



Traffic Engineering Manual

Revised 04/2015

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AUTHORIZATION FOR TRAFFIC CONTROL DEVICES

Authorization of Traffic Control Devices				
Legend: DTOE - District Traffic Operations Engineer , AE - Area Engineer , DA - District Administrator , TEMA - Traffic Engineering Management Administrator , TEDevA - Traffic Engineering Development Administrator , TEDA - Traffic Engineering Division Administrator , LA - Landscape Architect , FHWA - Federal Highway Administration				
Type of Devices	Criteria		Recommend for Approval	Approval
New Full Access Traffic Signals	Criteria 1	See EDSM VI.3.1.6 Section 4 Part C	DTOE	DA
	Criteria 2	Does not meet Criteria 1, see EDSM VI.3.1.6 Section 4 Part C	DTOE, DA, TEMA, TEDA	Chief Engineer
	Permit Criteria 1	See EDSM VI.3.1.6 Section 4 Part C	DTOE, AE	TEMA
	Permit Criteria 2	Does not meet Criteria 1, see EDSM VI.3.1.6 Section 4 Part C	DTOE, DA, TEMA, TEDA	Chief Engineer
UPGRADE OF EXISTING FULL ACCESS TRAFFIC SIGNALS ON CONSTRUCTION PROJECTS FOR EXISTING OR PROPOSED DIVIDED HIGHWAYS	Criteria 1	See EDSM VI.3.1.6 Section 5 Part B	DTOE	DA
	Permit Criteria 1	See EDSM VI.3.1.6 Section 6 Part A	DTOE, AE	TEMA
UPGRADE OF EXISTING TRAFFIC SIGNALS COMPLETED BY IN HOUSE FORCES, CONTRACT OR NON DIVIDED ROADWAY CONSTRUCTION PROJECT	Criteria 1	See EDSM VI.3.1.6 Section 6 Part A		DTOE
	Permit Criteria 1	See EDSM VI.3.1.6 Section 6 Part A	DTOE, AE	TEMA
Modification/Upgrade of existing Traffic Signals	Criteria 1	See EDSM VI.3.1.6 Section 6 Part A		DTOE
	Permit Criteria 1	See EDSM VI.3.1.6 Section 6 Part A	DTOE, AE	TEMA
Traffic Signal Removal	Criteria 1	See Traffic Engineering Manual Section 4B.3		DTOE
Intersection Control Beacon (Flashing Beacon)	Criteria 1	See EDSM VI.3.1.2	DTOE	DA
	Permit Criteria 1	See EDSM VI.3.1.2	DTOE, AE	TEMA
Intersection Control Beacon Removal	Criteria 1	See Traffic Engineering Manual Section 4L.1		DTOE
	Criteria 1	See EDSM VI.3.1.2		DTOE
Non-Interstate Sign Beacon	Permit Criteria 1	See EDSM VI.3.1.2		DTOE, AE
Interstate Sign Beacon	Criteria 1	See EDSM VI.3.1.2	DTOE, DA	TEMA
Speed Limits	Criteria 1	See EDSM VI.1.1.1 and Traffic Engineering Manual Section 20.2	DTOE, DA, TEMA, TEDA	Chief Engineer
Regulatory Signs (i.e.: Loud Music Prohibited, Unmuffled Compression Brake, No Littering, and No Parking)	Permit Criteria 1	See Traffic Engineering Manual and MUTCD	DTOE, AE	TEMA
Gateway Signs	Permit CoA	See Traffic Engineering Manual Section 2D.3	DTOE,DDE, AE, LA, FHWA	TEMA
	Permit Non-Interstate	See Traffic Engineering Manual Section 2D.3	DTOE,DDE, AE, LA	TEMA
Political Boundary Signs	Criteria 1	See Traffic Engineering Manual Section 2D.2		DTOE
	Permit Criteria 1	See Traffic Engineering Manual Section 2D.2		DTOE, AE
Guide Signs	Interstate	See EDSM VI.2.1.3	DTOE	TEMA
	Non-Interstate	See Traffic Engineering Manual Section 2D.6	DTOE	TEMA
	Permit Non-Interstate	See Traffic Engineering Manual Section 2D.6	DTOE, AE	TEMA
Memorial Signs	Criteria 1	See Traffic Engineering Manual Section 2M.1	Legislative Act, DTOE	TEMA
	Permit Criteria 1	See Traffic Engineering Manual Section 2M.1	Legislative Act, DTOE, AE	TEMA
Share The Roadway Signs	Permit Criteria 1	See Traffic Engineering Manual Section 9B.2		DTOE, AE
Street Name Signs	Permit Criteria 1	See Traffic Engineering Manual Section 2D.8		DTOE, AE
Wayfinding Signs	Permit Criteria 1	See MUTCD		DTOE, AE
Non-Standard Signs	Criteria 1		DTOE	TEMA
Pavement Markings	Criteria 1	See MUTCD and Pavement Marking Standards		DTOE
Roundabouts	Criteria 1	See EDSM VI.1.1.5	DTOE, TEMA, TEDevA	TEDA

