as bridge rail or guardrail are removed.

A 2-foot minimum shy distance is normally provided between the lane edge and the near edge of the separation barrier.

It may be necessary to utilize a portion of the roadway shoulder to provide the roadway width needed for the barrier use.

In areas where temporary concrete barriers cannot be installed, drums, cones, barricades, or vertical panels can be used as an acceptable alternate. However, temporary concrete barriers must be used in the transition areas between multilane and two-lane, two-way roadways, and as described in (c) above.

Exposed ends of concrete barriers must be located outside the clear zone and adequately flared, or have a crashworthy end treatment.

Where drums, cones, etc., are used, consistent patterns of the devices are important to help alleviate driver confusion. Random mixing of these devices at any given location is undesirable.

Where positive barriers are not used throughout a two-way connection, warning lights may be used to mark opposing traffic separation devices.

3. **Illumination.** Full lighting is normally provided through traffic control areas where power is available. Illumination will be placed in accordance with Chapter 840 of the *Design Manual* M 22-01.
4. **Delineation.** Removable temporary or painted lane lines and edge lines are normally used to delineate the roadway. These pavement markings are preferred for shifts in travelway alignment. Type 2 raised pavement markers and guideposts may be used to accentuate the lane and edge lines in illuminated areas.

In areas where power for illumination is not available, reflective devices must be used to delineate the traveled way for nighttime driving. Guideposts provide eye-level delineation, while Type 2 raised pavement markers provide lane line delineation. Reflective devices are also installed on temporary concrete barriers used in transition areas and/or to separate opposing traffic.

When concrete barrier is used, lateral clearance markers may be installed at the barrier's angle points and at other locations along the barrier where additional delineation may be needed.

Pavement marking arrows are placed in lanes to indicate direction of travel.

Delineation guidelines are shown in Chapter 830 of the *Design Manual*.

5. **Speed Limit or Speed Advisory Signing.** As part of the design process for construction and projects for maintenance, speed reductions are an option requiring a thorough traffic analysis conducted prior to making a change. For emergency and other necessary speed reductions, guidelines are outlined in [RCW 47.38.020](#), WSDOT *Construction Manual* M 41-01, and [Directive D 55-20](#) "Reduced Speed in Maintenance and Construction Zones."

When a change of speed is necessary, a request for change of speed limit must be submitted to the regional Traffic Control Engineer. When regulatory speed limit reduction or advisory speed signing is necessary, use the letters "XX" to represent the speed limit on the TCP. The actual posted speed indicated on the signs is determined prior to opening the temporary connection.

Some items to consider when reducing speeds in work zones because of worker safety include:

- Post speed limit signs in the work zone. When speed limit is lowered and enforced (monitored by WSP/local law enforcement), ensure work zone is adequately signed.
- Post regulatory speed limit signs for work hours only (identify hours when the limit is in effect if condition for speed limit reduction is not present when work is not being conducted). Remove signs when reduced speed limit is not in affect.
- Use variable message signs more frequently (as a supplement to standard signs) to display either advisory speeds or regulatory speed limits and explain the activity requiring the reduction.

6. **Variable Message Signs.** Per the MUTCD, the primary purpose of VMS in temporary traffic control zones is to advise the driver of unexpected traffic and routing situations. Some typical situations can include the following:
- Where speed of traffic is expected to drop substantially.
 - Where significant queuing and delays are expected.
 - Where adverse environmental conditions are present.
 - Where there are changes in alignment or surface conditions.
 - To provide advance notice of ramp, lane, or roadway closures.
 - For accident or incident management.

Operators must always be aware of what the arrow board is displaying. Keep displays appropriate and when not needed, turn them off. For instance, when the vehicle or arrow board is placed on the right shoulder, never display the “right arrow” because it would move people off the shoulder/road and be potentially hazardous to drivers/workers. This also applies to “left arrow” usage in the left lane/shoulder placement.

Make messages clear and brief. Keep messages to a maximum of two panels. If special messages are necessary, be consistent with conventional signs and standards normally used. Whenever possible, use the pre-programmed “canned” messages that the VMS is equipped with.

7. **Truck Mounted Attenuators (TMAs).** Items to consider for determining TMA use:
- Speed of Traffic: Higher operating speeds leave less time for response, and impacts at higher speeds generally result in more severe injuries and damage. Therefore, activities on facilities with high speed limits are likely to entail more frequent and more severe incidents than are activities on facilities with low speed limits.
 - Type of activity: moving, intermittent, or stationary.
 - Duration of project.
 - Roadway environment: access controlled vs. non-access controlled, urban vs. rural; and geometrics of roadway. Access controlled facilities frequently give drivers a false sense of security resulting in a lower expectation of interruptions to free traffic flow. Therefore, activities on freeways may be more likely to become involved in incidents than are activities on non-access controlled facilities where most drivers are operating at a higher state of alertness.

- Traffic volumes which relate directly to worker exposure.
- Exposure to special hazards: Operations involving personnel on foot or located in exposed positions on or within work vehicles (for example, on the platform of a cone pickup truck or in a lift-bucket performing overhead operations) are particularly susceptible to high severity incidents.
- Location of work area: Locations of primary concern are those within the traveled lanes and those within all-weather frequently used shoulders. Activities taking place within the traveled lanes are more likely to become involved in an incident than are shoulder activities.

Some suggested priorities for the application of truck-mounted attenuators are contained in [Figure 5-2](#).

8. **Use of Flaggers.** Flaggers should be employed only when all other methods of traffic control are inadequate to warn and direct traffic. They should be used prudently when signing and other methods cannot work. The use of more innovative, restrictive, traffic control methods such as signs, signals, channelization, etc., should be considered.

Flaggers must be part of an approved Traffic Control Plan and included in the initial design.

On high speed locations, post speed advisory plaques with appropriate warning signs and other innovative traffic control methods, preceding flaggers, to slow the traffic down and to let drivers know there are people ahead.

Flaggers should not be used when there is no intention to control traffic.

Use of flaggers should be consistent between regions/offices/locations for like jobs. For instance, use flaggers for the following conditions:

- **Slow Traffic.** Do not rely solely on flaggers to slow the traffic; supplement with traffic control set up (i.e., simplify traffic flow, restrict traffic flow).
 - **Direct Traffic.** The flagger is sometimes necessary to keep traffic from following work vehicles into the work zone. They are responsible for redirecting vehicles back into the flow of traffic safely.
 - **Stop Traffic.**
9. **Use of Enhanced Enforcement.** For use of enforcement, the initial determination should be based on engineering judgment (between maintenance/construction office and district traffic office) considering the type of construction activity, complexity of the traffic control

plan, possible speed reduction needs, traffic volumes, nighttime work activity, geometric conditions, associated cost for use of enforcement (cost benefit analysis), and actual traffic problems observed as the work progresses.

Enhanced enforcement in the work zone is recommended to:

- Provide single stationary patrol car for work zones where the work area is less than 1,000 feet in length. (This is the length of the actual work area and excludes the advance warning, taper, and buffer spaces before and after the actual work zone.)
- Provide two or more stationary patrol vehicles for work zones with a work area greater than 1,000 feet in length. (This is the length of the actual work area excluding the advance warning, taper, and buffer spaces before and after the actual work zone). The WSP stated that use of two troopers (one set up at the start of the project who would radio to the trooper at the end of the project) works best for enforcement. One trooper would be available to transport individuals as needed and one trooper would remain to cover the work zone.

B. Pedestrian and Bicycle Safety. Special consideration must be given to the safe accommodation of pedestrians when the work zone encroaches upon a sidewalk, crosswalk, or other areas used by the pedestrian.

Where walkways are closed by construction or maintenance, provide an alternate walkway when feasible. Where it is necessary to divert pedestrians into the parking lane of a street, provide barricades and delineation to separate the pedestrian walkway from the adjacent traffic lane. Pedestrians should not be diverted into a portion of the street used for vehicular traffic. At locations where adjacent alternate walkways cannot be provided, post appropriate signs at the limits of construction and in advance of the closure at the nearest crosswalk or intersection to divert pedestrians across the street.

When overhead work could endanger pedestrians, it may be necessary to install a fixed pedestrian walkway of the fence or canopy type to protect and control pedestrians. In such cases, wood and chain link fencing can be used with warning lights and illumination to warn and guide both pedestrians and motorists.

Fences around a construction area are often necessary. They are constructed in conjunction with a special pedestrian walkway around deep excavations, or when pedestrian access to the job site is not desirable. Installation of such fencing must consider relocation of existing control devices and facilities such as traffic signals, pedestrian signals, traffic signs, and parking meters. Open mesh or other suitable fencing may be needed at intersections to ensure adequate sight distance.

When the work zone encroaches upon a bicycle path, an alternate route should be considered and provided for cyclists where feasible. Bicycles should not normally be directed into the same path used by pedestrians. See Part IX of the MUTCD for details on bicycle traffic control.

Appropriate considerations should be made for traffic control operations that are conducted during the hours of darkness.

C. **Types of Work Zones.** Anticipated work zones are categorized as: (1) Short-Term Stationary, (2) Continuous Moving, and (3) Long-Term Stationary. Different criteria will apply to the design and planning of the necessary traffic control measures for each of these categories. The following is a generalized description of the characteristics for these three types of work zones.

1. **Short-Term Stationary.** In this type of work zone, situations exist where the work activity is of a very short time, such as, picking up obstacles or inspecting a culvert for debris. For these very short-time work periods, a flashing/rotating beacon in addition to the vehicle's four-way flashers may give drivers, approaching on sections of highway that have no restrictions to sight distance, adequate warning. When the driver's sight distance is obscured by roadside obstacles or the roadway geometry, appropriate advance warning signs, and/or other traffic control devices, are required.

Advance warning signs should be used if the short-term activity is repetitive after moving only a short distance. The signs selected should be appropriate for the operation and the signs should be moved ahead as required in order to maintain an appropriate spacing between the warning signs and the activity. The maximum advisable distance between the advance warning signs and the work activity is one mile.

2. **Continuous Moving.** Continuous moving work areas are activities where work is being done while the equipment is moving either beside or on the traveled lanes of the highway. Included in this category would be striping, roadside spraying, sweeping, and other similar tasks.

The advance warning signs used for moving operations can be mounted on the shoulder or on a shadow vehicle, or both. Shadow vehicles should carry a sign which describes the work ahead and warning lights. If the shadow vehicle must encroach on the traveled lane, a flashing arrow board should be used. Whether the advance warning signs are ground mounted on the roadside shoulder or mounted on shadow vehicles, the signs should be moved ahead as required in order to maintain an appropriate distance between the signs and the work activity. The maximum advisable distance between the advance warning signs and the continually moving work activity is 1 mile.

On Multi-Lane Highways. The requirements for traffic control during moving operations on multi-lane highways are similar to those for stationary operations. If work vehicles must encroach on the traveled way, a flashing arrow board should be used while working on multi-lane highways.

An advance warning sign which describes the operation should be mounted on a separate or shadow vehicle. The distance between the shadow vehicle and the work vehicle can vary but it should not be so great that traffic has the tendency to pull back into the lane behind the work vehicle where the work is being done.

On Two-Lane Highways. Moving operations on two-lane highways can basically be handled in the same manner as on multi-lane highways with the exception that a flashing arrow board should never be used in the arrow or directional mode. Advance warning signs should be placed on the roadway shoulder or on a shadow vehicle.

- 3. Long-Term Stationary.** Traffic control plans developed for long-term stationary operations address each anticipated work situation that encroaches into the traveled lanes or shoulders. The considerations for those traffic control plans should include all traffic entering the work zone from driveways, intersections, ramps, and the main roadway. The plans should also consider how traffic will leave the work area and re-enter the main traffic stream or leave by the way of an intersection or off-ramp.

Detour routes should be given special consideration when directing traffic through urban areas. Local jurisdictions are to be consulted when detoured traffic must use local streets and roads. Also, advise local emergency services, transit and major traffic generators, such as airports and port facilities, about any detour routes.

If ramps, structures or intersections are to be temporarily closed, signs giving advance notice of the closure dates and times are necessary so commuting motorists have the option of selecting alternate routes. The advance notice should be placed a minimum of seven days in advance of the closure.

5.3 Strategy Planning

On construction projects, the design report establishes the parameters for the project's specific needs. At that time such items as lane restrictions and closures, working hours, ramp closures, detour options, and other possibilities should be considered. On low volume rural highways, traffic control procedures may be simple to develop; whereas, traffic control procedures on limited access, multi-lane, high volume routes can be complex and require extensive planning.

From this strategy the Work Zone Traffic Control Plan is developed to identify the type and location of devices (signs, pavement markings, delineation, and flaggers) required to adequately inform the motorists of the situation.

The keys to strategy planning for traffic control on any public roadway, whether rural roads, urban streets, or freeways are the traffic, with considerations for both volume and types of vehicles, and the roadway characteristics. Careful consideration should be given to the effect the traffic control will have on the traffic flow in the work area and on the adjacent roadways. Traffic volumes, along with the speed and classification of vehicles, express the character of the traffic to be encountered. Hourly volumes show the periods of heavy traffic which should be avoided or that will require special treatment. Any restrictions, such as lane closures, and the hours for those restrictions can then be established by the District Traffic Engineer. Special attention should be directed to bicycles and over-sized vehicles and the detouring of those vehicles which may be necessary. [Figure 5-1](#) is a generalized checklist intended to assist in strategic planning and does not necessarily contain all the elements for consideration.

5.4 Plan Preparation

To aid in the preparation of traffic control plans, the Traffic Control Zone is divided into traffic control areas or elements. These individual traffic control areas or elements are used to develop the complete traffic control plan.

- A. **The Traffic Control Zone.** The traffic control zone is the section of street or highway having traffic control devices warning motorists of upcoming conditions or to guide motorists through a construction or maintenance operation. Complex projects may have more than one traffic control zone, one for each operation which may be going on at any one time. The traffic control zone extends from the first advance warning sign to the last sign which indicates the end of the traffic control zone.

The traffic control zone typically consists of five areas (illustrated in [Figure 5-2](#)):

1. **Advance Warning Area.** The area of initial warning and communication with the driver.
2. **Transition Area.** The area where lane closure tapers and detours transition traffic to the paths required for travel through or around the work area.
3. **Buffer Area.** The area in advance of the work area which provides a margin of safety for both traffic and the workers.
4. **Work Area.** The area where the operation or activity is taking place.
5. **Termination Area.** The area which provides a short distance for traffic to clear the work area and to return to normal traffic lanes.

B. **Plan Development.** The work zone traffic control strategies are to be identified early in the design of a project in accordance with Section 8.10 of the *Design Manual*. Plan development begins with a review of the strategy contained in the design report. The supporting data should be checked and any changes in roadway or traffic characteristics should be taken into consideration while preparing the traffic control plan. Site specific traffic control is to be prepared for each work operation on the project unless the roadway and the work operation is repetitive and each location is similar in character.

There are a number of typical traffic control situations stored in a CADD file. These figures are not intended to be standard control plans for any given operation. They are shown only as examples for the situations depicted and are to be used as aids in the development of traffic control plans.

The traffic control devices shown in each area or element of the traffic control zone are available in a “CEL” library for CADD or PC Microstation and can be placed directly on the plan sheets drawn in either one of these systems.

Roadway plan sheets for the project should be used in preparing the traffic control plan. This provides the scale drawing of the roadway section needed to establish proper placement for the signs and devices. Signs and devices can then be placed on the plan sheet in their proper locations by using the CADD. An on-site review of the area is recommended, since many characteristics cannot be determined from a drawing. Give special attention to existing signs which are to be maintained during the work activity that could conflict with or obstruct the view of the traffic control signs. All features and characteristics which will have an effect on the movement of traffic within and adjacent to the traffic control zone should be included in the plan.

The drawings of sample situations included in the CADD file can be used as guidelines for the selection and placement of traffic control devices. The unique characteristics of the specific work area should be individually addressed. Those features may include side roads, driveways, ramps, commercial approaches, bus stops, bridges or areas which have no shoulders (which make temporary sign placement difficult), substandard roadway width, vertical or horizontal alignment which will affect the sight distance of approaching traffic, add-lanes, drop-lanes, railroad crossings, regulatory traffic controls, or any other characteristics which differ from the examples shown in the sample drawings or the standard plans.

The traffic control devices shown on traffic control plans should clearly and concisely give the motorists information needed to adjust their speed and travel direction through the work area. The prepared plans should

include any special signs for situations in which standard signs do not give accurate information and should be supplied as an item in the contract. The use of special signs should be kept to a minimum and used only where necessary. The Headquarters Traffic Office should be consulted regarding the use of special signs. Signing should be as specific as possible and always relate to the immediate situation to be encountered.

1. **Work Area.** Although the work area is not the first area of a traffic control zone encountered by a motorist, it is the area that must be considered first when developing traffic control plans. Traffic control requirements for all the other traffic control zone areas are determined by the location of the work area and type of activity taking place within that area. The other areas of traffic control will then be designed to complement the activities and channelization requirements within the work area.

Identifying the work requirements in the work area, such as which lanes need to be closed, exposure to drop-offs, obstacles created, and equipment considerations will indicate what kind of traffic control or warning devices will be required in advance. With an understanding of the kind of work to be done, the designer then works back to the next element of traffic control which is the buffer area.

2. **Buffer Area.** The buffer area is a safety area but it can have other uses. Vehicles hauling material can be parked in the buffer area for short periods of time during the work day. This area should never be used as a material or equipment storage area unless the traffic is protected by a temporary barrier. The buffer area allows the driver to become accustomed to the channelization and to recognize the path of channelization they will follow through the work area.

After the desirable length of the buffer area is determined, by considering the number of vehicles which might be parked there and the channelization which the driver must follow, the next upstream element to be designed is the Transition Area.

3. **Transition Area.** This is the area where normal traffic flow is transitioned or shifted to the path it must follow around or through the work area. No parking of vehicles or storage should be permitted in the transition area. Lane closure and traffic shift taper lengths are established to recommended minimums depending on the speed limit of the highway and width of the traveled lane. Formulas for determining a taper length are found in Part VI of the MUTCD and a chart for determining taper lengths is available in the CADD file.

4. **Advance Warning Area.** Upstream from the transition area is the advance warning area that gives the oncoming driver information about the situation ahead. Messages used on the advance warning signs will depend on the type of transition ahead. Sign messages which give the driver clear and concise information are the most effective.
5. **Termination Area.** The final area of traffic control to be designed is the termination area. This is the area which gives the driver notification that the temporary traffic control situation is ended. Terminal notification is generally accomplished with a sign such as “END CONSTRUCTION” or may be indicated with channelizing devices which indicate the conclusion of the road work situation and a transition back to normal alignment.
6. **Other Considerations.** Planning temporary traffic control area by area has distinct advantages, especially for complex situations. For instance, if a flagger is needed in advance of the work area, the buffer space should be lengthened to provide space for a secondary warning area where warning signs for the flagging situation would be placed. Roadway features can affect the traffic control in many ways. For example, an on-ramp or side road which enters the highway within the proposed transition area will require special treatment. In such situations advance warning signs should be installed on the ramp or side road and the transition area might have to be relocated to provide a well channelized path for all vehicles.

After locations for the work site traffic control have been established, project signing such as “Road Construction Ahead,” “Road Construction Next XX Miles” (if required by the length of the project), and “End Construction” may be added to the plan.

The time of day when most drivers will encounter the traffic control should be considered while preparing the plans. If traffic control will be in effect during nighttime hours, the signs and devices might need to be supplemented with lights to increase perception and credibility. During a nighttime field review, give consideration to the area’s background lighting from adjacent facilities and advertising signs which are competing for the driver’s recognition.

Warning signs and channelization devices should be positioned in a sequence which can be recognized and respected by the driver. In order to assure proper application, conduct a visualization review of the signs and devices on the plans from a reasonable driver’s point of view. Make sure that the messages and devices are appropriate for each situation the reasonable driver will face.

Temporary concrete barriers and barrier end protection are to be shown on the traffic control plans.

5.5 Work Zone Operations

After traffic control plans based on strategy from the design report are reviewed by the District Traffic Engineer, traffic control can be put into operation on the project.

A drive through inspection of the project to compare actual field conditions, prior to installing the traffic control, can identify characteristics which might require adjustments on the traffic control plan. Aspects of the plan that are not appropriate for the field conditions should be revised. Any modifications to the traffic control plan should be documented. Section 1 of the *Construction Manual* gives additional guidelines for effective traffic control.

Immediately after the traffic control is laid out on the roadway, a drive-through inspection should be conducted by the individual designated as the “responsible person” for the project’s traffic control to check the installation and position of the signs and other devices; and, to determine if the overall configuration of the traffic control relays clear, concise information to the reasonable motorist. Special attention should be given to the traffic control for overlapping and potentially conflicting traffic control zones. If the traffic control plan is going to remain in effect during the hours of darkness, a drive-through inspection is to be made after sunset to ensure that all devices meet the requirements for reflectorization, proper position, and that the messages are clearly legible. The night review should also ensure work area flood lights and flashing arrow boards do not blind approaching motorists.

Periodic reviews (twice daily is recommended for long-term traffic control) of the traffic control devices should be made to verify the adequacy of the traffic control and to identify any needed revisions. Additional night reviews may be necessary to confirm that the devices are clean and that the reflectorized qualities of the signs and devices are being maintained. These reviews should be documented. Particular attention should be given to motorist’s reaction through or around the work area and if there appears to be confusion, additional reviews should be initiated.

The documentation refers to both the location, appropriateness and condition of the signs or devices. Devices are to be replaced as necessary when their appearance and condition dictate. A form to document the traffic control reviews is useful and most districts or project offices have developed their own forms for this purpose. A photo or video inventory of the work zone traffic control may be used to supplement documentation. If photos or video are used, supplemental inventory information should be referenced in the project documentation.

Should an accident occur on the project or within the work area, a review of the traffic control plan and the devices should be made and documented as soon as possible. This review should be done not only to see if the devices

are in place as shown on the plan, but also to determine if the devices are adequate or if the plan should be revised in light of experience. Each field office should have a procedure for analyzing accidents which take place within the limits of the project. Formal communications with the Washington State Patrol must be established at the pre-construction stage and arrangements made to receive copies of accident reports in a timely manner. Occasional contact with WSP for their perception of the traffic flow through the construction area can be beneficial.

If any assistance is desired at any stage of traffic control plan development, consult the District Traffic Engineer's office. Each district traffic engineer's office should have a traffic control specialist to review and provide guidance in the preparation of the traffic control plans for the PS&E, to review traffic control in the field, and to have the authority to approve revisions to the traffic control plans.

The following is a list of things to consider when designing construction traffic control and writing traffic control specifications.

Effective traffic control is integrated into the project early in the design and planning process. Traffic control will often determine the staging of a project and will always effect the project cost.

Step 1 — To Close Or Not To Close

Closing the roadway or ramp is the most desirable option. This usually lowers construction costs, decreases contract time and increases worker safety.

Roadway closure can be considered if an alternate route is available. The alternate route must carry the additional traffic volumes and any weight or height restrictions must be considered.

For the traveling public, closing the road for a short time may be less inconvenient than having the road under construction for a long time.

Consider the following while determining if a road should be closed.

1. Is there an available detour route?
2. Can the proposed detour carry the additional traffic?
3. Will businesses or residences be isolated if the road is closed? If so, is there an alternate access point.

If a complete closure is possible, do the following:

- Get the approval of the governing agency to use the proposed detour route.
- Meet with the community and businesses to discuss the roadway closure. Find resolutions to the community's concerns. This may mean leaving the roadway open during construction.

- Determine the maximum number of allowable days of closure and incorporate this into the special provisions.
- Determine if liquidated damages or incentives for early completion should be included in the special provisions.

Step 2 — Strategy Or “How Can This Thing Be Built?”

If the roadway must remain open during construction, determine how to build the project with the least possible impact on traffic.

1. Read any District policy about lane closures or restrictions.
2. Determine the volumes of traffic on the facility and the hours of high volume.
3. Determine if long duration lane closures are needed. Some construction activities that require long closures are:

- Concrete panel replacement
- Bridge overlays
- Major excavations in the roadway
- Large continuous concrete pours

4. Determine the hours of restriction — the hours that lanes and shoulders must be open and clear for traffic.

For a quick analysis, assume the following volumes of vehicles per hour in urban construction areas:

- 1400 Veh/hr/lane on controlled access highways
- 600 Veh/hr/lane on undivided rural and suburban highways
(any signals will lower the capacity)

When determining the hours of restriction, check the local noise ordinances and determine what construction work can be done at night. Loud construction work, such as pile driving, is prohibited at night in many areas. For work that is prohibited from being done at night, provisions must be made for daytime work. Avoid engine powered generators for VMS or arrow panels in residential areas during night-work, if possible.

Be sure to consider holiday weekends, special events, and regular weekend traffic when determining the hours of restriction.

Also, consider the impact on private or commercial driveways or road access.

5. Determine if there should be liquidated damages in excess of the standard specification amount. Determine if there should be contract incentives for early completion of the project. Determine the amounts of each of these.

6. Study the project and determine how it could be built. Is it possible to build the project within the restrictions stated? Is staging necessary?

Staging a project can be as simple as deciding one lane must be paved at a time. Staging is a suggested way of building the project, not the only way to build a project. By staging the project we determine:

- If our traffic control special provisions are realistic.
 - The approximate duration of lane closures.
 - If temporary structures and detours are needed.
 - If existing utility systems can remain operational during construction, or will they have to be relocated/replaced. (Examples: signals, electrical, drainage)
 - If the work areas are adequate. (Examples: storage space for equipment and materials, space to load/unload trucks.)
7. Incorporate into the project design ways of lessening the traffic impact. Some examples are:
 - a. Use precast concrete or steel girders instead of cast-in-place concrete for structures over main traffic lanes.
 - b. Specify materials that have faster cure times than conventional materials.
 - c. Building detours and improving alternate routes in order to carry the increased traffic volumes.
 8. Study the project and determine if traffic control or lane closures are needed on adjoining roads. Adjoining roads include frontage roads, intersections, overcrossings, and undercrossings. Some examples are:
 - Low clearance because of bridge falsework.
 - Long-term lane closures for bridge falsework and substructure excavation.
 - Short- and long-term lane closures on frontage roads because of retaining wall construction.
 - Placement of “Road Construction Ahead” signs and other warning signs.
 - Short-term access closures for paving intersections.

If traffic control is needed on facilities that are not state highways, get permission to use the facility from the governing agency.
 9. Determine if there are any areas that construction vehicles cannot safely leave or enter the highway because of limited sight distance. Label these areas on the traffic control plans.

10. Work zone sites exhibiting one or more of the following characteristics should be reviewed for possible enhanced enforcement needs:
- **Sites where “excessive speeding” is observed or could be anticipated within the construction zone.** Based on a study conducted by the California Department of Transportation (Caltrans), “speeding” and speed-related measures were identified as the primary factor affecting work zone safety. While sufficient warning of desirable travel speeds through the work zone may be placed in compliance with the MUTCD, driver acceptance and compliance with the advisory speeds is, in many cases, poor. The use of increased enforcement to “command” adherence to the speed limit has been shown to be effective in maintaining these speeds, as evidenced by the findings in the literature review and interviews with the Caltrans and California Highway Patrol (CHP) personnel.
 - **Sites where a reduced speed limit is recommended.** The purpose of a reduced regulatory speed limit within a construction zone is based on a perceived need, such as reducing travel speeds prior to diverting or detouring traffic, reducing speeds adjacent to unprotected construction workers. For a complete discussion, refer to [D 55-20](#). Based on the findings from the study sources, adherence to reduced speed limits is, in many cases, poor. To ensure adherence to the speed limit, enhanced enforcement may be necessary.
 - **Sites having a complex traffic plan or multiple phases to the plan.** Sites with traffic control plans having a number of traffic diversions, lane closures, or traffic restrictions requiring a number of decisions by motorists, particularly in a short distance, are highly susceptible to increased accident activity. Much of this activity may be attributed to motorist’s indecision through the area, to differentials in travel speeds through the site, and to the lack of adherence to speed controls in the area. Past efforts have shown that enhanced enforcement, through manual control/flagging or a visible presence, have resulted in smoother, more efficient traffic flow through the work zone. Typically, a lower level of accident activity has resulted.
- In addition, construction projects requiring multiple traffic control phases are shown to exhibit greater accident activity than those containing a single phase. Much of this may be attributed to the driver indecision associated with “learning” a new traffic pattern each time a new traffic control phase occurs. As the requirements for the motorists’ decision-making increases between subsequent phases, accident activity is also likely to increase. The use of enhanced enforcement to supplement the existing traffic controls has an “alerting” effect, helping motorists recognize field changes and the need for increased safety through the area. Use of enhanced enforcement for a specific time period following traffic control phase changes has been found to be effective.

- **Sites currently exhibiting a “high” accident rate.** Based on research, accident rates during the construction activity typically increase over the pre-construction accident rate. As such, sites exhibiting a “high” accident rate prior to construction (under normal field conditions) may require supplemental traffic control in the form of enhanced enforcement in order to minimize accidents during construction. Oftentimes, site characteristics (horizontal and vertical curvature, geometrics, access) prior to construction are a major factor in the level of pre-construction accident activity. The presence of construction activity may worsen the impact of these characteristics.
- **Sites having high volume conditions and/or limited roadway capacity.** Construction activity resulting in significant reductions in the available roadway capacity can have a dramatic impact on travel speeds and congestion in an area. To aid in maintaining an acceptable level of traffic operations, selective enforcement through the work zone may be desirable. The enforcement may take the form of traffic control/flagging or the visible presence of police officers and vehicles.
- **Sites planned for nighttime construction.** Research has identified safety problems associated with nighttime work in construction areas. Increased distraction to motorists, unique construction lighting needs, reduced perception levels by motorists, sub-optimal traffic controls, as well as excessive travel speeds for the conditions through the work zone contribute to the increased accident activity. The use of enhanced enforcement to “alert” motorists to the need for increased caution and to enforce excessive speeding in the area can be extremely valuable in maintaining safety during nighttime construction activities.

The safety impact associated with nighttime travel through work zones with no construction activity presents a similar problem. Faced with similar field situations as identified above (e.g., reduced perception levels by motorist, sub-optimal traffic controls, excessive speeding), accident activity through the work zone during nighttime conditions has exhibited major increases over nighttime conditions prior to construction, particularly where traffic movement through the area drastically differs from the “normal” condition. Enhanced enforcement measures have been shown to aid safety in these situations.

- **Sites involving short-term activities.** Past studies have shown that the most critical safety period for work zones is the initial implementation period. Motorists accustomed to driving through an area with no restrictions are forced to adhere to restrictions and “unfamiliar” situations that did not exist previously. Driver indecision is at its peak and driver compliance to regulations varies sharply. As a result, increased accident activity typically results. As drivers become more familiar with the field conditions, the level of accident activity typically is reduced. For short-term project activities (less than one

day), little or no adjustment period exists. The accident activity can be quite high, particularly for field situations requiring traffic diversions, detours or lane reductions. Enhanced enforcement for these conditions may be warranted.

- **Sites with restricted geometrics.** Where steep grades, sharp curves, narrow lanes, or other abnormal field conditions exist, enhanced enforcement to supplement the traffic controls per the MUTCD may be necessary. Sites with restricted geometrics can exhibit accident rates higher than normal. The use of enhanced enforcement can reduce the anticipated accident levels.
- **Sites in areas during periods of poor weather conditions.** In areas where weather conditions such as snow, fog, ice, and heavy rain are anticipated to occur during periods of construction activity, enhanced enforcement services during these conditions would be beneficial. The visible presence of enforcement personnel would serve to “alert” motorists to the potential hazards and need for driver caution through the area. Most construction projects shut down during adverse weather conditions.
- **Sites extending for long distances (>½ mile).** Past studies show that in long construction zones, a location within the zone exists in where motorists become “comfortable” with field conditions and are likely to become lax in maintaining safe driving practices. Examples of such practices can include speeding or unsafe lane changes. At this location, there is a need to reinforce safe driving techniques and motorists’ caution within the work zone. Proper placement of enhanced enforcement personnel are included in a later portion of this section.
- **Sites requiring incident management.** Where immediate response to freeway incidents (accidents, breakdowns) is desirable in order to reduce traffic delays and additional traffic accidents, the use of enhanced enforcement techniques is beneficial. Numerous studies have documented the benefits associated with improved response times to freeway incidents. These benefits have often led to the implementation of freeway surveillance techniques. On-site availability of enhanced enforcement personnel at areas where quick response is critical (high volume corridors, peak period conditions, limited off-road space) is desirable.
- **Sites where workers are not protected by barrier.** Situations falling under this heading generally include only those work areas where personnel must work within 10 feet of the traveled way. Having an officer on the site can, as stated before, keep the drivers more “alert” and attentive, increasing the safety margin for both the workers and the drivers.

11. Determine traffic control concerns that should be addressed in the special provisions. Examples are:

- Abrupt lane edges
- Installation of sign bridges
- Rolling slow-down operations for short time complete closures of a highway.



WSP Field Check List

Today's Date:

To be Completed by WSDOT Inspector			
Contract No.	SR	Begin WSP Shift	End WSP Shift
Milepost		Date	
From	To	Time	<input type="radio"/> AM <input type="radio"/> PM
Title			
Project Engineer		WSP Task Order No.	
WSDOT Onsite Contact		Field Phone (include area code)	
Traffic Control Strategy Meeting Location		Attended By	
Traffic Control Strategy (review with WSP officer)			

To be Completed by WSP Officer - Return Completed Form to WSDOT Inspector	
Percent of Time	Duties
_____	Assistance in traffic control setup and takedown (blue lights)
_____	Passive presence (yellow lights)
_____	Proactive patrol in work zone (blue lights)
_____	Ramp closures (yellow lights)
_____	Lane closure (yellow lights)
_____	Road closure (yellow lights)
_____	Detours (yellow lights)
_____	Other duties as outlined in Strategy Session (above)

Is a second officer needed for similar work in the future? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Suggestions For Traffic Control Improvements (mandatory):	

Total Violators Contacted	No. of Accidents Within Work Zone
WSP Officer Name	WSP Badge No.

DOT Form 421-045 EF
Revised 2/97

Distribution: White - Project Engineer; Canary - Regional Traffic; Pink - WSP

Traffic Control Planning and Strategy Check List
Figure 5-1

Closure/Exposure Condition	Priority*			
	Non-Freeway with Speed Limit			
	Freeway	≥ 50 mph	40-45 mph	≤ 35 mph
No Formal Lane Closure				
Shadow Vehicle for Operation Involving Exposed Personnel	1	2	3	4
Shadow Vehicle for Operation Not Involving Exposed Personnel	1	2	3	4
No Formal Shoulder Closure				
Shadow Vehicle for Operations Involving Exposed Personnel	2	3	3	3
Shadow Vehicle for Operations Not Involving Exposed Personnel	2	3	4	5
Formal Lane Closure				
Barrier Vehicle for Operation Involving Exposed Personnel	1	3	4	5
Barrier Vehicle for Condition Involving Significant Hazard	1	3	4	5
Formal Shoulder Closure				
Barrier Vehicle for Operation Involving Exposed Personnel	3	4	5	5
Barrier Vehicle for Condition Involving Significant Hazard	3	4	5	5

The numerical rank indicates the level of priority assigned to the use of a TMA on an assigned shadow/barrier vehicle. The use of a TMA under the defined conditions is:

1. Very highly recommended.
2. Highly recommended.
3. Recommended
4. Desirable.
5. May be justified on the basis or special conditions encountered on an individual project.

Suggested Priorities for the Application of Truck-Mounted Attenuators
Figure 5-2

Washington State Patrol Work Zone Enforcement and Assistance

Introduction

The use of Washington State Patrol (WSP) enforcement and assistance in work zones can increase driver compliance and improve worker safety and traffic movement. The need for WSP assistance in a work zone is considered and determined during project development or when planning a maintenance operation. Region Designers, with input from the Region Work Zone Safety Specialist, assess all work zone impacts and develop a work zone strategy in accordance with *Design Manual* Chapter 1010. If used, the appropriate level of WSP enforcement and assistance is spelled out in the Transportation Management Plan (TMP). In addition, local law enforcement agencies may be considered for work zone enforcement or assistance; their use is also managed following the procedures provided in this appendix.

This appendix:

- Discusses factors to consider when determining appropriate use of WSP for work zone enforcement and assistance.
- Provides guidance on work zone strategies, equipment, and procedures related to WSP assistance and enforcement.
- Establishes the procedures to make specific work zone assignments.

Policy

WSP assistance is considered as part of an overall work zone strategy:

- In areas of high worker exposure.
- Where a high level of traffic violations are expected.
- Where there are other unique safety concerns.

WSP assistance is not a replacement for effective work zone strategies and traffic control devices. However it can be a cost effective enhancement that provides enforcement emphasis or other specific assistance duties when other measures are not practical or effective. Active enforcement of traffic laws in operating work zones is the most effective strategy for achieving driver attention and compliance. Routine enforcement by WSP in our work zones is always welcome.

Determining the Need for WSP Enforcement or Assistance

The need for WSP assistance or enforcement is determined during the Project Development phase and is based on specific project conditions. Consider the following factors:

Work Zone Location. Consider WSP use if the work zone includes any of the following:

- High Accident Location (HAL) or corridor.
- High traffic volume or high speed roadway segment.
- Unprotected work zone areas.
- Speed enforcement emphasis area.
- DUI enforcement area.

Type of Work. Consider the use of WSP assistance in work zones which include:

- **Mobile Work Operations.** Both construction and maintenance use mobile operations for the installation and removal of traffic control and other operations. WSP may be used as a “shadow vehicle” on the shoulder in advance of the first traffic control device, to alert motorists to the operation.
- **Short-Term Work Operations.** Because these operations are of short duration, it is not practical to install positive protection devices such as barriers; thus, workers can be subjected to greater levels of traffic hazards. WSP presence can alert drivers to the work zone and the workers. Short term closures or rolling slowdowns may also require WSP assistance.
- **Night Work.** Because of reduced visibility and potentially higher numbers of impaired drivers, consider WSP assistance for night work.

Enforcement Strategies and Techniques

Enforcement is used to enhance the work zone traffic control measures. It is not a “stand alone” substitute for appropriate traffic control design, signs and devices. Any decision to use WSP assistance or enforcement must focus on the worker safety benefits and the possible reduction of work zone crashes. The local WSP detachments are familiar with operational and enforcement issues along state highways; it is important to request their early input during work zone strategy development.

Random/Roving Enforcement. High profile enforcement in work zones results in increased levels of driver compliance and leads to a “residual compliance effect” even when WSP is not present. The appropriate number of troopers and the frequency of use are determined with input from WSP. A minimum enforcement effort would employ one or two troopers for a shift.

Typically, enforcement can be implemented once or twice a week, depending on the location, to provide adequate compliance and may be used Region-wide in multiple work zones. Implement enforcement during active work operations, stage change-overs, major traffic control shifts, etc. Troopers should be located prior to or just beyond the work area since it can be difficult and potentially hazardous to pull over vehicles within the work area limits. Coordinate with the Region Public Information Office (PIO) as part of this strategy. A Task Assignment form is needed for specific enforcement requests.

Speed Limit Reductions in Work Zones. The rules and guidance for setting regulatory work zone speed limits are covered in [Executive Order E 1060.00](#) and *Traffic Manual*, Chapter 5, [Appendix 5.B](#).

Public Information Campaign. A Public Information Campaign to increase driver awareness of work zone safety issues increases the effectiveness of using WSP enforcement or assistance. A campaign should include notice of the “double fines” law for a work zone citation. The Region PIO can help develop information strategies to fit the situation.

Routine Patrols. The occasional presence of WSP in work zones will maintain driver awareness and compliance with traffic laws. Local detachments will often increase their presence when notified by WSDOT of the work zone. There is no cost to WSDOT and no Task Assignment form is needed.

Short Term Road or Ramp Closures. Use of a traffic barrier for short term roadway or ramp closures may not be practical. WSP can provide effective enforcement of the closure where violations are likely to occur, such as on a high volume roadway or where there is no convenient detour route. A Task Assignment form is needed to implement this strategy.

WSP Vehicles. The WSP uses patrol cars or motorcycles in their enforcement or assistance efforts. A WSP vehicle shall not be used as a buffer vehicle. In some cases, motorcycles may be more effective due to their ability to navigate narrow work zones, but they are generally used only during daytime operations. Contact WSP to determine which vehicle type is most appropriate for a specific work zone condition.

Passive vs. Active. Active enforcement of traffic laws is a more effective use of the WSP, rather than the passive use of a WSP vehicle stationed in the vicinity of a work zone.

Flagging at Intersections. WSP flagging at either signalized or unsignalized intersections provides a cost effective operation with high driver compliance. A complex intersection may require more than one trooper. When flagging at a signalized intersection, the signal shall be turned off or set to all-red flash mode. Coordinate with WSP to determine who accesses the signal controller. Use of WSP for a flagging operation requires a Traffic Control Plan (TCP) and Task Assignment form.

Rolling Slowdowns. WSP typically conducts any rolling slowdown, particularly on freeways. The WSP troopers are skilled in the techniques used to implement the operation and their presence adds a high level of compliance. Use of WSP for rolling slowdowns requires an approved TCP and Task Assignment form. The WSP should be notified of any rolling slowdown or stop operation, even if they are not conducting it.

Short term Traffic Stops. This operation is a variation of the rolling slowdown and the use of WSP is advised. An approved TCP and Task Assignment form is needed.

Toolbox (Exhibit 1). This list provides guidance on the appropriate use of WSP or other law enforcement in work zones.

Sign and Radio Equipment

Specialized signing and radio equipment is often used in a work zone to provide current and pertinent information to drivers. Driver compliance to these messages is increased by the use of WSP enforcement. Consider use of special signs when WSP speed enforcement is part of the work zone strategy. The Region Traffic office or work zone specialist can assist with use of special equipment and appropriate messages.

Portable Changeable Message Sign (PCMS). PCMSs display work zone information to drivers and send safety, enforcement and compliance messages. PCMSs are available with optional radar speed detection and display equipment.

Following are example PCMS messages to display when using WSP assistance or enforcement. A minimal level of enforcement will be needed to validate the message.

“WORK ZONE AHEAD – SPEED LIMIT ENFORCED”

“WORKERS ON ROAD – SPEED LIMIT ENFORCED”

“WORK ZONE AHEAD – WSP PATROLED”

“WORK ZONE AHEAD – ACTIVE WSP PATROL”

**“YOUR SPEED IS XX – SPEED LIMIT ENFORCED”

**“YOUR SPEED IS XX – SLOW DOWN”

** These messages are for use with a PCMS sign with incorporated radar.

Speed Display Signs. The units are available separately or as an option for a PCMS. Radar speed detection equipment measures an approaching vehicle's speed and displays it on the sign's message panel. The speed can be accompanied by a message of "YOUR SPEED IS XX." Studies show that most drivers will check and adjust their speed when provided this clear message.

Use these devices when active enforcement is in place; effectiveness is reduced when drivers see no consequence associated with their speed.

Portable Highway Advisory Radio (PHAR). These portable radio stations are used to broadcast messages to drivers regarding roadway restrictions, detours, or other work zone impacts. Enforcement and safety messages strengthen WSP efforts to enforce traffic laws in the work zone.

"Double Fines in Work Zones" Signs. The WSP encourages the use of these signs in our work zones. Although the signs are not required to enforce the "double fines" law, they can be an effective reminder to drivers and provide the WSP with a "no excuse" back-up when issuing a work zone citation. Install "double fines" signs at strategic locations, usually in advance of the work zone, or where side traffic enters the work zone.

Procedures for Incorporating Use of WSP Assistance or Enforcement

Project Scoping. Use of WSP enforcement and assistance must be determined and coordinated at the Project Development phase as part of the TMP. Early planning secures adequate funding and ensures WSP resource availability. A preliminary cost estimate is developed using \$75/hour (which includes the trooper and vehicle).

Project Design. The work zone design strategy identifies specific uses of WSP assistance or enforcement. A more complete cost estimate is prepared to identify the dollar amount attached to the project. Average cost rates are shown in Agreement GC 5080 ([Exhibit 2](#)) and are applied to the number of estimated hours. A Task Assignment ([Exhibit 3](#), WSDOT Form 130-020EF) showing costs and assigned WSP activities must be completed and processed prior to advertisement of the project, to establish the reimbursement work order.

Local WSP representatives should always be invited to the work zone design strategy meeting even if specific WSP assistance is not anticipated.

Enforcement activities are managed by WSDOT, but are not part of the contract work items.

Project PS&E. Traffic control plans are required for specific WSP traffic control assistance. Typical operations requiring TCP's are rolling slowdowns, traffic stops, intersection flagging or similar assignments. The [Work Zone](#)

Traffic Control Guidelines M 54-44 are used as a reference during plan development. Do not develop TCP's for routine enforcement operations.

Project Construction. The local WSP representative is included in the preconstruction meeting. Their input is valuable and it is important that they are aware of the project and how it might impact traffic operations, safety and mobility. Projects with WSP assistance or enforcement need to have a TMP strategy meeting to discuss specific project assignments, schedules, report forms, communication contacts and expectations.

Maintenance. Regional maintenance divisions may establish a standing Task Assignment agreement (considered a “best practice”). This allows for a quick response by the WSP if needed, with the paperwork already in place.

Emergency Response and Incidents Within a Work Zone. WSP responds to emergencies and incidents in work zones, just as in regular roadway sections. If incidents or emergencies occur in the work zone contact WSP if they are present; otherwise call 911. Do not resume the same work zone activity until it is determined if the traffic control needs to be revised or protective measures added. If WSP activities are not directly related to work zone features or project traffic control, costs incurred will be covered by the WSP.

Ensure that flaggers and others working at isolated areas in the work zone have a means of communication with the WSP.

Agreement GC 5080 (Exhibit 2)

This agreement between WSDOT and WSP is the legal document that allows WSDOT to reimburse WSP for costs associated with assigned work zone enforcement or assistance.

Task Assignment Form 130-020EF (Exhibit 3)

The Task Assignment form is completed to assign specific work zone activities to the WSP. It also connects WSDOT reimbursement to a specific work order. The Task Assignment form must be approved and signed by the Agreement manager, Region approving authority, and WSP prior to requesting WSP presence on the roadway.

The following steps provide a “walk through” on completing the Task Assignment:

Each Region assigns a person the duties of Task Agreement Manager; typically this is the Work Zone Specialist in the Traffic office. The Task Agreement Manager requests the agreement number for the Task Assignment from the Headquarters Traffic Office fiscal manager. Do this via email to provide a written record of the request. Include the project name and route number, Contract or Work Order number, if known, and estimated dollar amount.

Once the task number is assigned, the Task Assignment form can be filled out by the Region Task Agreement Manager and signed by both WSP and WSDOT. The WSDOT signature is typically a Region Construction Engineer and the WSP signature is from their Budget and Fiscal manager (Mailstop 42602). Two originals are required, one for WSP and one for WSDOT.

A signed original Task Assignment must be submitted to WSDOT Headquarters Budget Office. Copies are to be sent to Region Program Management, the Project Engineer's Office administering the project, the Region Accounting Office, and the Region Traffic Office.

The Region accounting office reimburses WSP per the Task Assignment Agreement.

For use of local agency law enforcement personnel, the Region Local Programs office develops a project specific agreement between WSDOT and the agency to establish procedures for use and reimbursement.

WSP Field Checklist Form 421-045 EF (Exhibit 4)

The WSP field checklist is filled out by the project inspector. Use of the form establishes the "on the job" expectations for the work to be performed by the WSP trooper. To ensure effective enforcement or assistance work, discuss the specific details with the trooper, including any suggestions the trooper may offer.

Schedule. On each project, identify the person who will coordinate with the WSP to schedule troopers. In some Regions scheduling is done by the individual project office administering the contract. In other Regions the traffic office is the primary scheduling contact. This communication should be established prior to the project to avoid confusion and overlapping of duties. The WSP contacts can be identified at the preconstruction meeting or from the WSP Contact List in this document (Exhibit 5).

To ensure troopers will be available, secure scheduling as soon as possible. Cancel only when necessary; this may include incidents of inclement weather, work stoppage, etc. A 2-hour minimum call out is required when assigning troopers for a project.

Field Monitor and Adjust the Work Zone. The field engineer or project inspector should meet with the assigned WSP trooper(s) at the beginning of each shift to determine communication methods and to discuss WSP tasks for the work operation. The goal is to have steady, balanced traffic flow through the work area.

The project inspector monitors the traffic control operation and WSP enforcement or assistance activities. If there is excessive braking, queuing of traffic, etc., due to WSP presence, then adjustments may be necessary.

Additional Resources

Secretary's [Executive Order E 1060.00](#)

Traffic Manual, Chapter 5, [Appendix 5.B](#)

Standard Specifications, Section 1-10

General Special Provisions, Division 1-10

WSDOT/WSP Joint Operating Procedures (JOPs)

WSP Work Zone Enforcement and Assistance “Toolbox”

Exhibit 1

The Work Zone Safety Task Force has developed this toolbox to provide guidance on the appropriate use of WSP troopers in work zones. The toolbox is intended to be used as a quick reference to common procedures and the appropriate category for use. Use of the WSP checklist (Form 421-045 EF) is required on individual contracts, but is not needed when WSP use is part of a region-wide enforcement emphasis. The Task Assignment (Form 130-020 EF) must be approved and funded prior to WSP use.

The following specific assignments for WSP are allowed as listed below.

Recommended

- Enforcement Emphasis – **The most effective overall strategy is active enforcement in the work zone.**
- Signalized intersection control in lieu of flaggers, signal off or on all-red flash.
- Rolling slowdowns or temporary stopping of traffic.
- Full closures of roadways that are high-volume or at high risk for motorist intrusion.
- During installation and removal of traffic control devices. (WSP trooper on the shoulder in advance of the first traffic control device, not as a buffer vehicle).
- To control access points where motorists could follow construction vehicles into the work zone.

Not Recommended

The following tasks are not recommended as efficient use of WSP assistance and are generally not allowed. Short term use may be considered, but not an ongoing strategy.

- General or routine use, especially with no significant traffic impacts expected.
- Passive use (vehicle parked near or inside work zones with blue or yellow lights flashing). WSP presence is not a substitute for proper traffic control.
- Shoulder or HOV closures.
- Single-lane closure on a multi-lane highway unless significant traffic impacts are likely.
- Single-lane closure on a two-lane highway.
- A ramp closure without other traffic control devices.
- WSP vehicles are not buffer vehicles and shall not be the first vehicle in the lane when setting up or removing traffic control.

00707666SC

AGREEMENT 5080
STATEWIDE WORK ZONE ENFORCEMENT and TRAFFIC CONTROL ASSISTANCE
AGREEMENT BETWEEN WSDOT and WSP

THIS AGREEMENT is made and entered into this 22 day of February 2008, by and between the State of Washington, Department of Transportation, hereinafter called the "WSDOT," and the Washington State Patrol, hereinafter called the "WSP," referred to collectively as the "PARTIES" and individually as the "PARTY."

WHEREAS, WSDOT and the WSP first entered into Agreement GC 9131 on July 1, 1991 for the purpose of having WSP provide traffic control in WSDOT work zones, and

WHEREAS, GC 9131 needs to be superseded to reflect the PARTIES current agreement, and

WHEREAS, WSDOT, as it deems necessary, desires WSP to provide traffic control in work zones where project work may disrupt the smooth flow of traffic, increase the risk of crashes to the traveling public, and/or increase hazards to roadway workers, and

WHEREAS, WSDOT may not at times have sufficient trained personnel in traffic control available to provide the needed traffic control for safe highway project operations for the benefit of the traveling public and roadway workers, and

WHEREAS, WSDOT does not have the authority to enforce traffic laws, and

WHEREAS, WSP is also concerned with the safety of the traveling public and roadway workers and agrees to provide the additional traffic control as needed by the WSDOT and as provided under this AGREEMENT, and

WHEREAS, the PARTIES deem it to be in the public's best interest for WSP to be present in the work zones to enforce traffic laws and to assist WSDOT with traffic control when requested by the WSDOT,

NOW, THEREFORE, by virtue of chapter 39.34 RCW, and in consideration of the terms, conditions, covenants and performance contained herein,

IT IS MUTUALLY AGREED AS FOLLOWS:

1. WSP RESPONSIBILITIES

1.1 WSP agrees to furnish uniformed officers, vehicles and associated equipment to assist the WSDOT in traffic control operations, hereinafter the "WORK," when requested by WSDOT. The WORK to be assigned to WSP under this AGREEMENT may include, but is not limited to, the following: work zone traffic enforcement; rolling slowdowns; flagging; controlling pedestrians, spectators and participants; controlling signalized intersections; and controlling traffic in restricted lane situations and/or providing support during ramp, lane or road closures.

1.2 The officers provided by WSP, under the terms of this AGREEMENT, shall be under the sole direction, management and control of the Chief of the WSP or his/her designee and shall perform the WORK required by this AGREEMENT in a manner consistent with WSP policy and regulations, applicable state and local laws, and the Constitutions of the State of Washington and the United States.

1.3 The assignment of uniformed officers to accomplish the WORK under this AGREEMENT shall be at the discretion of the Chief of the WSP or his/her designee.

2. SCOPE OF WORK

2.1 The PARTIES agree to enter into separate Task Assignments for the WORK performed under the terms of this AGREEMENT. WSDOT may assign WORK to the WSP only as authorized by an agreed upon and executed Task Assignment. Task assignments shall be made in writing and shall at a minimum include: date, time, and location of WORK; number of personnel and type of equipment needed; estimated hours per day required; estimated number of days required; and name, location and phone number of WSDOT contact in charge of the WORK. WSDOT Traffic Manual (M51-02) outlines the process for developing the Task Assignment.

2.2 If time or circumstances do not permit preparation of a written Task Assignment *prior* to the start of WORK, WSDOT may verbally authorize WSP to proceed with WORK and document this authorization in a written Task Assignment within 72 hours after the verbal authorization is given. The PARTIES agree that the terms and conditions of this AGREEMENT shall be in full force and effect with any verbal authorization to start WORK prior to entering into a written Task Assignment.

3. PAYMENT AND RECORDS

3.1 WSDOT, in consideration of faithful performance of the WORK to be performed by WSP, agrees to reimburse WSP for the actual direct and related indirect costs in accordance with a work order accounting procedure as prescribed and approved by the Office of Financial Management for all reimbursable work requested by WSDOT.

3.2 Costs for WORK under this AGREEMENT are likely to be included in requests to the Federal Highway Administration for reimbursement of project costs; therefore, WSP agrees to follow the rules of the Office of Management and Budget (OMB) Circular A-87. In particular, WSP shall follow A-87, regarding equitable distribution of indirect costs and the provisions for costs of Interagency Services (sections F and G of A-87). All labor costs billed to WSDOT by WSP shall comply with WSP regulations and policies relating to employee compensation.

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Page 2 of 5

3.3 WSP may make requests for payment at any time, but such requests shall not be more frequent than once per month. Payment shall be made by WSDOT to WSP within (30) days following the date the invoice is received.

3.4 WSP agrees to submit a final invoice to WSDOT within sixty (60) days after notification by WSDOT that WSP's services for the WORK under a Task Assignment are no longer required.

3.5 WSDOT will reimburse WSP for actual hours worked by WSP officers or a minimum of 2 overtime hours for each WSP officer called out from an off-duty status to provide WORK under this AGREEMENT. WSDOT will reimburse WSP for overtime salaries and benefits; indirect costs at WSP's federally approved current indirect rate; and mileage at WSP's current rate. Two examples of the overtime cost rates for staff typically assigned to this type of WORK are as follows:

WSP Trooper (w/ 10 years service):
O.T. rate w/ 35% Indirect Costs (i.e. overhead) \$60.31

WSP Sergeant (w/ 15 years service):
O.T. rate w/35% Indirect Costs (i.e. overhead) \$70.74

3.6 WSP will be paid mileage for its vehicles at WSP's approved rate which is currently \$0.48/mile. WSDOT acknowledges that the WSP approved rate is higher than the Office of Financial Management approved mileage rate for privately owned vehicles.

3.7 For the purposes of estimating costs of providing the requested WORK, the all inclusive (labor, vehicle, mileage) amount of \$75.00 per hour shall be used when preparing WORK estimates.

3.8 During the progress of the WORK and for a period of not less than three (3) years from the date of the final Task Assignment payment to the WSP, the records and accounts pertaining to the WORK under this AGREEMENT and accounting therefore are to be kept available for inspection and audit by WSDOT and/or the Federal Government and copies of all records, accounts, documents, or other data pertaining to this AGREEMENT WORK shall be furnished upon request. If any litigation, claim, or audit is commenced, the records and accounts along with supporting documentation shall be retained until all litigation, claim, or audit finding has been resolved even though such litigation, claim, or audit continues past the 3-year retention period.

4. EXTRA WORK AND AMENDMENTS

4.1 In the event unforeseen conditions require an increase in the costs of a specific Task Assignment by twenty-five percent (25%) or more, or a change in scope of the WORK to be accomplished in connection with a specific Task Assignment is required, the PARTIES agree to amend the Task Assignment in writing to cover the increase or change.

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5. AGENCY REPRESENTATIVES

5.1 WSDOT's representative under this AGREEMENT shall be the Region Administrator of the WSDOT Region for which the WORK is being performed or an appointed representative; except in the case of oversize loads, WSDOT's representative shall be located at WSDOT Headquarters Maintenance and Operations Division in Olympia. These representatives shall be responsible for requesting the WSP provide WORK and shall be responsible for verifying and processing billings for payment. WSP's representative shall be the Headquarters Duty Officer or his/her designee.

6. ADMINISTRATION OF WORK

6.1 WSDOT shall follow the requirements of WSDOT's policy and procedures contained in the WSDOT Traffic Manual Chapter 5 throughout the process of assigning, implementing and compensating for WSP traffic control. Task Assignments must be authorized by the designated WSDOT manager prior to beginning work or within 72 hours for unforeseen or emergency conditions.

7. TERMINATION

7.1 Either PARTY to this AGREEMENT may terminate this AGREEMENT by giving thirty (30) days written notice to the other PARTY. In the event that this AGREEMENT is terminated, such termination shall also terminate all outstanding Task Assignments. The WSP shall be entitled to recover its costs as provided under this AGREEMENT for WORK provided up until the termination date of this AGREEMENT and any Task Assignment.

7.2 WSDOT will initiate a biennial review of this AGREEMENT to ensure that it is kept current.

8. GENERAL PROVISIONS

8.1 Independent Contractor: WSP shall be deemed an independent contractor for all purposes under the terms of this AGREEMENT or any Task Assignment. WSP officers and employees shall not be deemed employees, agents or representatives of WSDOT.

8.2 Amendment: This AGREEMENT may be amended by the mutual agreement of the PARTIES. Such amendment or modifications shall not be binding unless they are in writing and signed by persons authorized to bind each of the PARTIES.

8.3 Disputes Resolution: In the event that a dispute arises under this AGREEMENT which cannot be resolved between the PARTIES, the dispute shall be settled in the following manner: Each PARTY to this AGREEMENT shall appoint a member to a dispute board. The members so appointed shall jointly appoint a third member to the

dispute board who is not employed by or affiliated in any with the two PARTIES to this AGREEMENT. The dispute board shall evaluate the facts, contract terms, and applicable statutes and rules and make a determination of the dispute. The determination of the dispute board shall be final and binding on the PARTIES hereto All costs associated with the appointment of the third party to the disputes board shall be split evenly between the two PARTIES. As an alternative to this process, either of the PARTIES may request intervention by the Governor, as provided by RCW 43.17.330, in which event the Governor's process will control.

8.4 Venue: In the event that a PARTY deems it necessary to institute legal action or proceedings to enforce any right or obligation under this AGREEMENT, the PARTIES hereto agree that any such action or proceedings shall be brought in Thurston County Superior Court.

IN WITNESS WHEREOF, the PARTIES hereto have executed this AGREEMENT as of the day and year first above written.

WASHINGTON STATE PATROL

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

Paul S. Beckley
Signature

Ted Trepanier
Signature

1-27-07
Name Date

TED TREPANI ER 2/22/07
Name Date

Approved as to form
1/17 2007

Approved as to form
12-22 2006

BY: Sharan Singh
Assistant Attorney General

BY: Paul E. Salay
Assistant Attorney General



Task Assignment

NOTE: This form cannot be used for "Y" Agreements

All terms and conditions of this agreement are in full force and effect for this Task Assignment document.

Agreement No.
(To be filled in by Agreement Manager)

On-Call Agreement Manager Information Task No.

Agreement Manager	Phone	Org.	Mailstop
Mailing Address			

Project Manager Information

Project Manager	Phone	Org.	Mailstop
Mailing Address			

Project Information

Project Title	
State Route No(s).	County(s)

Task Schedule

Task Start Date	Task End Date	← No payment will be made for work done PRIOR to Task Start Date or for work done AFTER Task End Date
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Task Cost

Work Order No.	Org. Code	Amount	Fed. Aid Part.?	This section required if there is Fed. Aid Part.	
				Fed. Aid Project No.	Fed. Aid Part. %
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
			<input type="radio"/> Yes <input type="radio"/> No		
Total Task Amount		→			

Prime Consultant	Contact		
Address			
Phone	Fax	E-Mail	Federal I.D. No.
Are there any Subconsultants working on this project? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, complete the Subconsultant Worksheet and return with signed Task Assignment.			

Approval Signatures ****Note: Two original signed Documents are required.****

Consultant Washington State Department of Transportation

Agreement Manager

DOT Form 130-020 EF
7/08

Scope of Task Assignment

Provide description of work and reference attachments for prime consultant and all subconsultants (to include detailed description of work schedule and estimate).

Agreement No.
Task No.

Report Due Date

Distribution: Originals: Consultant Copies: File Consultant Services
 Accountant Task Manager Other _____

DOT Form 130-020 EF
7/08



WSP Field Check List

Today's Date:

To be Completed by WSDOT Inspector			
Contract No.	SR	Begin WSP Shift	End WSP Shift
Milepost		Date	
From	To	Time	<input type="radio"/> AM <input type="radio"/> PM
Title			
Project Engineer		WSP Task Order No.	
WSDOT Onsite Contact		Field Phone (include area code)	
Traffic Control Strategy Meeting Location		Attended By	
Traffic Control Strategy (review with WSP officer)			

To be Completed by WSP Officer - Return Completed Form to WSDOT Inspector	
Percent of Time	Duties
_____	Assistance in traffic control setup and takedown (blue lights)
_____	Passive presence (yellow lights)
_____	Proactive patrol in work zone (blue lights)
_____	Ramp closures (yellow lights)
_____	Lane closure (yellow lights)
_____	Road closure (yellow lights)
_____	Detours (yellow lights)
_____	Other duties as outlined in Strategy Session (above)

Is a second officer needed for similar work in the future? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Suggestions For Traffic Control Improvements (mandatory):	

Total Violators Contacted	No. of Accidents Within Work Zone
WSP Officer Name	WSP Badge No.

DOT Form 421-045 EF
Revised 2/97

Distribution: White - Project Engineer; Canary - Regional Traffic; Pink - WSP

WSP Statewide and District Contacts

The website for the WSP is www.wsp.wa.gov

Overtime Coordinator – Each district has an overtime coordinator to establish the call out list for troopers available for projects.

WSP Administrative Headquarters

General Administration Building
PO Box 42600
Olympia, WA 98504-2600
(360) 753-6540 (Budget & Fiscal Manager, signs Task Assignment)
(360) 753-0692 (WSP Contracts Coordinator, administers Task Assignments)

District 1 Headquarters and Communications – Tacoma

State of Washington Combined Transportation Center
2502 112th Street East
Tacoma, WA 98445-5104
(253) 536-6210

Detachments:

Olympia/Thurston County
222 Tumwater Blvd., Building 16
PO Box 42640
Tumwater, WA 98504-2640
(360) 586-4443

District 2 Headquarters and Communications – Bellevue

2803 156th Avenue SE
Bellevue, WA 98007-6523
(425) 649-4370

Detachments:

Enumclaw
333 Griffin Avenue
Enumclaw, WA 98022
(360) 825-6154

Seattle North
811 E Roanoke
Seattle, WA 98102
(206) 720-3040

North Bend
134 Sydney Avenue
PO Box 1127
North Bend, WA 98045
(425) 888-1116

Seattle South
15666 International Blvd.
Seattle, WA 98188-6523
(206) 439-3830

District 3 Headquarters – Union Gap

2715 Rudkin Road
 Union Gap, WA 98903
 (509) 575-2320

Detachments:

Kennewick 143302 East Law Lane Kennewick, WA 99337-2011 (509) 734-7029	Walla Walla 406 Wellington Walla Walla, WA 99362 (509) 527-4413
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Sunnyside
 173905 West Interstate 82
 Grandview, WA 98930
 (509) 882-9945

District 4 Headquarters and Communications – Spokane

6403 West Rowand Road
 Spokane, WA 99224-5300
 (509) 227-6566

Detachments:

Colfax 840 West Fairview Street Colfax, WA 99111-9515 (509) 397-3600	Ritzville 1563 East Gun Club Road Ritzville, WA 99169-9713 (509) 659-1210
Colville 751 South Main Colville, WA 99114-2704 (509) 684-7431	Spokane Port of Entry RR1 Westbound I-90, Milepost 299 Liberty Lake, WA 99019-9801 (509) 226-3366

District 5 Headquarters and Communications – Vancouver

11018 NE 51st Circle
 Vancouver, WA 98682-6686
 (360) 260-6333

Detachments:

Chehalis 850 NW Louisiana Avenue Chehalis, WA 98532 (360) 748-2194	Kelso 1823 Baker Way Kelso, WA 98626 (360) 578-4147
Goldendale PO Box 105 Goldendale, WA 98620 (509) 773-3775	Morton 342 Morton Road Morton, WA 98356 (360) 496-3323

District 6 Headquarters and Communications – Wenatchee

2822 Euclid Avenue
 Wenatchee, WA 98801-5916
 (509) 663-9721

Detachments:

Cle Elum Scale (CVD)
 PO Box 550
 Cle Elum, WA 98922
 (509) 674-9704

Ellensburg
 291 Thorp Highway S
 Ellensburg, WA 98926
 (509) 925-2698

Moses Lake
 101 Laguna
 Moses Lake, WA 98837-0151
 (509) 765-6175

Okanogan
 PO Box 486
 Okanogan, WA 98840-0486
 (509) 826-7400

District 7 Headquarters and Communications – Marysville

2700 116th Street NE
 Marysville, WA 98271-9425
 (360) 658-2588

Detachments:

Bellingham
 3860 Airport Way
 Bellingham, WA 98226-8040
 (360) 676-2007

Burlington
 10945 Chuckanut Drive
 Burlington, WA 98233
 (360) 757-7553

Monroe
 909 West Main Street, Suite 1A
 Monroe, WA 98272-2031
 (360) 805-1153

Oak Harbor
 840 SE 8th Avenue #101
 Oak Harbor, WA 98227-2996
 (360) 675-0710

Silverlake
 Interstate 5
 Silverlake, WA 98204
 (425) 514-5444

District 8 Headquarters and Communications – Bremerton

4811 Werner Road
 Bremerton, WA 98312-3333
 (360) 478-4646

Detachments:

Hoquiam
 3111 Pacific Avenue
 Hoquiam, WA 98550-4222
 (360) 533-9332

Naselle
 797 State Route 4
 Naselle, WA 98638
 (360) 484-3130

Shelton
 629 West Dayton Airport Road
 Shelton, WA 98584-8945
 (360) 427-2180

Port Angeles
 62 Old Olympic Highway
 Port Angeles, WA 98362-9121
 (360) 417-1738

Poulsbo
 22065 Viking Way NW
 Poulsbo, WA 98370-9451
 (360) 478-4646

Appendix 5.B Speed Limit Reductions in Work Zones

I. Introduction

It is the department's policy to design and operate work zones which minimize the need for and the use of regulatory speed limit reductions ([Executive Order E 1060.00](#)).

A Traffic Management Plan (TMP) is developed for each work zone during the design process. This plan considers strategies and techniques to address specific work zone conditions and traffic control requirements. Design applications that reduce work duration, decrease the number of work stages, and that maintain traffic in long-term work zone configurations can eliminate the need for a regulatory speed limit reduction. Where work zone design applications cannot mitigate the condition, a speed advisory or a variable or continuous speed limit reduction may be considered.

It is important to be consistent in implementing speed limit reductions to maintain credibility with roadway users throughout the state. This appendix includes the work zone speed limit policy and provides guidance to determine the need for a work zone speed limit reduction. Sample speed reduction worksheet, request, and approval documents are included.

A. Work Zone Speed Limit Reductions. Following are the speed reduction types and examples of appropriate use:

- **Advisory Speed Reduction** – Where drivers encounter work zone conditions (such as rough road, bump, temporary alignment) that require a specific safe speed message, a sign warning of the actual condition with an appropriate advisory speed is installed.
- **Variable Regulatory Speed Limit Reduction** – Effective where a temporary work zone condition (such as workers on foot close to live traffic or a short-term lane shift) requires a lower operational speed and in place only for the duration of the warranting condition—often a single work shift.
- **Continuous Regulatory Speed Limit Reduction** – A speed reduction effective 24 hours a day for the number of days that work zone conditions warrant, used only where construction elements cannot be mitigated by design elements.

- B. **WSDOT Policy Statement on Reduced Speed Limits in Work Zones.**
Excerpted from Secretary's [Executive Order E 1060.00](#), September 2009:

WSDOT employees are directed to design and operate work zones so that the existing posted speed limit is not reduced. Work zones that have unique design and safety issues that can only be addressed through a speed limit reduction, will be considered for approval and implementation in accordance with this Secretary's Executive Order.

- C. **Rules.** Secretary's [Executive Order E 1060.00](#) (September 2009) Section III, notes the following regarding work zone speed limit reductions:
1. The Regional Administrator approves or denies **all variable speed limit reductions and any continuous regulatory speed limit reduction of 10 mph or less on any route**. This authority may be delegated to the Region Traffic Engineer.
 2. The State Traffic Engineer approves **continuous regulatory speed limit reductions** as follows:
 - Greater than 10 mph on any route.
 - Any reduction to less than 60 mph on freeways.
 - Any reduction in a work zone that is unique or not covered by the Secretary's Executive Order.
 3. The Region Traffic Engineer approves **advisory speed reductions**.
 4. A Traffic Control Plan (TCP) approved by the Region Traffic Engineer, is required for a regulatory speed reduction, and must show locations of existing and proposed speed limit signs, advance warning and speed resumption signs, and any covering or removal of existing speed limit signs.
 5. A Speed Limit Reduction Worksheet ([Figure 5.B-1](#)) approved by the Region Traffic Engineer, is required for any continuous regulatory speed limit reduction.
 6. Notification of all Reduced Regulatory Speed Limits shall be published as required by [RCW 47.48.020](#) ([Figure 5.B-2](#)).
 7. All project specific regulatory and advisory reduced speed limit signing shall be displayed only during the work zone operation that warrants the reduction. All such signs shall be removed or covered when the need for the reduction has ended.

8. When a Region approves a **continuous regulatory speed limit reduction of 10 mph or less**, the Headquarters Traffic Office must be notified. A copy of the approval memo is sufficient. Include copies of the Speed Limit Reduction Worksheet and the TCP.

Notification to HQ is not required for **variable regulatory speed limit reductions, advisory speed reductions, or speed limit reductions allowed by the operational exceptions** described below.

9. Notify the applicable District Office of the Washington State Patrol (WSP) by memorandum of any speed limit reduction. The memo should explain the intended type of reduction with approximate dates, and any plans to coordinate speed enforcement activities. Follow up with specific dates when established.
10. Operational Exceptions are noted in Section III D, which designate speed limit requirements for several unique work zone situations.
 - **Bituminous Surface Treatment (BST/Chip Seal)** work zone speed limits are 35 mph until the roadway is in suitable condition to return to the original speed limit.
 - Speed limits for **temporary roadway alignments** must be consistent with the geometrics of the alignment, as determined by the Regional Traffic Engineer.
 - The design of work zones where **temporary traffic signals** are combined with minimum roadway geometrics and temporary intersections and road approaches, may require a speed limit reduction, which is to be shown on the Traffic Control Plan.
 - **Emergencies** such as natural disasters and long-term incidents within the work zone may require an emergency continuous regulatory speed limit reduction.
 - When work zone conditions leave **workers unprotected** by temporary barrier or truck mounted attenuators, a variable regulatory speed limit may be used as part of a worker safety strategy.

II. Guidance

- A. **Work Zone Assessment.** A Transportation Management Plan (TMP) is developed for each project. It integrates all work zone factors, including traffic speed and volumes, project design, worker exposure, constructability, and traffic operations. Before considering a work zone speed reduction, a work zone impact assessment is conducted which considers, and implements where possible, design strategies that address the specific work zone conditions. **Any decision to implement a reduced speed limit must be assessed and justified as part of the TMP.**

Reduced speed limit boundaries should be set to match the limits of the work zone to which they apply, or for that portion of the work zone where conditions warrant the speed reduction. In general, do not extend the reduced regulatory speed limit beyond the actual work zone limits. However, to avoid abrupt short or inconsistent speed zones, consider extending an adjacent existing lower speed limit boundary to encompass a work zone where the speed limit will be reduced. This can reduce driver confusion about short and different speed zones and improves credibility and compliance with the lowered speed limit.

Worker exposure and driver confusion are common work zone conditions that may be mitigated through effective safety solutions that do not include a speed limit reduction. As part of work zone assessment, consider these and other strategies:

1. **Worker Exposure to Traffic Hazards.** When workers are exposed to live traffic, **do not assume that a lower speed limit will improve worker safety.** Reduce worker exposure and traffic speeds using these effective safety strategies:
 - Use a pilot car for two lane paving operations to effectively control traffic speed past workers.
 - Provide positive protection such as barriers and Truck Mounted Attenuators.
 - Provide a lateral buffer space between workers and live traffic, defined by channelization devices, to allow space for minor traffic intrusions or occasional encroachment by workers. A half to full lane width is an acceptable lateral buffer for high speed conditions.
 - Use closely spaced drums or tall channelizing devices to improve work area separation and motorist guidance.
 - Additional warning devices such as temporary rumble strips, portable changeable message signs, or an automated flagger assistance device may improve flagger protection.
2. **Enhanced Traffic Control.** Driver confusion can be avoided or reduced through the use of enhanced guidance and information. Driver performance is improved by providing concise and accurate messages and visual cues that show the work zone conditions and travel path. Electronic driver feedback signs and occasional enforcement may be used to reinforce the existing speed limit and minimize any traffic speed differential. Before proposing a reduced speed limit, consider the following measures:
 - Remove existing pavement markings that conflict with temporary alignment.
 - Add enhanced pavement markings and traffic control devices.

- Minimize decision point conflicts or confusion.
- Add overhead or other enhanced signing.
- Design effective merge areas.
- Add temporary illumination.

B. Work Zone Speed Reduction Assessment Factors. Consider these factors together to determine if a work zone speed limit reduction is needed. If a speed reduction is proposed, note the justifying factors on the Work Zone Speed Reduction Worksheet.

1. Roadway Factors

- Roadway surface is rough, uneven, gravel, has abrupt edges, etc.
- Temporary Concrete Barrier (TCB) is 2 feet or closer to high speed traffic (45 mph or more).
- Traffic lanes are less than 11 feet wide.
- Shoulders are less than 4 feet wide.
- Work zone is in a roadway section with more than two (2) lanes in each direction.
- Work zone elements such as temporary road approaches, intersections, or intersection control (such as a temporary signal) have changed the roadway or roadside environment.
- Work zone has unusual or reduced roadway geometrics such as lane shifts, ramps, and acceleration/deceleration tapers.

2. Operational Factors

- Work zone is on a high speed roadway (existing speed limit above 60 mph).
- Work zone has active operations during hours of darkness.
- Sight distance is restricted due to traffic barriers, temporary alignment, or intersection locations.
- Unprotected work activities or workers are closer than 10 feet to high speed traffic.
- Work zone has detours or alignment changes designed for speeds below the existing limit.

3. Human Factors

When considering a speed limit reduction be aware that drivers generally do not slow down until there is a perceived reason to do so. If motorists do not see the reason for a reduced speed limit, it is often ignored. In addition, note these factors when assessing the need for a speed limit reduction:

- A “Reduced Speed Limit” sign is not automatically noticed or effective in slowing traffic. Most drivers determine their speed by observing visual cues from their surroundings, including the visible work activity, specific warning signs, pavement markings, and other traffic control devices.
- Studies show that drivers slow down more in work zones with PCMS’s, electronic driver feedback signs (“Your Speed Is XX”) and flashing warning lights.
- Most drivers do not voluntarily reduce their speed more than 10 mph unless law enforcement is active.
- Work zone speed limit reductions of more than 10 mph show an increase in crashes due to a wider speed differential between vehicles.

C. **Speed Limit Reduction Assessment Examples.** The following are examples of common work zone situations where a speed limit reduction may be appropriate:

- **Situation: 70 mph Freeway – Long-Term Construction Project**

During work zone operations these projects often have:

- Narrowed or restricted lanes or there are no shoulders.
- Lane shifts and closures.
- Temporary Concrete Barrier 2 feet or less from the lane edge.
- Work operations which create driver distractions.

Consider a Continuous Regulatory Speed Limit Reduction of 10 mph for the above conditions.

- **Situation: 60 mph Two Lane Highway – Paving Project**

During work zone operations these projects often have:

- High worker exposure.
- Limited opportunities to use positive protection such as Temporary Concrete Barrier to protect workers and separate the work operation from traffic.
- Flaggers exposed to high speed traffic.

Consider a variable regulatory speed limit reduction to 40 mph (below the “high speed” 45 mph threshold) for the duration of the work zone operation—often a single shift. *Note that use of a pilot car operation will effectively control traffic speeds through the work zone so a variable speed limit reduction may be unnecessary.*

III. Speed Limit Reduction Approval Process

- A. **Decision Making – Identifying Benefits.** A Continuous or Variable Regulatory Speed Limit Reduction may be justified when the project presents specific safety issues that cannot be addressed through other work zone design or operational options. **When safety benefits can be achieved by applying work zone design standards or other safety enhancements, they are not justification for approval of a speed limit reduction.**

Consider the roadway and operational factors for each project, and understand the human factor that a speed limit reduction may not automatically reduce actual traffic speeds. If factors cannot be mitigated through application of work zone standards, design strategies and features, or other enhancements such as Temporary Concrete Barrier, identify how a speed reduction will provide safety benefits in the following areas and identify the expected safety benefits on the Work Zone Speed Reduction Worksheet.

- **Traffic Safety** – What safety benefit would be provided beyond that realized through standard or enhanced work zone safety and traffic control methods?
- **Worker Safety** – What safety benefit would be provided beyond worker protective equipment or other designed features?
- **ADA, Pedestrian, and Bike Safety** – What safety benefits would be provided for these roadway user groups that cannot be provided in the work zone design and operation?

- B. **Request for Approval Process.** The following are the steps to request a speed limit reduction.

1. The project manager submits a “Speed Reduction Request” to the Regional Administrator, through the Region Traffic Engineer (Figure 5.B-3). The request includes:
 - A completed Work Zone Speed Reduction Worksheet. Specific safety benefits must be identified to warrant approval.
 - The Traffic Control Plan(s) showing all speed limit reduction related details. Example TCPs are shown in Figures 5.B-4a, 5.B-4b, and 5.B-4c.
 - Other supporting documents including the TMP and law enforcement assistance agreements.
2. The Region Traffic Engineer (RTE) reviews the speed limit reduction request to determine if it is warranted.
 - The RTE has the authority to approve advisory speed reductions without further approval by the Regional Administrator.

- For a Variable or Continuous Speed Limit Reduction, the RTE makes a recommendation for approval or denial to the Region Administrator.
3. The Regional Administrator approves or denies the Speed Limit Reduction. Notification of a continuous regulatory speed reduction is sent to the State Traffic Engineer and WSP. Notification to the public is also required per [RCW 47.48.020](#), which states speed reductions must be published in a local newspaper at least three days in advance of the regulation change. The regulation does not take effect without this public notice.
 4. The following speed limit reduction requests are sent to the State Traffic Engineer for approval:
 - Speed Limit reductions of over 10 mph.
 - Speed Limit reductions to less than 60 mph on freeways.
 - Unique requests that are not consistent with WSDOT policy, rules, and guidance.

IV. Summary

WSDOT policy, set by [Executive Order 1060.00](#), is to design work zones that can safely maintain the existing speed limit wherever possible. Work zone conditions that can be mitigated through design or other work zone strategies do not warrant a speed limit reduction.

The need for a speed limit reduction is determined through a work zone assessment, which considers the project roadway and operational factors together with motorist behavior (human factors). Specific safety benefits must be identified to warrant approval of a speed reduction. A work zone assessment may determine that no speed limit reduction is needed, and that implementing design and operational strategies that address the actual work zone conditions is the most effective safety plan.

Speed limit reductions are approved and implemented through a defined process after a work zone assessment determines that a reduction is warranted. Approval authority is based on the type of speed reduction, as noted in the Secretary's [Executive Order 1060.00](#).

Resources

- WSDOT *Traffic Manual* M 51-02
- Revised Code of Washington [RCW 47.48](#)
- WSDOT *Work Zone Traffic Control Guidelines* M 54-44.01
- WSDOT *Design Manual* M 22-01
- WSDOT *Maintenance Manual* M 51-01
- WSDOT *Construction Manual* M 41-01
- Federal Regulations 23 CFR Part 630 Subpart J
- Part VI of the *Manual on Uniform Traffic Control Devices* (MUTCD)
FHWA

Contacts

- Region Traffic Office
- Region Work Zone Specialist
- HQ Traffic Office, Work Zone Team

WORK ZONE SPEED REDUCTION WORKSHEET

(Refer to *Traffic Manual* Chapter 5, Appendix 5B for guidance)

Date: _____ SR: _____ Work Order/Contract Number: _____

Project Name: _____

Existing Conditions

Posted Speed Limit: _____ ADT: _____

Number of lanes: _____ Lane Width: _____ Shoulder Width: _____

Type of Speed Limit Reduction Proposed:

Continuous Variable Advisory

Proposed Speed Limit: _____ Duration for Speed Reduction: _____

Work Operation for proposed reduction: _____

Mile Post Limits for reduction: _____

Work Zone Conditions Specific to Speed Reduction Request:

Traffic Safety Conditions: _____

Worker Safety Conditions: _____

Bicycles, Pedestrians, Others: _____

Work Zone Actions Considered? _____

- Speed Study WSP Enforcement
- Vicinity map and Traffic Control Plan attached

Justification statement for speed reduction:

--

Project Engineer Concurrence: _____

Comments: _____

Traffic Engineer Concurrence: _____ Disapproval: _____

Comments: _____

Figure 5.B-1.doc

If additional space is necessary for responses, attach a supplemental sheet

Speed Limit Reduction Worksheet
Figure 5.B-1



Transportation Building
310 Maple Park Avenue S.E.
P.O. Box 47300
Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

NOTICE OF SPEED LIMIT REDUCTION

Limits of speed reduction

SR 19 MP 1.67 to MP 9.50 SR 116 MP 2.92 to MP 9.83

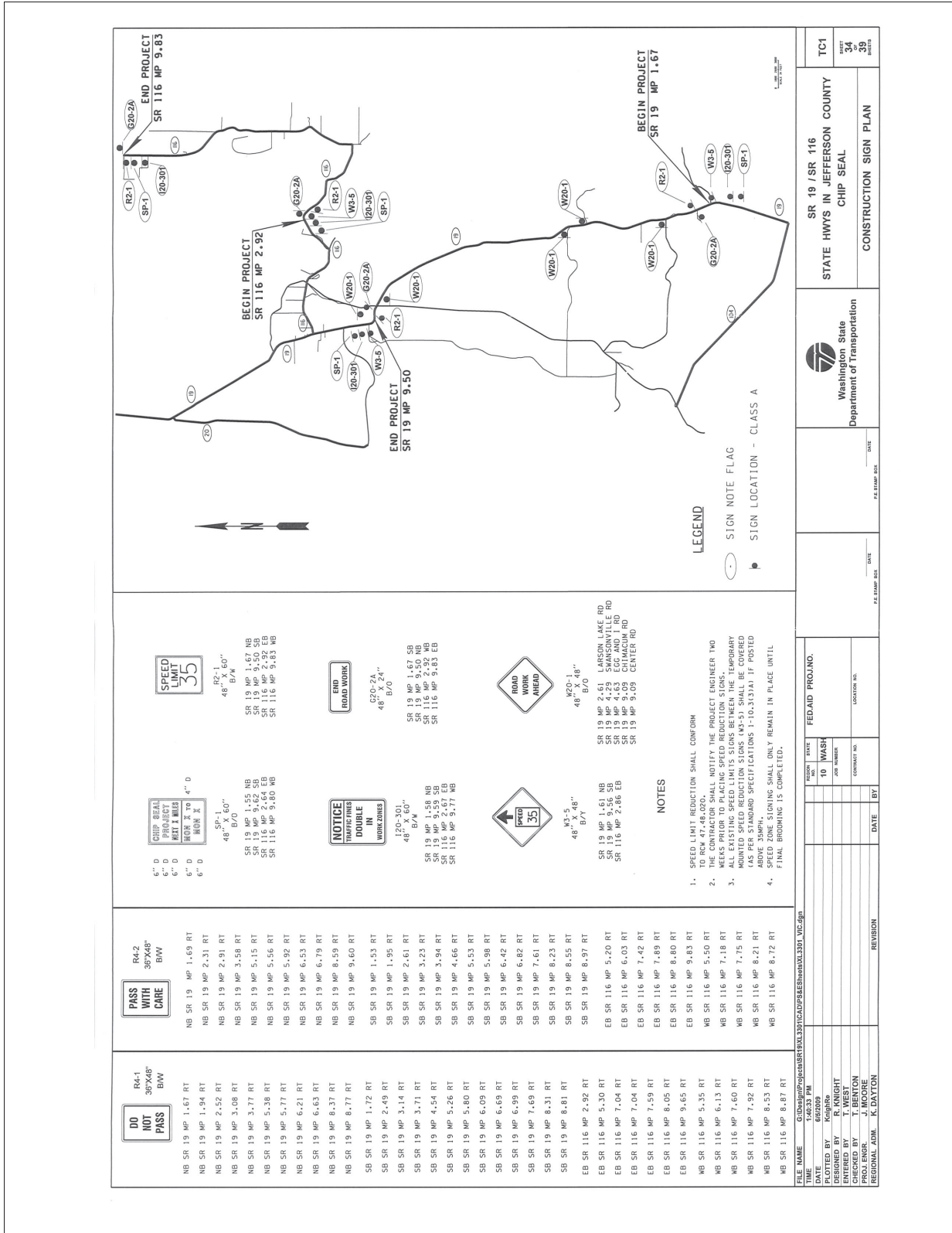
Notice is hereby given by the Washington State Department of Transportation that the posted speed limit of 50 MPH on the above listed route and mile posts will be reduced to a legal speed limit of 35 MPH and will be signed accordingly, beginning June 2009.

This speed reduction is necessary to ensure safe traffic operations during BST paving operations. The legal speed limit will be returned to 50 MPH once final pavement markings are installed.

Washington State Department of Transportation

Kevin Dayton
Olympic Region Administrator

Example Notice of Speed Limit Reduction
Figure 5.B-2



Example Notice of Speed Limit Reduction
Figure 5.B-2 (continued)



Memorandum

Date

EXAMPLETO: *Regional Administrator*THRU: *Regional Traffic Engineer*FROM: *Title/Project manager*SUBJECT: **SR XX Work Zone Speed Limit Reduction**

Per Secretary's Executive Order E 1060.00, we are requesting that the posted regulatory speed limit within the above referenced location be reduced to XX MPH.

This temporary work zone speed limit change is being requested for the following reasons: (list applicable conditions and justification from the Work Zone Speed Limit Reduction Worksheet)

-
-
-

This posted speed reduction will be in effect from *Date to Date*, between *Milepost XX to Milepost XX*. The posted speed reductions will be in effect (*During Actual Work Hours or Continuously*). The dates and the locations may vary based on where the work activities that involve the safety issues listed above are present. (#ask Frank if this sentence is correct?)