Section 1A.1

STUDY OF TRAFFIC ENGINEERING LOCATIONS

1A.1.1 PURPOSE

If a location has been studied within 2 years of the current date, a new study shall be conducted only if there has been a major traffic generator or traffic volumes added to the area.

1A.1.2 DOCUMENTATION FOR APPROVAL

All correspondence to local governments on traffic control changes should include the following verbiage:

In accordance with Senate Concurrent Resolution No. 27 of the 2007 Regular Session, the Department will consider requests from the local governing authority if they have concerns regarding any changes to traffic control with their corporate limits based on the following three requirements:

1. A traffic engineering study is conducted by the municipal/parish traffic engineer and a report is prepared which supports the positions of the governing authority.
2. The governing authority of the municipality enacts a local ordinance, which adopts the findings by the local traffic engineering report.
3. The District Traffic Engineer for the Department concurs with the findings of the traffic engineering report.

Reports should be sent in on Intradepartmental letterhead with signature blocks for approval.

Section 1B.1

TRAFFIC ENGINEERING WAIVERS

1B.1.1 DEFINITION

A waiver is required when an EDSM or another policy requirements are not met.

1B.1.2 PURPOSE

The purpose of this section is to define procedures to get a waiver approved.

An intradepartmental memo should state what is being waived, why a waiver is needed and what mitigation will be done. All necessary reports or documentation should be attached to the intradepartmental memo.

The intradepartmental memo shall be addressed to the Chief Engineer or the Traffic Engineering Division Administrator depending on who has been designated to approve the specific waiver.

There should be a routing slip attached to the memo with the following order of approvals:

1. District Administrator
2. Traffic Engineering Management Administrator
3. Traffic Engineering Division Administrator
4. Chief Engineer

Section 2A.1

SIGNS

2A.1.1 MUTCD SECTION REFERENCE

Chapter 2 Signs

2A.1.2 POLICY

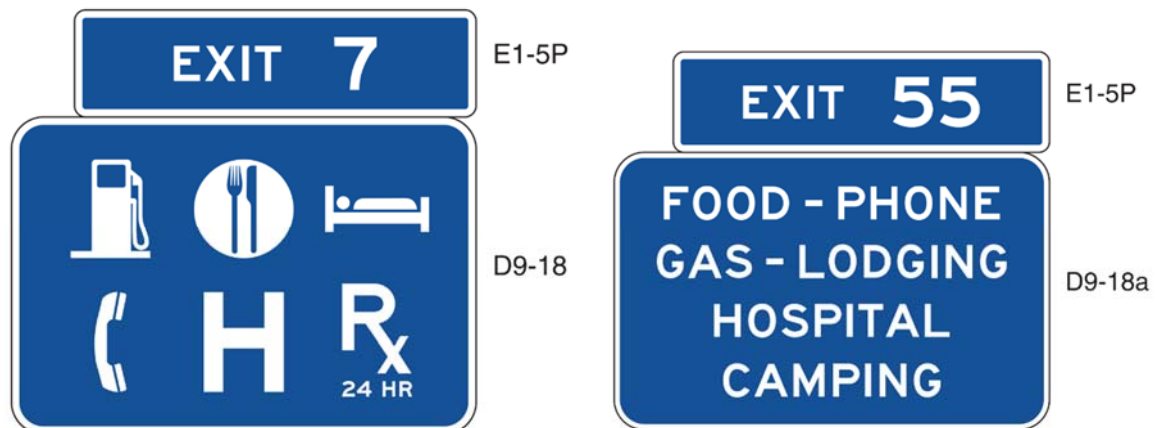
Word messages shall not be used if a symbol designs is available in the current DOTD adopted MUTCD.