Approved:

Date

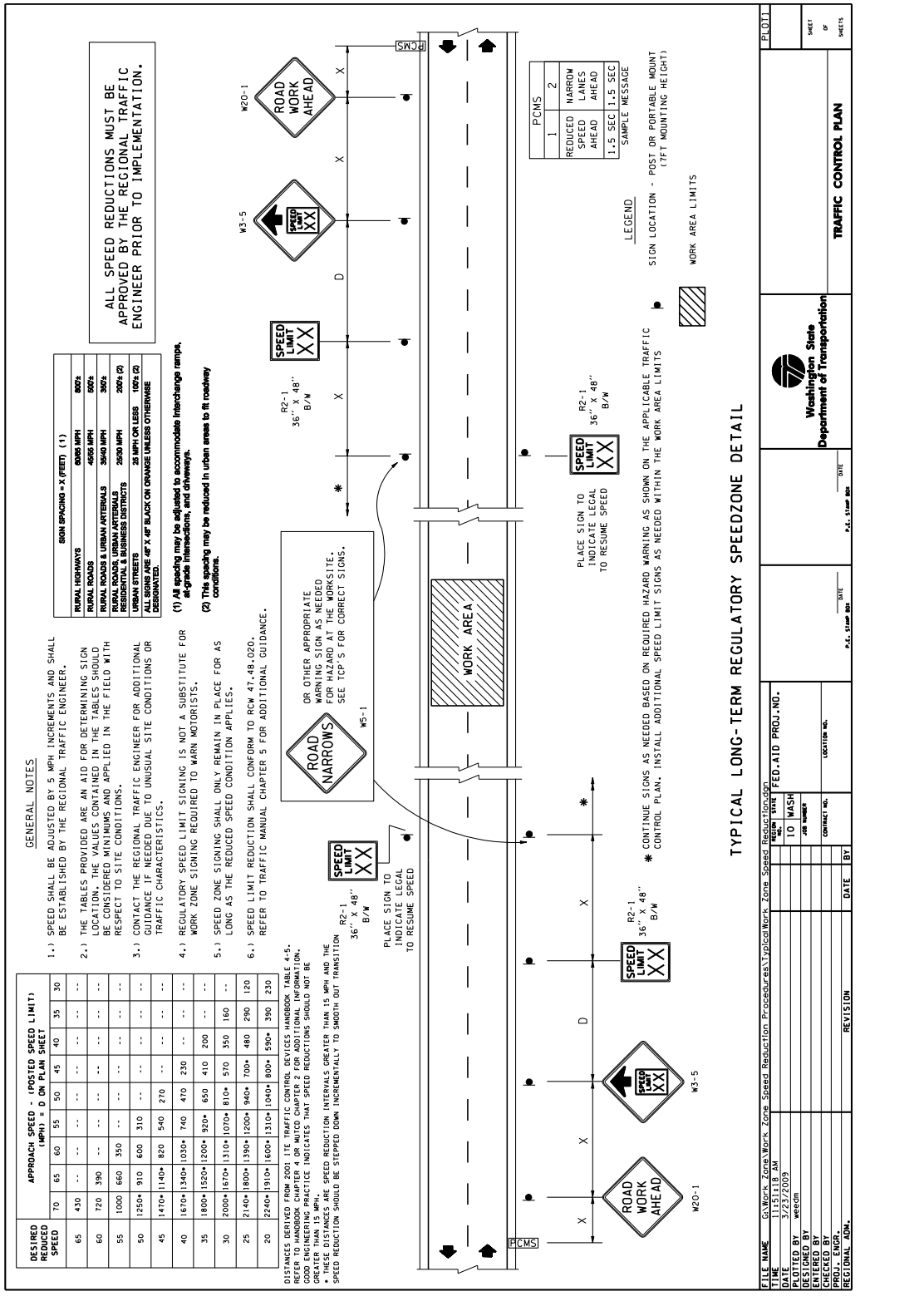
Regional Administrator

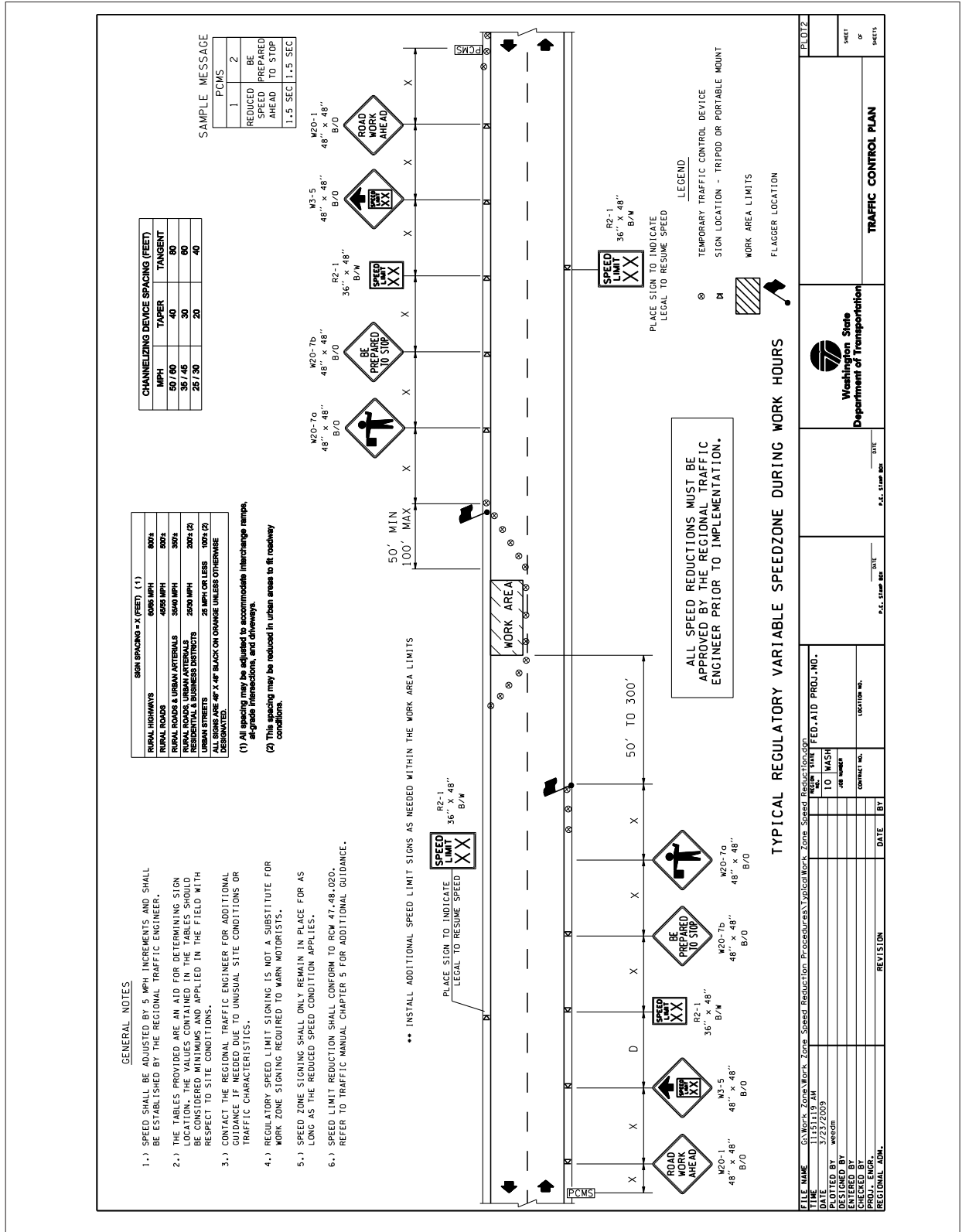
cc: State Traffic Engineer
 Area Maintenance Superintendent
 WSP District Captain
 Traffic file
 Contract file

Attachment: Supporting Documents

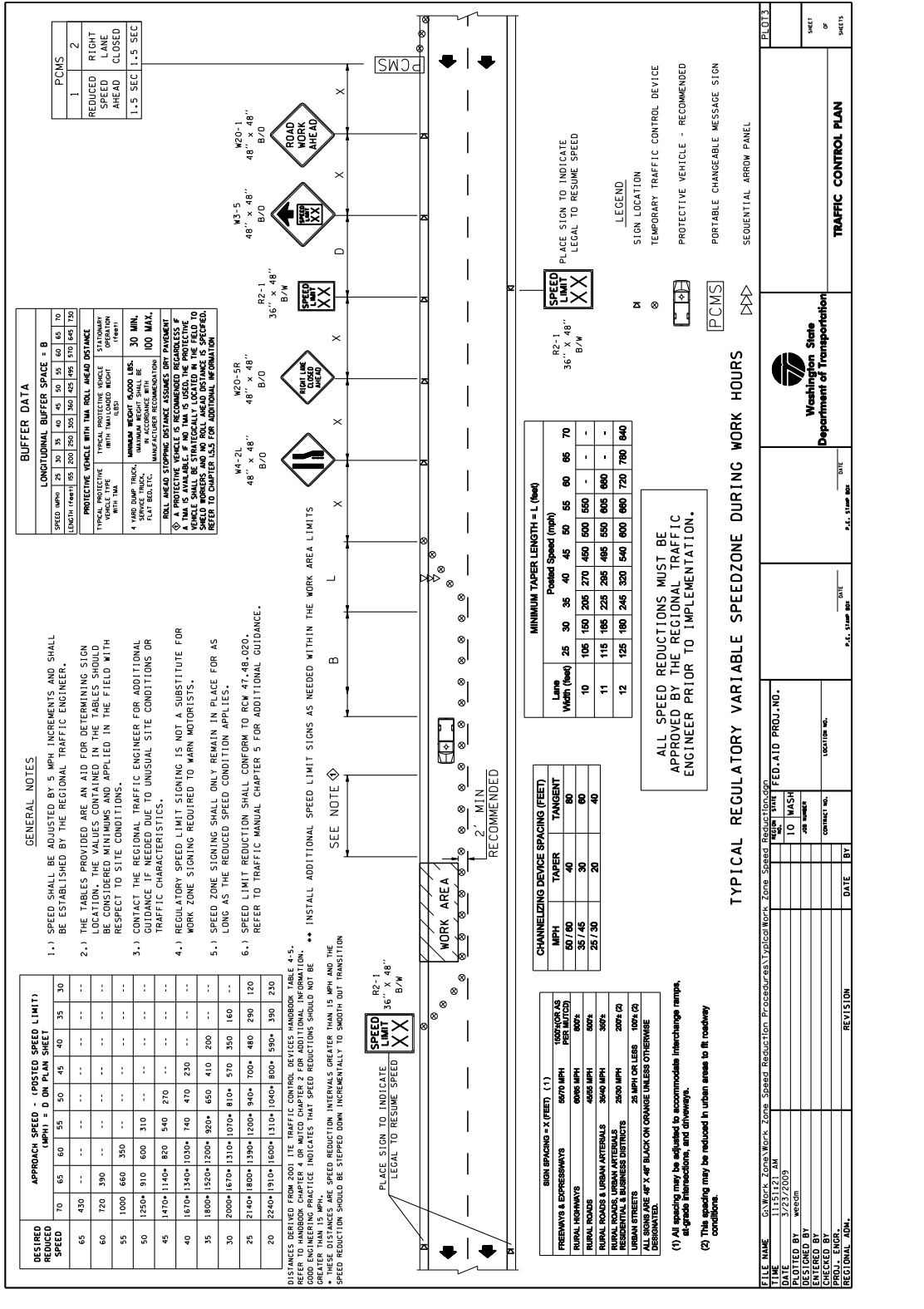
G:\Engineering Manuals\Traffic Manual\Figure 5.B-3.doc

Speed Reduction Request
Figure 5.B-3





Traffic Control Plan
Figure 5.B-4b



Traffic Control Plan
Figure 5.B-4c

6.1 General

Traffic regulations enhance safety and operating efficiency on state highways, county roads, or city streets by placing enforceable operating restrictions on the use of the public roadway. A traffic regulation is either established in state law ([RCW 46.61](#), Rules of the Road) or is warranted based on data from an engineering and traffic investigation of traffic conditions at the proposed location. The guidelines in this chapter explain specific regulations and identify the information needed to establish or modify a traffic regulation.

The Rules of the Road ([RCW 46.61](#)) regulate basic traffic movements on public roads including:

- maximum speeds
- lane use
- vehicle restrictions
- stop control
- turning movement restrictions
- assignment of right of way
- parking

A traffic regulation other than the Rules of the Road may be implemented only after an official action by the appropriate jurisdictional authority. For state highways, a proposed traffic regulation (or modification) is submitted for action to either the Regional Administrator or the State Traffic Engineer, depending on the delegation of authority, and is reviewed as a “Calendar Agenda” item on the Regional Administrator or State Traffic Engineer’s schedule.

Where city streets are part of managed access state highways, a city or town ordinance establishes speed limits, parking restrictions, stop control, and turn prohibitions. The department must approve any regulation that is not identical to state law before it becomes effective ([RCW 46.61.415](#) and [RCW 47.24.020\(11\)](#)).

A. Regional Traffic Regulations Approved by Regional Administrator

- Traffic signal installation permits on state highway system.
- Reduced speed limits in construction or maintenance zones.
- Regulatory speeds in rest areas, weigh stations, and ferry terminals.
- Stop control on state highways.

- Turn prohibitions and restrictions.
- Pedestrian prohibitions on partial or modified access control highways.
- Roadside parking restrictions (except for angle parking).
- Tow-away zones along freeways.
- Prohibitions on fishing or jumping from bridges.
- Emergency or construction closures and weight restrictions.

B. Headquarters Traffic Regulations Approved by State Traffic Engineer

- Regulatory speeds (outside construction and maintenance work zones) including 20 mph school speed zones established under [RCW 46.61.440\(2\)](#).
- Bicycle prohibitions on limited access highways.
- Truck restrictions (including trucks hauling hazardous material).
- HOV lane designations.
- Angle parking on state and federal-aid highways.
- Parking restrictions for park and ride lots and other parking facilities.
- Regulation of sales within state parking facilities.
- Permanent weight restrictions.

6.2 Documentation

Permanent traffic regulation records are maintained in the office of the designated approving authority.

Each traffic regulation or modification is submitted by the Regional Traffic Engineer to either the Regional Administrator or the State Traffic Engineer on a Calendar Agenda Form ([Figures 6-1](#) and [6-2](#)). The regulation's approval or denial is recorded on the form, which provides the necessary official documentation of the regulatory action.

Additionally, as outlined in this chapter, retain a summary of the engineering and traffic investigation and other data to support and document the regulation.

Informational copies of completed calendar agenda actions are exchanged between the state and region Traffic Offices. Copies are also provided to the Washington State Patrol (WSP) and appropriate local agency.

Inventories of traffic regulations are maintained in the office of the designated approving authority.

6.3 Regional Traffic Regulations

Some types of traffic regulations address specific local traffic and geometric characteristics, without statewide implications. The Regional Administrators are delegated the authority to approve those regulations, which include the following:

- A. **Traffic Signal Installation Permits.** Traffic control signals are addressed in the *Manual of Uniform Traffic Control Devices* (MUTCD) M 24-01, Part 4. Discussion includes advantages and disadvantages of signals, possible alternatives to signals, and the warrants under which signals are justified.

Signal permits are required for the following signal types, prior to installation:

- conventional traffic signals
- emergency vehicle signals
- hazard identification beacons, when installed overhead at an intersection
- intersection control beacons
- lane control signals
- movable bridge signals
- ramp meter signals
- pedestrian signals
- temporary signals
- school crossing signals

Permits are **not** required for:

- hazard identification beacons that are not installed overhead at an intersection
- speed limit sign beacons
- stop sign beacons
- lane assignment signals at toll facilities
- portable signals

Complete an engineering and traffic investigation of the proposed signal location to determine if a traffic signal is warranted per the MUTCD. If a signal is warranted, submit a Calendar Agenda Form ([Figure 6-1](#)) with the documentation below to the Regional Administrator for approval. Include:

- A vicinity map showing SR/MP location of the proposed signal, and a detailed sketch showing traffic volumes, lane distribution, and other data relative to the request.

- Photos of the location and surrounding area, if possible.
- A complete warrant analysis per MUTCD, Section 4C based on accurate traffic volumes, collision experience, and other traffic conditions.
- A capacity analysis and other justification if volume warrants are not met but a signal appears necessary to resolve operational problems.
- Collision data summary for the last three years and whether the proposed signal location is at a High Accident Location (HAL), High Accident Corridor (HAC), or Pedestrian Accident Location (PAL) or is scheduled for improvement in the latest priority array.
- A statement detailing local agency funding and maintenance responsibilities, if applicable.
- All city, county, fire district, and citizen requests, along with copies of other pertinent documents and correspondence.
- The history of previously tried corrective countermeasures.
- Other supporting data such as proximity to schools, shopping centers, pedestrian traffic, etc.
- A Signal Application Checklist ([Figure 6-3](#)).

Once a signal is approved, a Statewide Signal Permit Inventory number is obtained from Headquarters and noted in part “F” on the permit form (Form 242-014). Send a copy of the completed permit to Headquarters for final documentation.

Where signal removal is being considered, refer to Section 6.6, Rescinding Existing Traffic Regulations.

- B. Reduced Regulatory Speed – Construction/Maintenance Zones.** The Regional Administrator may reduce speed limits in construction or maintenance zones, following the complete guidelines given in Secretary’s [Executive Order E 1060.00](#) and *Traffic Manual, Chapter 5, Appendix 5B*. Some speed limit reductions must be approved by the State Traffic Engineer.
- C. Regulatory Speeds in Rest Areas, Weigh Stations, and Ferry Terminals.** The department is authorized ([RCW 46.61.405](#)) to set speed limits on any part of the highway system and at ferry terminals. Rest areas and weigh stations are included in the definition of a state highway ([RCW 46.04.197](#)).

Identify appropriate speed limits at these locations through an engineering and traffic investigation that considers:

- existing speed characteristics
- foot traffic patterns

- geometric elements
- congestion
- operational conflicts

Field observation during periods of heavy use is necessary to determine these characteristics.

The Rules of the Road ([RCW 46.61.415](#)) state that speed limits on local roadways cannot be posted at lower than 20 mph. Additionally, school zones are posted at 20 mph, recognizing the high volume of juvenile pedestrian traffic and inherent congestion and conflicts. This suggests that 20 mph is a good starting point when considering an appropriate speed limit. Lower or higher speeds may be determined based on the engineering and traffic investigation.

Submit regulatory speed limit requests for these locations as a calendar agenda item to the Regional Administrator. Include data collected from the engineering and traffic investigation to support the request.

D. Stop Control on State Highways. All state highways are considered arterials and entering traffic must stop when signs are posted ([RCW 46.61.195](#)). Most intersections of a state highway and a county road or city street are controlled by a stop sign posted on the local roadway. However, stop control can be installed on the state highway approaches if it will improve the intersection operation and if the traffic volume on the local roadway is equal to or higher than the state highway volume. The specific provisions regarding stop control are:

- The department is responsible for STOP or YIELD signs on county road approaches to state highways and on city street approaches in cities and towns under 25,000 population.
- The department can designate a county road or city street as an arterial having preference over the state highway if it will improve traffic conditions.
- An incorporated city or town may pass an ordinance designating a city street as an arterial having preference over a state highway, if approved in writing by the department. The city or town is then responsible for the STOP or YIELD signs. ([RCW 46.61.195](#) does not specify a population threshold; therefore any city or town may exercise this authority.)
- Vehicles entering arterials from all other public or private roadways must stop before entering, when STOP signs are posted on the approach.

Respond to requests for state highway stop control by conducting an engineering and traffic investigation to determine if it is warranted at the subject location. Consider a multi-way STOP if approach volumes are approximately equal or if a collision analysis shows collisions which are correctable by multi-way stops (i.e., angle collisions). See MUTCD, Section 2B.07.

Document the investigation and submit the proposed regulation to the Regional Administrator as a calendar agenda item. Include:

- A vicinity map and detailed strip map showing SR/MP location of the intersection, together with the total traffic volumes and approach distributions.
- A description of the operational problems (such as limited sight distances) which identify the need for stop control, including any history of previously tried corrective measures.
- A study of the last three years' collision history, including whether the location is a High Accident Location (HAL), High Accident Corridor (HAC), or Pedestrian Accident Location (PAL) or is scheduled for improvement in the latest priority array.
- A city or town ordinance, as required for city streets which are part of state highways.
- Copies of city, county, and/or citizen requests along with other pertinent documents and correspondence.
- Copies of WSP and/or local police agency concurrences.

E. **Turn Prohibitions and Restrictions.** Specific turning movements may be prohibited or restricted by traffic regulation to reduce potential conflicts or improve the operational characteristics of an intersection or business access.

Turn prohibitions or restrictions which are established in the Rules of the Road or clearly defined by design elements (MUTCD, Section 2B.19, Option) do not need a traffic regulation. All other turn prohibitions or restrictions require a traffic regulation.

Conduct an engineering and traffic investigation of the subject location; document the investigation and submit the proposed regulation to the Regional Administrator as a calendar agenda item. Include:

- A vicinity map and intersection sketch showing the SR/MP location together with the total traffic volumes, approach lane distributions and turning volumes.
- Descriptions of operational problems which identify the need for the regulation, such as pedestrian movements, large truck turning radii, or lack of adequate gaps.

- The alternate routing intended to accommodate the turn-restricted traffic. Convenient and strategic alternate routing is necessary to minimize the likelihood that a driver will ignore the prohibition.
- A study of the last three years' collision history, including whether the location is a High Accident Location (HAL), High Accident Corridor (HAC), or Pedestrian Accident Location (PAL) or is scheduled for improvement in the latest priority array.
- Copies of city, county, and/or citizen requests along with other pertinent documents and correspondence.
- A city or town ordinance as required for city streets which are part of state highways.
- Copies of WSP and/or local police agency concurrences.
- Photos or video, if available.

F. Pedestrian Prohibitions on Partial or Modified Access Control

Highways. The department is authorized to prohibit non-motorized traffic (e.g., pedestrians) on any limited access highway ([RCW 46.61.160](#) and [47.52.025](#)). Pedestrians are prohibited only on highways with full access control ([WAC 468-58-050](#)). Therefore, on highways with partial or modified access control, a specific traffic regulation is required to prohibit pedestrian traffic. A prohibition is only considered when an engineering and traffic investigation determines that pedestrians have an alternate and safer route. It is not WSDOT policy to close pedestrian access when no feasible alternate route exists.

Prohibitions are appropriate along partial and modified access controlled highways in areas having the appearance of full access control, in areas where parallel pedestrian routes are available, locations on a Pedestrian Accident Location (PAL) list, and other areas where pedestrians on the shoulder create a potential hazard to themselves or vehicular traffic.

Document the investigation and submit the proposed regulation to the Regional Administrator as a calendar agenda item. Include:

- A vicinity map of the area showing proposed prohibition limits and alternate pedestrian routes.
- Traffic volumes.
- Collision history for the past three years including any pedestrian involvements.
- Summary statement detailing need for prohibition.
- Photos or video, if available.

- G. **Roadside Parking Restrictions.** The Rules of the Road, ([RCW 46.61.560](#) through [46.61.590](#)) provide specific parking restrictions that are effective at all times along public roadways. When the region considers additional parking restrictions, conduct an engineering and traffic investigation to determine the need.

Document the investigation and submit the proposed regulation to the Regional Administrator as a calendar agenda item. Include:

- A detailed strip map of the area showing SR/MP, intersecting streets and driveways, and other on-street or off-street parking alternatives.
- Photos or video if available.
- The type of restriction requested (i.e., time of day, mid-block to corner).
- An analysis of operational problems, such as narrow shoulders or limited sight distances, that identify the need for the regulation.
- Copies of a city or town ordinance, as required for city streets which are part of state highways.
- Correspondence or comments regarding adjacent property and business owners' parking requirements and their concurrence with the regulation.
- Copies of WSP and/or local police agency concurrences.

- H. **No Parking/Tow-Away Zones Along Freeways.** A “no parking/tow-away zone” along a freeway may be established where there is an operational problem or collision history associated with vehicles parked on the shoulder. The Washington State Patrol (WSP) typically identifies suggested locations.

Officers may promptly remove an unattended vehicle from a roadway shoulder if it constitutes an obstruction or jeopardizes public safety ([RCW 46.55.113\(2\)\(b\)](#)). The “no parking/tow-away zone” traffic regulation and related signing provide additional information for the motorist and an effective enforcement tool for the WSP.

Submit the proposed regulation to the Regional Administrator as a calendar agenda item. Documentation should include:

- A detailed strip map of the area showing SR/MP and interchanges.
- An analysis of operational problems, including collisions associated with vehicles parked on the shoulder, narrow shoulders, or limited sight distances.
- Copies of WSP and/or local police agency request and concurrence.

For freeway shoulders without any parking/tow-away zone, [RCW 47.52.120\(1\)](#) notes that vehicles experiencing equipment failure or other emergency may park within the right of way of limited access facilities.

- I. **Prohibitions of Fishing or Jumping from Bridges.** Prohibitions of fishing or jumping from bridges are intended to alleviate potentially hazardous situations. An engineering and traffic investigation is conducted to determine the need for the prohibition.

Document the investigation and submit the proposed regulation to the Regional Administrator as a calendar agenda item. Include:

- A vicinity map showing the SR/MP of the bridge and the bridge number from the [Bridge List](#) M 23-09.
- A discussion of the potentially hazardous condition requiring the prohibition.
- Copies of public or local agency correspondence.
- Copies of WSP and/or local police agency concurrences.

There are a number of ‘fishing from bridges’ prohibitions that were adopted by the former Highway Commission, prior to traffic regulation authority being transferred to the department. The prohibitions remain effective unless rescinded by the Regional Administrator (see Section 6.6).

- J. **Highway Restrictions or Closures – Emergency, Temporary, Construction, or Weight Related.** The Regional Administrator approves emergency, temporary, construction, or weight related restrictions or closures. These place specific limitations on the use of a state highway. Examples are:

1. **Emergency Closures or Restrictions.** Emergency closures or restrictions may be implemented immediately, without prior notice or posting, in accordance with the procedures in the [Maintenance Manual](#), M 51-01. The [Maintenance Manual](#) provides signing guidelines for emergency and non-emergency closures and restrictions.
2. **Temporary or Construction Restrictions or Closures.** [RCW 47.48.010](#) gives the department the authority to close highways or segments of highways to all vehicles or any class of vehicles where such continued use will damage the roadway or be dangerous to traffic.

Investigate and document:

- The need for the restriction or regulation.
- Copies of public or local agency correspondence.
- Copies of WSP and local police agency concurrences.

Submit the proposed regulation to the Regional Administrator as a calendar agenda item. Include:

- A vicinity map of area including SR/MP.
- A discussion of roadway condition or situation that requires the restriction or closure
- Copies of WSP and local police agency concurrence

Prior to restricting or closing a roadway segment, notice of the action must be given (per [RCW 47.48.020](#)) by:

- Publishing a notice describing the restriction or closure in at least one newspaper issue of general circulation in the county, city, or town where the highway is located.
- Posting a notice describing the restriction or closure in a conspicuous place at the ends of the highway or highway section.

The highway or highway section may be closed no sooner than three days after the newspaper notice and highway posting first appear.

If the closure will be in effect for less than 12 hours (such as for many Special Events) it is not necessary to post a notice in a newspaper. Advance closure notices must still be posted on the highway. The Special Event Letter of Agreement is sufficient documentation of an event related restriction or closure.

3. **Weight Restrictions.** In accordance with [WAC 468-38-080](#), temporary weight restrictions may be immediately imposed on highways in response to emergency road conditions, such as potential damage from freeze/thaw action.

The State Traffic Engineer approves permanent weight restrictions such as a restriction on a road segment not built to WSDOT standards but acquired as a state highway.

4. **Oversize Load Restrictions.** Notices of any roadway restriction or closure must be distributed to the regional Permit Office and signs must be installed which identify the milepost limits and the duration of the restriction. The regional Commercial Vehicle Services Administrator issues the oversize load permits, and needs to know of any restrictions or closures along a proposed route. Because they may require pilot cars to accompany these loads ([WAC 468-38](#)), signs are installed at locations that provide pilot car operators safe on/off access to the highway without conflicting with other traffic.

6.4 Headquarters Traffic Regulations

Some types of traffic regulations address conditions that have statewide implications. To assure uniformity, these are approved by the State Traffic Engineer, and include the following:

- A. Regulatory Speed Limits – Outside Construction and Maintenance Zones.** Maximum speed limits for state highways, county roads, and city streets are mandated in the Rules of the Road ([RCW 46.61.400](#)). The department may raise or lower state highway speed limits based on an engineering and traffic investigation ([RCW 46.61.405](#) and [46.61.410](#)). The MUTCD, Section 2B.13 also addresses establishing speed limits.

Regions may initiate speed limit revision requests for many reasons including roadway realignment, urban growth, strip development, or other changes in roadway environment. Requests to change a speed limit may also come from a city, a tribal government, law enforcement, or citizens' group.

Conduct an engineering and traffic investigation to determine the appropriate speed limit. If a change is warranted, submit to the State Traffic Engineer as a calendar agenda item ([Figure 6-2](#)) and include the following supporting information:

- A memo outlining the reasons for the proposal, and any previously tried corrective measures and results.
- A description of the roadway characteristics including geometrics, lane and shoulder width and condition, grade and sight distance, etc.
- A map showing SR/MP, speed study locations and results, including 85th percentile speeds. Show pedestrian walkways, schools, accesses, significant traffic generators, newly developed areas, etc. Show locations of existing and proposed speed limit signs and curve or turn warning signs and applicable speed advisories. The map may be CADD generated, hand drawn, or ortho-photo based.
- Collision history for the past three years together with the critical collision rate. Note if the highway section is a High Accident Location (HAL), High Accident Corridor (HAC), or Pedestrian Accident Location (PAL).
- Description of changes in geometrics, sight distances, lane widths, and shoulders, if the proposal is based primarily on realignment.
- A copy of any local agency ordinance required for a managed access highway segment within an incorporated city or town.
- Copies of any citizen petitions or other letters regarding the proposed speed zone.

- Narrative on how any tribal considerations are addressed (see Section 2 below).
- Copies of WSP and/or local police agency concurrences.
- Speed Limit Request Checklist ([Figure 6-4](#)).
- An environmental review of the State Environmental Policy Act (SEPA) if the proposed speed limit is being raised to above 55 mph (see Section 6 below).
- A copy of the project results, if the “US Limits” speed zoning software is used.

When the engineering and traffic investigation does not support a speed limit revision, implement other potential corrective measures such as traffic calming revisions, warning signs, and public information campaigns. Observe and document the results of these measures before submitting a speed zone proposal. In most cases, the State Traffic Engineer will consider speed limit revisions that are within 5 mph of the 85th percentile speed, and that comply with MUTCD, Section 2B.13.

The State Traffic Regulations Specialist maintains a statewide speed limit inventory.

1. **Speed Limits for Schools and Playgrounds.** State law includes two parts to address reduced 20 mph speed zones for schools or playgrounds.
 - [RCW 46.61.440\(1\)](#) establishes a 20 mph speed zone **at a marked school or playground crosswalk** when the crosswalk is posted with standard school or playground speed limit signing.
 - [RCW 46.61.440\(2\)](#) allows a county or incorporated city or town to establish a 20 mph speed zone on a roadway **bordering a marked school or playground**.

Part 1 establishes a 20 mph speed zone at a marked school or playground crosswalk, when the crosswalk is posted with standard school or playground signs. School or playground crosswalk speed zones are addressed in [WAC 468-95-330](#) and [468-95-340](#) and discussed in Chapter 2, Part 2.09(3). Signing is shown in [Appendix 2-12](#). Uses of supplemental flashing beacons or flags to increase compliance with the speed zone are also discussed.

The 20 mph speed zone shall extend a full 300 feet in either direction from the marked school or playground crosswalk, unless there is less than 300 feet to the terminus of the roadway. School or playground speed zones established under this law do not require a traffic regulation.

The 20 mph speed zone may extend more than 300 feet from the crosswalk; however, the distance beyond 300 feet requires a traffic regulation based on an engineering and traffic investigation. Where school crosswalks serve an elementary school, the engineering and traffic investigation should consider the school's Walk Route Plan. The Superintendent of Public Instruction limits the number of school crossings and allows only one entrance-exit from each block to and from the school.

Part 2 allows a county or incorporated city or town to establish a 20 mph speed zone adjacent to and extending up to 300 feet beyond the border of a school or playground property. The zone may only include the area consistent with active school or playground use ([WAC 468-95-330](#)). A marked crosswalk is not necessary to establish a 20 mph speed zone under [RCW 46.61.440\(2\)](#). For city streets that are also state highways, the department must approve the city ordinance that creates the school or playground speed limit ([RCW 47.24.020\(11\)](#) and [RCW 46.61.415\(5\)](#)).

The regions may also receive requests for reduced speed limits at intersections without a marked crosswalk. Conduct an engineering and traffic investigation for the speed zone request. If study results warrant establishing the speed zone, submit a request to the State Traffic Engineer as required for regulatory speed limit changes. If the engineering and traffic investigation results do not support the request, consider other solutions such as adult crossing guards, focused law enforcement, playground fencing, and warning signs. Establishment of a crosswalk may also be considered.

2. **Speed Limits on State Highways Within Tribal Reservation Boundaries.** Beginning in 2009, state law ([RCW 46.61.480](#)) affirms that tribal authorities may determine the speed limit on the portions of nonlimited access state highways that pass within tribal reservation boundaries. The speed limit must be based on an engineering and traffic investigation and is not effective until approved by WSDOT, and appropriate signing is posted.
3. **Speed Limits on Ocean Beaches.** Ocean beaches are under the jurisdiction of the Washington State Parks and Recreation Commission ([RCW 79A.05.610](#)). The Commission has set the maximum speed limit on beaches at 25 mph ([WAC 352-37-130](#)).
4. **Minimum Speed Limit.** Although [RCW 46.61.425\(2\)](#) authorizes the department to post a minimum speed limit on a highway segment, the Rules of the Road do not mandate a statutory minimum speed limit for state highways. [RCW 46.61.415](#) states in part that minimum speed limits on local roadways may not be set lower than 20 mph. Further, [RCW 46.61.440](#) sets 20 mph as the speed limit at marked school

or playground crosswalks. For consistency with these statutes, it is suggested that 20 mph be the lowest speed limit that the department will consider. Lower speed limits may be considered in unique situations such as weigh stations, ferry terminals or rest areas (see Section 6.3, C). Consult with the State Traffic Engineer's Office for guidance.

5. **Vehicle Specific Speed Limits, Trucks.** The maximum speed limit for trucks is 60 mph ([RCW 46.61.410](#)). The department may set lower maximum limits by vehicle class if determined necessary for safety reasons ([RCW 46.61.405](#)). Trucks are defined as vehicles over 10,000 pounds gross weight and all vehicles in combination (except auto stages). [RCW 46.04.130](#) defines a combination of vehicles as every combination of motor vehicle and motor vehicle, motor vehicle and trailer, or motor vehicle and semi trailer.
6. **Environmental Review Process.** SEPA requires an environmental review of any proposal to raise the speed limit on a highway to above 55 mph. Contact the Regional Environmental Manager's Office for information on the environmental review process and to determine if the proposed speed limit change area falls within an air quality maintenance area (non-attainment area) for carbon monoxide or ozone. A completed review must accompany the traffic regulation request package. For further information, consult the *Environmental Procedures Manual* M 31-11.

Either of two review procedures will be required:

- If none of the proposed change area is located within an air quality maintenance area, the reviewer completes the Non-project Environmental Checklist and the Determination of Non-Significance. Include a copy of each in the traffic regulation package, and provide copies to the Headquarters Environmental Services Office. It is not necessary to provide a copy to any other jurisdiction, nor does SEPA require a comment period.
- If any part of the proposed change area is located within an air quality maintenance area, the local Metropolitan Planning Organization (MPO) must model impacts from the proposed speed limit increase. If the modeling shows that the carbon monoxide and ozone allowances are not exceeded, follow the same procedures outlined for areas outside air quality maintenance areas. If the modeling shows that the carbon monoxide and ozone allowances will be exceeded, the impacts must be mitigated before the speed limit may be increased.

B. Bicycle Restrictions. Bicycles are defined as vehicles under state law ([RCW 46.04.670](#)) and treated and addressed as part of highway traffic. Bicycle restrictions may be implemented at specific locations due to speed differentials between bicyclists and other traffic, extremely high traffic volumes, roadway geometrics, or other safety considerations. Where bicycle restrictions are necessary, alternate routing suitable for bicycles must be available.

When considering an area for bicycle restriction or prohibition, conduct an engineering and traffic investigation and involve the regional bicycle coordinator, the bicycling community, and local agencies. Their input assures that bicycling interests are considered and that bicycle commute corridors remain intact.

Document the investigation and submit the proposed regulation to the State Traffic Engineer as a calendar agenda item. Include:

- A vicinity map and strip map showing SR/MP of the area.
- Location and descriptions of available alternate routes.
- Copies of documents, correspondence, and citizen requests.
- Narrative on how bicycle interests are addressed.
- Collision data involving bicycles.
- Copies of WSP and/or local police agency concurrences.
- Description of operational complexities (e.g., restricted shoulder width, interchange configurations) which identify the need for the regulation, as they relate to the following guidelines approved by the Bicycle and Pedestrian Advisory Committee (BPAC):
 1. Routes over 100,000 motor vehicles per day (ADT), or
 2. One or more of these criteria:

20,000 to 100,000 ADT	
Criteria	Condition and/or Consideration
Shoulder Width	Less than 4 feet when ADT between 20,000 and 60,000 or 8 feet when ADT exceeds 60,000 ADT.
Double On/Off Ramps	Consider forced exit and return.
Interchange Spacing	Less than 2 miles with ramp volume greater than 10,000 ADT, use forced exit and return.
Tunnels/Bridges	Consider restriction when alternate routes are available.

The State Traffic Engineer will coordinate with the department's Bicycle and Pedestrian Program Manager to arrange for review of the restriction with the BPAC. Comments from the BPAC will be included in the regulation review.

- C. **Truck Restrictions.** Truck restrictions may be imposed by statutory mandate (RCW or WAC), or by approval by the State Traffic Engineer through a calendar agenda item. Truck restrictions are either as lane restrictions or route restrictions and designations.
1. **Left-Lane Restrictions.** As mandated by [RCW 46.61.100\(3\)](#) and [WAC 468-510-020](#), no vehicle towing a trailer or no vehicle or vehicle combination over 10,000 lbs. may use the left lane of limited access highways having three or more general purpose lanes in one direction.

Lane restrictions for trucks may also be imposed on other highway sections through a State Traffic Engineer Calendar Action. Although rare, these restrictions may be necessary to improve traffic flow on facilities having two general purpose lanes in one direction.

Truck route restrictions and designations are normally implemented together to establish a preferred truck route through a corridor. Route restrictions and designations may be initiated by a local agency for city streets that are also state highways.

An engineering and traffic investigation is conducted to determine the need for the restriction and route designation.

Document the investigation and submit the proposed regulation to the State Traffic Engineer as a calendar agenda item. Include:

- A vicinity map and strip map showing SR/MP of the area.
- Description of operational characteristics which identify the need for the restriction.
- Copies of speed studies, volume studies including vehicle classification, and a three year collision history.
- Copies of documents or correspondence from citizen groups.
- A copy of the local agency ordinance if the restriction is for a city street that is also a state highway.
- Copies of WSP and/or Washington Trucking Association concurrences.

Refer questions concerning [WAC 468-510-020](#) to the State Traffic Regulations Specialist.

2. **Hazardous Material Route Restriction.** Some highways, due to operational characteristics, may be restricted for certain classes of vehicles, such as those carrying hazardous or flammable materials.

Conduct an engineering and traffic investigation and document the condition warranting a restriction. Submit as a calendar agenda item to the State Traffic Engineer with the following supporting information:

- A vicinity map showing the SR/MP of the restriction.
- Summary document detailing operational characteristics (tunnels, high traffic volumes) of the highway warranting the restriction.
- Copies of WSP and/or local agency concurrences.

- D. **HOV Lane Designation.** High Occupancy Vehicle (HOV) lanes are exclusive traffic lanes limited to carrying public transportation vehicles, private motor vehicles with the number of occupants specified on posted signs, motorcycles, and emergency vehicles ([WAC 468-510-010](#)). HOV lanes are typically a characteristic of urban freeways, but may also be designated on expressways, urban arterials, and highways serving major transportation hubs such as airports. The HOV lane objectives are:

- Increase the people-carrying capacity of highway corridors.
- Reduce total travel time.
- Improve the efficiency and economy of public transit operations.
- Reduce fuel consumption.
- Improve air quality.

Designated HOV lanes are established through a regulation approved by the State Traffic Engineer. Conduct an engineering and traffic investigation, document the condition, and submit the following information as a calendar agenda item:

- A vicinity map and strip map identifying the SR/MP limits, and showing the locations of ramps within the proposed section.
- The proposed minimum number of occupants per vehicle, and engineering documentation to support that minimum.
- Projected lane occupancy rates for both the HOV lane and the adjacent general purpose lanes.
- Proposed hours of HOV operation.
- Copies of design data.
- For proposed shoulder HOV lanes, include Design Office concurrence that the shoulder has adequate structural strength to support the HOV lane.

- On highways where bicycles are allowed on the shoulder, a narrative on how bicycle traffic will be accommodated if a shoulder HOV lane is approved.

E. Angle Parking on State Highways

1. **Statutory Requirements.** Angle parking may be requested by a city or town for a city street that is also a state highway ([RCW 46.61.575\(3\)](#)). Local authorities, by ordinance or resolution, may permit angle parking on such a street, if the department has determined that the roadway is of sufficient width to permit angle parking without interfering with the free movement of traffic.

Conduct an engineering and traffic investigation of the location. If angle parking is determined appropriate, submit as a calendar agenda item to the State Traffic Engineer with the following supporting information:

- Vicinity and strip map showing the SR/MP of the proposed regulation.
 - Narrative describing the need for angle parking, including speed limit and traffic volumes.
 - Collision data for the past three years.
 - Copy of the city or town ordinance establishing angle parking.
 - Parking plan layouts.
 - A demonstration (using a passenger vehicle for design purposes) that the parking maneuver can be accomplished without interfering with the free movement of traffic. Use video or pictures.
2. **Pre-existing Angle Parking.** Angle parking was installed along some state highways prior to approval through the traffic regulation process, or before it was designated as a state highway. Further, these locations may not allow for the angle parking maneuver to be performed without interfering with the free movement of traffic, as required by law.

To address unapproved angle parking, the region may establish an inventory of the locations and then undertake a “housecleaning” project. The project can be region wide, or can encompass a specific area such as a state route or a county. The purpose is to bring unapproved locations into compliance with the law through a traffic regulation, or work toward removing those that cannot comply.

Where it is necessary to initiate removing angle parking, it is important to partner with local agencies (for city streets that are also state highways) and/or the business community to establish a mutually acceptable time frame. In many locations, angle parking may be

the only parking available to business patrons. In these cases, a comprehensive approach to providing other parking must be part of any effort to remove angle parking.

- F. **Parking Restrictions for Park and Ride Lots and Other Parking Facilities.** Within the department's park and ride facilities, parking is limited to a maximum of 48 hours, when posted with signs (R8-1201). The State Traffic Engineer established this restriction through an official calendar agenda action on January 8, 1982. Local agency police can enforce parking regulations in WSDOT park and ride lots if the city or town has adopted an ordinance similar to the department's 48 hour parking maximum.

For other parking restriction requests, such as at ferry terminals or chain-up areas, conduct an engineering and traffic investigation of the location and document the condition. Submit the proposed restriction as a calendar agenda item to the State Traffic Engineer, together with copies of all correspondence associated with the request.

- G. **Regulation of Sales within State Parking Facilities.** The use of state parking facilities for sales of vehicles or other merchandise is not allowed.

The supporting enforcement statutes are as follows:

- [RCW 46.55.070](#) specifies the posting requirements for public parking facilities.
- [RCW 46.55.010\(14\)](#) defines an unauthorized vehicle and the required period of time prior to impoundment for posted public parking facilities.
- [RCW 46.55.080](#) authorizes that police officers may direct the impoundment of unauthorized vehicles.
- [RCW 47.32.120](#) makes it unlawful to "merchandise" in a manner that requires the use of any portion of state highway right of way.
- [RCW 46.55.240\(1\)\(a\)](#) provides a city, town, or county the authority to adopt the provisions of [RCW 46.55](#) by ordinance or resolution.
- [WAC 308-330-436](#) of the Model Traffic Ordinance (MTO) may be used by local agencies who have adopted the MTO, for park and ride lots located within their jurisdiction.

- H. **Permanent Weight Restrictions.** Permanent weight restrictions may be imposed where the pavement and base structure of a given section of roadway or a bridge structure will not support the maximum legal load. An example is a weight restriction on a road segment not built to WSDOT standards but acquired as a state highway. The State Bridge Condition Office will normally initiate bridge weight restrictions.

Investigate and document the need for the restriction and submit it to the State Traffic Engineer. Include:

- A narrative describing the road or bridge condition leading to the restriction.
- The appropriate maximum weight limit for a restricted section of roadway, as determined by the department's Materials Laboratory.
- A determination of the appropriate bridge weight limit, as set by the department's Bridge Condition office.
- Citizen or local agency correspondence.
- A copy of WSP concurrence.

Weight restrictions are signed with the appropriate R12 series signs illustrated in the *Sign Fabrication Manual* M 55-05.

6.5 Other Traffic Restrictions

Compression Brake Prohibition. The department does not regulate compression brake use; compression brake regulations are enacted by local agencies and may be signed on state highways as described in the *Traffic Manual*, [Chapter 2](#).

6.6 Rescinding Existing Traffic Regulations

Occasionally changes to the highway or roadside environment create the need to rescind a traffic regulation. The Regional Administrator or State Traffic Engineer accomplishes this through a calendar action. **Removing the signs or posted notices of the regulation does not rescind the regulation.**

- A. **Regional Traffic Regulations.** Use the following guidance when rescinding regional traffic regulations:
1. When **removing a traffic signal**, complete Section E, Report of Change, on the regional copy of the Traffic Signal Permit. Part of Section E provides documentation for the date of removal, together with the engineer's name, title, and reporting date. A copy of that permit is then sent to the Headquarters Traffic Regulations Specialist for retention in the signal permit file.
 2. Reduced regulatory speeds in construction or maintenance areas may be implemented under certain conditions specified within Secretary's [Executive Order E 1060.00](#) and *Traffic Manual*, Chapter 5, [Appendix 5.B](#). The guidance states that when the warranting conditions no longer exist, the reduced regulatory speed limit is no longer justified. Generally, this is at the end of the project and is noted in the Work Zone Speed Reduction Request. The permanent speed limit signs are then reinstalled, uncovered, or turned toward traffic, as applicable.

3. The Regional Administrator, using the regional calendar agenda process, rescinds all of the following regulations if they are no longer needed:
 - Stop control on state highways.
 - Turn prohibitions.
 - Pedestrian prohibitions on partial or modified access controlled highways.
 - Roadside parking restrictions (except for angle parking, and restrictions for park and ride lots and other parking facilities).
 - Tow-away zones.
 - Prohibitions of fishing or jumping from bridges.
 - Weight or closure restrictions.

Conduct an engineering and traffic investigation and document the condition requiring the rescinding of the regulation. Removing the regulatory signs does not rescind the traffic regulation, but renders it unenforceable under [RCW 46.61.050\(2\)](#).

- B. **Headquarters Traffic Regulations.** The State Traffic Engineer, using the calendar agenda process, rescinds the following regulations if they are no longer needed:
 - Bicycle prohibitions.
 - Truck restrictions.
 - HOV lane designations.
 - Angle parking on state highways.
 - Parking or sales restrictions for park and ride lots and other parking facilities.

Permanent regulatory speed limits may only be amended.

Provide documentation to support rescinding the traffic regulation to the State Traffic Engineer's office. As with the regional traffic regulations noted above, removing signs does not rescind the traffic regulation, but renders it unenforceable under [RCW 46.61.050\(2\)](#).



**Washington State
Department of Transportation**
Paula J. Hammond, P.E.
Secretary of Transportation

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Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

DATE:

TO: Regional Administrator (or Designee)

FROM:

ITEM: Approval of Traffic Regulations

Attached is (are) the above-reference item(s) for inclusion on your calendar for approval and/or execution at calendar meeting to be held (place calendar agenda date here).

A. Traffic Signal Permits:

1. SR 404
Milepost 16.50
Permit Number 3,013

Submitted by the Regional Traffic Engineer, based on Warrant 1, Eight-Hour Vehicular Volume, and Warrant 6, Coordinated Signal System. The State Patrol and the Articulating Transit Authority concur with the proposal.

B. Turn Prohibitions:

C. Pedestrian Prohibitions:

Region Calendar Agenda
Figure 6-1



**Washington State
Department of Transportation**
Paula J. Hammond, P.E.
Secretary of Transportation

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P.O. Box 47300
Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

DATE:

TO: State Traffic Engineer

FROM:

ITEM: Approval of Traffic Regulations

Attached is (are) the above-reference item(s) for inclusion on your calendar for approval and/or execution at calendar meeting to be held (place calendar agenda date here).

A. Speed Limits:

1. SR 404

Milepost 16.50 to Milepost 27.00

Posted 45 mph

Proposed 35 mph

35 mph for all vehicles in both directions from MP 16.50 to MP 27.00, for a total distance of 10.50 miles.

Submitted by the East-West region based on an engineering study. The State Patrol concurs with the proposal.

B. Angle Parking:

C. Bicycle Prohibitions:

State Traffic Engineer Calendar Agenda
Figure 6-2

Date: _____

Submitted By: _____

Permit No.: _____

Location: SR No. _____ MP _____ Minor Rd. _____

Vicinity Map: Include a general vicinity map of area showing intersecting roads, and any other features such as nearby signals and interconnected systems that may be of importance for analysis of application.