2A.1.3 EXAMPLES

Figure 2A.1.1 Symbol Sign Example 1



Figure 2A.1.2 Symbol Sign Example 2



Section 2A.2

U CHANNEL SIGN POST SPLICE

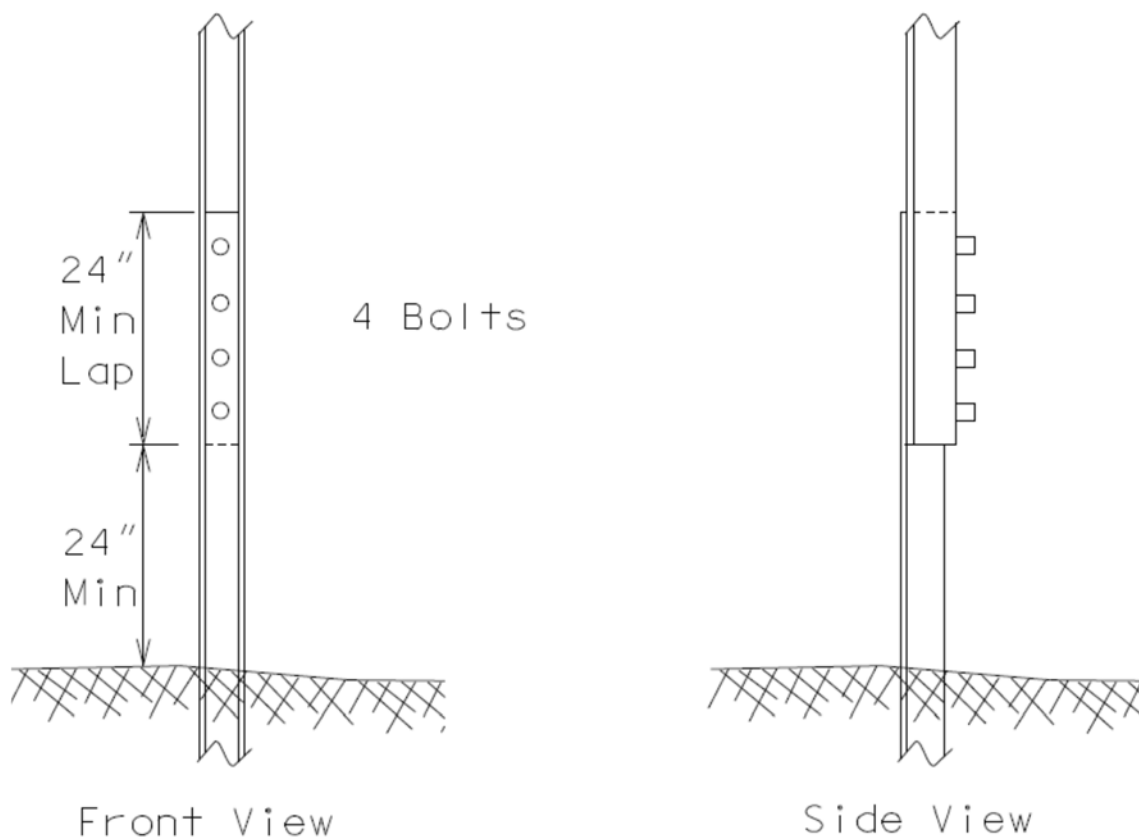
2A.2.1 MUTCD SECTION REFERENCE

Section 2A Posts and Mountings

2A.2.2 U CHANNEL SIGN POST SPLICE

Structural splices for u-channel sign posts shall be a minimum of 24 inches above the ground, a minimum of 24 inches in length and secured with a minimum of 4 bolts.

Figure 2A.2.1 U Channel Sign Post Splice



Section 2B.2

USE OF TRUCK ROUTE SIGNS

2B.2.1 MUTCD SECTION REFERENCE

Truck Route Signs (R14-1)

2B.2.2 LOUISIANA LAW

Revised Statute 32:380 (D) and 32:382 (D) requires the Department to designate a truck route system for large trucks 96 to 102 inches in width and combinations of vehicles consisting of three vehicles.