ADTS: Include all ADTS for all approaches entering the intersection.

ADT: Mainline _____ N___ S___ E___ W___ Mainline _____ N___ S___ E___ W___

ADT: Minor St. _____ N___ S___ E___ W___ Minor St. _____ N___ S___ E___ W___

No. of Lanes: Mainline Thru _____ Minor St. Thru _____

Number of Turn Lanes: Mainline _____ Minor St. _____

Signed Speed Limits: SSL on Mainline _____ 85th % _____

SSL on Side Street _____ Priority Array _____

Estimated Start Date: _____ **Estimated Cost:** _____

Estimated Completion Date: _____

Signal Application Checklist

Figure 6-3 (page 1 of 2)

Date: _____

Location: SR No. _____ MP _____ to MP _____

Submitted By: _____

Vicinity Map: Include a general vicinity map of area showing intersecting roads, and any other features of importance for analysis of the speed zone request.

Strip Map: Include a strip map showing 85th percentile speeds within the proposed area to be considered, noting the appropriate mileposts, curve warning signs with advisory speeds, and pedestrian crossings.

Speed Limits:

Existing	Proposed
_____ MPH, MP _____ to MP _____	_____ MPH, MP _____ to MP _____
_____ MPH, MP _____ to MP _____	_____ MPH, MP _____ to MP _____
_____ MPH, MP _____ to MP _____	_____ MPH, MP _____ to MP _____

Lane Width: _____

Shoulder Width: _____

Collision Data: Include the latest three years collision data together with yearly collision rate, yearly critical rate, and yearly statewide average for the area to be considered.

Correspondence: Include all appropriate correspondence including citizen petitions and local ordinance.

Concurrences:

Washington State Patrol _____ County _____ City _____

Speed Limit Request
Figure 6-4

7.1 Introduction

State highways function as multi-modal travel routes for commuters, commercial vehicles, and recreational traffic. In addition, there may be both short-term and long-term specialized uses of the roadways. Short-term special uses of the highways include parades, running or bicycle events, filming, and festivals. Long-term special uses such as designated shoulder-driving segments for slower vehicles, or school bus stops or pedestrian crossings on limited access highways, can also be authorized on specific roadway sections. Requests are also received for permanent specialized highway uses such as transit vehicle stops and placement of interpretive signing.

This chapter provides guidelines to assist in responding to special highway use requests.

A Memorandum of Understanding (MOU #C010355GSC) between the department and Washington State Patrol (WSP) governs the operation of special events (parades, running or bicycle events, filming, and festivals) on state highways. The MOU establishes guidelines and defines responsibilities for event operations. It also includes examples of event administration documents ([Appendix 7-1](#)).

Special events on the state highway system are administered through the regional Traffic Office for events taking place in a single region, or through the State Traffic Engineer's office for multi-region events. A Letter of Agreement or a Letter of Acknowledgement between WSDOT and the special event organizer defines the operation. There is no fee to event organizers for special event administration and coordination.

Continuing or long-term specialized uses are also addressed in the Traffic office, and may include coordination with other department offices or agencies. The State Traffic Engineer's office is available as a resource for questions about events or other specialized highway uses not specifically addressed in this chapter.

7.2 Bicycling, Running, Walking, Parade, and Festival Special Events

WSDOT receives numerous requests for short-term use of state highways or right of way for recreational or other public events. The Regional or State Traffic Engineer's office will respond to event organizers within 10 working days of receiving a request to begin the review and coordination process. Special events are generally not held on fully controlled limited access

highways. Occasional exceptions may be considered where no alternate route is available and roadway conditions allow for participant and other roadway users' safety.

In reviewing an event request, WSDOT will:

- Establish on-going communication with event sponsors to address route determination, traffic control, logistical issues, and other concerns.
- Conduct a traffic engineering analysis to determine the impact of the proposed event, as needed.
- Consult with regional Construction and Maintenance offices to identify any operational conflicts along the proposed route.
- Contact WSP to coordinate the event per the WSDOT/WSP Memorandum of Understanding, "Special Events on State Highways."
- Review special event traffic control plans.
- Identify alternative routes, if needed.

Additionally, WSDOT may:

- Provide use of Changeable Message Signing and Highway Advisory Radio (HAR) systems where available and appropriate.
- Suggest event specific signing to provide information for all highway users.

A. **Administration Guidelines.** Use of state highways or highway right of way for bicycle, running, walking, parades, festivals, or other special events is administered through either a Letter of Agreement or Letter of Acknowledgement between WSDOT and the event sponsor. Events that will not impact highway operations, where all participants will follow all Rules of the Road at all times, and where no traffic control is needed are not required to contact WSDOT. However, because those events may also benefit from WSDOT services, contact with the event sponsor is encouraged to ensure coordination with WSDOT projects, WSP, and other special events occurring in the immediate vicinity.

When the department receives a request for a special event, conduct a traffic analysis and begin coordination with the event organizer. Based on the specific event situation as described below, issue a Letter of Agreement or a Letter of Acknowledgement, or if circumstances warrant, a Letter of Denial. These documents are signed by the regional or headquarters signing authority. The Letter of Agreement is counter-signed by the event coordinator. If an event is denied, WSDOT will work with the organizers to seek solutions to the issues causing the denial. Event organizers may appeal a denial through the process outlined in this chapter.

1. **Letter of Acknowledgement.** A Letter of Acknowledgement is issued when event participants will follow the Rules of the Road at all times and when no special traffic control is needed. The Letter of Acknowledgement ([Appendix 7-1](#)) addresses specific event conditions such as:
 - Operational restrictions on specific highway sections due to conflicts with construction or maintenance operations.
 - Use of Changeable Message signs or a Highway Advisory Radio System.
 - The use of small crashworthy signs for guiding event participants.
 - Other highway conditions or restrictions.

Examples of when a Letter of Acknowledgement is appropriate:

- a. A group of 100 people will participate in a running event using portions of a state highway. The runners will conform to the Rules of the Road at all times.
 - b. A bicycle ride of 500 people uses a filtered start over several hours so cyclists are spread out along the roadways. Riders will cross the highway intersections in a legal manner and follow all other Rules of the Road.
 - c. A vehicle convoy of 10 to 15 vehicles accompanying “Santa Claus” to a local charity event uses portions of the state highway, following the Rules of the Road at all times.
2. **Letter of Agreement.** A Letter of Agreement ([Appendix 7-1](#)) is issued when the department’s review and analysis determines that the event participants are not able to follow the Rules of the Road, that there will be an impact on traffic operations, or that special traffic control is required. Additional information and terms may be attached as Exhibits to the Agreement.

A Letter of Agreement is developed when the event will:

- Require special traffic control (flaggers, escort vehicles, and/or law enforcement) to support the safe passage of event participants and the traveling public.
- Occur outside the roadway but within the right of way, and involve the use of highway facilities for non-transportation purpose.
- Close a portion of the highway to the public.
- Use services or personnel provided by the department, WSP, or other law enforcement.

- Place directional signing for the traveling public on department right of way.

Examples of when a Letter of Agreement is appropriate:

- a. A running or bicycle event uses local police control at a state highway intersection to allow participants to cross the highway while on-coming traffic stops.
- b. A large running event requests the use of portions of a limited access highway.
- c. A parade closes the highway to traffic and a detour is required.
- d. Temporary directional signs to a community festival are placed on the state highway right of way.

The following guidelines are considered and addressed when developing a Letter of Agreement:

- a. Event sponsors should be encouraged to use county roads or city streets where possible.
- b. Where a state highway will be closed for an event, a suitable detour route must be available and the Region or State Traffic Engineer or their designee must approve a detour traffic control plan. Road closures require a minimum three-day advance notice to the public ([RCW 47.48.020](#)). Longer notice is desirable for large impact events.
- c. Events requiring a Letter of Agreement must have a general liability insurance policy that names the department as an “additional insured.” Minimum policy requirements for an event are for \$1 million per incident with a \$2 million aggregate. If vehicles are used as part of the event operation, a minimum \$1 million automobile liability insurance must be added to the policy. Proof of insurance and indemnification of WSDOT is required prior to issuing the Letter of Agreement.
- d. The organizers or sponsors will pay all extraordinary costs for labor and materials provided by WSDOT, WSP, or local agency law enforcement.
- e. The department may determine that pre-event notices of the event are needed in specific locations or situations. This is a courtesy to local communities and can reduce traffic congestion on event day. If used, the event sponsor will post the notices seven to ten days before the event.

- f. Requests for state highway use within an incorporated city or town should have the city or town's concurrence.
 - g. At least 48 hours (preferably seven days) in advance of the event, the organizer shall notify all local fire, ambulance, transit, law enforcement departments, and other service-oriented activities that may be impacted by the event.
 - h. Department regulations and state law limit bicycling events and prohibit running or walking events on fully controlled limited access highways. Occasional exceptions are considered at locations where no alternative route exists. Where a special event is approved on a limited access highway, sufficient lane(s) must be left open in each direction to allow traffic to operate without significant congestion.
3. **Post Event Review.** WSDOT staff may conduct a follow-up evaluation to assess event operation. Discussion with the event organizer, law enforcement, WSDOT Area Maintenance and other affected groups can help identify any operational or public safety concerns and identify needed improvements. Document these issues so they can be addressed the next time the event occurs.
 4. **Appeal Process.** WSDOT has an appeal process for cases when a request for a special event on a state highway is denied. Appeals must be made to the State Traffic Engineer within 30 days of the event denial, and a minimum of 14 days before the event. The State Traffic Engineer has seven days to review the appeal and will notify the event coordinator by certified mail within seven days of the decision. For bicycle event appeals, the Traffic Engineer will consult with the State Bicycle Program Coordinator.
- B. **WSDOT and Event Organizer Coordination.** The department's review identifies the proposed event's impact on traffic operations and focuses on traffic control or operational solutions to mitigate those impacts. Communication between the department, event organizers, and WSP is essential to develop effective event operations and to schedule agreed upon services.

Department staff determines if construction, maintenance or other operations will conflict with the event; or if there are atypical roadway conditions such as a construction detour or another scheduled special event. Conflicts can often be avoided through schedule or route adjustments. Include information about significant activities and conditions that may affect the event in the Letter of Acknowledgement or Letter of Agreement. Contact the ferry system when an event includes use of state ferries.

Provide advance public notice about events that may impact traffic operations as a courtesy to the affected communities. Advance notice can influence regular highway users to choose other routes on event day, thus reducing event impacts. Include any requirements for giving such notice in the Letter of Agreement. Notice can include:

- Placement of pre-event signs along the affected route.
- Press releases by the organizer and the department.
- Other public information efforts commensurate with the event scale.

Work with the region or headquarters public information office (PIO) to publicize large events and their associated congestion or delays.

Copies of completed Acknowledgement and Agreement letters are shared between region and state Traffic Engineer's offices and sent to the WSP. Affected construction or maintenance offices are also notified. Sharing information helps assure statewide uniformity in department special event administration.

- C. **Bicycle Racing.** Timed event bicycle races are sometimes held on state highways under purview of [WAC 468-400](#) (Bicycle Racing) and Washington Bicycle Racing Guidelines (www.wsdot.wa.gov/NR/rdonly/res/45CCAE77-0247-4BFB-995D-FB99E068A2FE/0/RacingGuide.pdf).

Refer to these guidelines for Bicycle Race event operation and administration. The WAC and racing guidelines were developed through a cooperative effort between the department, the bicycle racing community, WSP, and the Washington Traffic Safety Commission. A Letter of Agreement is developed between the department and the event organizer and liability insurance indemnifying the department is required.

There are eight common types of bicycle races: Time Trial, Criterium, Road Race, Stage Races, Cyclocross, Mountain Bike, Duathlon, Triathlon, or Multi-sport Event, and Relay/Cross Country. Each type of bicycle race has the potential to utilize a state highway, and each type has specific traffic control needs. Details are covered in the Bicycle Racing Guidelines.

7.3 Commercial Filming on State Highways

Filming of commercials or movies on state highways is administered using the Letter of Agreement in conjunction with the Exhibit for Filming ([Appendix 7-1](#)). The Letter of Agreement authorizes the filming and defines the terms and conditions applicable to the particular operation. It should be completed 10 days prior to filming.

When the department receives a request for filming, conduct a traffic engineering investigation that considers traffic impacts and safety. The State Traffic Engineer's office participates in requests for multi-region filming

operations. Notice of a proposed filming operation is provided to WSP (per the WSDOT/WSP Memorandum of Understanding) for their review and concurrence prior to issuing the Letter of Agreement.

Filming may not be scheduled on highways with high traffic volumes or during peak traffic flow periods. Generally, Interstate and other freeway mainline closures are not permitted. Road or lane closures on other state highways may be considered.

Traffic control and enforcement shall be provided by the WSP in cooperation with local police agencies where appropriate. The filming company must pre-pay all costs for labor, equipment, and supplies incurred by the department and the WSP.

The filming company must obtain a general liability insurance policy that names the department as an 'additional insured'. Minimum policy requirements are \$1 million per incident with \$2 million dollars aggregate coverage per filming event. Automobile insurance must be added if vehicles are to be used in the filming. Proof of insurance and indemnification of the department must be provided prior to filming.

The department and the WSP may develop additional guidelines and operational procedures for individual filming operations on state highways. These are included in the Letter of Agreement.

7.4 Other Special Events

The department receives requests for many types of special events on state highways or right of way. Car or tractor caravans, wagon trains, trans-continental running events, and stagecoach tours have all been conducted on state highways. Each of these is administered through a Letter of Agreement or Letter of Acknowledgement, as determined by a traffic engineering analysis and depending on the specific event conditions. Contact the State Traffic Engineer's office for discussion of any questions or concerns about special events.

7.5 Traffic Control for Special Events

When a special event includes a highway closure, detour, flagging operation, or other traffic control, a traffic control plan is developed and submitted by the event organizer to the department. Consideration is given to the type of highway, traffic speed, geometrics at the traffic control site, and duration and type of event operation.

When event organizers need help in plan development, WSDOT may either offer that assistance or advise the organizers of reference materials contained in both the *Manual of Uniform Traffic Control Devices* (MUTCD) M 24-01 and WSDOT's *Work Zone Traffic Control Guidelines* M 54-44. WSDOT must approve all event traffic control plans.

Consider traffic control or other special operations with these event circumstances or roadway conditions:

- Where events with mass starts begin on state routes, or where, because of course design, large numbers of participants enter the state route together.
- When the number of participants may cause delay of five or more vehicles, impacting traffic operations.
- When narrow shoulders cause vehicles to move into the opposing traffic lane to pass event participants.
- Where there are significant sight distance restrictions such as numerous no passing zones.
- Other safety or operational considerations.

Traffic control must meet MUTCD and WSDOT standards. Traffic control operations shall be conducted by law enforcement officers, certified flaggers, or certified department personnel. They shall comply with the department-approved traffic control plan. Typical traffic control plans in the MUTCD or WSDOT *Work Zone Traffic Control Guidelines* M 54-44 may be used where applicable, or can be adapted to the special event situation.

Flagging operations may control traffic at intersections for running, bicycling, or other events. MUTCD Typical plans TA-13 and TA-14 address the intermittent stopping of highway traffic to allow event participants to safely enter or cross a highway or intersection.

Use the following guidelines when developing a traffic control plan for intersection flagging operations:

1. All flagging operations shall be conducted by a uniformed law enforcement officer or certified flagger.
2. **If flagging at a signalized intersection, the signal shall be off or set to “all-red flash.” Traffic may not be flagged with an active signal.** During hours of darkness, flagging stations shall be illuminated.
3. For flagging operations on highways with a posted speed of 40 mph or less, three advance signs on each approach are generally used. The “ROAD WORK AHEAD” sign should be replaced by an event specific message such as “RUNNING EVENT AHEAD,” “BIKES ON ROAD,” or “BICYCLE CROSSING.” The second and third signs should be “PREPARE TO STOP” and the “FLAGGER” symbol respectively.
4. On high-speed highways, where the posted speed is 45 mph or more, a four sign sequence is generally used. The additional sign may be either a repeated “EVENT AHEAD” or a specific sign noting the traffic condition.

5. In some limited situations, on low volume side streets, or at speeds below 40 mph, a two sign array may be considered unless other factors, such as restricted sight distance or congestion indicate a need for additional warning.
6. Sign spacing will conform to WSDOT requirements, based on highway type and speeds.

7.6 Special Event Signing Guidelines

Special event related signs may be allowed on the state right of way through the Letter of Agreement or Letter of Acknowledgement. The purpose of special event signs is to help manage event related traffic or to alert roadway users of potential traffic impacts. Sign types include:

- Directional signing to the event.
- Route designation signing for participants.
- Pre-event signing to give advance notice to roadway users.
- Detour signing.

Announcement of the event on a banner may be allowed in some circumstances ([WAC 468-95-148](#)) (see Section 7.7).

- A. **Directional Signing for Large-Scale Events.** Temporary directional signing may be installed for large-scale spectator activities such as county fairs, conventions, and major sporting events that do not qualify as destinations on permanent supplemental guide signs. This requires a written agreement between the WSDOT region and the event sponsor.

The department may design, fabricate, install, maintain, and remove temporary directional guide signs using the following criteria:

1. The region determines that the event will generate sufficient traffic to create operational challenges along a state highway.
2. The sign is requested by the sponsoring agency with enough lead-time for design, fabrication, and installation (a minimum of two months).
3. Signing is from the nearest state highway only.
4. By written agreement, all costs are paid by the sponsoring group.
5. Signs are sized for the specific highway conditions.
6. Signs shall be white letters on a green background and the design shall provide a clear, simple message.
7. Installation and removal shall be by WSDOT or an approved contractor and meet MUTCD and WSDOT requirements.

8. Any needed follow-through signing on local roadways must be installed prior to sign installation on the state highway.
 9. When a request for temporary directional signs is denied, the region provides an explanatory letter to the event coordinator with a copy to the State Traffic Engineer.
- B. Day of Event Directional Signs.** Directional signs may be installed on the day(s) of the event to direct traffic from the nearest state highway to the event or event parking. Signing will be located only at points where traffic must turn from the state highway or make another route decision. Follow-through signing on city and county roads must also be installed. No commercial advertising is allowed.
1. Signs are allowed through a Letter of Agreement.
 2. Signs must be of lightweight crashworthy materials such as corrugated plastic or ½-inch plywood. Lightweight ‘sandwich board’ signs no larger than 4-feet × 4-feet may be allowed.
 3. Sign type, size, and location will be determined and noted in the Letter of Agreement.
 4. Signs may be in place only for the duration of the special event.
 5. Signing shall not interfere with or obstruct the view of any traffic control devices or the sight distance to or from an intersection or road access.
 6. Portable Changeable Message Signs and other portable signs shall be placed off the shoulder if practicable, or on the far right of the shoulder, to maintain bike and pedestrian traffic.
 7. The regions may determine additional guidelines for day of event directional signing to address traffic safety and operational concerns.
 8. Signs installed on the right of way, which are not described in the Letter of Agreement, may be immediately removed by WSDOT.
- C. Route Designation Signing for Event Participants.** Small signs may be used to direct event participants along the event route or to event points such as rest or food stops.
1. Signs are allowed through the Letter of Acknowledgement or Agreement, which addresses sign size and type.
 2. Signs must be of lightweight crashworthy materials such as corrugated plastic or ½-inch plywood. Lightweight “sandwich board” signs no larger than 4-feet x 4-feet may be allowed.

3. Signs may be in place only for the duration of the special event.
4. Messages should consist of “Name of Event” or other simple message and a directional arrow. No commercial advertising is allowed.

D. **Pre-event Signing.** Advance notice signing is sometimes installed to advise regular highway users of an upcoming event that will affect normal traffic operations. It is a courtesy to any communities or highway users affected by a special event to alert them about potential traffic impacts and delays.

1. Pre-event signs, if required, are addressed in the Letter of Agreement.
2. Sign size, material, message, and locations are noted in the Letter of Agreement. Sign color shall be black letters on an orange background.
3. Sign message is limited to name and date of event and a traffic control message such as “Use Alternate Route” or “Expect Delays” or more specific directional information as applicable. No commercial advertising is allowed.
4. Signs and supports must be of crashworthy materials. Types include roll-up signs on approved portable bases, signs mounted on approved posts, and Portable Changeable Message Signs (PCMS). Allowance is made for crashworthy sign materials such as corrugated plastic.
5. Post mounted signs shall be installed and removed per MUTCD installation standards. Signs shall not be installed on existing regulatory or warning sign posts. Signs may be installed on existing guide or informational sign posts.
6. Pre-event signing shall be installed between seven and ten days before the event and removed within three days after the event.

Additionally, when a roadway is to be closed for an event, pre-event “Road to be Closed” signs must be posted a minimum of three days in advance ([RCW 47.48.020](#)). The signs will give the date(s) and time(s) of closure.

7.7 Banners

The department receives requests from public agencies, civic organizations, and event sponsors, to install banners for a variety of informational purposes on state highway right of way.

Most installation requests are for horizontal suspension over the roadway, using span wire, and are the focus of this section. The occasional requests for vertically mounted banners, such as on luminaire poles, are processed case-by-case.

Some installations may require a wind load analysis prior to approval (see [Section D](#)).

- A. **Statutory and Regulatory Overview.** The term “banners” means the signs, banners, and decorations described in state law ([RCW 47.36.030](#)) and the Washington Administrative Code ([WAC 468-95-148](#)). [WAC 468-95-148](#) establishes approval criteria (see Section C) that allow the department to permit banners visible to state highways. [RCW 47.42.020\(10\)](#) exempts banners from the Highway Advertising Control regulations, if the banners do not display commercial advertising.

On city streets that are also part of the state highway system under [RCW 47.24](#), the cities are responsible for approving banner installations that are more than 20 feet above the roadway surface. The department only has the authority to prohibit banners up to a vertical height of 20 feet above the roadway surface ([RCW 47.24.020\(3\)](#)).

- Thus, requests for banners on city streets that are also part of the state highway system are referred to the city for approval.
- On state highways in unincorporated areas, the department has the authority to regulate banners.
- The department maintains authority on limited access roadways, in both incorporated and unincorporated areas.

- B. **Permit Administration in Unincorporated Areas.** Banner permits are administered through the region Traffic Office, using a Banner Placement Permit ([Figure 7-1](#)) issued by the regional signing authority. This permit may be modified to accommodate requests for vertically installed banners.

The region Maintenance Office having jurisdiction over the proposed banner location receives a copy of the completed permit, for their information when processing over-height vehicle permits.

The region Traffic Office also coordinates any required wind load review or analysis with the headquarters Bridge and Structures Office.

For a banner attached to utility company-owned poles, the sponsor must provide the region with a copy of the utility company’s permitting correspondence. This practice assures the department that the utility company’s wind load and banner attachment considerations have been addressed.

Temporary poles may be installed in department right of way outside the clear zone, after the sponsor secures a department-issued General Permit. This practice assures the department that the installation won’t interfere with department operations or underground utilities, and that traffic control considerations are addressed. A Banner Placement Permit is also required.

As a matter of practice, the department does not allow horizontally suspended banners to be attached to WSDOT-owned traffic signal poles or luminaire poles. Adding banners to signal poles may interfere

with or obstruct the view of traffic control devices, in conflict with [RCW 47.36.030](#) and [WAC 468-95-148](#). Regarding luminaire poles, it's likely that significant debris on the roadway would result from a knock-down. Banners should not be attached to crossing structures because a disconnection could cause a banner to fall onto the roadway.

Some cities have installed permanent banner poles on city-owned property outside the clear zone.

- C. **Approval Criteria.** The department may approve banner installations in unincorporated areas that promote a community sponsored event in accordance with the following criteria:
1. Banner messages are limited to name, date, and event sponsor. Commercial advertising is not allowed ([RCW 47.42.020](#) and [WAC 468-95-148](#)).
 2. At least 20 feet of vertical clearance must be maintained from the roadway surface to the bottom of the banner ([RCW 47.36.030](#) and [WAC 468-95-148](#)).
 3. Banners are not permitted to be visible from Interstate highways, or any other state highways having a posted speed limit of 50 mph or greater ([WAC 468-95-148](#)).
 4. Banners shall not interfere with or obstruct the view of any traffic control device, or impair the operation of transportation management systems or illumination ([RCW 47.36.030](#) and [WAC 468-95-148](#)).
 5. For temporary events, banners may be installed not more than 30 days before the event and shall be removed not more than three days after the event ([WAC 468-95-148](#)). The duration of informational banners is determined case by case.
 6. The department will not permit a sign, banner, or decoration to be mounted over any multi-lane (four or more lanes) highway. Vertical mounting on luminaire or signal poles is permitted, provided such installations meet wind load requirements (see Section D) specified by the department ([WAC 468-95-148](#)).
 7. The department does not allow banners to be illuminated in any manner ([RCW 47.36.180](#)).
- D. **Wind Load Analysis.** Standard size banner installations do not require a wind load analysis. Standard banner sizes range from two to four feet vertically by 20 to 24 feet horizontally, with three feet by 20 feet about average. Banner manufacturing incorporates wind slits or wind ports to minimize wind stress.

For larger banners consult with the Headquarters Traffic office to determine if the proposed installation warrants a wind load analysis. The Bridge and Structures Office will need 30-60 days for the wind load review if an analysis is necessary and may charge the event sponsor. As an alternative, the event sponsor may submit wind load calculations, performed and stamped by an engineer licensed in Washington State, to verify the compatibility of the installation.

7.8 Special Event Pavement Markings

WSDOT allows placement of temporary directional pavement markings (commonly called “Dan Henrys” in the bicycle community) to indicate the special event route. These markings give direction to event participants and are located at points where a route decision must be made.

1. All pavement markings must use non-permanent, chalk based or “fade-away” paint. Permanent marking paint is prohibited.
2. Markings should be placed only just before, at, and just after directional decision-making points.
3. Route confirmation markings are permitted at major intersections.
4. For bicycle events, markings are placed to the right of the edge line where riders have a good rideable shoulder. Otherwise, they are located in the ordinary line of riding.
5. For running events, pavement markings are placed on the shoulder facing traffic.
6. The markings should be visible to event participants but placed so they are unobtrusive to others. A guideline is to make these marks no larger than 12 × 18 inches.
7. Markings must be placed away from traffic control pavement markings and existing construction or survey pavement markings.

7.9 Transit Vehicle Stop Zones

Region Traffic offices receive and review requests from transit agencies for approval of transit stops on state highways. The “Transit Vehicle Stop Zone Guidelines” ([Appendix 7-2](#)) provides a standard process for managing requests for transit stops outside incorporated areas. The department has a commitment to making transit stop locations more viable and user friendly as well as safe. The guidelines consider the operational needs of the department and transit authorities as well as public safety. See the [Design Manual M 22-01](#) for information about incorporating transit vehicle stops into the project design process.

When the department receives a transit stop request, conduct an engineering and traffic investigation to find a location where the transit vehicle may stop entirely off the highway when loading or unloading passengers ([WAC 468-46-010](#)). If there is no location off the highway, then the review should establish a safe transit vehicle stopping area where suitable roadway geometrics allow.

Additionally, the investigation considers pedestrian amenities such as sidewalks, roadway crossing opportunities, security lighting, and shelters. The Americans with Disabilities Act guarantees access to public facilities (i.e., transit) for all persons; therefore, the review process must consider the needs of all transit users at each stage of transit use, including both before and after using the transit service.

Once the review has been completed, the stop location is either approved or denied. Approval is by the Regional Administrator or designee and an Agreement between the transit agency and WSDOT is written. If a location is denied, a letter stating the reasons is issued by the region.

The Rules of the Road provide general restrictions and privileges concerning transit vehicle stops:

1. [RCW 46.61.560](#) provides that, outside of incorporated cities or towns, no one can stop, park, or leave a vehicle upon the roadway. An exception is granted for public transit vehicles stopped to receive or discharge passengers at a marked transit stop approved by the department or the county on their respective facilities.

Beginning in 2009, it further allows public transit vehicle drivers to momentarily stop to receive or discharge passengers at unmarked stop zones under the following circumstances:

- Stop in a safe and practicable position.
- Activate four-way flashing lights.
- Stop only where there is an unobstructed view, for an adequate distance to not create a hazard for other drivers.

The statute anticipates transit stops on the roadway within incorporated cities or towns where stops are frequent and operating speeds are typically lower. (Note that [RCW 46.04.500](#) excludes the shoulder from the definition of roadway.)

2. [RCW 46.61.570](#) specifies several locations where it is illegal to stand or park a vehicle, except temporarily to load or unload property or passengers, and authorizes other limitations or restrictions by city ordinance, county resolution, or department order (traffic regulation).

3. [RCW 46.61.575](#) authorizes the department to place traffic control devices that prohibit, limit, or restrict, stopping, standing, or parking. This authority is granted for locations where the department has determined by regulation that stopping, standing, or parking will endanger highway users or interfere with the free movement of traffic.

7.10 School Bus Stops on Limited Access Highways

School bus stops must be located where there is a minimum of 500 feet sight distance to the bus stop, to provide adequate visibility. If feasible, locate stops off the state highway. The state regulations noted below further govern locations.

- A. **WAC 468-58, Limited Access Highways.** [WAC 468-58-030](#) and [RCW 47.52](#) regulate school bus stops along limited access highways and prescribe the department's related duties.
 1. School bus stops are not allowed along fully controlled limited access highways. Exceptions may be authorized at interchanges where the department has provided a location and along the mainline where there is a separated facility.
 2. The department must approve school bus stops located along partial and modified control limited access highways in rural areas
 3. Department approval is not required along modified control limited access highways in urban areas.
 4. All approved school bus stops shall be signed in accordance with the MUTCD.
 5. The State Traffic Engineer will maintain an inventory of approved stops.

See Section 7.13 for information about pedestrians crossing limited access highways.

- B. **WAC 392-145, Additional Rules for School Bus Drivers.** The Superintendent of Public Instruction Office (OSPI) adopted WAC Rules that regulate school bus stopping. Consider these rules when reviewing school bus stops on limited access highways:
 1. Buses are not allowed to stop on a curve or a hill where visibility is less than 500 feet. Any existing bus stop locations that have less than the minimum 500-foot visibility must be moved to a compliant site to provide safety to the bus riders and roadway users. If no other stop location is possible, it shall be signed with a "SCHOOL BUS STOP AHEAD" sign (S3-1).
 2. No school bus may pull over to the left hand side of the road to load or unload children.

3. School children are not allowed to cross any roadway having three or more marked traffic lanes, or any highway divided into separate roadways, as described in [RCW 46.61.150](#).
- C. **Coordination With School Districts and Approval Process.** The department works cooperatively with the OSPI to implement a school bus stop approval and inventory process based on the WAC rules. The region works with the individual school districts to assure that school bus stops on limited access facilities meet those requirements. [Figure 7-2](#) provides a sample Proposed School Bus Stop Worksheet that the regions and the school districts may use cooperatively to assess and approve potential bus stops on partial or modified access controlled routes. The worksheet also provides the basic information the State Traffic Engineer's office needs to maintain the required bus stop inventory. [Figure 7-3](#) illustrates the school bus stop approval and inventory process.
- D. **School Bus Stop Inventory.** [WAC 468-58-030](#) instructs the department to maintain an inventory of all school bus stops on limited access highways. The regions update the Limited Access school bus stop inventory on a regular basis, often after the start of each school year. The information is provided to the State Traffic Engineer. Regions also update school bus stop information when new stops are established and when existing stops are relocated or removed.

7.11 Interpretive Signs/Markers

Agreement GM 869 ([Appendix 7-3](#)) between the department and the Washington State Parks and Recreation Commission provides the procedures and guidelines for developing and maintaining interpretive signs and markers placed along the state highway. These markers depict the state's natural and manmade history and are often located at designated pullouts or rest areas. The agreement documents the department's responsibilities in locating and providing access to these markers. Use this process when new roadways, viewpoints or rest areas are being constructed or where a construction project includes an interpretive marker location. Contact the regional Accounting Services Office for agreement information.

7.12 "Memorial" Highways and Bridges

The Transportation Commission may, by resolution, name a highway or bridge to commemorate a person significant to Washington's history. Typically, the Commission will only consider naming a facility after receiving a resolution of the Washington State Legislature. This practice assures the Commission that:

- Local and state officials jointly agree the facility should be named.
- There is agreement on which name should be used.
- Residents near the road or bridge agree.

The Regional Administrator may also nominate a person to be honored through the naming process. Supporting information is supplied to the Office of the Secretary who reviews the request and forwards it to the Transportation Commission. The subsequent Commission Resolution may either request or require legislative support by Joint Resolution or Joint Memorial, and may defer placing memorial plaques or signs until legislative support is secured.

Another type of memorial designation is the “**Blue Star**” **Memorial Highway**. It was first initiated after World War II to memorialize veterans, and now honors all members of the armed services. “Blue Star” Memorial Highways are a project of the National Garden Clubs and requests often originate from a local club. The Regional Administrator must present requests for designation to the Transportation Commission. Markers are not installed until the designation is received.

Marker plaques are 41 × 45 inches. The sign mounting and base size, style, and location are determined on an individual basis and approved by the region.

Plaques or signs memorializing highways or bridges are typically installed in rest areas, scenic overlooks, recreational areas, or other appropriate locations with a parking area, and where the installations are not visible to mainline traffic. Where there is no appropriate site off the main roadway, the MUTCD provides that one memorial sign per direction may be installed along the mainline, provided it does not affect safety or efficiency of traffic flow.

The Governor or the legislature approves requests to dedicate a facility to a cause, rather than a person.

7.13 Pedestrians Crossing Limited Access Highways

[WAC 468-58-030](#) contains provisions concerning the approval of pedestrian crossings of limited access highways. These provisions:

1. Prohibit at-grade pedestrian crossings of fully controlled limited access highways.
2. Permit crossing of multi-lane partially controlled or modified control limited access highways only where grade crossings are provided.
3. Permit crossing of two lane, partially or modified control limited access highways at mailbox locations.
4. Permit crossing of two lane, partially or modified control limited access highways at points designated for school children to cross as follows:
 - On two lane highways, at the school bus, when the bus is stopped in the traveled lane to load or unload students, and its sign and signal lights are displayed as required by [RCW 46.61.370](#).

- On two lane highways, at least 100 feet from a school bus loading zone which is adjacent to the traveled lane and was established by school district and department personnel who determined that stopping in the traveled lane is hazardous.

7.14 Shoulder Driving for Slow Vehicles

Regional Administrators may designate sections of a two lane state highway to be a “shoulder-driving area” to allow slow-moving vehicles to drive onto improved shoulders so faster vehicles can pass ([RCW 46.61.428](#)).

Specific highway characteristics are required for designating shoulder-driving areas:

1. A minimum length of 600 feet of paved shoulder must be available.
2. The structural strength of the paved shoulder must be adequate to support traffic. Contact the region Materials Lab for an evaluation of the structural capacity of the shoulders.
3. The shoulder width must be 8 feet or more; except, shoulder widths of 6 to 8 feet may be utilized after review of the following considerations:
 - Horizontal and vertical alignment.
 - Shoulder slope from pavement edge.
 - Absence of passing opportunities.
 - Character of traffic (recreation, logging, or other slow-moving traffic).

Signing requirements for designated shoulder driving zones are shown in the *Traffic Manual*, Chapter 2.



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360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

Date _____

RE: Placement on SR _____.

Name _____
Street Address _____
City, State, and Zip Code _____

Dear _____

This letter is in response to your request to place a banner across SR _____, at or near milepost _____ for your _____ event.

PERMIT TO PLACE BANNER

The Washington State Department of Transportation conditionally approves your request to place a banner, only under the conditions following:

1. The banner message is limited to name, date, and event sponsor. Commercial advertising is not allowed ([RCW 47.42.020](#) and [WAC 468-95-148](#)). *Non-commercial informational messages not associated with an event are allowed.*
2. A vertical clearance of at least 20 feet must be maintained between the roadway surface and the bottom of the banner ([RCW 47.36.030](#) and [WAC 468-95-148](#)).
3. The banner may not be installed more than 30 days before the event and shall be removed not more than three days after the event ([WAC 468-95-148](#)). (*Note: the duration for informational banners is determined and stated here case by case.*)
4. The banner may not interfere with or obstruct the view of any traffic control device, or impair the operation of transportation management systems or illumination ([RCW 47.36.030](#) and [WAC 468-95-148](#)).
5. The banner may not be directly illuminated in any manner ([RCW 47.36.180](#)). Incidental illumination from existing street lights is allowed.
6. If the banner is to be attached to utility company-owned poles, include a copy of the utility company's completed permitting correspondence when you sign and return this permit to the department.
7. Write in the company names of the manufacturer and/or supplier for newly manufactured banners and the installer. (You may omit the names of the manufacturer and/or supplier if the banner has been used in previous years, and you note that on the first line.)

Manufacturer/Supplier: _____

Installer: _____

Sample Permit to Place Banner
Figure 7-1

By signing below, *(event sponsor)* agrees to indemnify and hold harmless the State of Washington and the Washington State Department of Transportation, its officers and employees from any and all claims, actions, or damages of any type or nature which may accrue to be or be suffered by any person, persons, or property, by reason of the action or omissions of the event sponsor, its agents, employees, contractors, or any person whomever, arising out of or in connection with any acts or activities authorized by the Permit for injuries, bodily injury, death, or property damage, including all costs of defense and attorneys' fees. This obligation shall not include such claims, costs, damages, or expenses which may be caused by the sole negligence of the State or its officers or employees.

If *(event sponsor)* agrees to these terms, please have the duly authorized representative of *(event sponsor)* or *(name of city or town)* sign this permit and return it to the Washington State Department of Transportation at *(mailing address or fax number)*.

Sincerely,

(Regional Signing Authority)
(Title)

Signature and Title of Authorized Official

Phone Number and E-mail Address

Place

Date

By my signature, I affirm under penalty of perjury under the laws of the State of Washington that I am authorized to bind the *(event sponsor)* to the terms and conditions of this Permit.

XX:yy
cc: File
 Headquarters
 Maintenance Area

Sample Permit to Place Banner
Figure 7-1 (continued)

WAC 468-58
School Bus Stop Inventory

Partial and Modified Limited Access Controlled Highways

Inventory Items – School District Information

Date: _____

DOT Region: _____

School District: _____

School District Contact Person (*Phone #, Mailing and E-mail Addresses*)

State Route Number: _____

Milepost (*and approximate distance and direction to nearest intersection*)

Direction of Travel: _____

Stop on/off Roadway: _____

Bus Stop Times: a.m./p.m.: _____

Inventory Items – WSDOT Information

Limited Access Type _____

Stopping Sight Distance _____

Signed – “School Bus Stop Ahead” _____

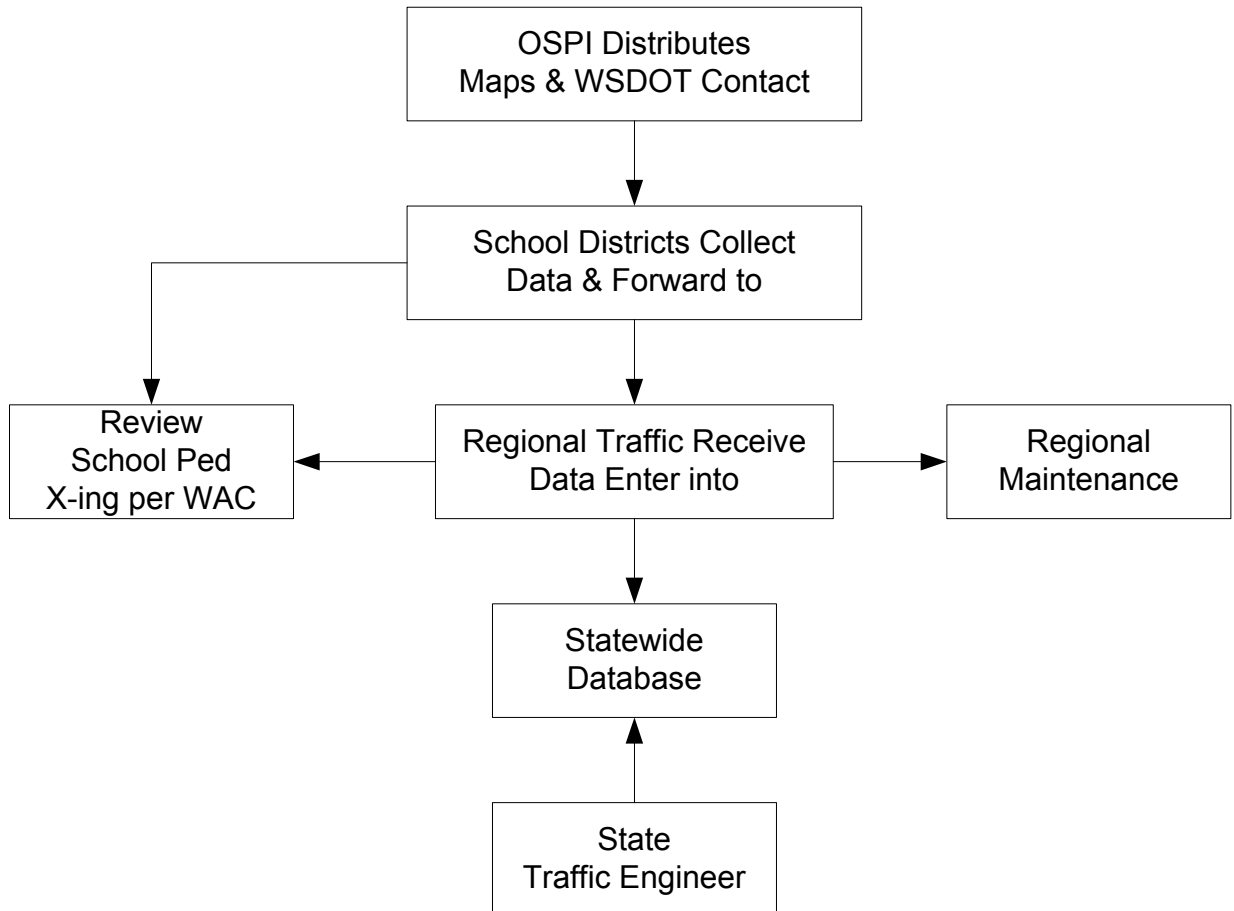
Regional Approval _____ Date _____

By _____

Proposed School Bus Stop Worksheet
Figure 7-2

WAC 468-58
School Bus Stop Inventory

Partial and Modified Limited Access Controlled Highways



Process Flow Chart
Figure 7-3

Joint Policy Guidelines
Letter of Acknowledgment
Agreement
Exhibit A – Filming
Exhibit B – Bicycle/Pedestrian
Exhibit C – Parades
Exhibit E – [RCW 47.48.020](#)

Prepared by:

Field Operations Support Service Center
Traffic Operations
December 2000



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MEMORANDUM OF UNDERSTANDING
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
AND THE
WASHINGTON STATE PATROL
JOINT POLICY GUIDELINES FOR EVENTS ON STATE HIGHWAYS

It is the intent of the Secretary of the Washington State Department of Transportation (WSDOT) and the Chief of the Washington State Patrol (WSP) to enter into a Memorandum of Understanding to establish guidelines and define responsibilities for special events operations on state highways. These guidelines provide reasonable and consistent criteria for agreements that sanction the following events on state highway rights of way: filming, bicycle and pedestrian events, parades, and any other event that may disrupt the normal flow of traffic, or increase risk to the traveling public. These provisions apply to state highways where both WSDOT and WSP have jurisdiction.

Certain events may impact normal traffic operations to the extent that special traffic control efforts will be required, while other events may have a minimal impact. WSDOT and WSP shall follow these general guidelines with regard to the event operations on state highways.

1. Event coordinators proposing use of a state highway for event operations shall notify the appropriate WSDOT Regional Office and provide pertinent information about the operational requirements of the event. Initial contact may be made by phone, with a written letter of request required within 48 hours of initial contact. Additionally, application may now be made via the Internet. The form is found on WSDOT's web site. Notification information shall include: state highway number, state highway milepost limits, or nearest intersections with state highway, dates and times of event, number of participants expected, and a description of the purpose and scope of the event, including any proposed closure of any portion of a state highway.
2. Based on the event description provided in the request for approval, WSDOT will determine the potential for impact on normal traffic operations. WSDOT may consult with the WSP to determine impacts on traffic law enforcement. Considerations include, but are not limited to characteristics of the state highway, scope of the event, and any scheduled construction or maintenance work that may conflict with event operations. On an event basis, WSDOT and WSP may prohibit the use of particular roadways or prohibit specific aspects of an event. Approval will not be granted for the use of state highways at high volume locations or during days/times when events will adversely affect vehicular traffic.

Memorandum of Understanding
Page 1 of 3

3. Events that can be lawfully conducted within the Rules of the Road, [RCW 46.61](#), receive concurrence as to the acceptability of the event by way of a Letter of Acknowledgment. This letter recognizes the location and time of the event and may include information about operational restrictions on specific sections of a state highway or route revisions that may be required due to conflicts with construction or maintenance operations.

WSDOT approval is required if it is determined that an event has potential impact on normal traffic operations, or includes special traffic control. The Event coordinator shall submit traffic control plans that adequately accommodate anticipated traffic conditions. Such plans must have written approval by WSDOT Region's traffic engineer(s) and are coordinated by the State Traffic Engineer for inter-regional events. All traffic control devices must conform to the Manual on Uniform Traffic Control Devices (MUTCD). Personnel executing traffic control plan must be certified flaggers or off duty police officers, to be provided exclusively by the event coordinator.

Approved traffic control plans, including any restrictions and/or prohibitions on the event, and liability issues shall be documented by way of a written Agreement between WSDOT and the event coordinator. If approved by WSDOT, the agreement shall be signed by WSDOT and counter signed by the event coordinator prior to commencement of the event. WSDOT may conduct a joint review with WSP prior to signing the proposed agreement document. This practice allows expert review by both agencies and ensures concurrence on all traffic control requirements necessary to safely conduct event operations. WSDOT and WSP have no obligation to approve or permit any event if the event Agreement has not been signed by WSDOT and the event coordinator, or the event Agreement has been altered by the event coordinator without express consent of WSDOT. WSDOT reserves the right to postpone or deny approval of any event when an event coordinator requests approval without sufficient advance notice, as determined by WSP or WSDOT.