2B.2.3 TRUCK ROUTE SYSTEM

The Truck Route System designated by the Department is detailed on the Official Truck Route map maintained by the DOTD Office of Multimodal Planning Division.

2B.2.4 EXCEPTIONS

Large trucks may also use adjacent state routes within 10 miles (3 miles in Orleans Parish) of the truck routes for food, fuel, repairs, and rest unless otherwise posted.

2B.2.5 REQUESTS

Requests for TRUCK ROUTE signs should be made by the local jurisdiction by resolution or other official document.

A traffic engineering report should be prepared in response to this request addressing pertinent traffic issues.

2B.2.6 APPROVAL

All TRUCK ROUTE signs must be recommended by the District Traffic Operations Engineer (DTOE) and approved by the District Administrator.

2B.2.7 LOCATION AND PLACEMENT

Signs should be placed at the beginning of the designated route and repeated as necessary.

2B.2.8 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the TRUCK ROUTE signs by either Control Section – Logmile or GPS coordinates.

Section 2B.3

USE OF NO TRUCK SIGNS

2B.3.1 MUTCD SECTION REFERENCE

National Network Signs (R14-5)

2B.3.2 LOUISIANA LAW

Revised Statute 32:380 (D) and 32:382 (D) requires the Department to designate a truck route system for large trucks 96 to 102 inches in width and combinations of vehicles consisting of three vehicles.

2B.3.3 TRUCK ROUTE SYSTEM

The Truck Route System designated by the Department is detailed on the Official Truck Route map maintained by the DOTD Office of Multimodal Planning Division.

2B.3.4 EXCEPTIONS

All state routes are open to trucks less than 96" wide unless otherwise posted.

2B.3.5 CONDITIONS FOR PLACEMENT

The route is not designated as a truck route and one of the following conditions are met:

1. The route has a specific weight limitation.
2. The route has a specific geometric limitation.

2B.3.6 REQUESTS

Requests for NO TRUCK ROUTE signs should be made by the local jurisdiction by resolution or other official document.

A traffic engineering report should be prepared in response to this request addressing pertinent traffic issues.

2B.3.7 APPROVAL

All NO TRUCK signs shall be approved by the Traffic Engineering Administrator prior to installation. Once approved the request shall be forwarded to Office of Multimodal Planning for documentation and the District Traffic Operation Engineer for installation.

2B.3.8 LOCATION AND PLACEMENT

Signs should be placed at the beginning of the designated route and repeated as necessary.

2B.3.9 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the NO TRUCK ROUTE signs by either Control Section – Logmile or GPS coordinates.

Section 2B.4

USE OF WEIGHT LIMIT SIGNS

2B.4.1 MUTCD SECTION REFERENCE

Weight Limit Signs (R12-5)

2B.4.2 LOUISIANA LAW

Revised Statute 32:386 (J) gives the Department the authority to limit truck weights on any state route including designated truck routes.

2B.4.3 CONDITIONS FOR PLACEMENT

Upon determination of DOTD Bridge Maintenance.

2B.4.4 LOCATION AND PLACEMENT

The Weight Limit Sign (R12-5) shall be placed in advance of the applicable section of highway or structure.

A Weight Limit Sign (R12-5) with an appropriate distance plaque shall be placed in advance of the nearest intersection or other points where prohibited vehicles can detour or turn around.

2B.4.5 APPROVAL

All Weight Limit signs shall be approved by the ADA of Operations, the Chief Engineer and then sent to the legal section. Once approved and posted to the Department website, the signs shall be installed by District personnel.

2B.4.6 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the WEIGHT LIMIT and the WEIGHT LIMIT with advisory distance ahead plate signs by either Control Section – Logmile or GPS coordinates.

Section 2B.5

USE OF NO HAZARDOUS CARGO SIGNS

2B.5.1 MUTCD SECTION REFERENCE

No Hazardous Cargo Signs (R14-3)

2B.5.2 LOUISIANA LAW

Presently, Revised Statute 32:1521 prohibits the transport of hazardous cargo along LA 73 in Ascension Parish, and all routes in Caddo and Bossier Parishes except specific main named highways.