4. Operational decisions and/or emergency situations may require road/lane closures to be opened immediately. WSP is responsible for traffic enforcement, and has final authority regarding the location and specific time of day that any road/lane closures, or any other part of the traffic control plan may be implemented.
5. Any costs incurred by WSDOT and/or WSP during implementation or operation of the event shall be the responsibility of the event coordinator. WSDOT and WSP shall submit separate billings to the event coordinator to recover individual agency costs and are to be paid within 30 days from the receipt of the billing.

Memorandum of Understanding
Page 2 of 3

- 6. WSDOT regulations and policies do not allow running or walking events on fully controlled limited access highways.

The foregoing does not preclude the WSP and WSDOT from developing additional guidelines and operational procedures to address specific issues of mutual concern related to the use of state highway rights of way for event operations.

ANNETTE M. SANDBERG
Chief, Washington State Patrol

Date

JOHN CONRAD
Assistant Secretary for Field Operations Support
Washington State Department of Transportation

Date

APPROVED AS TO FORM:

ASSISTANT ATTORNEY GENERAL
FOR THE WASHINGTON STATE PATROL

Date

APPROVED AS TO FORM:

ASSISTANT ATTORNEY GENERAL
FOR THE WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION

Date



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(Date)
(Name and address of event coordinator)

Re: (event on SR__)

Dear:

Thank you for your recent inquiry regarding your proposed (event type/name) at (event location) scheduled for (event dates).

Because the (event type/name) appears to have only minimal potential for traffic impact on state highways, we do not anticipate that special traffic control efforts are necessary.

(Note any special conditions here such as route or procedural restrictions).

(Give information specific to event type, as appropriate. Examples shown below)

(Pedestrians/runners are prohibited on the interstate system but may lawfully use other roadway shoulders by facing traffic as prescribed in the Rules of the Road ([RCW 46.61](#)), a copy of which are enclosed.) **or** (As a reminder, bike riders assume the risk for their own safety when traveling on the state's highways. Roadway conditions, traffic volumes, and weather changes require review of the route for suitability. Each rider should have adequate bicycling skills and know the Rules of the Road.)

I suggest that you provide a (event name) itinerary to all local authorities having jurisdiction where the (event name) traverses county roads or city streets. For these areas, the local authorities determine if special traffic control and permits will be required.

Best wishes for a successful (event name).

Sincerely,

State or Region Traffic Engineer
(As applicable)

Letter of Acknowledgment for Event Operation on State Highway
Page 1



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(*Filming, Parade, Bicycle, Pedestrian, etc.*) Agreement
Agreement # _____

(Name and Address of event coordinator)

Re: SR _____
(*Filming, Parade,
Bicycle, Ped. etc.*)
Event Agreement

This agreement, made and entered into on this _____ day of _____, 20____, by and between the Washington State Department of Transportation, hereinafter referred to as "WSDOT", and the event coordinator _____ hereinafter referred to as the "EVENT COORDINATOR", representing _____, for the purpose of staging a _____ event on state highway(s) rights of way.

Event Description

_____, hereinafter referred to as the "EVENT".

Whereas, WSDOT and the Washington State Patrol, hereinafter referred to as "WSP" have determined that the EVENT may impact traffic operations on state highway(s) to the extent that special traffic controls or other safety considerations are required.

Whereas, WSDOT with the advice of WSP conditionally approves EVENT operations on SR____ at or near milepost _____, on the date or dates of _____, subject to the terms and conditions in this Agreement and any attached Exhibits.

Administration and Procedures

1. WSDOT enters into this written agreement with you for the purpose of defining responsibilities and requirements for EVENT operations on state highways. This Agreement is not effective unless or until signed by WSDOT and countersigned by you prior to the commencement of the EVENT. WSDOT assumes no obligation for any EVENT, pursuant to an agreement form that is unsigned, or altered by the EVENT COORDINATOR without WSDOT concurrence. WSDOT reserves the right to postpone or deny an EVENT operation when approval is requested without sufficient advance notice, as determined by WSP or WSDOT.
2. You are encouraged to use county roads or city streets if at all possible. You are responsible for securing approval from local agencies or communities in unincorporated areas that may be impacted by the EVENT. If the EVENT takes place on city streets without access control that are part of state highways, you shall furnish WSDOT with courtesy copies of any traffic control, insurance, or liability agreements made with local agencies.
3. You are responsible for any and all agreed costs incurred by WSDOT and WSP enumerated here in Exhibit D. WSDOT and WSP shall submit separate billings to you to recover individual agency costs and shall be paid by you within 30 days from receipt of the billing. If the EVENT operations require substantial use of WSDOT and/or WSP labor, equipment, or materials, then the EVENT organizers are required to enter into a cost reimbursement agreement with WSDOT and/or WSP. The cost reimbursement agreement guarantees reimbursement of all EVENT related costs to WSDOT and WSP and shows costs associated with the event that must be paid by the EVENT organizers. (See Exhibit D). WSDOT and WSP costs for labor, equipment, and/or materials will be based on contracted amounts as determined by statute, and requirements for highway operations. Typical WSDOT and WSP activities may include, but are not limited to; labor costs, equipment related costs, indirect costs for service, such as; traffic control, maintenance operations and work zone safety or other highway operation activities.
4. You are responsible for cleaning up immediately after EVENT operations and returning any and all state highway facilities to the state or condition that existed prior to the EVENT.
5. Any base of operations, or storage or staging area for the EVENT shall be located outside the state's right of way. Prior authorization from WSDOT shall be required for any base of operations, storage or staging areas to be located within the right of way.

(Filming, Parade, Bicycle, Pedestrian, etc.) Agreement
Page 2 of 5

6. For events having participant registration forms, you are encouraged to include WSDOT and WSP in a statement of waiver or release of damages against the state of Washington, for signature by event participants or parents or guardians of participant minors. A sample release for such forms is as follows:

I, (name of participant), do hereby release, discharge, and hold harmless the Washington State Transportation Commission, the Washington State Department of Transportation, the Washington State Patrol, and their officers, agents, and employees from all claims, demands, and causes of actions of every kind whatsoever for any damage, loss, or injuries which may result from my participation in the (name of event), involving state highways, known or unknown, foreseen or unforeseen.

7. Information in attached EXHIBITS may identify existing regulatory prohibitions of specific types of traffic on limited access highways, such as the pedestrian prohibition on full access controlled highways.

Liability

1. EVENT COORDINATOR, at solely his or her expense, shall obtain and keep in force during the term of the EVENT, general liability insurance coverage in an amount no less than \$1 million per occurrence (combined single limit of liability) and \$2 million in the aggregate providing bodily injury, property damage, and personal injury coverage for the state of Washington for any liabilities, including all costs of defense, arising out of the use of state highways for the EVENT. Said general liability coverage shall be written on an "occurrence" basis, not a "claims made" basis, and shall provide coverage no less than the coverage provided by a *Commercial General Liability Coverage Form (CG 00 01 07 98 ISO* or later). Said policy shall not be subject to any self-insured retained limit of liability, or endorsements that would limit the coverage provided by the original policy form, except to the extent that coverage is limited to claims arising from the EVENT. EVENT COORDINATOR, at his or her expense, shall obtain and keep in force during the term of the EVENT commercial automobile liability coverage in an amount no less than \$1 million per occurrence (combined single limit of liability) providing bodily injury and property damage coverage for the State of Washington as an additional insured under said policy. Said liability coverage shall provide coverage no less than the coverage provided by a *Commercial Automobile Liability Form (CA 00 01 07 97 ISO* or later). Said policy shall not be subject to any self-insured retained limit of liability, or any endorsement that would limit the coverage provided by the original policy form, except to the extent that coverage is limited to claims arising from the EVENT. An affidavit verifying proof of insurance reflecting the required coverage is required and must be in the possession of WSDOT and WSP prior to commencement of the event. (See EXHIBIT C - Parades, to determine if insurance will be required for parades on city streets that are also state highways.)

(Filming, Parade, Bicycle, Pedestrian, etc.) Agreement
Page 3 of 5

2. EVENT COORDINATOR shall indemnify and hold the state of Washington harmless against any and all claims or actions of any type of nature by third parties for injuries or property damage, including all costs of defense, caused by or arising out of the EVENT.

Venue

1. In the event that any party deems it necessary to institute legal action or proceedings to enforce any right or obligation under this Agreement, the parties hereto agree that any such action or proceeding shall be brought in a court of competent jurisdiction situated in Thurston County, Washington, and EVENT COORDINATOR herein submits to jurisdiction thereunder.

Traffic Control

1. WSDOT has determined that a traffic control plan is necessary for this EVENT. Operational details specific to the EVENT are contained in EXHIBIT __, attached hereto. All components of the traffic control plan shall conform to the standards of the Manual on Uniform Traffic Control Devices (MUTCD). Such plans must be approved by the WSDOT Regional traffic engineer(s) and are coordinated by the State Traffic Engineer for inter-regional events. In addition, traffic control plans shall meet the following requirements and restrictions:
 - EVENT COORDINATOR is responsible for acquiring all traffic control devices, and shall have all traffic control devices installed per approved plan prior to commencement of the EVENT.
 - Traffic control operations shall be performed by certified flaggers, or off duty law enforcement officers.
 - Any rolling traffic break (intentional slowing of traffic through a moving roadblock, provided by WSP) shall operate at a speed greater than 35 mph on full access control, freeway type highways. In no event shall any vehicle exceed the regulatory speed limits.
 - Traffic control plans may include proposals to close shoulders, lanes, or entire sections of state highways. Information about the proposed closures including dimensions such as overall distance, lane or shoulder widths, times and dates, and detour plans shall be included in the approved traffic control plans. Closures on interstate and other access controlled, freeway type highways will not be allowed.
 - Road closures will be considered only where no other traffic control strategies appear satisfactory, and where an adequate detour route is available. The EVENT COORDINATOR is required to provide notification of the closure, at least 72 hours in advance, to all fire and law enforcement departments, ambulance companies, and transit agencies that would be affected by the closure. The EVENT COORDINATOR is required to comply with [RCW 47.48.020](#), a copy of which is hereto attached. (The copy of [RCW 47.48.020](#) has been provided as a courtesy. It may or may not have current amendments. EVENT COORDINATOR is responsible for reading and complying with any subsequent amendments to the statute that are not attached). Notice of closure signs posted under purview of this statute shall read, at a minimum, 'SR__ TO BE CLOSED *day, date, time AT location.*' The signs shall have 6-inch minimum size capital black letters on a white background with a black border and shall be fabricated so the sign will be retroreflective and not be affected by weather conditions.

2. If an element of the traffic control plan such as road or lane closures, or rolling traffic breaks impact traffic operations, a pre-event meeting, scheduled by the EVENT COORDINATOR may be required. The EVENT COORDINATOR, WSDOT, WSP should attend this meeting, along with a representative of any local agency impacted by the EVENT. The purpose of the meeting is to ensure that the traffic control plan and related operational procedures are finalized and participants understand their roles and responsibilities prior to commencement of the EVENT. Minor events (as determined by WSDOT or WSP) may not require this operational meeting.
3. EVENT COORDINATOR and WSDOT do agree that operational decisions and/or emergency situations may require road/lane closures to be opened immediately. WSP is responsible for traffic enforcement, and has final authority regarding the location and specific time of day that any road/lane closures, or any other part of the traffic control plan may be implemented. Neither WSDOT nor WSP shall be liable for any damages, or loss arising from the decision to reopen lanes during an event closure.

Please indicate your concurrence by countersigning and returning the enclosed copy of this Agreement to the WSDOT address or fax number provided below. Failure to do so, or any alteration of this document, will render this agreement invalid. If you have any questions or concerns, please contact (*WSDOT contact*) of my staff at (*telephone #*).

Event Signature

WSDOT Signature

SIGNATURE

SIGNATURE

PRINTED NAME

WSDOT OFFICE TITLE

TITLE AS OFFICE WITH (event name)

DATE

DATE

ADDRESS

FAX #

(Filming, Parade, Bicycle, Pedestrian, etc.) Agreement
Page 5 of 5



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EXHIBIT A
FILMING EVENT AGREEMENT
AGREEMENT # _____

This Exhibit, in combination with the Letter of Agreement comprises a complete understanding between the Washington State Department of Transportation (WSDOT), the Washington State Patrol (WSP), and the filming event coordinator.

1. The film production company shall be in direct contact with the Washington State Film Office (WSFO) regarding location filming on state highways. The WSFO may initially direct a filming event coordinator to the appropriate WSDOT region's filming liaison. A production company with previous experience filming on state highways under the sanction of WSDOT and WSFO may contact the appropriate WSDOT regional office directly. A courtesy copy of any correspondence and/or written agreement between WSDOT, WSP and the film production company shall be provided to WSFO. Contact WSFO at www.filmwashington.com.
2. The film production company's base of operations, including staging or storage areas, shall be located outside the state's operating right of way. Prior authorization shall be required for any base of operations located within right of way. *e.g., Your request to locate (material, equipment, trailer, etc) within the state right of way, at (milepost, offset left or right) has been approved for this filming event. Written approval is attached hereto and incorporated herein by this reference.*
3. Stunts, accidents, or pyrotechnics that may cause damage to state property or disrupt traffic flow shall not be allowed. Use of pyrotechnics must meet all statutory requirements. No liquid or solid materials may be placed on the highway except as approved by WSDOT and identified in this exhibit. *(Insert Specific Information)*
4. An affidavit verifying that the film production company has obtained the liability insurance policies covering the state of Washington in accordance with paragraph 1 of the Liability section of this Agreement shall be in the possession of WSDOT and WSP prior to event participants entering upon state right of way.
5. Special traffic control is required for this event. A traffic control plan has been approved by WSDOT for this event, a copy of which is attached hereto and incorporated herein by this reference. Traffic control shall operate as follows; *insert information including traffic control plan(s), location(s), duration of intermittent traffic closures, rolling traffic break details, detour route, personnel requirements etc.* At no time shall the traffic be allowed to back up beyond temporary warning signs. All lanes shall be allowed to clear traffic between intermittent traffic closures.

Exhibit A Filming Event Agreement
Page 1 of 2

6. Operational decisions and/or emergency situations may require the roadway to be opened immediately. Access for emergency vehicles shall be maintained at all times.
7. Prior to any filming operations requiring a road or lane closure or the use of a rolling traffic break, an operational meeting may be required with WSDOT, WSP and the film company. When appropriate, other local authorities and law enforcement agencies may attend this meeting. The purpose of this meeting is to ensure that all traffic control plans and related operational procedures are finalized and participants are aware of their individual responsibilities prior to the commencement of filming. Minor filming operations (as determined by WSDOT and WSP) may not require this operational meeting.
8. A rolling traffic break (the intentional slowing of vehicular traffic by way of a moving road block provided by the WSP) shall be greater than 35 MPH on full access control highways and in no event shall any vehicle be permitted to exceed regulatory speed limits.
9. Any filming involving the use of any aircraft shall be done in accordance with FAA regulations.
10. *Insert specific information regarding additional restrictions, prohibitions, or requirements imposed on approved filming operations.*

Exhibit A Filming Event Agreement
Page 2 of 2



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EXHIBIT B
BICYCLING / PEDESTRIAN EVENT AGREEMENT
AGREEMENT # _____

This Exhibit, in combination with the Agreement comprises a complete understanding between the Washington State Department of Transportation (WSDOT), the Washington State Patrol (WSP), and the coordinator for the (*name of event*).

Unless specifically required to participate in the development or deployment of any traffic control plan, WSDOT and WSP will have only incidental involvement with the event.

1. Special traffic control is required for this event. A traffic control plan has been approved for this event, a copy of which is attached hereto and incorporated herein by this reference. Traffic control shall operate as follows; *insert information including but not limited to: traffic control plan, detour routes, proof of notification of closure.*
2. Special conditions, such as relay starts, reflectorized participant clothing, legal bicycle lighting, transport and aid vehicles may also be imposed as part of the event approval. The Event Coordinator shall be responsible for scheduling any required meetings.
3. For competitive bicycle racing events, refer to *Washington State Bicycle Racing Guidelines*. This publication provides detailed information about traffic control and racing protocol for bicycle races, and contains a separate approval and permitting process. The guidelines are available from WSDOT's website at: www.wsdot.wa.gov/NR/rdonlyres/45CCAE77-0247-4BFB-995D-FB99E068A2FE/0/RacingGuide.pdf.
4. *Insert specific information regarding additional restrictions, prohibitions, or requirements imposed on approved event operations.*

Exhibit B, Bicycling / Pedestrian Event Agreement
Page 1 of 1



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EXHIBIT C
PARADES EVENT AGREEMENT
AGREEMENT # _____

This Exhibit C, in combination with the Agreement comprises a complete understanding between the Washington State Department of Transportation (WSDOT), the Washington State Patrol (WSP), and the parade event coordinator.

Unless specifically required to participate in the development or deployment of any traffic control plan, WSDOT and WSP will have only incidental involvement with the event.

1. For cities and towns having a population in excess of 25,000, only a traffic control plan is required prior to conducting a parade on a city street that is also a state highway. There are no other terms or conditions.
2. The parade sponsor agrees to hold the State of Washington harmless from any and all claims for any type or nature arising from the EVENT that is the subject of this agreement.
3. Parade events sponsored by cities or towns, and covered by existing insurance policies do not need to comply with the liability insurance articles contained in paragraph 1 of the Liability section of the Agreement.
4. Insert specific information regarding additional restrictions, prohibitions, or requirements imposed on approved event operations.

Exhibit C, Parades Event Agreement
Page 1 of 1



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EXHIBIT E
[RCW 47.48.020](#)

(This copy of [RCW 47.48.020](#) has been provided as a courtesy. It may or may not have current amendments. EVENT COORDINATOR is responsible for reading and complying with any subsequent amendments to the statute that are not attached).

[RCW 47.48.020](#)

Notice of closure or restriction -- Emergency closure.

Before any state highway, county road, or city street is closed to, or the maximum speed limit thereon reduced for, all vehicles or any class of vehicles, a notice thereof including the effective date shall be published in one issue of a newspaper of general circulation in the county or city or town in which such state highway, county road, or city street or any portion thereof to be closed is located; and a like notice shall be posted on or prior to the date of publication of such notice in a conspicuous place at each end of the state highway, county road, or city street or portion thereof to be closed or restricted: PROVIDED, That no such state highway, county road, or city street or portion thereof may be closed sooner than three days after the publication and the posting of the notice herein provided for: PROVIDED, HOWEVER, That in cases of emergency or conditions in which the maximum time the closure will be in effect is twelve hours or less the proper officers may, without publication or delay, close state highways, county roads, and city streets temporarily by posting notices at each end of the closed portion thereof and at all intersecting state highways if the closing be of a portion of a state highway, at all intersecting state highways and county roads if the closing be a portion of a county road, and at all intersecting city streets if the closing be of a city street. In all emergency cases or conditions in which the maximum time the closure will be in effect is twelve hours or less, as herein provided, the orders of the proper authorities shall be immediately effective.

Exhibit E
Page 1 of 1

WSDOT Transit Vehicle Stop Zone Guidelines

Transit Vehicle Stop Zone Guidelines



**Washington State
Department of Transportation**

WSDOT Transit Vehicle Stop Zone Guidelines

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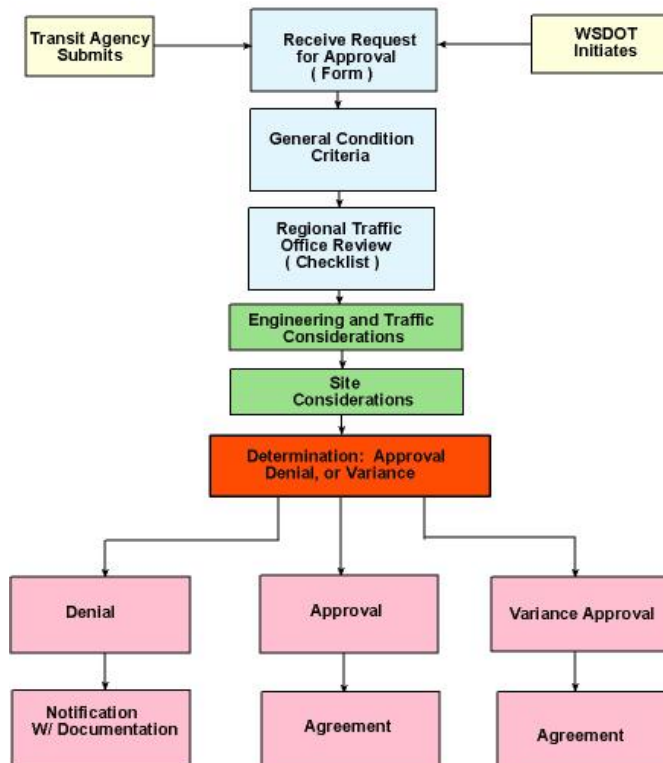
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WSDOT Transit Vehicle Stop Zone Guidelines

Transit Vehicle Stop Zone Guidelines
Approval Process Flow



WSDOT Transit Vehicle Stop Zone Guidelines

I. Introduction

These guidelines provide a standard process for managing approval requests for Transit Vehicle Stop Zones on State Highways outside incorporated areas. The guidelines also promote department wide uniformity by facilitating regional compliance with the requirements of WAC Chapter 468-46, as it applies to Transit Vehicle Stop Zones. In addition, the guidelines blend the operational needs of the department and the public transit authorities with public safety and risk management. The guidelines are a compilation of information from several sources and are intended for use by Regional Traffic Operations personnel involved with non-project, low cost enhancement programs and development review processes. See the WSDOT design manual for information on incorporating transit vehicle stop zones into design projects.

As the department works in partnership with transit agencies to meet the challenges of operating a multi-modal transportation system, providing continued safe and efficient mobility for existing customers is a major priority. These guidelines offer provisions to sanction, by variance, existing stops that do not meet minimum criteria, providing the location is operating safely, as determined by an engineering and traffic investigation. This process allows opportunities to plan funding for upgrades and improvements to these existing stops in normal budgetary programming cycles.

References include:

WSDOT Design Manual, Division 6, Division 10

AASHTO A Policy on Geometric Design of Highways and Streets, Chapter 3

Transportation Research Board TRANSIT COOPERATIVE RESEARCH PROGRAM Report 19 - Guidelines for the Design and Construction of Bus Stops

WAC and RCW

Chapter 468-46 WAC

Transit Vehicle Stop Zones

468-46-010 - The WAC directs the department, upon receipt of a request for approval of a transit stop on a state highway, outside an incorporated area, to conduct "...an engineering and traffic investigation in an attempt to find a suitable location at which transit vehicles may stop wholly off the roadway...."

468-46-020 - The WAC allows the department to approve a temporary in-lane stop if a suitable location, wholly off the roadway, cannot be found within a "...reasonable and practical..." distance from the proposed location, and there is, based on engineering judgment, stopping sight distance as a minimum.

468-46-030 - The WAC requires a transit vehicle stop (bus stop) sign installation at all approved locations. This sign is installed by the public transit authority.

468-46-040 - The WAC requires an advance transit vehicle stop sign installation, consistent with the MUTCD specifications, at all locations where the transit vehicle stop is not visible for a distance of 500' in advance of the stop. This sign is installed by the department.

468-46-060 - The WAC requires that a continuous effort be made to eliminate temporary transit vehicle stops upon the roadway. This effort is subject to the availability of funds.

RCW

Chapter 46.04.500 RCW

Roadway. The RCW defines 'roadway' "...as that portion of the highway improved, designed, or ordinarily used for vehicular travel, exclusive of the sidewalk or shoulder...".

Chapter 46.61.560 RCW

WSDOT Transit Vehicle Stop Zone Guidelines

Stopping, Standing and Parking Outside Business or Residence Districts. The RCW allows transit vehicles on a state highway, outside an incorporated area, to temporarily stop upon the roadway for the purpose of discharging and receiving passengers at a marked transit stop approved by the WSDOT.

46.61.220 RCW

Transit Vehicles. Drivers shall yield right of way to a transit vehicle that has signaled and is reentering the traffic flow in the same direction.

This working document serves as a basic tool, allowing all WSDOT regions to use the same minimum approval criteria, documentation of process, and inventory and review procedures.

II. Overview

A. General

General considerations for locating transit vehicle stops include:

- promote safe pedestrian access
- encourage safe pedestrian crossings
- maximize transit efficiency
- offer proximity to activity centers
- minimize disruptions to traffic
- satisfy general spacing requirements
- provide convenient connections to other transportation modes

The Americans with Disabilities Act (ADA) requires equal access for riders with disabilities. It is critical that as many transit stops as possible be fully accessible. Historically, transit vehicle stop zone studies consisted of a general field review to determine if the roadway geometrics would accommodate a safe stopping area for the transit vehicle. Pedestrian amenities such as sidewalks, roadway crossing opportunities, security lighting, and shelters were not considered in the review process. With the civil guarantee of ADA functionality, and a commitment to making transit stop locations more viable and user friendly, the review process should consider the needs of the pedestrian both before and after using the transit service.

B. Components

When combined, the following components will create a foundation for an ongoing transit vehicle stop zone program.

- The process of receiving, reviewing, and approving/denying requests for transit vehicle stop zones
- Agreements, as funding, maintenance, and operational tools, and as opportunities to partner with public transit authorities in an effort to realize the department's strategic plan
- An ongoing transit vehicle stop zone inventory and review program to be integrated into the department's corporate database
- Commitment to public safety and risk management

C. Definitions

A transit vehicle stop zone is the portion of the roadway that is designated for use by transit vehicles as a temporary stop when loading or unloading passengers. Also referred to as "bus stop" or "transit stop," two configurations are defined in these guidelines:

WSDOT Transit Vehicle Stop Zone Guidelines

“bus turnout”, “bus pullout” - These terms interchangeably refer to an area that is specially constructed or designated for the purpose of transit vehicle stopping. The area is separate from the traveled lanes. This configuration allows through traffic to flow freely without the obstruction of stopped transit vehicles. This coincides with the WAC 468-46-010 terminology “wholly off the roadway”

“in-lane bus stop”, “in-line bus stop” and “in-lane transit stop” - These terms interchangeably refer to an area in the traveled lane designated for the temporary stopping of transit vehicles. This configuration may impede traffic and may create additional safety concerns. This type of stop coincides with the WAC 468-46-020 terminology “temporarily stop upon the roadway” and is compliant with RCW 46.61.560 if the transit vehicle is temporarily stopping at a marked location approved by WSDOT.

Other definitions:

“public transit authority” - This term refers to any city, county, county transportation authority, public transportation benefit area, or regional transit authority authorized to operate public transportation service in Washington State

“transit vehicle” - This term refers to a van, minibus, or bus operated by a public transit authority for the purpose of public transportation

III. GUIDELINES**A. Request for Approval**

Prior to installing a transit vehicle stop on a state highway outside an incorporated area, a public transit authority shall submit a written request for approval to the department. The Regional Traffic Office is responsible for designating a transit liaison specialist to receive requests and follow through with the review process and necessary documentation.

Time required to process requests for approval

Process the requests for approval as quickly as possible. A joint review including regional traffic personnel and transit authority representatives may eliminate any incomplete or inconsistent information. This may also save time by allowing review of several locations, or all locations within a corridor during one visit. A turn around time of 15 working days from the date of receipt of the request is recommended as the goal of the regional traffic operations personnel. Resource limitations within the regions may increase the time required to process requests. Add an additional 5 working days to the turn around time if a special speed study or sight distance determination is required. This does not include the time required for processing an ‘application for general permit.’

Include the following information on the request for approval:

- Name of requesting agency
- Date of request
- Name, address, Tel #, and e-mail address of person submitting request
- State Route, milepost
- Distance/Direction to or from the nearest intersection
- Direction of travel of proposed stop
- Estimated number of transit stop users
- ETA’s of stops at location

3

WSDOT Transit Vehicle Stop Zone Guidelines

- Bus route (note any weaving or multiple lane changes required in the course of the route within one quarter mile of the proposed stop)
- Major traffic generator (school, business, health care facility)
- Transit users requiring special pedestrian focus (children, elderly)
- Type of stop, in-lane or pullout
- Is a parking restriction required?
- Vehicle type, length, gvw, turning radius
- Photo or video of proposed location
- Plan view vicinity drawing showing:
 - North arrow
 - State Highway #, existing lanes of travel, nearest intersections
 - In rural areas, show intersections or roadway features within one quarter mile of the proposed stop
 - In urban or suburban areas show adjacent intersections
 - Location of proposed stop, width of pullout lane, length and rates of tapers
 - Passenger Amenities
 - ADA pad
 - Lighting
 - Shelter
 - Furniture
 - Pedestrian Access
 - walkway
 - roadway crossing opportunities

Request Form

Use a standardized request form to promote a consistent response procedure within the Department. See figure 1.

WSDOT Transit Vehicle Stop Zone Guidelines

**WSDOT
Request to Approve Transit Vehicle Stop Zone**

Agency submitting request _____ Date _____
Contact Person _____ Tel _____ Fax _____
Mailing address _____ e-mail _____

Proposed Location Information

State Route _____ Milepost _____
Distance/Direction to/from nearest intersection _____
Proposed Stop - Direction of travel ____ Estimated Transit Stop User Volume, Day__ Peak Hour__
List the eta's of scheduled stops at the proposed site _____
Does the Bus Route require changing multiple lanes or weaving at or near the proposed stop? _____
Is the stop at a major pedestrian generator (school, business, health care facility) _____
Are there transit users requiring special pedestrian focus (children, elderly) _____
Type of stop: in-lane or pullout _____
Type of pullout: near side _____ far side _____ mid block _____ other _____
Proposed vehicle type (give length, gvw, turn radius) L _____ W _____ radius _____

Submit a plan view of the proposed site
Include the following features if applicable:

- North Arrow
- Existing lanes of travel
- ADA Pad
- Pedestrian Crossing
- Walkway
- Proposed Stop
 - Width
 - Tapers
- Signs and Striping
- Amenities
 - Shelter
 - Lighting
 - Furniture
- Other: _____

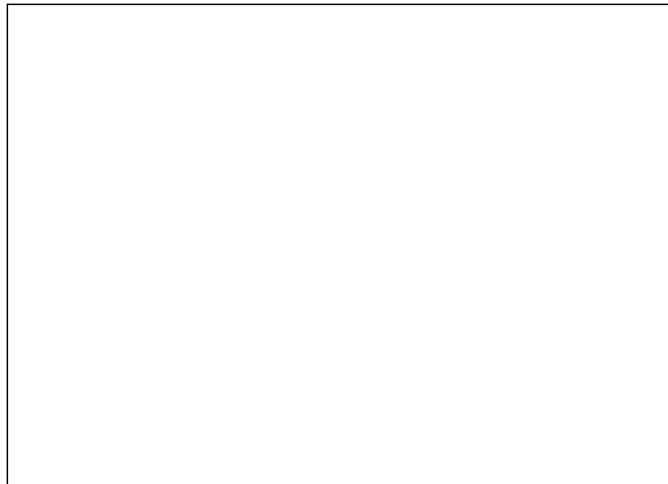


Figure 1.

WSDOT Transit Vehicle Stop Zone Guidelines

B. General Condition Criteria

These General Condition Tables offer guidance in determining the appropriate type of transit stop (pullout or in-lane). In addition they give direction in planning the Regional Traffic Office Review by calling out other important considerations. Chapter 468-46 WAC requires transit vehicle stops to be wholly off the roadway, wherever “reasonable or practical”. RCW 46.61.560 allows in-lane stops at locations that are approved by WSDOT.

The WSDOT Design Manual chapter 1060 and the TCRP Report 19 guidelines offer concurring recommendations for pullouts at locations where one or more of the following factors are present:

- Curb lane traffic volume exceeds 250 vehicles during the peak hour
- Traffic speed is greater than 45 mph (WSDOT Design Manual), 40 mph (TCRP Report 19)
- Passenger volume at the stop exceeds 20 boardings per hour
- History of accidents at the proposed location

Criteria for approval in general conditions

GENERAL CONDITION

Rural

Two Lane, Low Speed, Low Traffic Volume

Criteria for Approval of New Stops

Review request for approval

Pullout recommended if one or more of the following factors is present:

- If 10 or more buses stop at this location during peak hour
- If 10 or more transit users board the bus per hour
- If accident history indicates risk

Review roadway geometrics and accident history

Transit vehicle stop sign required

ADA pad required if transit vehicle is equipped with accessibility function

ADA sign required if stop is ADA functional

Advance transit vehicle stop sign required if sight distance is less than 500'

WSDOT Transit Vehicle Stop Zone Guidelines**Criteria for approval in general conditions***GENERAL CONDITION***Rural****Two Lane, High Speed, Low Traffic Volume****Criteria for Approval of New Stops****Review request for approval****Pullout recommended if one or more of the following factors is present:**

- If 10 or more buses stop at this location during peak hour
- If 10 or more transit users board the bus per hour
- If operational speed is greater than 45 mph
- If accident history indicates risk

Review roadway geometrics and accident history**Transit vehicle stop sign required****ADA pad required if transit vehicle is equipped with accessibility function****ADA sign required if stop is ADA functional****Advance transit vehicle stop sign required if sight distance is less than 500'***GENERAL CONDITION***Rural - Suburban****Two Lane, High Speed, Moderate - High Traffic Volume****Criteria for Approval of New Stops****Review request for approval****Pullout recommended if one or more of the following factors is present:**

- If curb lane peak hour volume is greater than 250 vehicles
- If 10 or more buses stop at this location during peak hour
- If 20 or more transit users board the bus per hour
- If operational speed is greater than 45 mph
- If accident history indicates risk

Review roadway geometrics and accident history**Transit vehicle stop sign required****ADA pad required if transit vehicle is equipped with accessibility function****ADA sign required if stop is ADA functional****Advance transit vehicle stop sign required if sight distance is less than 500'**

WSDOT Transit Vehicle Stop Zone Guidelines**Criteria for approval in general conditions***GENERAL CONDITION***Suburban****Multilane, Moderate Speed, Moderate - High Traffic Volume****Criteria for Approval of New Stops****Review request for approval****Pullout recommended if one or more of the following factors is present:**

- If curb lane peak hour volume is greater than 250 vehicles
- If 10 or more buses stop at this location during peak hour
- If 20 or more transit users board the bus per hour
- If operational speed is greater than 45 mph
- If accident history indicates risk

Review roadway geometrics and accident history**Transit vehicle stop sign required****ADA pad required if transit vehicle is equipped with accessibility function****ADA sign required if stop is ADA functional****Advance transit vehicle stop sign required if sight distance is less than 500'****Security Lighting recommended****Passenger Shelter recommended***GENERAL CONDITION***Urban - Not incorporated****Multilane, Low Speed, Moderate - High Traffic Volume****Criteria for Approval of New Stops****Review request for approval****Pullout recommended if one or more of the following factors is present:**

- If curb lane peak hour volume is greater than 250 vehicles
- If 10 or more buses stop at this location during peak hour
- If 20 or more transit users board the bus per hour
- If accident history indicates risk

Review roadway geometrics and accident history**Transit vehicle stop sign required****ADA pad required if transit vehicle is equipped with accessibility function****ADA sign required if stop is ADA functional****Advance transit vehicle stop sign required if sight distance is less than 500'****Security Lighting recommended****Passenger Shelter recommended**

WSDOT Transit Vehicle Stop Zone Guidelines**C. Regional Traffic Office Review**

Conduct reviews using the geometric section (Sections 610-650) and the transit benefit facility section (Section-1060) of the WSDOT Design Manual, the AASHTO Policy on Geometric Design of Highways and Streets, and the TCRP Report 19, Guidelines for the Location and Design of Bus Stops.

1. Engineering and Traffic considerations:**a) General**

The horizontal and vertical alignment, design speed, and design stopping sight distance data for existing state highways can be accessed on remote terminals through the TRIPS mainframe. Use Roadway Reports menunb01. The SRVIEW software can help define area environments. The focus of an onsite review may include, but not be limited to, a field test to determine stopping sight distance, a speed study to determine 85th percentile speed, and a review of pedestrian access, pedestrian crossing opportunities, and pedestrian sight distance. Consider the location of proposed bus shelter and ensure clear sight distance at intersections and driveways. In addition, review existing highway features for potential conflicts, including but not limited to:

- Existing utilities, above and below ground
- Existing drainage or sewer installations
- Existing guardrail or barrier
- Existing signs
- Existing vegetation

b) Review Checklist

Use a standardized review checklist to promote a consistent procedure within the Department. See figure 2.

WSDOT Transit Vehicle Stop Zone Guidelines

WSDOT
Transit Vehicle Stop Zone Review Checklist

Region _____

Requested by: Agency _____ **Contact Person** _____ **Tel#** _____

Transit Stop Location - SR _____ MP _____ Location (nearest cross road) _____

Existing Transit Stop - Yes No Previously Approved - Yes No Pullout ___ In lane ___

Placement at intersection: Far side (preferred) ___ Near side ___ Mid block ___

Curb lane traffic volume-peak hour ___ Bus volume-peak hour ___ Passenger volume-peak hour ___

General Condition _____

Roadway Geometry

Number of roadway lanes _____ (include turn lanes) Direction of travel _____

Horizontal Alignment: Horizontal Curve - Left Right or Tangent

Vertical Alignment: Vertical Curve - Sag Crest or Grade % _____

Topography: Flat Rolling Hills Steep Hills

Existing Slope: Ditch ___ Cut ___ Fill _____

Existing Location Features

Existing Shoulder:
 Width _____ ft. Surface material / depth _____ / _____ Condition _____
 Review by regional materials lab _____

Existing Sidewalk:
 Width _____ ft. Material _____ Condition _____

ADA Landing Pad - Yes No Size (5'x8' minimum size) _____ ft. X _____ ft.

Existing street lighting - Yes No Condition of existing vegetation _____

Speed

Operational Speed _____ mph Posted Speed _____ mph Design Speed _____ mph

Stopping Sight Distance

Field Measurement: 1) _____ ft. 2) _____ ft. Ave) _____ ft.

Is SSD criteria met at location - Yes No Advance Transit Stop Sign required - Yes No

Pullout Considerations

Is pullout recommended in the General Condition Criteria - Yes No Is R/W available - Yes No

Comments _____

In-lane Considerations

If a pullout is not recommended in the General Condition Criteria, is an in-lane stop appropriate at this location? Yes No

Comments _____

Pedestrian Considerations

Pedestrian sight distance on approach _____ ft. Pedestrian sight distance on departure _____ ft.

Paved waiting area - Yes No Walkway access - Yes No Distance to intersection _____ ft.

Traffic signal - Yes No Crosswalk - Yes No Refuge area - Yes No

Number of lanes to cross _____ Crossing distance _____ ft.

Accident History Review: _____

Comments

Should Transit Stop Be Approved? - Yes No

Reviewed by _____ Date _____

Figure 2.

WSDOT Transit Vehicle Stop Zone Guidelines**c) Stopping Sight Distance**

The determination of stopping sight distance is a critical issue regarding the WAC requirements for approval of in-lane stops and advance warning signs. Stopping sight distance on an existing roadway provides a vehicle that is traveling at the 85th percentile speed sufficient length to stop before reaching a stationary object in its path. Consider all factors that contribute to the geometric configuration when determining a location specific stopping sight distance.

- Horizontal alignment
- Vertical alignment
- Roadway Section
- Sight Obstructions

(1) Determining the 85th percentile speed.

Use the following order of preference to determine the operating or 85th percentile speed:

- Data developed from a site specific speed study using road tubes or radar
- Data from an existing data base (e.g. corridor study)
- If the 85th percentile speed is not available, and no accident patterns exist which indicate vehicle speeds as a contributing factor, the posted speed limit may be used to determine stopping sight distance

(2) Method for measuring sight distance at a proposed transit location.

This method requires an observer and may require an assistant. Required equipment includes a passenger vehicle (not a van or pickup,) a distance measuring instrument, and a target object clearly marked at 6" above the roadway surface. A measuring wheel with an accuracy of $\pm 1\%$ is an acceptable device for determining distances. The AASHTO Policy on Geometric Design of Highways and Streets Chapter 3 discusses the criteria for measuring sight distance. Testing from a passenger vehicle meets the criteria for the height of the drivers eye (3.5'). The 6" target represents the lowest object on a roadway that a driver may perceive as a hazard.

- The 6" target is placed at the site of the proposed transit stop, near the anticipated location of the rear of the stopped transit vehicle (see figure 1, Request to Approve, vehicle length). If the target is temporarily placed in the traveled way or at a location that will disrupt the normal flow of traffic, install appropriate temporary traffic control.
- The observer drives toward the target in the direction of travel of the proposed transit stop, beginning at a location where the target is not visible. When the target comes into the observers field of view, activate the distance measuring device, or mark the point for measurement with the wheel.
- A measurement is then made from this point to the location of the target. An average of two readings is recommended to ensure accuracy.

WSDOT Transit Vehicle Stop Zone Guidelines

(3) Method for determining stopping sight distance from observed field measurements.

Refer to the stopping sight distance tables in Design Manual Chapter 650 to determine the acceptability of the existing stopping sight distance at a proposed location. Consider the sight distance measured in the field, the 85th percentile speed, and existing roadway geometrics when making this determination. The data can also be analyzed using the *Stopping Sight Distance (Wet Pavement)* table contained in chapter 3 of the AASHTO Policy on Geometric Design of Highways and Streets.

d) Accident Review

A three year accident review is recommended at the proposed location. Accident reports dating from 1993 ahead can be accessed on a remote terminal through the TRIPS mainframe menu**unb01.5.1**. Additional pedestrian accident reviews may be beneficial, and study of a five to ten year history may identify pedestrian accident patterns. This historical data (pre 1993) is available on the TRIPS mainframe menu**55.1**. When entering TRIPS report parameters it is possible to select accidents by vehicle type. The two digit code for bus (non school) is *10*. In addition to running a report on all vehicle types at or near the location of the proposed stop, a bus specific report throughout the corridor that contains the proposed location may indicate a traffic safety pattern for the transit agency. Focus the study on factors contributing to accidents, including but not limited to the location's environment, vehicle speeds, time of day, and type and severity of accidents. If an in-lane stop is considered for approval, focus on rear end accidents at or near the site. If a history of accidents exists at the proposed location, an engineering judgment should be made and documented regarding the potential impact created by adding a transit vehicle stop.

e) Pedestrian Access Review

Review of a proposed transit vehicle stop includes an evaluation of the accessibility and viability of the location for pedestrians. The transit stop may be little more than a sign along a highway, but consider it as a significant pedestrian destination. As a minimum, provide the following *basic* pedestrian amenities at a transit vehicle stop:

- A barrier free approach to the stop, including ADA features, if appropriate
- Appropriate opportunities for pedestrians to cross the roadway
- Clear designation - Bus Stop sign or symbol. Wheelchair accessibility sign if appropriate
- Waiting area that permits standing comfortably away from the traveled lanes. Increased vehicle speed = greater buffer distance
- Waiting area that is well drained and provides a clear, level, hard-surfaced boarding/deboarding area
- Secure environment –The stop should be placed in a non-threatening location. Pedestrians should feel safe and comfortable while approaching the stop and while waiting at the stop

Although additional amenities are not absolute requirements, they will attract pedestrians who might not otherwise consider using transit service. The number of anticipated passengers and frequency of fixed route stops at the location, in combination with the policy of the transit authority will determine the ultimate configuration of the stop. These *additional* amenities may include:

- At-grade walkways or sidewalks at stops, and approaches leading to stops
- A bus shelter may be provided at an existing or proposed location. The transit authority determines appropriate shelter locations based on passenger volume, type of service area, and budgetary considerations. The proposed shelter location must provide a clear sight triangle to minimize impacts on sight distance at intersections.

WSDOT Transit Vehicle Stop Zone Guidelines

- WSDOT Design Manual recommends consideration of additional ‘street lighting’ at transit stops. Lighting is recommended wherever installation is feasible. While not mandatory, this lighting allows the passengers using the facility to see and to be seen, not only at the stop, but at adjacent pedestrian crossings. Lighting provides a perceivable feeling of safety for the transit user. Placing stops near existing street lights may reduce installation costs. On limited access facilities, the public transit agency will be responsible for the initial installation cost of any security lighting. WSDOT will be responsible for any ongoing maintenance costs.
- Furniture – A bench or seat may ease long waits
- Route information – This is an important service for infrequent riders
- Modal connectivity – This encourages combined transportation mode travel

Rural Applications - It is not practical to assume that a public transit authority would configure a rural stop with few passengers to contain all of these elements. However if the passengers are exercising their only mobility option, a need is demonstrated for all of the *basic* amenities listed above.

f) Pedestrian Sight Distance - Crosswalks

Pedestrians must have a clear line of sight to all traffic that may impact pedestrian movements at proposed transit stops. A field review should reveal any potential sight obstructions and allow the reviewer to assume the perspective of the pedestrian. Consider the position of the stopped transit vehicle at a proposed location, as it may be a potential sight obstruction to pedestrians crossing in front of, or behind the vehicle.

Marked crosswalks are generally installed only at controlled intersections. Marked crosswalks may be considered on multilane highways at uncontrolled intersections or mid-block locations if there is sufficient pedestrian volume and median refuge areas have been provided. The department, or appropriate city is responsible for installing and maintaining crosswalks.

2. Site Considerations at Proposed Locations

- The proposed location should not block intersections or driveways - RCW 46.61.570
- The area of passenger boarding and exiting should not conflict with pedestrian flow through the area
- The proposed location should not conflict with other user groups such as bike lanes, ferry holding lanes, emergency vehicle approaches, rail crossings
- The proposed location should be in a well drained area, and should not require installation of drainage features
- Spacing of transit stops can impact overall traffic performance. Spacing should be based on prevailing land use and passenger volumes, with consideration given to maximizing traffic flow on the roadway.

Typical Transit Stop Spacing

<i>Environment</i>	<i>Typical Spacing</i>
Central Core Area of CBD	600 feet
Urban Areas	750 feet
Suburban Areas	1250 feet
Rural Areas	locate @ activity nodes or 2500 feet

WSDOT Transit Vehicle Stop Zone Guidelines

3. Placement of stop at intersection:

The approval of the placement and dimensions of the proposed stop at or near an intersection requires careful analysis, considering many contributing factors, including signalization, channelization, turning movements and pedestrian movements. There are three basic placements for stops at intersections:

- a) **Far-side** - Transit vehicle stops immediately after passing through an intersection
- b) **Near-side** - Transit vehicle stops immediately prior to in intersection
- c) **Midblock** - Transit vehicle stops within the block

When a pullout is warranted at an intersection, a far-side placement is preferred, however, there may be situations where a near-side or mid-block stop is appropriate.

Each placement has advantages and disadvantages

	Advantages	Disadvantages
Far-side	<ul style="list-style-type: none"> • Minimizes conflicts between right turning vehicles and buses • Provides additional right turn capacity by making curb lane available for traffic • Minimizes sight distance problems on approaches to intersections • Pedestrians cross behind the bus • Shorter deceleration distance because bus uses intersection to decelerate • Signal behind bus creates gaps for entering traffic • Boarding passengers assemble at less crowded area of sidewalk 	<ul style="list-style-type: none"> • Traffic queued behind a in-lane bus stop may block intersection • May obscure sight distance for crossing vehicles • May increase sight distance problems for crossing pedestrians • Can cause double stops, for signal, then immediately for far side stop. Double stops are a factor contributing to rear end accidents • May cause right turning conflicts with cross traffic
Near-side	<ul style="list-style-type: none"> • Minimizes interference when traffic is heavy on the far side of the intersection • Allows passengers to access buses closest to crosswalk • Allows passengers to board and alight while the bus is stopped at a red light 	<ul style="list-style-type: none"> • Increases conflicts with right turning vehicles • May result in stopped buses obscuring curbside traffic control devices and crossing pedestrians • May obscure sight distance for cross traffic vehicles stopped to the right of the bus • Increases sight distance problems for crossing pedestrians • May be difficult for buses to re-enter traffic. This may cause bus route schedule delays
Mid-block	<ul style="list-style-type: none"> • Stops located at major passenger generating area • Minimizes sight distance problems for vehicles and pedestrians • May result in passenger waiting areas experiencing less pedestrian congestion • Minimal conflicts with turning traffic 	<ul style="list-style-type: none"> • Requires additional distance for no-parking restrictions • May encourage patrons to cross street at mid-block • Increases walking distance for patrons crossing at intersections

WSDOT Transit Vehicle Stop Zone Guidelines

4. Transit vehicle stop pullout considerations:

- Wherever possible, locate proposed transit vehicle stops in areas where the public right of way is of sufficient width to allow for pullout and sidewalk construction. If the department and the transit agency concur that additional right-of-way is needed to accommodate the pullout, landing pad, sidewalk, relocated drainage ditch, cut slope, or other feature, the department should negotiate the appropriate private property agreement, or obtain a slope easement.
- The recommended minimum pullout lane width is 12 feet, not including curb or sidewalk. This dimension allows a standard 10.5' wide bus to pull completely off the roadway.
- The total length of a pullout should allow room for an entrance taper, a deceleration lane, a stopping area, an acceleration lane, and an exit taper. Dimensions for these features vary with operational speed. Refer to the Design Manual chapter 1060 for these dimensions. Far side pullouts can use the intersection as the deceleration lane. The length of the pullout stopping area is determined by the type and number of transit vehicles using the stop.
- To evaluate the suitability of existing pavement for use as a transit stop, determine surfacing depths and materials at proposed locations. Concentrated loading coupled with the dynamic affect of braking can place high demands on pavement at transit vehicle stops. Base the evaluation of existing and proposed roadway sections on this anticipated axle loading. The Regional Materials Lab may assist in providing parameters for site specific surfacing depths. The OSC Materials Lab has developed the following informational table for minimum surfacing depths.

Minimum Surfacing Depths for Transit Vehicle Pullout

Number of buses per day. (Standard 40' bus)	Subgrade Type	20 Year Design				40 Year Design			
		Asphalt		Concrete		Asphalt		Concrete	
		AC (ft)	Base (ft)	PCC (ft)	Base (ft)	AC (ft)	Base (ft)	PCC (ft)	Base (ft)
0-50	Poor	0.35	1.05	0.60	0.50	0.40	1.15	0.60	0.50
	Ave	0.35	0.65	0.60	0.50	0.40	0.60	0.60	0.50
	Good	0.35	0.65	0.60	0.50	0.40	0.60	0.60	0.50
50-100	Poor	0.40	1.15	0.60	0.50	0.45	1.30	0.65	0.50
	Ave	0.40	0.60	0.60	0.50	0.45	0.65	0.65	0.50
	Good	0.40	0.60	0.60	0.50	0.45	0.55	0.65	0.50

- A 5-foot (measured parallel to the face of curb) by 8-foot (measured normal to the face of curb) at-grade or raised landing pad is required to meet current ADA requirements at proposed or newly re-located transit locations. This is the minimum allowable size. The pad shall be constructed of a stable, firm, slip-resistant surface. The pad shall be sloped to drain but not create an unstable situation for a wheelchair. Consider the possibility of service by a transit vehicle equipped with either a front or rear door wheelchair lift. Although not a requirement, a 10-foot by 10-foot pad increases efficiency of operation.
- When funding is available, provide an ADA accessible, 5ft wide at-grade walkway or raised sidewalk for the length of the pullout, extending to the intersection radius return.

WSDOT Transit Vehicle Stop Zone Guidelines

5. Transit vehicle stop in-lane considerations:

In many urban and suburban low speed areas, in-lane transit stops are a common practice. If in-lane transit stops are WSDOT approved locations, this practice complies with RCW 46.61.560. On state highways, in moderate or high speed areas, in-lane bus stops are not recommended and will be approved only under special conditions. WAC 468-46-020 gives basic criteria for such approval. This approval can be based on the unavailability of a 'wholly off the roadway' location within a 'reasonable and practical' distance of the proposed location, in conjunction with acceptable stopping sight distance. In-lane bus stops decrease the operational capacity of any roadway, and on moderate or high speed highways may result in an increase in rear-end related accidents. WAC 468-46-060 directs the department to make an effort to '...eliminate conditions requiring temporary stops by transit vehicles upon the roadway....' This effort is subject to the availability of funds. From a public safety and risk management perspective, the department's challenge is to work with the transit agencies in an effort to secure funding for transit vehicle pullout improvements on state highways.

D. Transit Vehicle Stop Zone Delineation and Signing

1. Delineation

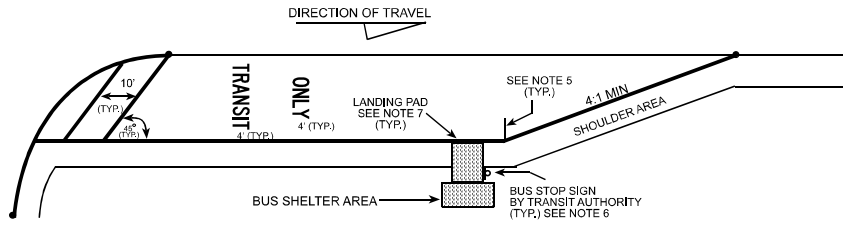
- The transit stop should be clearly delineated to ensure use of the stop area by transit vehicles only and to give the transit operators direction on where to stop
- Striping and pavement marking for pullouts in rural areas should be installed in accordance with figure 3
- Striping and pavement marking for pullouts in urban and suburban areas should be installed in accordance with figure 4
- Curb painting can be used to identify curb side stops in no parking areas. This curb painting is the responsibility of the transit authority

2. Signing

- Each approved stop zone shall have a bus stop symbol sign. This sign is installed by the public transit authority. WAC 468-46-030
- Each stop zone shall have an advance transit vehicle stop sign installation, consistent with the MUTCD specifications, at all locations where the transit vehicle is not visible for a distance of 500' in advance of the stop. This sign is installed by the department. WAC 468-46-040
- Each stop zone equipped with ADA pad, and serviced by transit vehicles equipped with special features to facilitate disabled passengers, shall have the International Symbol for Access for the Handicapped sign displayed. Some transit authorities integrate this symbol into the bus stop sign. This sign is installed by the public transit agency.
- Approved transit stops may also require an accompanying "no parking" traffic regulation to ensure that motorists will not park in the transit stop area. WSDOT will be responsible for all costs and maintenance of these signs.
- On limited access facilities, the appropriate transit authority may be responsible for the costs associated with the initial installation and maintenance of flyer stop signs located on the shelter, and within the flyer stop area.
- The department may consider installing signs which display a message of 'Yield to Entering Transit Vehicles' in an effort to encourage compliance with RCW 46.61.220. See figure 5.

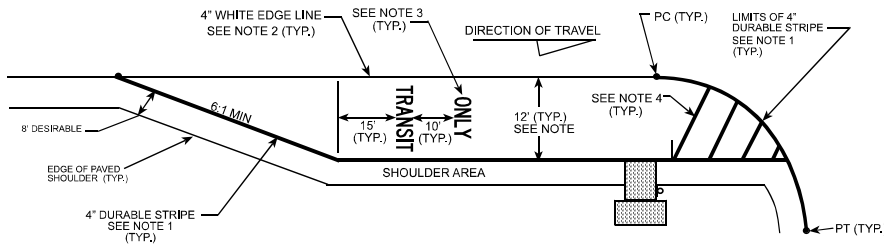
WSDOT Transit Vehicle Stop Zone Guidelines

**TRANSIT VEHICLE STOP PULLOUT
SIGNING AND DELINEATION DETAILS
FOR RURAL AREAS
FIGURE 3**



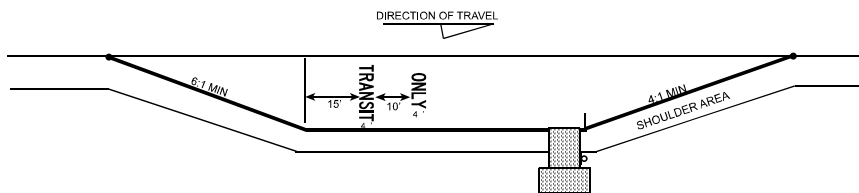
FAR-SIDE TURNOUT (PREFERRED LOCATION)

NOT TO SCALE



NEAR-SIDE TURNOUT

NOT TO SCALE

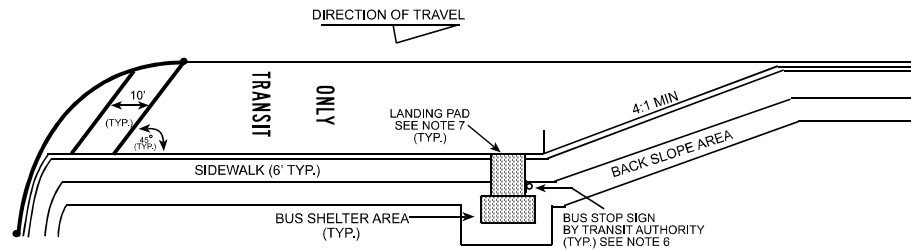


MID-BLOCK TURNOUT

NOT TO SCALE

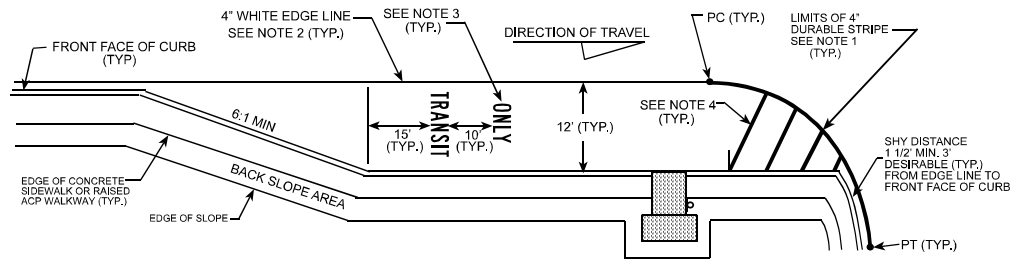
WSDOT Transit Vehicle Stop Zone Guidelines

**TRANSIT VEHICLE STOP PULLOUT
SIGNING AND DELINEATION DETAILS
FOR URBAN AREAS
FIGURE 4**



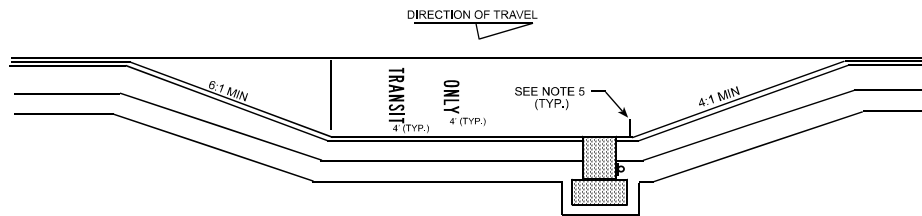
FAR-SIDE TURNOUT (PREFERRED LOCATION)

NOT TO SCALE



NEAR-SIDE TURNOUT

NOT TO SCALE



MID-BLOCK TURNOUT

NOT TO SCALE

WSDOT Transit Vehicle Stop Zone GuidelinesTRANSIT VEHICLE STOP PULLOUT SIGNING AND DELINEATION DETAILS
RURAL - FIGURE 3

NOTES:

1. DURABLE STRIPE TO BE EITHER WHITE METHYLMETHACRYLATE OR WHITE THERMOPLASTIC
2. DO NOT USE RPMS FOR LANE EDGE DELINEATION
3. "TRANSIT ONLY" PAVEMENT MARKING LETTERS MAY BE USED SUPPLEMENTALLY TO DESIGNATE SPECIAL USE LANE. "BUS ONLY" PAVEMENT MARKING LETTERS MAY BE USED IF THE TURNOUT CAN BE USED BY SCHOOL BUSES
4. MAY USE 8" WHITE DURABLE STRIPE ON DIAGONALS WITHIN THE RADIUS RETURN AREA TO DESIGNATE RESTRICTED SHOULDER AREA
5. MAY USE A 4' LONG BY 8" WIDE STRIPE AS A 'REFERENCE' STOP LINE FOR TRANSIT VEHICLES
6. DISPLAY INTERNATIONAL SYMBOL FOR ACCESS TO THE HANDICAPPED PLACARD IF STOP IS ADA FUNCTIONAL. SIGN MAY BE INSTALLED ON APPROACH SIDE OF SHELTER
7. MINIMUM ADA WHEELCHAIR LANDING PAD DIMENSION IS 5'(MEASURED ALONG EDGE STRIPE) BY 8' (MEASURED NORMAL TO EDGE STRIPE)

URBAN - FIGURE 4

NOTES:

1. RADIUS RETURNS AND STRIPING TO BE EITHER WHITE METHYLMETHACRYLATE OR WHITE THERMOPLASTIC
2. DO NOT USE RPMS FOR LANE EDGE DELINEATION
3. "TRANSIT ONLY" PAVEMENT MARKING LETTERS MAY BE USED SUPPLEMENTALLY TO DESIGNATE SPECIAL USE LANE. "BUS ONLY" PAVEMENT MARKING LETTERS MAY BE USED IF THE TURNOUT CAN BE USED BY SCHOOL BUSES
4. MAY USE 8" WHITE DURABLE STRIPE ON DIAGONALS WITHIN THE RADIUS RETURN AREA TO DESIGNATE RESTRICTED SHOULDER AREA
5. MAY USE A 4' LONG BY 8" WIDE STRIPE AS A 'REFERENCE' STOP LINE FOR TRANSIT VEHICLES
6. DISPLAY INTERNATIONAL SYMBOL FOR ACCESS TO THE HANDICAPPED PLACARD IF STOP IS ADA FUNCTIONAL. SIGN MAY BE INSTALLED ON APPROACH SIDE OF SHELTER
7. MINIMUM ADA WHEELCHAIR LANDING PAD DIMENSION IS 5'(MEASURED ALONG FACE OF CURB) BY 8' (MEASURED NORMAL TO THE FACE OF CURB)

WSDOT Transit Vehicle Stop Zone Guidelines

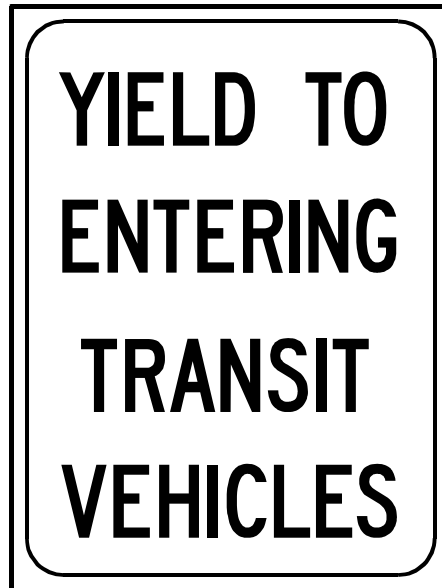


Figure 5
36" x 48"
6" C Letters

WSDOT Transit Vehicle Stop Zone Guidelines**E. Comments from other Agencies and the Public**

In reviewing a proposed transit vehicle stop location, WSDOT personnel may seek input from others. Consideration shall be given to any comments, concerns, or commitments from:

- the local WSDOT maintenance area
- the applying public transit agency
- local jurisdictions or agencies
- WSP or local law enforcement agencies
- the OSC or Regional Administration Staff
- the general public

F. Approval**1. Delegation of Authority to Approve transit vehicle stop zones**

The authority to approve resides with the Secretary of the Department of Transportation or any assistant secretary, or Regional Administrator or designee of the Regional Administrator to whom such authority has been delegated (D55-71). This delegation of approval authority (who signs) should be clearly designated and documented by the regions.

2. Determination of Approval

A comprehensive determination is made regarding the effect a transit stop may have on vehicle and pedestrian traffic, and the environment at a proposed location. This judgment, documented by the results of the engineering and traffic review becomes the basis for the approval or denial of the application for the proposed stop.

3. Variance Approval

The criteria contained in these guidelines should be closely followed to ensure Department wide compliance with the intent of the WAC. A variance may be granted on a case by case basis. The transit liaison specialist shall defer final decisions regarding a variance to the approving authority within the region. An example of a variance could be to 'grandfather' an existing site that does not meet a guideline criterion. The variance must contain written documentation, including the reasons that specific criteria cannot be met, and if necessary, a contingency plan to comply with minimum criteria by upgrading the location within a specified time period.

4. Notification

The Regional Traffic Office shall provide a written letter of notification to the requesting public transit authority regarding the Department's approval, approval with variance, or denial of the application. Information that is the basis for denial or a recommended variance should be included in this letter. Within 15 working days of receipt of an approval/denial notification, a transit agency may bring concerns about the decision to the approving authority within the Region. Any disputed information should be jointly reviewed for accuracy and completeness. The Region's approving authority shall, after analyzing information presented by the transit agency, and information used to document denial/approval, shall uphold or reverse the decision.

5. Application for General Permit

The notification documentation may include an Application for General Permit (DOT form 224-898EF) for the transit authority to complete and submit. This permit covers general and special provisions regarding any work performed within the limits of public right of way, to improve or construct the transit stop. (RCW 47.32.160)

WSDOT Transit Vehicle Stop Zone Guidelines

IV. Agreement

A. General

With the foundation of any successful relationship being mutual understanding and cooperation, a spirit of partnership should guide these agreements, as they cover operational, maintenance, and funding issues pertaining to transit vehicle stop zones. Because the transit authorities serve customers on the state highways, and the department sanctions the approval, installation and maintenance of the transit features required to provide this service, these agreements present a distinct opportunity to demonstrate a commitment to the operation and promotion of *a safe and coordinated transportation system*, as prescribed in the WSDOT Strategic Plan Mission Statement.

B. Transit stops within incorporated cities and towns

Requests for approval of transit vehicle stops on state highways located within incorporated cities and towns should be submitted to the appropriate local agency, with a courtesy copy to the Regional transit liaison. The department may be requested to partner with the local agencies and transit authorities regarding the approval process, and the maintenance and operations agreements. No state regulations exist pertaining to WSDOT sanctioning of transit vehicle stop zones within incorporated areas. The department is authorized by statute to issue permits for construction (RCW 47.32.160) and mandated to maintain the roadway surface (RCW 47.24.020) within these areas.

C. Goals of the agreement

Components of an agreement may include, but are not limited to:

1. Promote transit ridership

The Department and the transit agency should combine efforts to develop and encourage transit ridership in all general condition areas of the regions. The department should endeavor to create and operate an easy to use system for processing requests for approval. The focus should be on the development of user oriented, efficient transit stops that appeal to new and existing customers. To create effective communication, a definitive list of contact persons for both the department and the public transit agencies should be developed and shared between the partners.

2. Identify and develop funding sources

The Department and the transit agency should combine efforts to create avenues for funding improvements of existing stops as well as the design and construction of new sites. Some potential sources include:

- TIB funding (Public Transportation Systems Account)
- Funding available through the WSDOT Public Transportation Office
 - 49 USC Section 5311- can be used for the purchase and installation of passenger shelters and signing in rural areas
 - Rural Mobility Grant Program - can be used for construction of pullouts and shelters
 - STP transfer funds
 - State Infrastructure Bank
 - 49 USC Section 5307 for urban areas
- Low cost enhancement funds administered by the regional Traffic Operations Office
- Funding for improvements to state highways

WSDOT Transit Vehicle Stop Zone Guidelines

3. Maintenance and Operations Plan

The Department and the transit agency may combine efforts to develop a maintenance and operations plan, with clearly defined roles and responsibilities, which includes but is not limited to the following areas:

- Pavement
- ADA landing Pad
- Walkways
- Shelters
- Lighting
- Signs, and delineation
- Vegetation control

4. Joint Performance Review

The Department and the transit agency may combine efforts to develop a program that will periodically review the condition and effectiveness of existing stops. This process could be combined with the Inventory and Review process described in these guidelines with additional input from the transit authorities. The review should include but not be limited to:

- Evaluate the effect of the stop on vehicle and pedestrian traffic. Include accident review
- Evaluate efficiency and safety for transit stop users
- Monitor ridership, passenger volume may merit change, upgrade, removal or relocation
- Evaluate the effectiveness of the maintenance and operations agreement

V. Transit Stop Inventory and Review

Development of a Regional Transit Vehicle Stop Inventory and Review program will increase operational efficiency for the department. Application for approval of a transit vehicle stop zone, copies of any permit issued by the department, and all documentation used to determine approval, denial, or variance should be retained on file by the Regional Traffic Office and integrated into an inventory data base.

A. Inventory

As time and staffing allows, the Regional Traffic Office should inventory all approved fixed route transit stops on state highways outside incorporated areas.

Information from the inventory should be used to develop a Regional Transit Vehicle Stop data base. The data should include the following information for each transit stop:

- Public Transit Authority (owner)
- Date of departmental approval
- SR, mp, travel direction of stop
- Speed, posted and operational (85th percentile) if available
- Intersection configuration and pullout width, type and condition of surfacing
- Sidewalk width, ADA pad dimensions
- Signing, bus stop, wheelchair accessibility, advance transit stop
- Amenities, shelter, lighting, furniture,
- Pedestrian crossing information: marked, unmarked crosswalk, pedestrian signals, mid-block crossing refuge area_

WSDOT Transit Vehicle Stop Zone Guidelines

B. Submitting TRIPS data

Data inventoried from approved transit stops on state highways shall be included in TRIPS, the department's on-line highway system database. The Roadway Data Section of the Planning and Programming Service Center is responsible for updating information in this data base. Forward information to the Transportation Data Office at SCAN 234-6597 or public (360) 753-6597. The required data includes SR, milepost limits, width of pullout and shoulder, type of surfacing.

C. Review

As time and staffing allows, the Regional Traffic Office should review all existing transit stops on state highways outside incorporated areas. Upon review, each site should be placed into one of the following categories and appropriate action should be taken to develop all viable sites to meet the 'approved, meets guideline criteria' status.

- approved, meets guideline criteria
- approved, does not meet guideline criteria
- non-approved, meets guideline criteria
- non-approved, does not meet guideline criteria

1. Existing approved transit stops

On state highways, transit stops may now exist that are approved, but do not meet the minimum requirements of these guidelines. If the stop is determined to be operating safely, based on an engineering and traffic investigation, the Regional Traffic Office should notify the appropriate public transit authority by letter that the non-conforming transit stop is approved with a variance. An agreement to upgrade existing approved transit stops may be required. This plan to upgrade should be consistent with the budgetary programming and planning cycles used by the transit authority and the department. This practice will allow the transit authority time to pursue funding for improvements, as well as continue its day to day operations without the consequence of losing viable stop locations. In addition, the schedule provides risk management for the department, and allows the department time to pursue funding for transit vehicle stop zones as features of construction projects as well as low cost improvements.

2. Existing non-approved transit stops

Transit stops may now exist on state highways that do not have approval. The existence of these locations jeopardizes the Department's position regarding WAC compliance and risk management. The Regional Traffic Office should make every effort to identify transit stops on state highways that are not approved. The public transit authority should be notified by letter of any existing non-approved transit stop. The transit authority should be given 60 days to follow through with the steps required to comply with the approval process contained in these guidelines. If after 60 days, the transit authority has made no effort to seek approval for the site, the Region Traffic Engineer shall order the transit stop closed and remove all appurtenances at the location.

3. Flag Stops

Some public transit agencies provide on demand service in rural settings where fixed route stops are widely separated. The passenger signals a request to stop as the transit vehicle approaches. These non-fixed route stops are referred to as flag stops. These are not approved transit stops. Some transit agencies publicly advertise this service. RCW 46.61.560 allows transit vehicles to stop upon the roadway at marked locations that are approved by WSDOT. WAC 468-46 requires approval of transit stops on state highways. This on demand stop is not pursuant to the WAC or RCW controls regarding transit vehicle stop zones on state highways. Whether stopping on the shoulder or in the traveled lane, this practice is a potential risk to public safety and is not recommended. WSDOT assumes no liability risks from flag stop operations on state highways.

GM 869

INTERPRETIVE SIGNS/MARKERS AGREEMENT

THIS AGREEMENT dated this 19th day of March, 1976, between the WASHINGTON STATE HIGHWAY COMMISSION, hereinafter referred to as Highways, and the WASHINGTON STATE PARKS AND RECREATION COMMISSION, hereinafter referred to as Parks, is being entered into to implement chapter 19, laws of 1967, Extraordinary Session, codified as RCW 43.51.750, entitled, "PRESERVATION OF HISTORIC PROPERTIES".

For the purpose of this agreement, interpretive signs or markers shall include all devices depicting the state's natural and man-made history, providing for the understanding, enjoyment, and education of the public. They are comprehensive in subject treatment, generally providing information to explain the who, what, when, why and how of the event(s) being interpreted.

IT IS HEREBY AGREED AS FOLLOWS:

1. Highways shall give adequate advance notice to Parks of its tentative plans to locate new highways, as well as its plans for viewpoints and rest areas on existing state rights-of-way, prior to actual construction of such proposed highways or sites in order that Parks may study the proposed highway route and sites to determine whether these areas are located on or near areas of interpretive interest. Parks will likewise give Highways adequate notice of its plans to locate interpretive signs or markers along state highway rights-of-way, and will also notify Highways of where interpretive interests are located off highways.
2. Both parties will cooperate in choosing the location of markers along state rights-of-way. In the interest of public safety, Highways shall make the final determination as to the location of sites on existing or proposed state rights-of-way.
3. In the event an interpretive sign or marker site is selected for a location on land which is not part of an existing highway right-of-way, or right-of-way proposed for highway development, Highways and Parks shall jointly determine the nature and extent of each agencies' obligation for acquisition, development, and maintenance of said land, including roadways necessary to reach the marker site.
4. Highways shall construct and maintain necessary turnouts, parking areas, and placing of various signs within the highway rights-of-way to indicate the interpretive signs or markers, and shall maintain the site area. Parks shall furnish and maintain the signs or markers. The number and location of the markers and signs within the confines of the site area shall be mutually agreed upon by Highways and Parks.

5. In the event that a marker must be moved in order that subsequent highway construction may be carried on, Highways shall incur the entire expense of relocation.

6. Other signs, such as those naming local points of interest or for local travel information, shall be the responsibility of Highways, Parks shall provide advice and counsel when requested by Highways as to appropriateness of style, design, and text.

7. The markers covered by this agreement shall be those listed in Attachment Number 1 and hereinafter amended subject to paragraphs 1, 2, and 3 of this agreement.

8. This agreement will be fulfilled to the extent that funds are available to each party for the purposes set forth herein.

9. This agreement supersedes and replaces the Interpretive Markers Agreement entered into between Highways and Parks dated September 23, 1969.

WASHINGTON STATE DEPARTMENT OF HIGHWAYS

By William A. Bulley
William A. Bulley

WASHINGTON STATE PARKS AND RECREATION COMMISSION

By Charles H. Odegard 2/14/76
Charles H. Odegard, Director

APPROVED AS TO FORM:

Jack A. Barland
Assistant Attorney General
State of Washington
Department of Highways

Paul R. ...
Assistant Attorney General
State of Washington
Parks and Recreation Commission

ATTACHMENT NUMBER 1
TO
INTERPRETIVE MARKERS AGREEMENT

<u>MARKER</u>	<u>REMARKS</u>
Deception Pass	Approaches maintained by Highways. Site maintained by Parks in conjunction with maintenance of view points.
Mount Baker	Approach and site maintained by Highways
David Douglas	Approach and site maintained by Highways
Dry Falls	Approach maintained by Highways. Site maintained by Parks (interpretive center) except for snow and ice control performed by Highways on reimbursable basis.
Chief Joseph	Approach and site maintained by Highways
Old Mining Arrastra	Approach and site maintained by Highways
Earthquake Point	Approach and site maintained by Highways
Fort Okanogan	Approach and site maintained by Highways
Destruction Island	Approach and site maintained by Highways
Juan de Fuca	Approach and site maintained by Highways
Discovery Bay	Approach and site maintained by Highways
Totem Symbols	Approach and site maintained by Highways
Mount Rainier	Marker removed to be refurbished by State Parks. To be relocated by Highways to Scatter Creek rest area on I-5.
The Tacoma Narrows	Approach and site maintained by Highways
Hood Canal	Approach and site maintained by Highways
Fort Vancouver	This marker is located next to an Information Center on I-5 in Vancouver. Site Maintenance is performed by the City; approaches from I-5 are maintained by Highways.
First Sawmill	Previously located next to weight station east of Vancouver. Marker being relocated by Highways reason of construction of interchange on I-205.
Columbia River	Approach and site maintained by Highways
Bruceville-Bruceport	Approach and site maintained by Highways
Cowlitz Landing	Approach and site maintained by Highways
Fort Columbia	Approach and site maintained by Highways
Lewis & Clark - Camas/Washougal	Approach to markers from city street other than state highway. Maintenance performed by city.
Spearfish	Approach and site maintained by Highways SR 14 at MP 86.1
Willie Keil's Grave	Approach and site maintained by Highways SR 6 MP 4.4

GM 869

Attachment Number 1 to Interpretive Markers Agreement - Page 2

<u>MARKER</u>	<u>REMARKS</u>
Point Vancouver or Point Broughton	Marker to be installed east of Washougal on SR 14. Highways will maintain
Lewis and Clark - Clarkston	Approach and site maintained by Highways - removed for highway relocation - should be relocated by Highways on SR 12, MP 431.9
Wai-I-Lat-Pu	Approach and site maintained by Highways
Lewis and Clark - Alpowa Summit	Approach and site maintained by Highways
Fort Walla Walla	Approach and site maintained by Highways
Sacajawea - Ainsworth	Approach and site maintained by Highways
Indian Painted Rocks - Yakima	Approach and site maintained by Highways
Ah-Wah-Tum	Approach and site maintained by Highways
Ginkgo Petrified Forest	To be relocated to Ryegrass Hill Safety Rest Area by Highways
Indian Timothy Bridge	Approach and site maintained by Highways - Parks currently developing marker
Celilo Falls	Approach and site maintained by Highways SR 14, MP 93.55
Steptoe Butte	Approach and site maintained by Highways
Kamiak Butte	Approach and site maintained by Highways
The Mullan Road	Approach and site maintained by Highways
David Thompson	Approach and site maintained by Highways

GM 869

8.1 General

The department is directed by state law to regulate advertising signs that are visible to Interstate, Primary, and Scenic state highway systems. Advertising messages may be displayed by one of several methods:

- Billboards and other highway advertising signs may display business logos and advertising print along selected areas of state highways, outside state-owned right of ways. See [Highway Advertising Control M 22-95](#).
- Advertising venues exist at a number of rest areas along Interstate highways, and at several Ferry Division locations.
- Motorist information signs display logos for specific types of motorist services on regulated signs within the right of way. See M 55-94.

8.2 Highway Advertising Signs

Federal and state laws regulate signs located on private property or on public right of ways other than state highway right of ways, which are visible to certain state highways. Many of the laws and regulations are written to express what may be done rather than what may not be done. Thus, signs installed contrary to what the law allows are illegal.

This chapter supplements and clarifies the text of the laws and regulations by providing procedural guidelines and technical information. The department uniformly applies the regulatory provisions to support traffic engineering principles, for procedural efficiency, and to treat the business community equitably.

- A. **United States Code, Title 23, Section 131.** Federal laws provide direction to the states through the Federal Highway Administration and the Code of Federal Regulations regarding highway advertising along Interstate and National Highway System (NHS) non-Interstate highways, and at safety rest areas. The states are required to comply with these federal laws and regulations or become subject to a 10 percent reduction in federal aid highway funds.
- B. **RCW 47.42.** State law, which may be referred to as either the *Highway Advertising Control Act*, or the *Scenic Vistas Act of 1971* or the *Act*, authorizes and directs the department to regulate highway advertising signs visible to Interstate, non-Interstate NHS, and Scenic highways in accordance with federal and state regulations. The purpose of the Act is to enhance roadside scenic beauty while assuring that information of specific interest to travelers is presented safely, reasonably, and effectively. [RCW 47.42](#) does not regulate advertising sign installations adjacent to other state highways, county roads, or city streets.

- C. **WAC 468-66 and M 22-95.** The department's manual, *Highway Advertising Control* M 22-95, contains the RCW and WAC rules, regulations, and figures that can be used to help interpret specific laws and regulations, maps to identify the various classes of the state highway system, and graphic appendices that illustrate some of the more complex regulatory language.
1. **Definitions.** **WAC 468-66-010** defines specific terms that are key to the regulations. This section clarifies the intent of some of these terms, helping the department uniformly administer highway advertising control.
 - a. **Unzoned Commercial or Industrial Areas.** **RCW 47.42.020(9)** and **WAC 468-66-010(4)** in part define an unzoned commercial or industrial area. "Unzoned" means either no zoning or zoning for general uses by county or municipal code. An unzoned commercial or industrial area is comprised of three parts, including the core area described as follows:
 - There are three or more commercial or industrial activities located within a space of 500 feet along a regulated highway. The maximum 500 foot core of the unzoned area is measured parallel to edge of the roadway's main traveled way, and may include activities located on both sides of the roadway.
 - All measurements are made from the outer edges of regularly used buildings, parking lots, or storage or processing areas, rather than from the respective property lines. Measured accordingly, the outer measurements define the unzoned area core, up to 500 feet.
 - The commercial or industrial activities being considered must be located within 660 feet of the nearest edge of the right of way.

The second and third parts of the unzoned commercial or industrial area are 500 foot longitudinal extensions, both upstream and downstream of the unzoned core area, on both sides of the roadway. Thus, an unzoned commercial or industrial area encompasses a space extending a maximum of 1,500 feet along a roadway as shown in [Appendix 8-1](#).

Signs are permissible in unzoned commercial or industrial areas in the same manner as zoned commercial or industrial areas, and are subject to all other regulations for the particular highway's classification and local agency restrictions.

- b. **Highway System Definitions.** For highway advertising control, there are two sets of highway system definitions, one at the federal level and one at the state level. The definitions below are those used by WSDOT and incorporate state RCWs and WACs. Use these in applying highway advertising control regulations.

Interstate System, as defined by [WAC 468-66-010\(12\)](#) refers to “any state highway that is or becomes part of the national system of interstate and defense highways as described.” These highways are specially noted in the *Design Manual* M 22-01, Division 3, Figures 325-2a and 325-2b (listing of National Highway System routes). Highway advertising control regulations apply to all Interstate routes.

Primary System, as defined by [RCW 47.42.020\(6\)](#) and [WAC 468-66-010\(19\)](#), refers to the Federal Aid Primary (FAP) federal highway classification. It includes state highways noted as “Primary” in the June 1, 1991 *Intermodal Surface Transportation Efficiency Act* and any highway not on that system but included on the National Highway System. Congress extended highway advertising control to the primary system in 1965. Prior to 1965, the federal highway advertising control regulations applied only to Interstate routes. Washington State began regulating signs on Primary highways in 1971 following passage of the revised *Highway Advertising Control Act*, aka, *Scenic Vistas Act*; [RCW 47.42](#).

National Highway System (NHS), as referenced in [WAC 468-66-010\(19\)](#), refers to the route system created by the 1991 *Intermodal Surface Transportation Efficiency Act* (ISTEA) and the 1995 *National Highway System Designation Act*. ISTEA extended highway advertising control to all the routes on the National Highway System. The NHS includes Interstate routes and non-Interstate routes. Non-Interstate NHS routes include most of the Federal Aid Primary system together with other routes added by Congress. A list of NHS routes is shown in the *Design Manual*, Division 3, Figure 325-2.

Nuance. While the National Highway System includes the Interstate system, there are unique and specific highway advertising control rules for the Interstate System in federal and state law. Since there are more specific rules for the Interstate system, for the purpose of highway advertising control, the Interstate system is not considered to be part of the National Highway System or the Primary System.

The **Scenic System** is defined as those selected state highways designated by [RCW 47.39.020](#) and [RCW 47.42.140](#). For the purpose of highway advertising control, [RCW 47.42.020\(7\)](#) and [WAC 468-66-010\(21\)](#) further define the scenic system as:

- Any state highway within any public park, federal forest area, public beach, public recreation area, or national monument.
- Any national scenic byway or state highway or portion thereof, designated by the legislature as part of the Scenic System, that lies outside the corporate limits of any city or town.

[RCW 47.42.020\(7\)](#) and [WAC 468-66-010\(21\)](#) also exclude certain state highway segments from the Scenic System:

- Highway sections specifically excluded by [RCW 47.42.025](#).
- On any highway designated by the legislature as Scenic, those portions within the corporate limits of any city or town.
- Any highway designated by the legislature as Scenic that is outside the corporate limits of any city or town, and in areas zoned by the governing county for predominantly commercial and industrial uses and having development visible to the highway, as determined by the department.

The complete list of designated Scenic highways is in [RCW 47.39.020](#). (The [RCW 47.42.140](#) listing of Scenic highways has not been updated to reflect more recent additions to the system.)

[WAC 468-66-010\(28\)](#) defines “visible development” as an area within a space of 500 feet along a highway, determined by the department to have development, both in type and location, that would create an unzoned commercial or industrial area prescribed by [RCW 47.42.020\(9\)](#). Development is deemed non-visible if visually obstructed by vegetation or other natural features on state highway right of way.

- c. **Application of Regulations.** [WAC 468-66-010\(19\)](#) states that “primary system” also refers to “...any highway which is not on such (primary) system but which is on the national highway system.” Because the WAC incorporates non-Interstate NHS routes into the definition of “primary system” for the purpose of highway advertising control, non-Interstate NHS routes are regulated as primary highways.

The NHS system did not automatically include all FAP routes; there are former FAP route segments that are not part of the NHS system. When reviewing a non-Interstate highway segment that is excluded from the Scenic System consider the following:

- If the segment is part of the NHS system, it is regulated.
- If the segment was part of the FAP system as of 6/1/1991, but not included in the NHS System, it is regulated.
- If the segment is not part of NHS system, or, was not part of the FAP system as of 6/1/1991, it is not regulated.

Type 4 and Type 5 signs are prohibited within view of Scenic System highways ([RCW 47.42.040](#)). There are two exemptions to this blanket prohibition provided in [RCW 47.42.020\(7\)](#):

- Type 4 or Type 5 signs may be allowed along Scenic System highways where the route is within the boundaries of an incorporated area.
- Type 4 or Type 5 signs may be allowed along Scenic System highways where the route passes through an area zoned for commercial or industrial use, and where there is “Visible Development” as defined in [WAC 468-66-010\(28\)](#). Both the commercial zoning and the commercial activities must be present to establish the exemption.

d. **Sign “Visibility” and Signs on Unregulated Roadways.**

[RCW 47.42.065](#) and [WAC 468-66-010\(27\)](#) define sign visibility. In addition to the WAC definition, note that marginally visible signs located along unregulated highways intersecting with Interstate or other regulated state highways shall be considered “not visible” if they meet at least three of the criteria following:

- The sign faces are not substantially larger or at a substantially higher elevation above the ground line than other signs along the same unregulated intersecting roadway.
- The angles of sign faces are oriented toward unregulated intersecting roadways rather than Interstate or other regulated state highways.
- The length of time that the informative contents of signs can be viewed is substantially greater for travelers on unregulated intersecting roadways than for travelers on Interstate or other regulated state highways.
- The signs are visible to a motorist traveling at the posted speed limit on an Interstate or other regulated state highway, for a period of time that is less than what is required to read the entire sign message.
- The signs are only incidentally visible from Interstate or other regulated state highways.
- The signs advertise activities accessible from unregulated intersecting roadways along which the signs are located.

The Visibility Checklist for Signs on Unregulated Roadways ([Appendix 8-2](#)) is helpful when determining whether a sign on an unregulated roadway must be regulated under the *Act*.

2. **General Provisions.** [WAC 468-66-030](#) describes general sign features and characteristics that are regulated on more than one classification of highway advertising sign. Refer to Section 3 of this chapter (Classification of Signs and Specific Provisions) for features and characteristics regulated on only one classification of highway advertising sign.
 - a. **Moving Parts.** Signs visible from the main-traveled way of the Interstate, NHS non-Interstate, and the Scenic System that move or have any animated or moving parts are prohibited. Revolving signs giving public service information, as defined in [WAC 468-66-010\(20\)](#), tri-vision signs operating in compliance with [WAC 468-66-030\(2\)](#), and Type 3 signs visible from primary highways within city limits or commercial or industrial areas are exempt from this regulation.
 - b. **Sign Lighting.** No signs are permitted which:
 - Contain, include, or are illuminated by any flashing, intermittent, or moving lights. Signs providing public service information, as defined in [WAC 468-66-010\(20\)](#), electronic signs operating in compliance with [WAC 468-66-050\(3\)\(g\)](#), and Type 3 on-premise signs along a primary system highway within city limits or commercial or industrial areas are exempt from this regulation.
 - Have lights that change intensity or color, lasers, strobe lights, or other lights having stroboscopic effect.
 - Use any lighting in any way, unless the lights are shielded to prevent beams or rays of light from being directed at any portion of the traveled way of the highway, or are of such low intensity or brilliance as not to cause glare or impair the vision of the driver of any motor vehicle, or otherwise interfere with any driver's operation of a motor vehicle.
 - c. **Local Agency Regulations.** In addition to meeting state laws and regulations, highway advertising signs must comply with all applicable county, city, or town ordinances and resolutions

The Traffic Control Devices statute ([RCW 47.36.180](#), Forbidden Devices - Penalty) describes additional illegal lighting of signs and other devices and is another resource to assist with highway advertising sign control.

before they may be installed ([RCW 47.42.048](#)). Section 8.2.(5)(b) Permit Processing Procedures, discusses the relationship between the department's highway advertising sign permits and local agency regulations.

3. **Classification of Signs and Specific Provisions.** [WAC 468-66-050](#) describes the eight advertising sign classifications authorized by the *Highway Advertising Control Act*, and places specific restrictions on each sign type. The information in this section helps traffic operations staffs address matters pertaining to these eight sign types.

a. **Type 1** – Directional or other official signs or notices divided into three categories:

- (1) **Type 1a – Directional Signs.** Publicly or privately owned places may contain directional information about publicly or privately owned places that feature:
- natural phenomena
 - historical, cultural, scientific, educational, or religious sites
 - areas of scenic beauty
 - outdoor recreation areas

Publicly owned places may contain directional information about public places owned or operated by federal, state, or local government, or their agencies.

Privately owned places may contain directional information about non-profit privately owned places that feature scenic attractions that are nationally or regionally known or of outstanding interest to travelers.

See [WAC 468-66-050\(1\)](#) for other regulations about sign size, location, and message content limits.

- (2) **Type 1b – Official Signs.** Official signs shall be erected and maintained by public officers or public agencies, such as a county, city, or county commissioners, for the purpose of carrying out an official duty or responsibility.

Official signs shall be located within the governing jurisdiction of the public officer or public agency.

Official signs shall be pursuant to and in accordance with direction or authorization contained in federal, state, or local law.

Authority to Install Official Signs:

- The officer or agency authorizing the sign installation must exercise some form of governmental authority over the area upon which the sign is located – governmental authority means the authority to enact or administer the law.
- The officer or agency authorizing the sign installation must be directed by statute or local law and/or must have the specific authority by statute or local law to erect and maintain signs.

See [WAC 468-66-050\(1\)](#) for other regulations about sign size, location, and message content limits.

Crime Stopper signs are considered Type 1 signs under [RCW 47.42.040\(1\)](#). Crime Stopper signs are most similar to Type 1b signs, although Crime Stoppers International is a partnership between the community, the media, and law enforcement, rather than a public agency. The act limits the Crime Stopper sign message to the Crime Stopper name, logo, and local program phone number. While the signs are not regulated for visibility to highways, zoning requirements, number of signs, or spacing, they are limited to a maximum size of 20 feet in length, width, or height, or a total of 150 square feet in area.

(3) **Type 1c – Service Activity Signs.** These signs contain only a group name, and the location and meeting schedule. These organizations must be nonprofit, such as service clubs or religious organizations. The WAC duplicates a federal regulation that limits the maximum size of Type 1c signs to eight square feet.

b. **Type 2 – For Sale or For Lease Signs.** “FOR SALE” or “FOR LEASE” signs shall only advertise the sale or lease of the parcel or real property upon which the sign is located. The property owner or owner’s agent name and phone number shall not be displayed more conspicuously than the message “FOR SALE” or “FOR LEASE.” [WAC 468-66-050\(2\)](#) allows only the name of the property owner or owner’s agent, and their respective phone number as well as the for sale or lease message. No other message is allowed on the sign. Displaying an off-premise business name or other off-premise activity, in lieu of the name of the owner or his agent is not allowed.