2B.5.3 CONDITIONS FOR PLACEMENT

Limitations of the transport of hazardous cargo are set by specific acts of the legislature.

2B.5.4 EXCEPTIONS

Temporary restrictions on the transport of hazardous cargo due to homeland security issues have been implemented by the Department.

2B.5.5 LOCATION AND PLACEMENT

Signs on the Interstate system shall supplement all Advance Guide Signs to the Exit.

On all other state routes, signs shall supplement all Junction and Advance Junction Signs.

2B.5.6 APPROVAL

Hazardous Cargo Signs are approved by an Act of Legislation or by an Official Request from the Office of Homeland Security.

2B.5.7 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the Hazardous Cargo Signs (R14-3) signs by either Control Section – Logmile or GPS coordinates.

Section 2B.6

UNMUFFLED COMPRESSION BRAKE PROHIBITED SIGNS

2B.6.1 DEFINITION

“Unmuffled compression brake” or (engine brake) means any motor vehicle brake that is operated by the compression of the engine of the motor vehicle. An unmuffled compression brake is also referred to as a “jake brake”.

This policy is intended to provide guidance on the issuance of permits to local governments for UNMUFFLED COMPRESSION BRAKE PROHIBITED signs.

2B.6.2 CONDITIONS FOR PLACING SIGNS

The Department will not install UNMUFFLED COMPRESSION BRAKE PROHIBITED signs. Applications for a Regulatory Sign permit may be sent to the District Office to which the requested sign would belong.

To obtain a Regulatory Sign permit:

1. A permit request form for Regulatory Signs must be signed by an official of the local government requesting the sign
2. The request must specify where the signs will be placed
3. The following must be attached to the request:
 - a. A map illustrating where the signs will be placed
 - b. A copy of the local ordinance banning the use of unmuffled compression brakes specifically (a broad noise ban ordinance will not be accepted)
 - c. Shop drawings illustrating the size of sign, lettering height, font, legend, and type of material (sheeting) to be used

2B.6.3 LOCATION AND PLACEMENT

The UNMUFFLED COMPRESSION BRAKE PROHIBITED signs shall only be placed in an area with a current ordinance prohibiting unmuffled compression brakes that has been passed by the local governing agency requesting the permit for these signs. The sign shall be mounted as an independent sign assembly that meets DOTD current sign installation standards.

2B.6.4 SIGN DESIGN

The UNMUFFLED COMPRESSION BRAKE PROHIBITED signs shall be designed as described below:

1. White background on the sign
2. Black lettering:
 - a. two lane roadways – 4 inch lettering
 - b. multilane roadways, 45 mph or less – 4 inch lettering
 - c. multilane roadways with 50 mph or greater – 6 inch lettering
 - d. Control of Access roadways – 13 inch lettering
3. Clearview 1W font shall be used
4. The sign shall be retroreflective to show the same shape and similar color both day and night

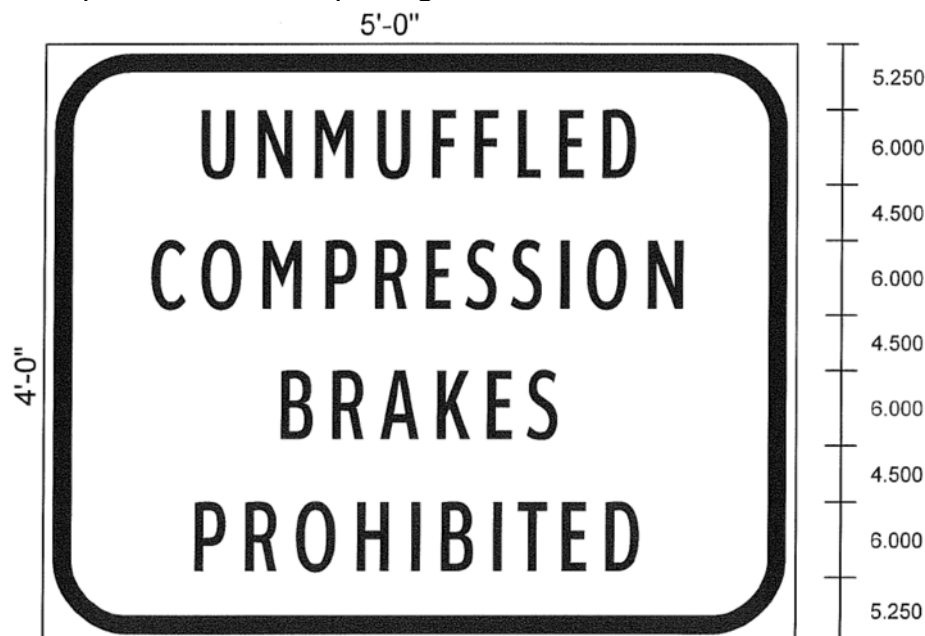
The back of UNMUFFLED COMPRESSION BRAKE PROHIBITED signs shall have the following information either on a weather proof sticker or written neatly in black permanent marker:

1. The proper agency to call for maintenance
2. The permit number
3. The installation date

2B.6.5 IMPLEMENTATION

All new requests for UNMUFFLED COMPRESSION BRAKE PROHIBITED signs shall follow this policy. All existing signs installed under an approved DOTD permit are grandfathered in until they are replaced due to damage or routine maintenance.

Figure 2B.6.1 Unmuffled Compression Brakes Prohibited Standard Sign for a multilane roadway with a speed limit of 50 mph or greater.



2B.6.6 APPROVAL

The District Traffic Operations Engineer shall recommend for approval the UNMUFFLED COMPRESSION BRAKE PROHIBITED signs and the Traffic Engineering Management Administrator shall approve. If the sign is non-standard, the Traffic Engineering Management Administrator shall approve the sign prior to installation.

2B.6.7 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the UNMUFFLED COMPRESSION BRAKE PROHIBITED signs by either Control Section – Logmile or GPS coordinates.

Section 2B.7

LOUD MUSIC PROHIBITED SIGNS

2B.7.1 DEFINITION

This policy is intended to provide guidance on the issuance of permits to local governments for LOUD MUSIC PROHIBITED signs.

2B.7.2 CONDITIONS FOR PLACING SIGNS

The Department will not install LOUD MUSIC PROHIBITED signs. Applications for a Regulatory Sign permit may be sent to the District Office to which the requested sign would belong.

To obtain a Regulatory Sign permit:

1. A permit request form for Regulatory Signs must be signed by an official of the local government requesting the sign
2. The request must specify where the signs will be placed
3. The following must be attached to the request:
 - a. A map illustrating where the signs will be placed
 - b. A copy of the local ordinance banning loud music specifically (a broad noise ban ordinance will not be accepted)
 - c. Shop drawings illustrating the size of sign, lettering height, font, legend, and type of material (sheeting) to be used

2B.7.3 LOCATION AND PLACEMENT

The LOUD MUSIC PROHIBITED signs shall only be placed in an area with a current ordinance prohibiting loud music that has been passed by the local governing agency requesting the permit for these signs. The sign shall be mounted as an independent sign assembly that meets DOTD current sign installation standards.

2B.7.4 SIGN DESIGN

The LOUD MUSIC PROHIBITED signs shall be designed as described below:

1. White background on the sign
2. Black lettering:
 - a. two lane roadways – 4 inch lettering
 - b. multilane roadways, 45 mph or less – 4 inch lettering
 - c. multilane roadways with 50 mph or greater – 6 inch lettering
3. Clearview 1W font shall be used

4. The sign shall be retroreflective to show the same shape and similar color both day and night

The back of LOUD MUSIC PROHIBITED signs must have the following information either on a weather proof sticker or written neatly in black permanent marker:

1. The proper agency to call for maintenance
2. The permit number
3. The installation date

2B.7.5 IMPLEMENTATION

All new requests for LOUD MUSIC PROHIBITED signs shall follow this policy. All existing signs installed under an approved DOTD permit are grandfathered in until they are replaced due to damage or routine maintenance.

Figure 2B.7.1 Loud Music Prohibited Standard Sign for a multilane roadway with a speed limit of 50 mph or greater.



2B.7.6 APPROVAL

The District Traffic Operations Engineer shall recommend for approval the LOUD MUSIC PROHIBITED signs and the Traffic Engineering Management Administrator shall approve.

2B.7.7 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the LOUD MUSIC PROHIBITED signs by either Control Section – Logmile or GPS coordinates.