Some current real estate signs may not include the words “FOR SALE” or “FOR LEASE,” especially on signs provided to agencies and agents by national conglomerates. Accordingly, real estate signs may require case-by-case evaluation to determine if they are located on property for sale or lease.

- c. **Type 3 – On-Premise Signs.** These signs are divided into four categories:
- (1) **Type 3a.** This on-premise sign advertises the activity conducted, or products available, on the property where the sign is located.
 - (2) **Type 3b.** This is a business complex on-premise sign that displays the name of a shopping center, mall, or business combination.
 - (3) **Type 3c.** This future site on-premise sign is allowed on properties where a planned business will be operating within a year. Signs will typically display the message “future site of” or similar wording.
 - (4) **Type 3d.** This temporary political campaign sign expresses a property owner’s endorsement of a political candidate or ballot issue.

Each year in April, the Headquarters Traffic Office distributes a campaign sign information packet to all the county auditors. The packet contains copies of the regulations political candidates must follow to assure lawful campaign sign placement. When candidates file for candidacy with the county auditor they receive a copy of the regulations, which are:

- Temporary political campaign signs are limited to a maximum size of 32 square feet.
 - Temporary political campaign signs must be removed within ten days after the election, except that successful candidates during a primary election may leave signs up until 10 days after the following general election.
 - Temporary political campaign signs may not be located on state highway right of ways.
- (5) **Location of On-Premise Signs.** Along the Interstate system, Type 3a signs that exceed 20 feet in length, width, or height, or 150 square feet in area, may not be located more than 50 feet from the advertised activity.

The 50-foot distance is measured from the building, storage area, or other structure or processing area, which is most regularly used and essential to the conduct of the activity.

A Type 3(b) business complex on-premise sign advertising a shopping center, mall, or other combined business activity, may be located within 50 feet of the nearest portion of any

parking area that serves the business combination. The business complex sign does not have a size limitation; however, individual on-premise signs advertising specific businesses within the complex, which are displayed in array with the single on-premise sign, are limited to a maximum size of 150 square feet ([Appendix 8.3](#)).

- (6) **Location of On-Premise Signs Within Incorporated Areas and Commercial/ Industrial Areas Along the NHS Non-Interstate System.** Type 3(a) and Type 3(b) on-premise signs located within incorporated cities and towns and commercial and industrial areas, and visible to NHS non-Interstate highways, are not regulated by the Act. However, on-premise signs located in these areas are subject to city or county ordinance or resolution.
- (7) **Crop Identification Signs.** Crop identification signs are considered on-premise signs, and identify specific agricultural crops grown on property adjacent to state highway right of way. Normally, an agriculture-oriented supporting group will present a region with a proposed crop identification sign project.

The regional HAC representative reviews the proposed sign project for compliance with the Act. The sign message is limited to the name of the crop, and the name of the sign sponsor. The crop message letter size should be two or three times larger than the sponsor message, to facilitate crop identification.

- (8) **Electronic Signs.** Electronic signs may be used only to advertise activities conducted, or goods and services available, on the property on which the signs are located (Type 3 signs); or, to present public service information as defined in [WAC 468-66-010\(20\)](#).

[WAC 468-66-030\(1\)\(g\)](#) in part prohibits signs that contain, include, or are illuminated by any flashing, intermittent, or moving light or lights. This provision does not apply to electronic on-premise signs along Interstate highways and NHS non-Interstate highways, outside the corporate limits of cities and towns or outside commercial and industrial areas, displaying messages in compliance with [WAC 468-66-050\(3\)\(g\)](#).

- d. **Type 4 and Type 5 Signs.** Off premise advertising signs, differentiated by the location of the advertised activity:

- (1) **Type 4.** The business or activity advertised on a Type 4 sign shall be within 12 air miles of the sign.
- (2) **Type 5.** The off-premise advertising message displayed on the sign must be of specific interest to the traveling public, as described in [WAC 468-66-050\(5\)\(b\)](#). There is no geographic proximity limitation, such as the 12 air mile limit imposed on Type 4 signs.

The regulations for Type 4 and Type 5 off-premise advertising signs visible to Interstate and non-Interstate NHS highways are provided in [WAC 468-66-050\(5\)](#). Size limits are based on roadway type and detailed in [WAC 468-66-050\(5\)\(c\)](#).

Type 4 and Type 5 sign locations are limited to commercial and industrial areas, and must meet the WAC prescribed spacing requirements shown in [Appendices 8.4, 8.5a, and 8.5b](#).

[WAC 468-66-050\(5\)\(d\)\(i & v\)](#) specify that Type 4 and Type 5 signs visible to Interstate traffic are not permitted within 1,000 feet beyond the furthest point of the intersection of the mainline and the on-ramp. The 1,000-foot measurement begins at the intersection of the right fog line on the on-ramp taper and the right fog line of the mainline.

Additionally, Type 4 and Type 5 signs visible to Interstate traffic are not permitted within 2 miles preceding an interchange exit ramp. The measurement begins two miles before the intersection of the right fog line of the exit roadway and the right fog line of the main traveled way of the Interstate highway.

[WAC 468-66-050\(5\)\(g\)](#) provides measurement applications for sign spacing along horizontal curves where signs are located on opposite sides of the highway.

- e. **Type 6 – “Landmark” Signs.** These are advertising signs of historic or artistic significance that were lawfully in place prior to October 22, 1965. Currently, there are no permitted Type 6 signs visible to state highways.
- f. **Type 7 – Public Service Signs Located On School Bus Shelters.** Currently, there are no permitted Type 7 signs visible to state highways.
- g. **Type 8 – Temporary, Seasonal Agricultural Signs.** These signs give directional information to specific agricultural activities, and are regulated through a permit process administered by the region. Specific requirements are found in [WAC 468-66-050\(8\)](#).

4. **Non-conforming Signs.** [WAC 468-66-200](#) discusses signs that were lawfully erected and maintained, but later become illegal. These are called non-conforming signs, and are allowed to remain and be maintained (allowed to exist) as prescribed in the WAC. Based on definitions in law, any of the eight sign types could be or could become nonconforming signs. Currently, only Type 4 or Type 5 nonconforming signs are accounted for because of permitting requirements.

A major focus of the 1965 federal HBA was to buy out non-conforming signs. The Act created a June 1, 1971 date for removing existing signs that did not comply with the new laws (non-conforming signs). A three-year extension was later established, creating a May 10, 1974 deadline.

To remove these signs, the law also required that just compensation be paid to the sign owner, with federal funds contributing 75 percent of the compensation. Federal funding was not adequate to buy out all non-conforming signs on the state's highway systems by May 10, 1974. Under [RCW 47.42.105](#), no sign can be required to be removed if the federal share of just compensation to be paid upon removal of the sign is not available. Due to the lack of federal funds, existing nonconforming signs that had not been compensated and removed by May 10, 1974, were allowed to remain and be maintained. These signs created the framework for today's non-conforming sign inventory.

Today, additional non-conforming signs are allowed to exist, as follows:

- Signs lawfully installed after June 1, 1971, and that later became illegal because of changes in state law, state regulation, city or county ordinances or resolutions, state route revisions, or cessation of unzoned commercial or industrial areas, are allowed to remain and be maintained as non-conforming signs. The signs may also be removed through compensation.
- Non-conforming off-premise advertising signs are issued permits as Type 4 or 5 signs, as applicable. Non-conforming signs are included in the highway advertising sign inventory, and counted when evaluating available space for additional sign structures.
- Non-conforming signs that are damaged by weather related incidents, or other acts of nature, may be re-erected, provided that the sign remains at least 50 percent intact. Signs more than 50 percent damaged to the extent that the sign face has fallen to the ground, as determined by the department, may not be re-erected and are subject to permit revocation under [WAC 468-66-220](#).

See Section (5)(h) that follows for discussion about the non-conforming sign inventory.

5. **Highway Advertising Control Permit Procedures.** Advertising sign permit issuance, maintenance, and renewal procedures are described in [WAC 468-66-210](#).

- a. **Signs Subject to Authorizing Permits.** State law and the WAC exempt Type 1, 2, and 3 signs from the permit requirements; therefore, permits are required for sign Types 4 through 8. The vast majority of permits issued are for Type 4 and Type 5 signs. Only a small number of Type 8 sign permits have been issued throughout the state. To date the department has not issued any permits for Type 6 and Type 7 signs; however, the WAC includes these as signs that must be placed under permit.

A department issued permit does not preempt the permit holder's responsibility to comply with local agency rules, regulations, and ordinances pertaining to signs and sign structures ([RCW 47.42.048](#)). Accordingly, a department issued permit only grants a permit holder the right to erect a sign if it's also authorized under local law.

b. **Permit Processing Procedures – Type 4 and Type 5 Signs**

- The application ([Appendix 8-6](#)) and the non-refundable \$300 permit fee for each Type 4 and Type 5 sign structure are received at the Headquarters Traffic Office, or the region. Applications received at the region are forwarded to the Headquarters Traffic Office. The effective date is the date it is received in Headquarters.
- The Headquarters Traffic Office assigns the application a Log number, and deposits the permit fees into the Motor Vehicle Fund through the department's Accounting Office.
- The Headquarters Traffic Office forwards the application with a permit application transmittal ([Appendix 8-7](#)) to the appropriate region and requests a site investigation. A checklist ([Appendices 8.8a](#) and [8.8b](#)) is used to assist with investigating proposed sign sites. The region is requested to investigate the proposed sign site within 30 days to determine compliance with the zoning, size and spacing requirements of [WAC 468-66-050](#).

Consider the following when reviewing the proposed sign installation location:

- Along NHS non-Interstate highways, focus special attention on whether the department has purchased full, partial, or modified access rights, through the procedures required by [RCW 47.52](#). Limited access and non-limited access highway segments have specific sign spacing requirements prescribed in [RCW 47.42.062\(3\)](#) and [WAC 468-66-050\(4\)](#) and (5)(e).

Any highway section without purchased access rights is considered non-limited access for the purpose of sign spacing calculations. Limited access information can be obtained from the regional Real Estate Services work group that conducts limited access purchases and documentation, the Master Plan Limited Access Control Database, or the Headquarters Design Access Office.

- There are locations where permits have been issued, but signs have not been erected. Locations having these “permitted but unbuilt” signs are included in the count when determining available sign space. Consult the current permit inventory (rather than merely counting the existing permitted signs) to assure the department does not issue a permit in error.
- Consider the sign owner’s access to the sign for maintenance or copy change. Various RCW chapters prohibit or limit access to private property from highway right of way. There may be highway segments where it would be extremely difficult, if not impossible, to access a sign from properties other than state highway right of way. For proposed locations appearing to meet the requirements of law, but where access from private property appears to be a challenge, it’s reasonable to require the applicant to supply documentation that describes how the sign will be accessed (for example, the name of a private property owner for limited access highways or a WSDOT permit for managed access highways). Include this documentation in the package returned to Headquarters.
- Contact the local agency having land-use jurisdiction over the proposed sign site to determine if state law or local regulation is more restrictive. If the local regulation is more restrictive, and the location meets state law, encourage the applicant to obtain the local permit before approving the state application. (Also encourage the local agency to approve or deny sign permits based on their own regulation, regardless of status under state law). If a local agency denies the applicant a sign/building permit, the department can deny the state permit application citing [RCW 47.42.048](#).

An applicant may refuse to obtain the local agency permit first. If so, the law does not give the department authority to withhold a permit for a location that meets the state requirements. Thus, the region may approve a permit application knowing that the local agency permit will be denied.

- If the location meets the permit requirements, assign an inventory number to each sign face indicated on the application. Inventory numbers are selected sequentially from a block provided by the Headquarters Traffic Office for a particular highway or highway section. For locations not meeting the permit requirements, the region notes on the checklist that it must be denied, and cites the RCW or WAC provisions not met.
 - Return the application package to the Headquarters Traffic Office. Headquarters will notify the applicant about the permit's approval or denial and send a copy to the appropriate local agency. Headquarters' approval and denial notification letters include supporting discussion about local agency regulation compliance, sign access, and other pertinent matters.
- c. **Procedure for Reviewing Sign Permit Applications near Highway/Railroad At-Grade Intersections.** Many railroads market their right of way to billboard companies for the purpose of erecting signs that are visible to nearby highways. Occasionally, the department receives HAC applications for signs on railroad properties adjacent to state highway/railroad at-grade intersections. In unincorporated areas, billboards are prohibited within 100 feet of a state highway/ railroad at-grade intersection, and also at locations that could obstruct sight distance to an on-coming train. A billboard installation adjacent to a state highway/railroad grade intersection may obstruct the motorist's sight distance, interfere with the train engineer's sight distance, or otherwise compromise safe and efficient traffic operations. Thus, special emphasis is given to a site-specific safety review, in addition to the standard review to determine compliance with [RCW 47.42](#), [RCW 47.32.140](#), and [WAC 468-66](#).

The following definitions and review procedures provide information and guidance to department personnel who review Highway Advertising Control permit applications.

- (1) **Traffic Control System.** The traffic control system is a combination of devices installed at a specific highway/rail grade intersection. Three types of traffic control systems are discussed here:
- Passive systems consist of warning signs, including the crossbuck, and pavement markings. There are no lighted signals associated with the passive system.

- Active systems consist of warning signs, including the crossbuck, pavement markings, and post-mounted or cantilevered flashing lights. Train sensors installed upstream and downstream near the railroad tracks activate and deactivate these signals.
 - Active-gated systems consist of warning signs, including the crossbuck, pavement markings, post-mounted or cantilevered flashing lights, and automatic gates that prohibit crossing the intersection. Train sensors installed upstream and downstream near the railroad tracks activate and deactivate the gates and signals.
- (2) **Clearing Sight Distance.** At all ungated crossings, a driver stopped 15 feet before the nearest rail must be able to see far enough down the track in both directions to determine if sufficient time exists to move their vehicle safely across the tracks to a point 15 feet past the far rail prior to the arrival of a train. Required clearing sight distance along both directions of the track, from the stopped position of the vehicle, is dependent upon the maximum train speed and the acceleration characteristics of the “design” vehicle.
- (3) **Stopping Sight Distance.** Stopping sight distance is the sum of two distances: the distance traversed by the vehicle from the instant the driver sights an object necessitating a stop to the instant the brakes are applied, plus the distance required to stop the vehicle from the instant the brake application begins. This distance varies with vehicle speed.
- (4) **Desired Vehicle Stopping Point.** The point on the highway where a vehicle stops without encroaching into the intersection. This point should be located 15 feet before the nearest rail and is marked by a stop bar in accordance with MUTCD standards. At the stopping point, the driver’s eye location is considered to be an additional 10 feet from the nearest rail.
- (5) **Statutes and Rules.** The following statutes and rules apply to billboards at highway/railroad at-grade intersections:
- [RCW 47.32.140](#) prohibits billboard erection or maintenance within a distance of 100 feet from the point of intersection of a highway and railroad grade crossing. This applies only in unincorporated areas, and allows 30 days for a joint review by the department, the Washington Utilities and Transportation Commission (WUTC), and the railroad to determine if a billboard installation could potentially obscure sight distance of a motorist, or train engineer approaching an intersection.

- [WAC 468-66-030\(1\)\(f\)](#) and CFR Title 23, Chapter 1, part 750.154(2) prohibit signs that prevent the driver of a vehicle from having a clear and unobstructed view of approaching or merging traffic.

(6) **Review Process.** If a proposed sign location at or near a state highway/railroad grade intersection meets zoning, spacing, and size requirements, and would otherwise qualify for an HAC permit, conduct an engineering study to determine the effect the sign may have on sight distance and safety at the intersection.

The engineering study should focus on vehicle and train speeds, stopping sight distance, clearing sight distance, highway and railroad geometry, and existing traffic control devices including pavement markings. Give special consideration to the traffic control system installed at the intersection, and whether the traffic control devices meet existing standards. Determine traffic volumes (and vehicle classification, if possible), for the state highway.

The WUTC has information about railroad operations including train speeds used in the tables below, railroad alignment (curves approaching the intersection), and number of crossings per day. Headquarters can provide WUTC contact information.

For unincorporated areas, determine whether the proposed sign is located within the 100 foot restricted zone ([RCW 47.32.140](#)). If it is, work with the WUTC and railroad to determine if the proposed sign may compromise safety at the intersection. There may be statutes, WAC rules, or policies that are specific to the WUTC or the railroad that will influence their decisions or recommendations. Document these partnership efforts and include all pertinent information in the engineering study records.

For incorporated areas, contact the city or town and work with them to review proposed billboard locations. In addition, ask the WUTC to perform a review of the location and consider their recommendations. There may be local agency rules or ordinances that influence a city's decisions or recommendations. Document these partnership efforts and include all pertinent information in the engineering study records.

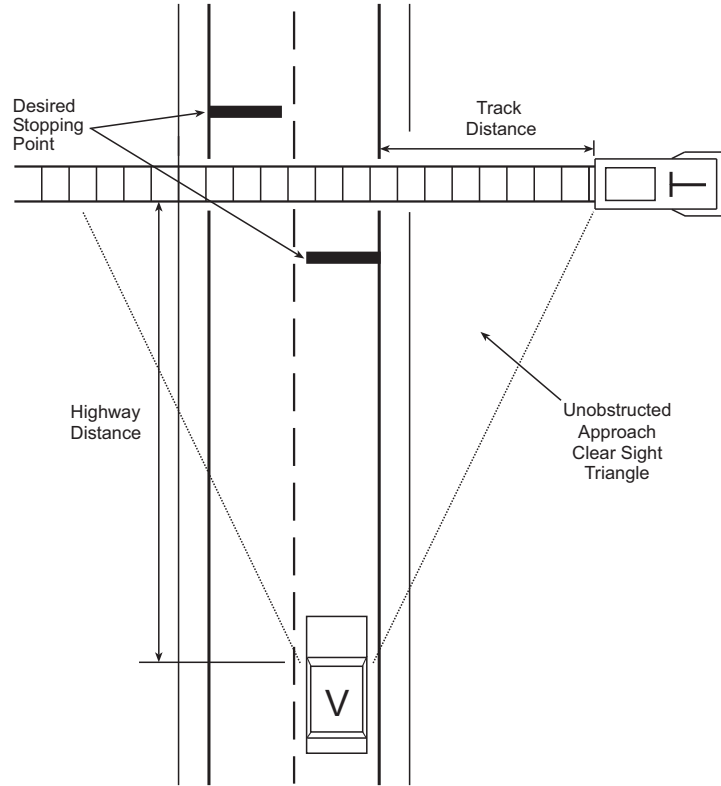
Consider the traffic control system at the intersection. Based on the type of system, use the following tables to determine if a proposed sign location creates an obstruction in the clear sight triangle, or the clearing sight triangle.

Review the proposed sign location under typical traffic operating conditions at the intersection. Place a stake or other object at the proposed sign location to assist with visualizing the potential sight distance obstruction. Drive through the intersection assuming the motorist's perspective from a vehicle approaching the intersection and from one located at the stopping point. Consider the motorist's perspective for driver eye-heights ranging from 3½ feet for a small car to 7 or 8 feet for a cab-over tractor. School buses are required to stop even if signals are not activated,

Passive Traffic Control System. A motorist approaching an intersection with passive control must have adequate sight distance to make decisions when a train is observed in the distance (Figure 8-1). If the proposed sign location lies within the approach clear sight triangle, it will obstruct the motorist's view and compromise clear visibility at the intersection.

Use Table 8-1 to determine the track and highway distances:

- **Track Distance.** The top distance, (shown in normal type) represents the distance upstream or downstream along the railroad tracks that is required for a driver to determine if they can safely cross the tracks or must stop. This distance is measured from the edge of the traveled lane at the crossing.
- **Highway Distance.** The bottom distance (shown in **bold**) represents the clear visibility distance along the highway that is required for a driver to determine if they can safely cross the tracks or must stop. This distance will allow a motorist approaching the intersection at the given speed to safely cross the intersection or to stop the vehicle without encroaching past the stopping point. This distance is measured from the nearest rail.
- When plotted on a plan, or laid out in the field, these two distances create two line segments, each beginning at the intersection. Connect the far ends of the segments to create the clear sight triangle.



Passive Traffic Control System
Figure 8-1

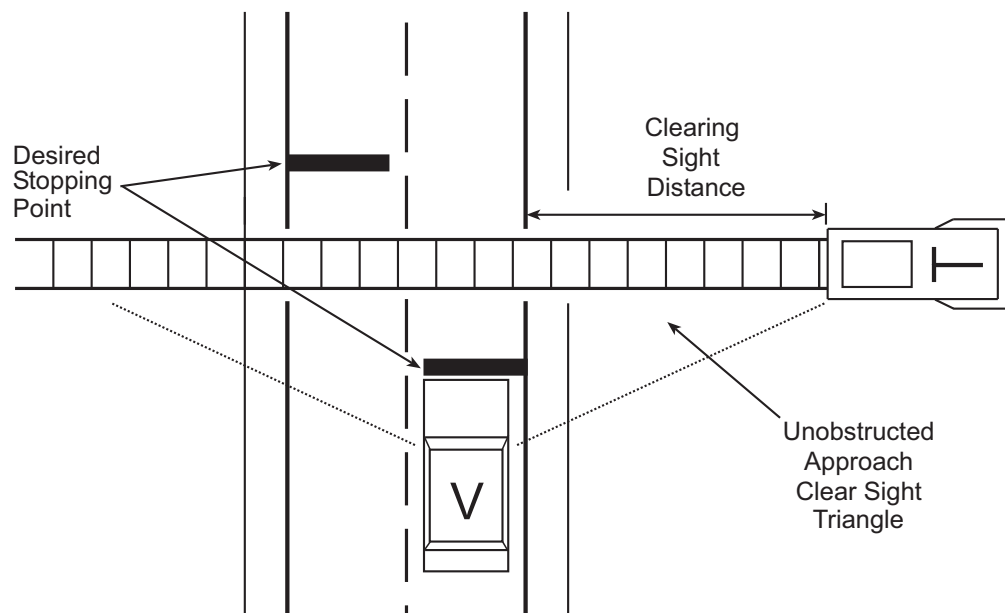
Train Speed	Posted or 85th Percentile Speed					
	10	20	30	40	50	60
10	146 69	106 135	99 220	100 324	105 447	111 589
20	293 69	212 135	198 220	200 324	209 447	222 589
30	439 69	318 135	297 220	300 324	314 447	333 589
40	585 69	424 135	396 220	401 324	419 447	444 589
50	732 69	530 135	494 220	501 324	524 447	555 589
60	878 69	636 135	593 220	601 324	628 447	666 589
70	1024 69	742 135	692 220	701 324	733 447	777 589

Moving Vehicle – Passive Traffic Control System
Table 8-1

Active Traffic Control System. At an un-gated active controlled intersection, the motorist must determine whether a train is approaching the crossing, then further determine if and when it is safe to cross and clear the tracks (Figure 8-2).

Table 8-2 provides clearing sight distances, based on train speed and vehicle type. The clearing sight distance is measured from the intersection along the tracks. Distances given in columns two through seven represent the clearing sight distance measured from the edge of traveled lane upstream or downstream along the tracks. Having clear visibility for this distance will allow a motorist to decide whether it is safe to enter the intersection, and clear the intersection to a point 15 feet beyond the far rail.

A car (column two) is typically used as the vehicle type. However, if available vehicle classification data demonstrates a high percentage of vehicle types, or if school busses or transit use this crossing, consider using that vehicle type to test visibility at the intersection.



Un-gated Active Traffic Control System
Figure 8-2

Train Speed	Car	Single Unit-Truck	Bus	WB-50 Semi-Truck	65-foot Double Truck	Pedestrian **
10	105	185	200	225	240	180
20	205	365	400	450	485	355
25	255	455	500	560	605	440
30	310	550	600	675	725	530
40	410	730	795	895	965	705
50	515	910	995	1,120	1,205	880
60	615	1,095	1,195	1,345	1,445	1,060
70	715	1,275	1,395	1,570	1,680	1,235
80	820	1,460	1,590	1,790	1,925	1,410
90	920	1,640	1,790	2,015	2,165	1,585

Stopped Vehicle – Un-gated-Active System

Table 8-2

Active-gated Traffic Control System. At gated crossings, traffic control devices give clear direction on when to cross the intersection. In unincorporated areas, the 100 foot restricted zone must be maintained ([RCW 47.32.140](#)).

- (7) **Summary.** The department does not allow a billboard or other signs within the clear sight triangle for passive traffic control systems, or within the clearing sight triangle for un-gated active traffic control systems. Allowing placement of a billboard or sign within these areas may obstruct the driver's view of approaching trains, compromising crossing safety.

In the event that the WUTC or a railroad company recommends that a sign not be allowed at the proposed location based on statute, law, or policy, the HAC permit application may be denied. If the recommendation to deny is based on the physical location of the proposed sign, e.g., it is located within the clearing sight triangle, or approach clear sight triangle, the department may consider alternate locations on the same parcel that are outside the triangles, under the same permit application. In such cases, a HAC permit may be issued if the WUTC concurs with approval of such alternate location.

[Table 8-1](#) is based on the *2001 AASHTO Policy on Geometric Design of Highways and Streets*, Exhibit 9-104.

[Table 8-2](#) is based on the USDOT publication, *Guidance on Traffic Control Devices at Highway-Rail Grade Crossing*, Table 2.

- d. **Permit Procedures – Type 8 Signs.** Type 8 sign permit applications, along with the \$50 permit fee per sign face, are submitted to the appropriate regional traffic office. Type 8 sign permits are valid for 5 years, and are renewable upon expiration ([Appendix 8-9](#)). Headquarters supplies the metal Type 8 permit tags to the regions.
- e. **Annual Permit Renewal Certification.** Prior to December 1 of each year, the Headquarters Traffic Office will mail a permit renewal notice to each sign permit holder. If the permit holder intends to retain the permit in good standing for the upcoming calendar year, they certify that intent by signing the notice and returning it to the Headquarters Traffic Office by December 31 of that same year.

When a renewal notice is not returned to the Headquarters Traffic Office by December 31, the permit expires. The Headquarters Traffic Office may initiate legal proceedings to cause the removal of any sign constructed under the permit, as an illegal unpermitted sign.

- f. **Change of Sign Ownership, Transfer of Sign Permit.** [WAC 468-66-210\(7\)](#) requires a permit holder to notify the department when permits in good standing are assigned to another sign owner. When the regions receive notification of a change in permit ownership, forward that information to the Headquarters Traffic Office for written permit reassignment and to facilitate inventory updating. There is no fee to the permit owner(s) for permit transfer.
- g. **Sign Relocations.** When an existing permitted sign is intended for relocation, the sign owner must submit a new permit application and permit fee and the region will review the new location for approval ([WAC 468-66-210\(8\)](#)). The department will rescind the permit for the existing sign intended for relocation upon approval of the new permit, or upon the effective date of the existing lease termination, whichever occurs first.
- h. **Inventories.** The Headquarters Traffic Office maintains an inventory of all Type 4, 5, and 8 sign permits. It is available to the regions in electronic format. The inventory is revised when the Headquarters Traffic Office receives notification from a permit holder, or when a region discovers changes during field review. The inventory must be updated when:
- New permits are issued.
 - Existing permits are rescinded or revoked.

- Revisions are made to existing permitted signs, including changes in sign size, milepost location, sign owner/permit holder, compass direction of read, or sign removal.
- A region notifies HQ of a newly created non-conforming sign.

Non-conforming permitted Type 4 and Type 5 signs (Section 4) are included in the inventory, and noted in a searchable data field.

- Inventory of Signs on Local Jurisdiction NHS Roadways.** The *National Highway System Act* of 1995 (NHS) extended highway advertising control to all NHS routes. This means that signs on private property and visible to NHS routes, including NHS routes under local agency jurisdiction, are regulated under the *Highway Advertising Control Act*.

The Headquarters Traffic Office maintains an inventory of off-premise highway advertising signs (Types 4 and 5) visible to local NHS roadways. Although the control of such signs is the responsibility of the local jurisdiction or agency, the department is committed to providing technical assistance to a local agency when requested. Periodically the region HAC personnel conduct a review of local NHS routes to assure that the department's inventory is up to date.

- Integrating Sign Information after Changes to the Scenic Highway System.** The Legislature occasionally **adds** state highways or highway segments to the Scenic System as defined in [RCW 47.42.020](#) and [WAC 468-66-010](#). Headquarters will request the regions to conduct a field review of any newly designated route(s) to provide a record of the advertising signs that existed at the time of enactment. The region compiles photos, location information (milepost, side of the roadway, direction of read, sign spacing), sign size, zoning designation, and other pertinent information and sends it to Headquarters.

Headquarters will integrate the data into the HAC files, place the signs under permit if the route was not regulated prior to the Scenic designation, and update the permit database. Headquarters correspondence with the sign and property owners will discuss information pertinent to the individual sign including:

- *Highway Advertising Control Act* requirements concerning permits.
- Permit renewals.
- Legal sign status (located in an area exempt from Scenic classification).

- Non-conforming sign status.
- Other information pertinent to the individual sign
- Possible sign removal if appropriate

The Legislature may also **delete** highways or highway segments from the Scenic System. However, the route is still regulated as a scenic route if federal “Scenic” funds paid for any improvements on the route. Headquarters can help determine if “Scenic” federal funds paid for improvements to former Scenic highway segments that may otherwise appear eligible for signs. Such expenditures would prohibit the department from issuing new permits for those areas.

- k. **Integrating Sign Information after Changes to the National Highway System.** Changes are sometimes made to the National Highway System, and are generally initiated by the department, the military, or through Congressional action. See the primary system definition in [WAC 468-66-010](#).

When NHS system additions are made, Headquarters will request that the regions conduct a field review of any newly designated route or segment(s) to provide a record of the advertising signs that existed at the time of enactment. The region compiles photos, location information (milepost, side of the roadway, direction of read, sign spacing), sign size, zoning designation, and other pertinent information and sends it to Headquarters. Headquarters will integrate the data into the highway advertising control files, place the signs under permit, and update the permit database. Headquarters correspondence with the sign and property owners will discuss information pertinent to the individual sign including:

- *Highway Advertising Control Act* requirements concerning permits.
- Permit renewals.
- Legal sign status.
- Non-conforming sign status.
- Other information pertinent to the individual sign.
- Possible sign removal if appropriate.

Highways deleted from the National Highway System are still regulated as NHS routes if federal funds paid for any improvements on the route. Headquarters can help determine if “NHS” federal funds paid for any part of the improvements to former NHS highway segments that may otherwise appear eligible

for signs. Such expenditures would require continued adherence with the highway advertising sign requirements applicable to NHS routes.

6. **Permit Revocation, Remaining Signs Illegal.** [WAC 468-66-220](#) discusses sanctions and penalties that may be applied against permit holders who maintain signs that do not comply with the provisions of the Act or the WAC. After a hearing conducted under the *Administrative Procedures Act* ([RCW 34.05](#), [WAC 10-08](#), [WAC 468-10](#)) HQ may revoke a permit, without refund, for any of the following reasons:
 - Making false or misleading statements on either a permit application or a permit renewal, when the statements remain uncorrected for 30 days after the permittee receives a letter notifying him/her about them.
 - Allowing a permitted sign to remain in disrepair for 30 days after the permittee receives a letter notifying him/her about the sign's condition.
 - Maintaining a permitted sign, that violates any provision of the Act or [WAC 468-66](#), when the violation remains for 30 days after the permittee receives a letter notifying him/her about the violation(s).
 - Allowing a nonconforming sign to remain, following written notice after it has become abandoned or destroyed, as defined by [WAC 468-66-010](#).
 - Allowing a discontinued sign, as defined by [WAC 468-66-010](#), to remain without advertising content for 90 days after the permittee receives a letter notifying him/her about the absence of advertising.

The Headquarters Traffic Office will write the letters and, in consultation with the Attorney General's Office, coordinate scheduling the administrative hearing. The regions' role in this process is to conduct timely field reviews and provide supporting documentation and pictures as requested by the Headquarters Traffic Office. After a permit is revoked, any sign constructed under the permit is declared to be illegal. If a permit holder is convicted of violating the *Highway Advertising Control Act*, [RCW 47.42.090](#), provides that the department may revoke other permits held by that person.

7. **Illegal Sign Removal.** [RCW 47.42.080](#) states that any sign constructed or maintained contrary to the *Highway Advertising Control Act* or its companion regulation, [WAC 468-66](#), is illegal and a public nuisance. The statute also describes illegal sign abatement procedures.

The department is directed by law to contact the permittee (or the property owner if there is no permittee) about illegal sign removal. In most cases the signs being investigated are not permitted, so the department must contact the property owner. It may be effective to also contact the business advertised on the sign, or the sign owner.

Initial contact may be made by way of a phone call or mail, at the discretion of department staff doing the investigation. Use the certified fifteen-day voluntary compliance letter as the mail contact or to follow up a phone call. Send to the property owner, sign owner, and advertiser on the sign, with a complimentary copy to the local agency having land use jurisdiction ([Appendices 8.10a](#) and [8.10b](#)).

In the 15-day voluntary compliance letter (and any initial phone call), cite:

- Illegal aspects of the sign.
- Options available.
- Actions that must be taken to bring the sign into compliance with the law.
- That failure to comply will compel the department to seek abatement assistance from the Attorney General's Office.

The sign owner or property owner must comply with the provisions of the abatement notice within 15 days after receiving the region's certified letter. If compliance is not attained, the region Traffic Engineer requests abatement assistance from the State Traffic Engineer. Submit a completed "Transmittal Checklist, Request for AG Assistance to Remove Illegal Signs" ([Appendix 8-11](#)) and an abatement assistance request letter with the following information:

- A copy of all correspondence between the department and the sign owner and/or property owner including phone call logs and a brief summary discussion of any other conversations.
- Cite all applicable RCWs and WACs, and explain how they are violated.
- Include color photos of the sign and any other features that display the nature of the violation. Dated photos are most desirable.
- Include photos that demonstrate that the sign was not removed by the date certain established by the 15-day letter. Dated photos are most desirable.
- Include sketches, measurements, and other pertinent data that provide confirming evidence of the violation.

The State Traffic Engineer and the Assistant Attorney General (AAG) assigned to highway advertising control work together to secure sign removal. The AAG will prepare an ORDER TO REMOVE (OTR) letter authorized under [RCW 47.42.080\(2\)](#), for signature by the State Traffic Engineer. The order requires the property owner to remove the illegal sign within 15 days, and states that any review of the order must be filed in Thurston County Superior Court within 30 days after the order is served.

The region HAC representative conducts a follow-up review 15 calendar days after the property owner receives the OTR, to determine if the property owner has complied by removing the sign. The region reports findings back to the State Traffic Engineer, including photographs, videotape, or other documentation confirming the sign's status. If the sign remains, the State Traffic Engineer may request in writing that the AAG pursue a legal remedy.

When WSDOT Highway Advertising Control personnel are contacted by any public or private person regarding matters that have been referred to the Attorney General's Office, advise the caller that the department has engaged counsel and information is only available from the Assistant Attorney General. Obtain the caller's name and phone number and explain that you will ask the AAG to contact them.

If a caller demands immediate attention, provide them the AAG's name, phone number, and address. Then immediately advise the Assistant Attorney General about the development. It is not appropriate to refer a person to the AAG for any other highway advertising control question or interpretation.

- a. **Surveillance.** Regularly scheduled surveillance programs are conducted by the regions (annually) to identify signs installed contrary to the requirements of the *Highway Advertising Control Act*. A more aggressive review schedule, perhaps quarterly, is recommended for areas of prolific illegal sign activity.

Use the HAC Field Review form ([Appendix 8-12](#)) to document any sign that may be non-compliant. Take two photos of each sign; one photo as a close-up of the sign that provides legible reading of the copy, and one that is far enough away from the sign to include a landmark of some kind. The landmark could be a street intersection, a group of trees, a building, utility pole, etc.; typically, things that could be identified on historical photos or video.

Route surveillance preparation includes right of way research. Having right of way information in the field is a necessary tool for identifying encroachments. Contract channelization/paving plans help identify highway centerline location where a highway segment is not constructed symmetrically about the centerline.

During a review, if electronic changeable message sign (ECMS) violations are observed, document the sign imagery violations using digital video or VHS tape and store as evidence. Sign operations that create safety concerns due to driver distraction, signs encroaching on state highway right of way, and signs with illegal off-premise advertising messages are the primary violations that require the department's attention.

- b. **Illegal Sign Inventory.** The regions maintain a current inventory of all illegal sign action activities. The FileMaker program (IllegalSignInv.FP5) is available to all region HAC personnel, and is the standard method of tracking illegal sign activities within the region.

Using the Illegal Signs Inventory, Data Entry Panel ([Appendix 8.13](#)), create a record for each illegal sign immediately after personal observation or after confirming an apparent violation reported by others.

All information, such as the name of the sign owner and the property owner, and a summary of all contact with the owner(s), whether by phone or letter, must be included on the form. Two digital images can be stored for each record.

- c. **Illegal Sign Abatement on State Highway Right of Way.** The *Highway Advertising Control Act* declares that any unauthorized sign placed on the right of way of a regulated state highway is a public nuisance ([RCW 47.42.080\(5\)](#)). The department is authorized to immediately remove these illegal signs without notice. Signs removed from the right of way are stored for 30 days (7 days after an election, for illegal political campaign signs) or until they interfere with operations at the storage site. When contacted by a sign owner about recovering a sign that has been removed, advise the caller where the sign is stored, and that it may be recovered if it has not already been destroyed. Dispose of usable materials obtained from these signs in accordance with [Disposal of Personal Property](#) M 72-91.

In addition, [WAC 468-30-100](#) states that no permits may be issued for any signs on any state highway right of way. Only traffic control signs consistent with the MUTCD (as well as state historical markers) are allowed. Thus, on both regulated and unregulated state route right of way, the department is authorized to immediately remove illegal signs.

- d. **Illegal Sign Abatement on Highway Right of Way within Incorporated Cities and Towns.** [RCW 47.42.080\(5\)](#) declares signs placed on state highway right of way, contrary to the

Highway Advertising Control Act, to be public nuisances and authorizes the department to remove the signs without notice. The responsibility for removing illegal signs from state route right of way in an incorporated city or town depends on the access control designation for the highway segment being considered. The statute is clear when considering limited access highways established and purchased under the provisions of [RCW 47.52](#). For routes where full, partial, or modified limited access control has been established and purchased, the department may remove illegal signs in the same manner as any other state highway right of way. [RCW 47.24.020\(2\)](#) states, "...within incorporated cities and towns the title to a state limited access highway vests in the state, and... the department shall exercise full jurisdiction, responsibility, and control to and over such facility."

For managed access control routes, [RCW 47.24.020\(2\)](#) states, "The city or town shall exercise full responsibility for and control over any such street beyond the curbs and if no curb is installed, beyond that portion of the highway used for highway purposes." Because the department is responsible under federal law for the compliance of all signs visible to Interstate, Primary, or Scenic highway systems, coordination with the cities is needed to assure compliance along managed access routes within incorporated cities and towns.

The region may provide an explanatory letter to the city asking it to abate a sign that is under its control, but visible to a regulated route ([Appendix 8-14](#)). As an alternative, the department may enter into an inter-local agreement with the city ([RCW 39.34](#)) that authorizes the department to remove illegal signs. In the latter case, the agreement needs to specify that the city will pay all of the department's costs.

- e. **Documentation of Illegal Sign Abatement Activities.** Annually, the Headquarters Traffic Office provides the Director of the Maintenance and Operations Division with a summary of illegal sign abatement activities conducted during the previous year. A copy is also sent to the Federal Highway Administration (FHWA), Olympia Division, Right of Way Office.

The FHWA Division Right of Way Office is a valuable resource when responding to questions or investigating apparent ambiguities within the highway advertising control laws and regulations. For matters of statewide significance or implication, allow the Headquarters Traffic Office to provide liaison with the FHWA to help assure that any information gathered is equally shared.

8. Other Guidelines

a. **Billboards on Indian Trust Lands.** The states have no regulatory authority over billboards on Indian Trust land. A March 7, 1986 Federal Highway Administration (FHWA) memorandum contained information about advertising signs on Indian lands. It cited a United States Supreme Court ruling that upheld a California Supreme Court decision. The California court decision found the following:

- The California Department of Transportation could not use the state's highway advertising control act to regulate billboards erected on reservation land held in trust by the United States for the beneficial use of the Morongo Indian Band.
- The *Federal Highway Beautification Act* (HBA) preempts the state's regulatory authority in the area of highway advertising control on Indian reservations.
- The Federal Department of the Interior (Bureau of Indian Affairs) is the appropriate agency to enforce the HBA provisions on Indian land.

These decisions set a precedent that remains today. The department has not included signs on Indian land in its Type 4 and Type 5 sign inventory since 1986. However, off-premise advertising signs located on Indian land, and visible to state highways controlled under the *Highway Advertising Control Act*, should be included when determining the applicable sign space available for proposed sign sites.

b. **Advertising on Transit Shelters and Bus Benches.** [RCW 47.36.141](#) authorizes commercial advertising displays on transit authority bus shelters within state highway right of way, subject to applicable federal regulations. The law also provides that advertising panels may not exceed 24-square feet on each side of the shelter, and may not be placed on the shelter's roof or the side facing oncoming traffic.

Small advertising plaques are sometimes placed on bus benches or other street furniture located within right of way in cities and towns. Such signs are typically mounted on the back of the furniture and oriented toward pedestrian traffic so they are visible when the bench is in use. Because the primary purpose of the bench is as street furniture and because of the small size and directional orientation of street furniture signing, the department does not regulate bus bench advertising under the *Highway Advertising Control Act*; however, local agency regulations do apply.

- c. **Advertising on Commercial Trailers.** Advertising on commercial vehicles and trailers for normal business use is not regulated under the *Highway Advertising Control Act*. This includes times when these vehicles are intermittently parked at off-premise locations visible to state highways.

When a commercial vehicle or trailer is parked at an off-premise location visible to the state highway for an extended period, it must be determined whether it's intended purpose is for off-premise advertising. Investigate and abate the commercial vehicles or trailers in the same manner as illegal advertising signs. An expired vehicle registration is a primary indicator that the vehicle is most likely being used for off-premise advertising.

- d. **Digital or Lighted Signs Used for Advertising on Vehicles (Signs in Motion).** The Washington State Patrol [WAC 204-65](#), Vehicle Lighting and Equipment, prohibits displaying any digital or lighted advertising sign from motor vehicles on state highway right of way. This includes any sign device towed behind a motor vehicle. The prohibition does not include messages displayed on traffic control vehicles, taxicabs, or destination placards on public transportation vehicles.

- e. **Accessing Signs from State Highway Right of Way.** [WAC 468-66-210\(3\)\(b\)](#) in part assumes that sign maintenance will be accomplished from private property rather than state highway right of way. The highway advertising sign permit application contains the property owner's signature on the statement that he/she consents to the sign installation and maintenance.

On limited access facilities, highway advertising sign maintenance activities conducted on or across the right of way are illegal and a misdemeanor under [RCW 47.52.120](#). When department personnel observe illegal sign maintenance activities occurring, immediately contact the Washington State Patrol and document the date, time, place, license number, and any identifying name on the service vehicle. Support the documentation with photos or videotape if possible. Notify the regional HAC representative and provide a copy of the documentation and visual records.

For non-limited access facilities, highway advertising sign maintenance activities are also conducted from private property. However, there may be locations where the maintenance could be accomplished from state highway right of way without interfering with traffic or damaging highway property. For these locations, a department issued General Agreement may be used in addition to the property owner's statement and signature on the highway advertising sign permit application.

- f. **Sign Area Measurement.** The department's highway advertising control agreement with the FHWA provides that sign area shall be measured by the smallest square, rectangle, triangle, circle, or combination thereof that encompasses the entire sign.
- g. **Sponsorship Logos on Motorist Call Boxes.** Sponsorship logos placed on emergency call boxes are authorized in Section 111 of the United States Code. The *National Highway System Designation Act* of 1995 included the provisions, which were incorporated into the MUTCD appendix beginning with the 2003 edition.

The United States Code provisions are:

- The states may permit motorist call boxes to be placed on the right of way of the National Highway System. The call box installations may include identification and sponsorship logos.
- Call box installations displaying sponsorship logos shall be approved by the agency having jurisdiction over the highway where the boxes are installed.
- A sponsorship logo may be placed on the call box, in a dimension not to exceed the size of the call box, or 12 inches by 18 inches.
- A sponsorship logo not to exceed 12 inches by 30 inches may be displayed on a call box identification sign affixed to the call box post. Sponsorship logos affixed to an identification sign on a call box post are limited to not more than one every 5 miles.
- The identification signs shall have a blue background with a white legend and border. The sponsorship logo can be either the sponsor's identification symbol/trademark or a word message. Word messages should also be a white legend on a blue background.

Incidental to highway advertising control, the 1995 *NHS Designation Act* also placed four location or structural related regulations to call box installations:

- The call boxes and their location, posts, foundations, and mountings shall be consistent with the MUTCD or other federal requirements deemed necessary to assure that call boxes do not become a safety hazard.
- Supports for call boxes are required to meet the safety breakaway requirements of the *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*.

- Within a state, at least 20 percent of the call boxes displaying sponsorship logos shall be located on highways outside of urbanized areas with a population greater than 50,000.
- AASHTO recommends one-half mile spacing for call boxes as an optimum interval. On high volume roads with average daily traffic flows of 100,000 or more vehicles, one-quarter mile spacing may be considered. On certain rural roads, one mile spacing may be appropriate.

8.3 Advertising at Rest Areas and on Washington State Ferries

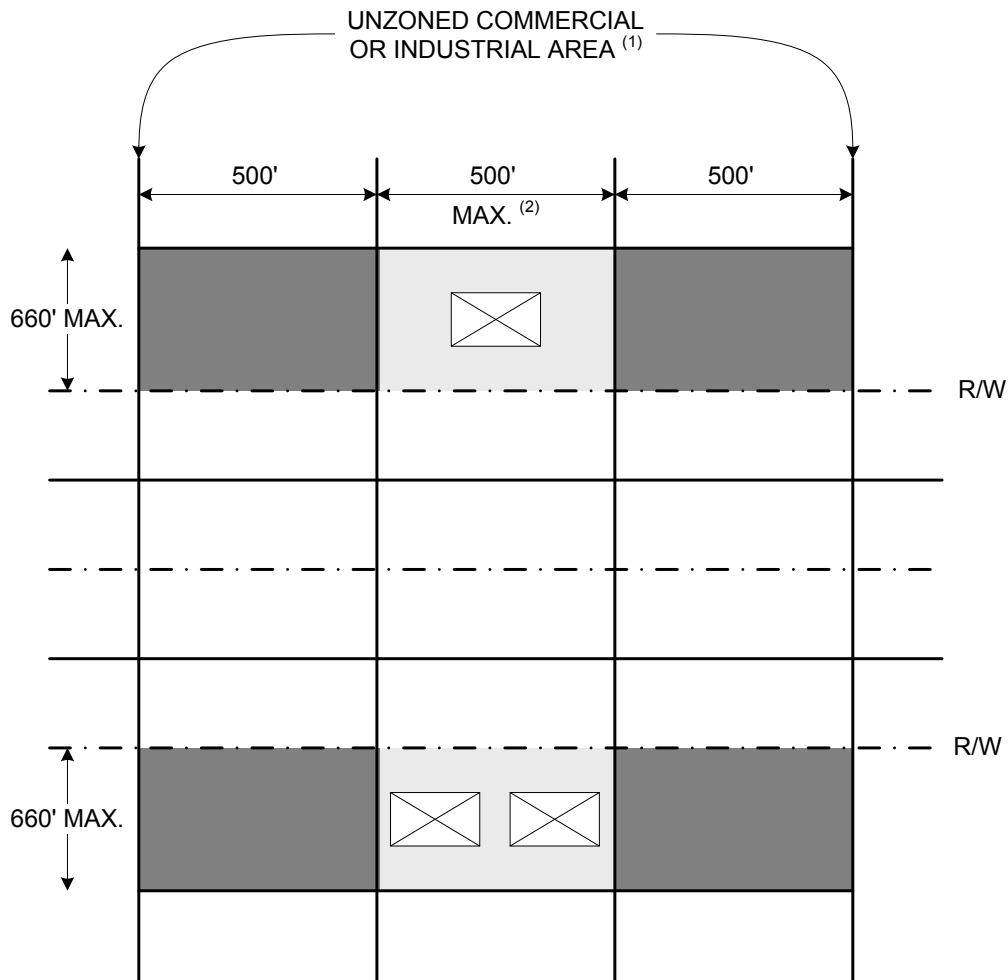
- A. **Advertising at State Highway Rest Areas.** Businesses may purchase advertising space on displays in 20 rest areas located along Interstate 5, Interstate 90, Interstate 82, US 2, and US 395. The rest area advertising program features lighted display kiosks. In rest areas, the only requirement is that services advertised be of interest to travelers. For more information about this program, contact:

Storeyco, Inc.
PO Box 357
East Olympia, WA 98540
360-412-0066 or 800-558-7867
www.storeyco.com




- B. **Advertising on Washington State Ferries.** Businesses may purchase advertising space on several Washington State ferry runs and at 20 terminals. The state ferry advertising program features lighted display boards. For more information about this program, contact WSDOT's sales contractor:

Certified Folder Display, Inc.
2407 South 200th Street
SeaTac, WA 98198
(206) 870-2470
weldonv@certifiedfolder.com

www.certifiedfolder.com
(800) 799-7373



UNZONED COMMERCIAL OR INDUSTRIAL AREA
 WAC. REF. 468-66-010(4)

-  - Commercial or Industrial Activity
-  - Qualifying Commercial/Industrial Area
-  - Additional Buffer Area – Where Applicable

- (1) Billboards may be permitted within this 1500' max. area, measured parallel to the highway
- (2) Three or more separate and distinct commercial and/or industrial activities are required within 500'. Activities may be located on either or both sides of the highway and must be within 660' of the right of way line to qualify.

**WSDOT OAC Program
Visibility Checklist for Signs on Unregulated Roadways**

In addition to the definition provided in [WAC 468-66-010\(27\)](#), consider the following information about signs located on unregulated roadways. Signs, located along unregulated roadways that intersect with interstate or other regulated state highways shall be considered 'not visible' if they meet at least three of the following criteria.

Sign Location – Visible from SR _____ **MP** _____ **Located on** _____

Existing Permitted Sign Y N **Permit #** _____

- The sign faces are *not* substantially larger or at a substantially higher elevation above the ground line than other signs along the same unregulated intersecting roadways Y N
- The angles of sign faces are generally oriented toward unregulated intersecting roadways rather than interstate or other regulated state highways Y N
- The length of time that the informative contents of signs can be viewed is substantially greater for the travelers on unregulated intersecting roadways than from interstate or other regulated state highways Y N
- The signs are visible to a motorist traveling at the posted speed on the interstate or other regulated state highway, for a period of time that is less than that required to read the entire sign message Y N
- The signs are only incidentally visible from interstate or other regulated state highways Y N
- The signs advertise activities accessible from unregulated intersecting roadways along which the signs are located Y N

Determination

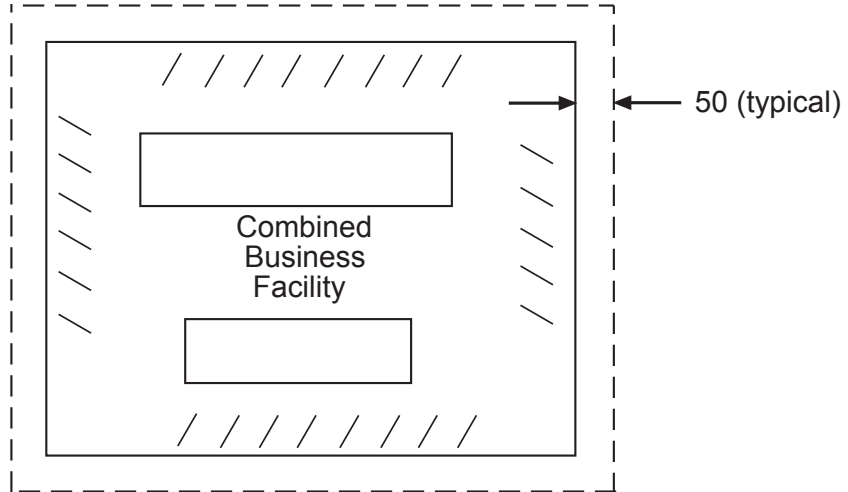
Sign Visible **Sign not Visible**

Date _____

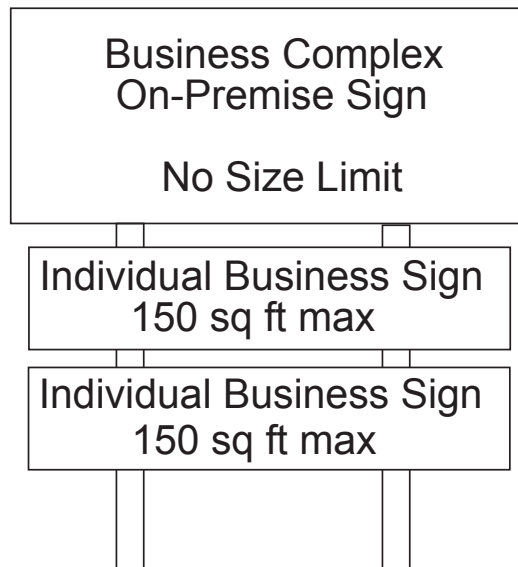
Reviewer _____

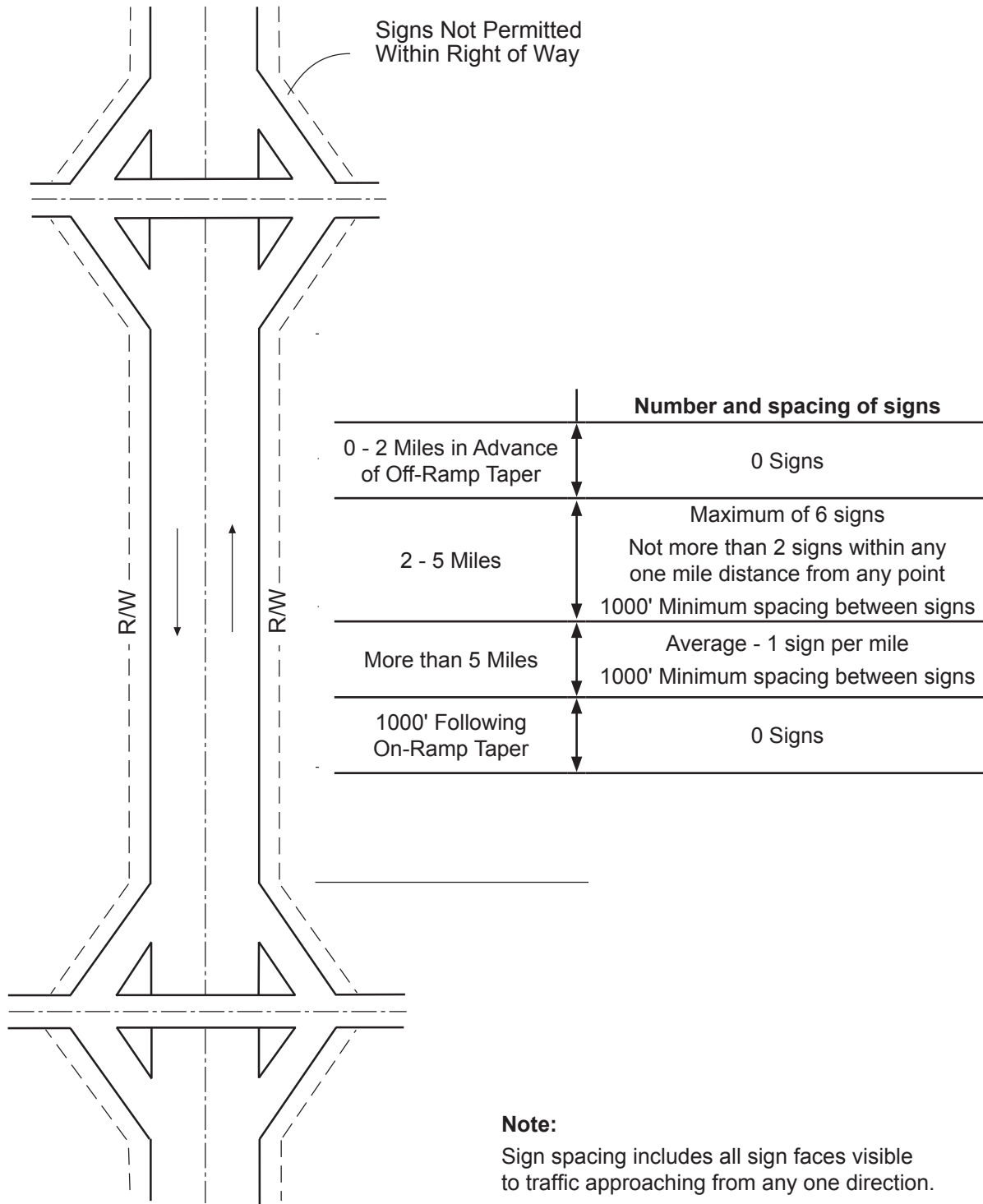
WAC 468-66-050 (3)(b)

Business Complex On-Premise Sign may be placed
within 50 feet of combined parking area



(Plan View)





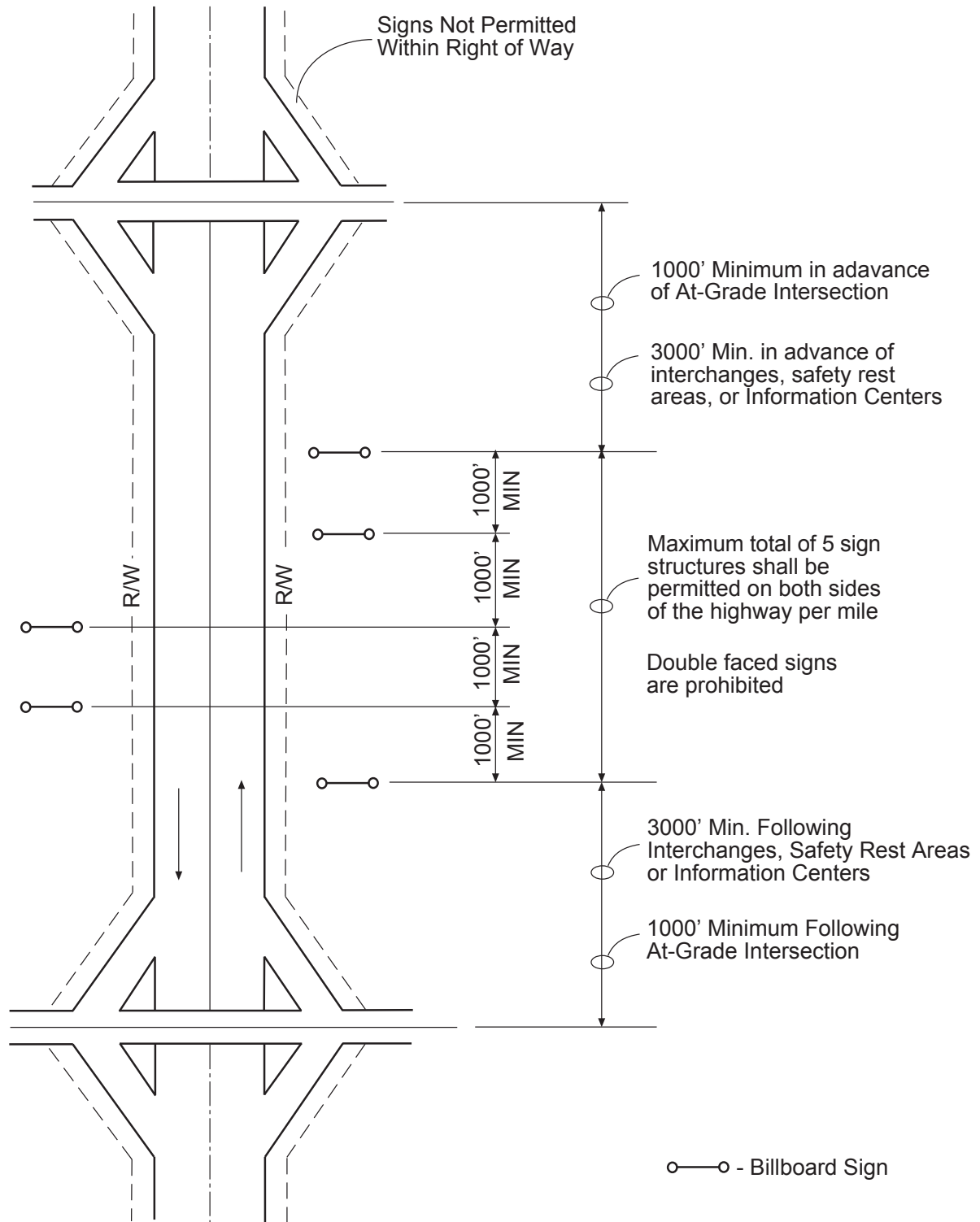
INTERSTATE
(Type 4 & 5)
WAC REF 468-66-050(5)(d)

Note:
Sign spacing includes all sign faces visible to traffic approaching from any one direction.

Off Premise Sign Spacing –

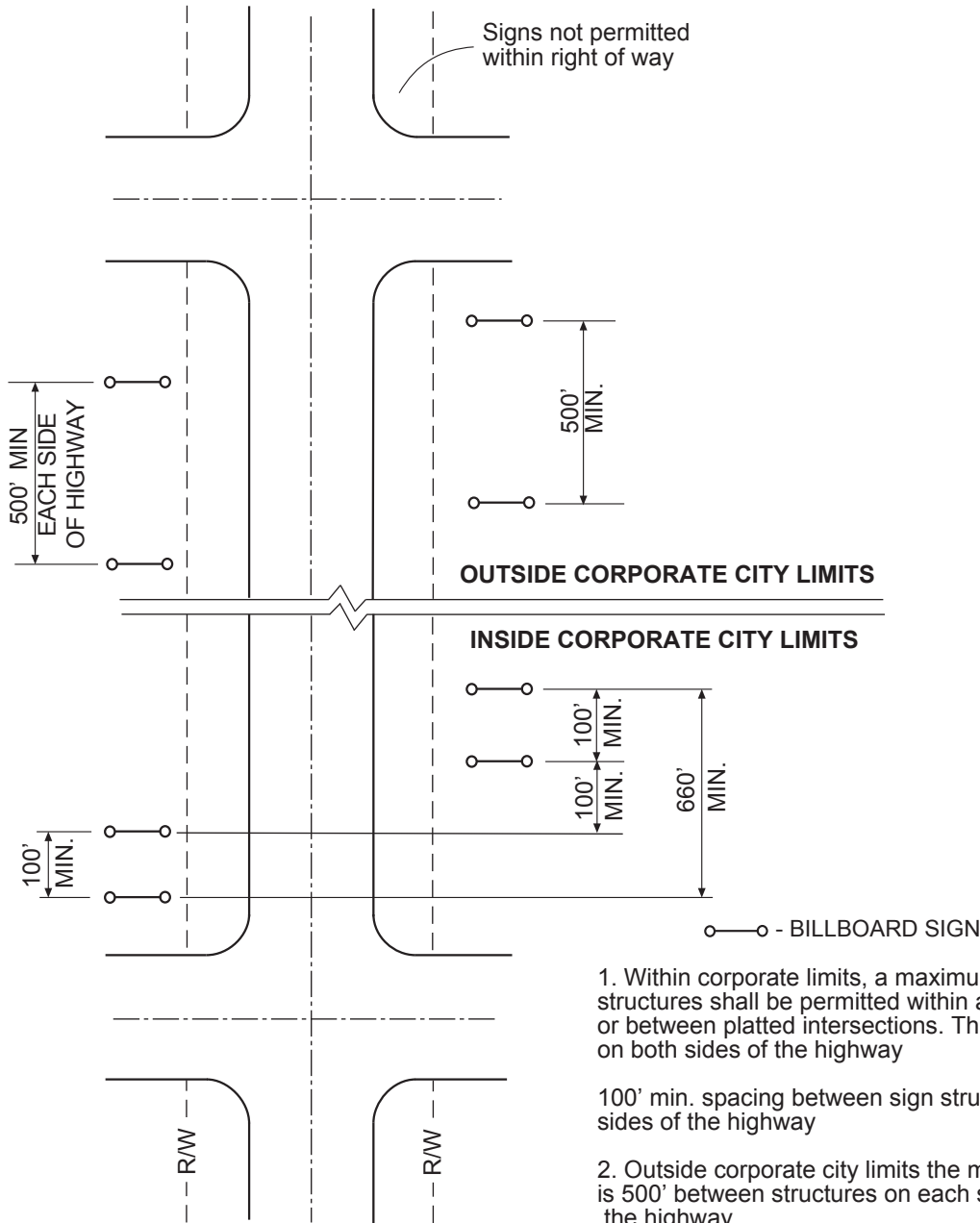
NHS Non-Interstate Controlled Access

Appendix 8-5a



NHS NON-INTERSTATE CONTROLLED ACCESS
 (Type 4 & 5)
 WAC 468-66-050(5)(e)(i)

Off Premise Sign Spacing – NHS Non-Interstate Non-Controlled Access



1. Within corporate limits, a maximum of 4 sign structures shall be permitted within a space of 660', or between platted intersections. This includes signs on both sides of the highway

100' min. spacing between sign structures on both sides of the highway

2. Outside corporate city limits the minimum spacing is 500' between structures on each side of the highway

3. In areas where one side of a highway is within corporate limits and the other side of the highway is outside corporate limits, the appropriate sign spacing shown above applies

NHS Non-interstate Noncontrolled Access
(Type 4 & 5)

WAC. REF. 468-66-050(5)(e) (ii) & (iii)



Application - Outdoor Advertising Sign Permit

Name		
Address		
City	State	Zip Code
Phone	Date 10/17/2007	

For WSDOT Use Only	
Log Number	_____
Date Received	_____
Region	_____
Permit Number	_____
Year	_____
Date Permit Issued	_____
Inventory Number	_____
SR Milepost	_____
<input type="checkbox"/> Nonconforming	<input type="checkbox"/> Limited Access

Location of Sign

State Highway Number _____

Side of Highway N E S W

Sign Facing N E S W

Distance and Direction from Center of Nearest Cross Road

Distance _____ ft. Direction N E S W

Cross Road Name _____

Sign Description

Size _____ ft. X _____ ft. Total Area _____ sq. ft.

TriVision

Shape Rectangular Octagonal Other

Square Round _____

Application Fee:

\$300.00 Per Sign Structure
 Make checks or remittance payable to:
"Department of Transportation"
 Mail with proper fee to:
**Washington State
 Department of Transportation
 Outdoor Advertising Control
 PO Box 47344
 Olympia, WA 98504-7344**

I, the undersigned applicant, declare under penalty of perjury under the laws of the State of Washington that the information provided herein, concerning the location of sign, sign description, and property owner/lessee, is accurate and true. I also acknowledge that any discrepancy in such information discovered hereafter is cause for the Department of Transportation to revoke this sign permit; and, further declare that, after permit revocation, I shall remove without compensation any sign erected under such permit.

Print Applicant Name _____

Applicant Signature _____

Date _____ Place _____

Name of Property Owner			
Address	City	State	Zip Code
Phone	Property Tax I.D. No.		

I, the undersigned, have consented to the erection and maintenance of the above described outdoor advertising sign on property which (I own) (I Lease) in conformance with the Washington Outdoor Advertising Control Act of 1961 as amended by the Scenic Vistas Act of 1971 (RCW 47.42) and the Department of Transportation rules and regulations for outdoor advertising control along interstate, primary, and

A Copy of a Completed Lease Accepted in Lieu of Signature

Signature _____
Property Owner

This permit shall not be considered to allow a sign to be erected or maintained that is otherwise prohibited by Statute or by the Resolution or Ordinance of any county, city or town of the State of Washington. By issuance of this permit the Department of Transportation does not warrant that this sign is not prohibited by such Statute, Resolution, or ordinance.

Signature of Department of Transportation representative validates this permit and acknowledges receipt of fee paid. By _____
For Department of Transportation



**Washington State
Department of Transportation**
Paula J. Hammond, P.E.
Secretary of Transportation

Transportation Building
310 Maple Park Avenue S.E.
P.O. Box 47300
Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

DATE: Date

FROM: HQ Traffic Office

PHONE: 360-705-7296

SUBJECT: Highway Advertising Control
Sign Permit Application

TO: Regional HAC Representative LOG # _____

We are enclosing _____ sign permit applications from _____ that have been received by this office. Please return the completed application to this office no later than mm/dd/yy.

Please investigate the legality of the signs with respect to size, spacing, property owner consent and highway right of way limits and furnish your recommendations for approval at your earliest opportunity, together with all necessary information for issuance or reply to the applicant.

If there are any discrepancies that arise concerning the permit application, please have them clarified by the sign owner.

Approved: Y N

Reason for disapproval:

**Checklist for Outdoor Advertising Permits
New Sign on Interstate System**

SR _____ Milepost _____ Direction of Travel _____ Sign Type _____ Date _____

Proposed Location _____

Nature of Sign Site:

Scenic Area Y N Commercial/Industrial Area Y N

Size:

Sign Length (20' max) _____ Sign Height (20' max) _____ Sign Area (150' max) _____

Spacing:

Distance Between Interchanges	Number/Spacing of Signs	Does site comply?
0-2 miles	No Signs Allowed	Y <input type="checkbox"/> N <input type="checkbox"/>
2-5 miles	Max of 6 signs. Max of 2 within any 1 mile 1000' min between signs	Y <input type="checkbox"/> N <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>
More than 5 miles	Average 1 sign per mile 1000' min between signs	Y <input type="checkbox"/> N <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>
Within 1000' of on-ramp terminal	No Signs Allowed	Y <input type="checkbox"/> N <input type="checkbox"/>
Within 2 miles of off-ramp taper	No Signs Allowed	Y <input type="checkbox"/> N <input type="checkbox"/>

Sign Owner/Operator: _____

Property Owner: _____

Comments: _____

Appendix 8-8b **NHS Non-Interstate or Scenic System Sign Permit Review Checklist**

Checklist for Outdoor Advertising Permits New Sign on NHS Non-Interstate or Scenic System

HQ Log Number _____

SR _____ Milepost _____ Direction of Travel _____ Sign Type _____ Date _____

Proposed Location _____

Nature of Sign Site:

Scenic Area Y N Commercial/Industrial Area Y N

Size:

Sign Length (50' max) _____ Sign Height (25' max) _____ Sign Area (672' max) _____

Spacing:

A. Inside Corporate Boundaries of City or Town – Not Controlled Access

Including this sign, and counting both sides of the roadway, how many sign structures are located within any platted intersection; or any 660 ft.* section? _____ (4 max)

Is the proposed sign location at least 100 ft.* from any existing sign? Y N

B. Outside Corporate Boundaries – Not Controlled Access

Is the proposed sign location at least 500 ft.* from an existing sign structure? Y N

C. Limited Access Highways

Is the proposed sign location at least 1000 ft.* from any existing sign, or any at grade intersection? Y N

Is the proposed sign location at least 3000 ft.* from any interchange, safety rest area, or information center? Y N

Is the sign double-faced? Y N (not allowed on limited access roadways)

Including this sign, and counting both sides of the roadway, how many signs are located within any 1 mile* section? _____ (5 max)

Local Agency Approval Y N

*All distances measured parallel to edge of the highway's main traveled way.

Sign Owner/Operator: _____

Property Owner: _____

Approve: _____ Disapprove: _____ Comments: _____



**Permit Application - Temporary
Agricultural Directional Sign**

Name _____		
Address _____		
City _____	State _____	Zip Code _____
Phone _____	Date _____	Federal Tax I.D. Number _____

For WSDOT Use Only	
Date Received	_____
Region	_____
Permit Number	_____
Date Permit Issued	_____
Expiration Date	_____
CS Mile Post	_____
SR Mile Post	_____

Location of Sign

State Highway No. _____ Side of Highway N E S W
 Sign Facing N E S W
 Direction and Distance from Center of Nearest Cross Road or Street
 Name _____
 Direction N E S W Distance _____ ft.

Sign Description

Size _____ ft. X _____ ft. Total Area _____ sq. ft.
 Shape Rectangular Octagonal Other _____
 Square Round

Description of Sign Copy _____
 Product(s) Being Advertised _____
 Name and Address of Advertised Activity _____

Application Fee:
\$50.00 Per Sign Face
 Make checks or remittance payable to:
"Department of Transportation"
See Instructions for correct mailing address.

The applicant agrees to remove the sign(s) at the expiration of this temporary permit or cover the sign(s) during the times when no sales occur, and further agrees to provide and maintain follow-through signing if required by the Department of Transportation. In addition, if the sign(s) remain up in non-compliance for longer than 10 days after notification to the applicant thereof, the applicant does hereby authorize the Washington State Department of Transportation and its agents or employees to remove and dispose of such sign(s) and waives all claims for damages against the Washington State Department of Transportation and its agents or employees for such removal and disposal of each sign(s).

This permission and waiver is granted in order to permit the removal of such sign(s) as required by the Washington Highway Advertising Control Act of 1961 as amended by the Scenic Vistas Act of 1971 (Chapter 47.42 RCW).

Signature _____
Sign Owner

Land Owner Name	Phone	Property Tax I.D. No.	
Address	City	State	Zip Code

I, the undersigned, have consented to the erection and maintenance of the above described outdoor advertising sign on property which (I own) (I Lease) in conformance with the Washington Outdoor Advertising Control Act of 1961 as amended by the Scenic Vistas Act of 1971 (RCW 47.42) and the Department of Transportation rules and regulations for outdoor advertising control along interstate, primary, and scenic routes.

A Copy of Lease Accepted in Lieu of Signature Signature _____
Property Owner

This permit shall not be considered to allow a sign to be erected or maintained that is otherwise prohibited by Statute or by the Resolution or Ordinance of any county, city or town of the State of Washington. By issuance of this permit the Department of Transportation does not warrant that this sign is not prohibited by such Statute, Resolution, or ordinance.

Signature of Department of Transportation representative validates this permit and acknowledges receipt of fee paid. By _____
For Department of Transportation

DOT Form 224-068 EF
 Revised 7/07

Instructions: Complete and sign this form and mail with the processing fee to the Department of Transportation. Send a picture, drawing, or sketch of the temporary sign(s) you desire along with this application. The Department will have final approval on any design of a temporary sign. Mail this application to the appropriate Region Administrator. The Region addresses are shown below.



Northwest Region
 Region Administrator
 15700 Dayton Avenue North
 PO Box 330310
 Seattle, WA 98133-9710

North Central Region
 Region Administrator
 1551 North Wenatchee Avenue
 PO Box 98
 Wenatchee, WA 98807-0098

Olympic Region
 Region Administrator
 5720 Capitol Blvd. (Tumwater)
 PO Box 47440
 Olympia, WA 98504-7440

Southwest Region
 Region Administrator
 11018 NE 51st Circle
 PO Box 1709
 Vancouver, WA 98682-6682

South Central Region
 Region Administrator
 2809 Rudkin Road (Union Gap)
 PO Box 12560
 Yakima, WA 98909-2560

Eastern Region
 Region Administrator
 2714 North Mayfair Street
 Spokane, WA 99207-2090

DOT Form 224-068 EF
 Revised 7/07



**Washington State
Department of Transportation**
Paula J. Hammond, P.E.
Secretary of Transportation

Transportation Building
310 Maple Park Avenue S.E.
P.O. Box 47300
Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

Date

Inside Address

CERTIFIED

Dear Mr. and/or Mrs./Ms.

The Department of Transportation is directed by state law to regulate signs on private property and visible to certain state highways. The statutes and regulations governing allowable visible signs are provided in Chapter 47.42 of the Revised Code of Washington (RCW), the Scenic Vistas Act, and Chapter 468-66 of the Washington Administrative Code (WAC), respectively.

Accordingly, the department conducts periodic reviews of state highway corridors to fulfill its statutory obligation. A recent review of SR *WX* in the vicinity of milepost *YZ* revealed that an advertising sign, displaying the message *type the message here*, is maintained on your property.

Please be advised that the sign is illegal because it can't meet the eligibility requirements for permissible off-premise signs visible to *note highway type*, and is thus prohibited by RCW 47.42.030. *Insert description of illegal aspects of the sign, e.g., spacing, sign type, sign size, zoning, etc., and cite all applicable RCWs and WACs.* Further, under RCW 47.42.080, the sign is declared a public nuisance and must be removed within 15 days of the date you received this letter.

The department desires to provide you with the opportunity to voluntarily remove the sign without issuing a formal complaint or initiating enforcement action against you. Failure to remove the sign will cause the department to begin formal abatement procedures through the Attorney General's Office.

Please call Mr./ Ms. *name of Regional Highway Advertising Control Representative* of my staff, phone (123) 456-7890, should you have any questions or to notify the department that the sign has been removed.

Sincerely,

Regional Traffic Engineer

cc: *Name of Sign Owner*
Name of Assistant Attorney General
Name of Headquarters Highway Advertising Control Specialist



**Washington State
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Paula J. Hammond, P.E.
Secretary of Transportation

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360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

Illegal Signs, Certified Letter, Sign Owner

Date

Inside Address

CERTIFIED

Dear Mr. and/or Mrs./Ms.

The Department of Transportation is directed by state law to regulate signs on private property and visible to certain state highways. The statutes and regulations governing allowable visible signs are provided in Chapter 47.42 of the Revised Code of Washington (RCW), the Scenic Vistas Act, and Chapter 468-66 of the Washington Administrative Code (WAC), respectively.

Accordingly, the department conducts periodic reviews of state highway corridors to fulfill its statutory obligation. A recent review of SR *WX* in the vicinity of milepost *YZ* revealed that you maintain an advertising sign, displaying the message *type the message here*, on property owned by *Mr./Ms. name of property owner*.

Please be advised that the sign is illegal because it can't meet the eligibility requirements for permissible off-premise signs visible to *note highway type*, and is thus prohibited by RCW 47.42.030. *Insert description of illegal aspects of the sign, e.g., spacing, sign type, sign size, zoning, etc., and cite all applicable RCWs and WACs.* Further, under RCW 47.42.080, the sign is declared a public nuisance and must be removed within 15 days of the date you received this letter.

The department desires to provide you with the opportunity to voluntarily remove the sign without issuing a formal complaint or initiating enforcement action against you. Failure to remove the sign will cause the department to begin formal abatement procedures through the Attorney General's Office.

Please call Mr./ Ms. *name of Regional Highway Advertising Control Representative* of my staff, phone (123) 456-7890, should you have any questions or to notify the department that the sign has been removed.

Sincerely,

Regional Traffic Engineer

cc: *Name of Property Owner*
Name of Assistant Attorney General
Name of Headquarters Highway Advertising Control Specialist

Appendix 8-11

Request for AG Assistance to Remove Illegal Signs

Order to Remove – Transmittal Checklist
Region to HQs: Request for AG Assistance to Remove Illegal Signs

Sign Description _____

Activity Advertised _____

State Route _____ Milepost _____ Lt _____ Rt _____

Sign Owner _____ Phone/E-mail _____

Address _____

Property Owner _____ Phone/E-mail _____

Address _____

Cite RCW/WAC Violation _____

Correspondence included:

15-day certified letter Y N Date of signed receipt _____

15-day window expired Y N Date of follow up review _____

Other correspondence/communication: _____

Narrative/Timeline included? Y N Dated photos included? Y N

Map or Sketch of Vicinity showing:

North Arrow? Y N

State Route and Milepost? Y N

Location of sign? Y N

Property Boundaries? Y N

Offset Distances? Y N

Other Information _____

Appendix 8-12

Highway Advertising Control Field Review

Date _____ Region _____ Highway Type _____

State Route _____ Milepost _____

Size of Sign _____ Lighted _____

Which Side of Highway? Rt _____ Lt _____ Visible to: Inc. _____ Dec _____

Type of Structure V-Type _____ Back2Back _____ Single _____ Flanking _____

Permitted Sign? _____ Permit # _____ Permit Tag Visible Y N

Does sign location match physical description on permit? Y N

Comments: _____

Photo # _____

On/Off R/W _____ R/W Distance _____ Distance Measured to Sign _____

For Signs That Are Not Permitted

Advertised Activity _____

Phone # _____ Parcel # _____

E-mail _____ Zoning _____

Property Owner _____

Comments _____



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Secretary of Transportation

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P.O. Box 47300
Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

Date

City of
Address

RE: Illegal sign located within the public right of way of *SR X* within incorporated *name of city or town*.

Dear Mr. or Ms.:

The Washington State Department of Transportation is directed by federal and state law to regulate signs visible to the state highway system. The Highway Beautification Act, Title 23, United States Code (USC), Section 131 and the Scenic Vistas Act, RCW 47.42, and WAC 468-66 contain these laws. These statutes generally regulate signs placed on private property, but the Scenic Vistas Act also limits which types of signs may be located within the public right of way. Only directional or official signs required or sanctioned by law are authorized. Federal law also specifies that the national standards contained in the Manual of Uniform Traffic Control Devices (MUTCD) apply to all traffic control devices (including signing) on any public street or highway. Cities and towns are required to follow these standards. All advertising signs are prohibited in the public right of way.

RCW 47.24, City Streets as Part of State Highways, assigns jurisdiction and control for city streets that are part of the state highway system. As a *highway type*, signing along *SR X* within *city or town's* corporate limits and located beyond the curb or main traveled way is the responsibility of *city or town*. The department interprets 47.24.020(2) to mean that *city or town* is responsible for abating any illegal signs in such locations and is requesting that *city or town* remove this illegal sign at its earliest convenience. As an alternative, the department would be pleased to discuss an inter-local agreement (per RCW 39.34) by which the department can remove the sign provided that *city or town* pays the department's costs.

Washington State is subject to a 10 percent reduction in federal highway fund monies if the department does not pursue the expeditious removal of illegal signs. The sign in question is clearly in violation of the Highway Beautification Act, the Scenic Vistas Act and the MUTCD because it is located on the public right of way and is not a type authorized by the MUTCD. I am enclosing pictures and maps that identify the sign and its location to assist in sign removal. Please call *WSDOT Contact* of my staff at *phone/e-mail* should you have any questions, or to notify the department that this sign has been removed.

Thank you for your assistance in this matter.

Sincerely,

Region Traffic Engineer

Enclosures

9.1 General

The Safety Management System (SMS) is a systematic process designed to assist decision makers allocate limited transportation safety resources. Through SMS, the state defines, prioritizes, and measures the effectiveness of safety efforts.

SMS consists of two key processes. The *Collaboration Process* provides statewide organizations with a reference network for sharing various available safety resources. The *Decision-making Process* ensures that all needs and opportunities are given due consideration in all phases of our plans and programs, and compatibility with the other management systems (Pavement, Bridge, Congestion, Public Transportation, and Intermodal) is maintained. The five steps of the Decision-making Process are:

- Needs Identification
- Solution/Resource Development
- Investment Prioritization and Implementation
- Investment Tracking
- Investment Evaluation

As resources allow, within their own existing processes, all jurisdictions within the state are encouraged to (1) take part in the SMS Collaboration Process, and (2) implement the SMS Decision-making Process. This occurs through the appropriate existing partnership and assistance forums for each jurisdiction. Examples: a city might work with WSDOT TransAid; a county might work with the County Road Administration Board; or the Department of Health might work with the Traffic Safety Commission.

There are three main goals of SMS:

1. Prevent and reduce the number and severity of roadway collisions;
2. Ensure that traffic safety will be considered at all phases of roadway-related programs;
3. Provide for partnership among citizens, statewide agencies, regional organizations, and local jurisdictions on traffic safety efforts.

There are also two main coverage elements of the SMS:

1. All public roads within the state.
2. All roadway, traveler, and vehicle safety-related elements.

While the SMS covers all public roads, the extent of SMS requirements (such as data collection, analyses, and standards) vary depending on roadway functional classification. Also, because each jurisdiction within the state implements SMS within their own individual processes and programs, describing each of them within this manual is not feasible. As an example, the following subsections describe WSDOT's implementation of SMS.

9.2 SMS Collaboration Responsibilities Within WSDOT

The region offices may contact the following Olympia Service Center offices for information, resources, and assistance regarding safety-related decisions:

Office (Service Center) — SMS Responsibilities

Transportation Planning (P&P) — Develops/Maintains the Systems Plan: Service Objectives and Performance Indicators, needs identification, solutions/strategies, and financial responsibility.

Transportation Data (P&P) — Maintains traffic and highway crash statistics and technical assistance on safety data analysis.

Research (P&P) — Provides for research projects and reporting on highway safety issues.

Traffic (E&E) — Leads Development/Maintenance of the statewide SMS, leads standing committee for Workzone Safety, provides technical assistance/training on safety investment and benefit/cost analysis, and coordinates safety investment tracking and evaluation efforts.

Program Management (P&P) — Directs/Coordinates program activities, such as targeting region allocations and providing programming instructions to the regions.

Design (E&E) — Develops/Maintains design approach to effective safety design features/standards for transportation projects.

Maintenance (Operations) — Develops/Maintains effective approach to safety maintenance activities.

Construction (Operations) — Provides for implementation of transportation projects, and provides guidelines for workzone safety.

TransAid (TransAid) — Provides support and coordination with local transportation jurisdictions on highway safety issues.

Staff Development (Personnel) — Provides for training/staff development on highway safety for all program areas.

Communication and Public Involvement Office — Provides for public information and media coverage on traffic safety (i.e., “Give ‘Em a Brake” campaign)

9.3 SMS Needs Identification Within WSDOT

Needs identification is the first step to ensure that safety is considered in all phases of traffic and roadway related efforts focused on the goal of preventing and reducing the number and severity of collisions. This basically means an identification of historically or potentially hazardous conditions, or identification of any cause/effect issues that contribute to collisions.

Measurable service objectives are established for all WSDOT programs and subprograms. These service objectives provide a baseline for needs identification in our long-range (20-year) system plan. Some examples of safety-related service objectives within WSDOT are:

Maintenance

- Ensure safe, reliable roadway surfaces.
- Maintain the visibility and operation of traffic control and safety devices.
- Provide safe travel through work zones.

Preservation

- Repave highways at regular intervals to minimize long-term costs.
- Restore existing safety features.

Improvements

- Improve highway sections that have a high accident history.
- Improve roadways where geometrics, traffic volumes, and speed limits indicate a high accident potential.
- Improve geometrics of the Interstate system per the FHWA/WSDOT Stewardship Agreement.

9.4 SMS Solution and Resource Development Within WSDOT

As safety needs are identified through the State Systems Plan for each biennium, solution and resource development is performed throughout the WSDOT program structure. This is generally carried out as scoping work by region project development staff (as determined by each region) for the Preservation and Improvements programs, and region/area maintenance staff for the Maintenance program.

Each region provides to Transportation Planning (P&P), resource estimates for safety related activities that address the identified needs. Supported by the other Olympia Service Centers, Transportation Planning then checks for financial feasibility. If the solution costs do not match expected revenues, the service objectives are reviewed and modified. Once the solution costs are in balance with revenues, the Systems Plan is updated. This occurs every two years.

9.5 SMS Investment Prioritization/Implementation Within WSDOT

Prioritization is based on (1) the anticipated benefits of preventing and reducing collisions (focusing of identified needs) and (2) the cost and duration of implementing the solution. Many safety activities may overlap with solutions developed for other program/subprogram needs. Therefore, individual project prioritization should also be coordinated with those other efforts.

Prioritization of safety projects, funded from the Improvement Program, is based upon project benefit-cost ratios. First, the statewide System Plan needs are ranked from greatest to least, using societal costs of collisions per year as a common denominator. Then, starting at the top of the list, benefit-cost methods are applied to the solutions which adequately address the identified needs. To be considered for implementation, a safety solution must have a projected benefit value equal to or greater than the solution cost.

This analysis is repeated until the available safety improvement resources for a two year program have been allocated to the array of safety solutions which maximize the projected benefits.

Implementation includes the specific funding, scheduling, and management of the prioritized solution activities. Examples include: programming, design, construction or manufacturing, maintenance, operations, enforcement, and driver safety instruction.

9.6 SMS Investment Tracking Within WSDOT

As safety solutions are implemented under SMS they become safety investments. A variety of safety investment data will be tracked by location, funding source, projected benefit/cost, type of investment, and roadway safety feature to ensure that each investment can be easily identified for the purpose of monitoring and evaluation. The regions will uniformly track safety investments.

The basic elements of tracking are:

1. **Need Addressed.** For example: crash reduction, risk of leaving roadway, etc.

2. **Description.** A description of the identifiable safety related activity (e.g. straighten curve, install illumination, slope flattening, public ads on work zone traffic control, etc.), including location, region, roadway classification, etc.
3. **Date.** The date(s) the safety related activity is effectively implemented.
4. **Resources.** Funding (staff, equipment, time, etc.) requirements dedicated to each safety related activity.
5. **Projected Benefits.** Identification of expected benefits for identified needs from each safety related activity.
6. **Actual Benefits.** The actual benefits derived from the activity (e.g., societal costs of collisions, public education benefits, etc.).
7. **Investment Type.** The investment category of the activity. (General headings: System Management, Traffic control, Roadside, Roadway.)
8. **State Program Source.** The program/subprogram (Maintenance, Preservation, Improvements) from which the investment was made.

The guidelines for safety investment tracking are currently being developed.

9.7 SMS Investment Evaluation Within WSDOT

Safety investments should be monitored and evaluated to determine whether appropriate and cost-effective investments were made. Monitoring and evaluating provides new insight for future problem identification, solution development, and solution prioritization and implementation. The districts will monitor and evaluate all safety investments.

All evaluations will be documented in a standardized format provided by the Olympia Service Center Traffic Office and should address each of the five items listed below:

1. Need addressed.
2. Total resource investment for all safety-related activities.
3. Projected benefits for each activity, based on the prevention and reduction in number and severity of collisions.
4. Actual benefits for each activity, based on the prevention and reduction in number and severity of collisions.
5. Associated collision rates and societal costs applicable to the “before/after” evaluation period.

As the evaluation data is compiled regionally and statewide, new trend data becomes available for future decision-making.

9.8 WSDOT Programming for Safety Preservation and Improvements

Programming safety dollars must be consistent with several plans, procedures and systems: SMS, Statewide Systems Plan, State Prioritization and Programming Law ([RCW 47.05](#)), and Federal Regulations for standards and the FHWA/WSDOT Stewardship Plan.

The programming instructions for the Roadway Preservation subprogram identifies typical safety “restoration” type items which are to be addressed on our Preservation projects. This is funded with a 12 percent program maximum allocation. The longer safety improvements which address System Plans safety needs in reduction or prevention of collisions are funded from the Improvements program. The Safety Improvement Projects Workbook guides the regions in the process of prioritizing safety improvements within the Safety Improvements subprogram.

9.9 References

Section 1034 (Public Law 102-240) of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) calls for each state to develop six inter-related transportation management systems and a traffic monitoring system. By October 1, 1994, the state shall develop a work plan for SMS which will be fully operational by October 1, 1996.

Washington State Law, C 406 L 93, directs that measurable, outcome based objectives shall be used to track the performance of agencies with traffic safety responsibilities.

[RCW 47.05](#) requires WSDOT to develop a six year program and financial plan for highway improvements specifying program objectives. The program and plan shall be based upon the improvement needs for state highways as determined by WSDOT.

Under [RCW 47.01.250](#) the State Patrol, Washington Traffic Safety Commission (WTSC), County Road Administration Board, and the Department of Licensing shall consult with the Transportation Commission and WSDOT to ensure that their transportation related responsibilities, goals, and activities are fully coordinated. Results of this interaction shall be reported to the Governor and the Legislature.

Among other duties listed in [RCW 43.59](#), the WTSC shall plan and manage at both the state and local level, safety activities and programs for the prevention of accidents on roads, streets, and highways. WTSC shall confer with and advise the political subdivisions and all agencies of Washington State government whose programs and activities are within the scope of traffic safety.