Section 2B.8

INSTALLATION AND MAINTENANCE OF STOP SIGNS

2B.8.1 INSTALLATION AND MAINTENANCE

- (1) State Routes.** DOTD shall be responsible for installing and maintaining STOP signs on all state routes where applicable.
- (2) Local Roads.** The owner of the publicly owned road shall install STOP signs on their road where applicable. DOTD shall maintain all STOP signs on publicly owned roads at the intersection of the state highway. The owner of the publicly owned road shall be responsible for all warning signs associated with the non-state owned approaches. The owner of the publicly owned road shall maintain the visibility of the STOP sign.
- (3) Private Roads/Drives.** The owner of the private road or driveway shall install STOP signs on their road as directed by DOTD. The private road or driveway owner shall maintain the STOP signs and any warning signs associated with the privately owned approaches.

2B.8.2 LOCATION AND PLACEMENT

See Section 2A.16 and Section 2B.10 in the 2009 MUTCD

2B.8.3 SIGN DESIGN

See Section 2B.03 in the 2009 MUTCD

2B.8.4 APPROVAL

The District Traffic Operations Engineer shall approve STOP signs.

2B.8.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the STOP signs maintained by DOTD by either Control Section – Logmile or GPS coordinates.

Section 2B.9

KEEP RIGHT EXCEPT TO PASS / SLOWER TRAFFIC KEEP RIGHT SIGNS

2B.9.1 MUTCD SECTION REFERENCE

2B.30 Keep Right Except to Pass Sign (R4-16), Slower Traffic Keep Right Sign (R4-3)

2B.9.2 CONDITIONS FOR USE

Signs may be installed if District Traffic Operations Engineer determines that the drivers need to be directed to stay in the right lane unless passing.

2B.9.3 LOCATION

- a. Interstate:
Signs shall be placed after each Control of Access ramp entrance and placed in rural areas at 15 mile spacing.
- b. Non-Interstate:
Rural areas, with low ADT, signs spaced every 5 miles or after major intersections.

2B.9.4 APPROVAL

The District Traffic Operations Engineer shall approve the use of Keep Right Except to Pass Signs if it meets the conditions for use above in part 2B.9.2, otherwise the Traffic Engineering Management Administrator shall approve if the conditions are not met.

2B.9.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the date of installation, and/or the date of removal and the locations of the KEEP RIGHT EXCEPT TO PASS signs by either Control Section – Logmile or GPS coordinates.

Section 2B.10

MOVE ACCIDENTS FROM TRAVEL LANES SIGNS

2B.10.1 CONDITIONS FOR USE

The MOVE ACCIDENTS FROM TRAVEL LANES signs are placed where the District Traffic Operations Engineer determines that drivers need to be directed to remove vehicles from the travel lanes after a crash to alleviate congestion.

2B.10.2 LOCATION

- a. Interstate:
The MOVE ACCIDENTS FROM TRAVEL LANES sign is placed after each urban interstate ramp entrance and then can be spaced at a 2 mile interval when the ADT is greater than or equal to 50,000 and at 5 mile intervals when the ADT is less than 50,000.
- b. Non-interstate:
The MOVE ACCIDENTS FROM TRAVEL LANES sign is placed every 1 mile or after a major intersection in urban areas.

2B.10.3 SIGN DESIGN

The MOVE ACCIDENTS FROM TRAVEL LANES signs shall be designed as described below:

1. White background on the sign
2. Black lettering:
Multilane roadways with 50 mph or greater – 6 inch lettering
3. Series D font shall be used
4. The sign shall be retroreflective to show the same shape and similar color both day and night

If MOVE ACCIDENTS FROM TRAVEL LANES signs are installed by permit, the back of the signs must have the following information either on a weather proof sticker or written neatly in black permanent marker:

1. The proper agency to call for maintenance
2. The permit number
3. The installation date

Figure 2B.10.1 Move Accidents from Travel Lanes Standard Signs



2B.10.4 APPROVAL

The District Traffic Operations Engineer shall approve the use of Move Accident from Travel Lanes or Remove Accidents from Roadway Signs if it meets the conditions for use above in part 2B.10.1, otherwise the Traffic Engineering Management Administrator shall approve if the conditions are not met.

2B.10.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the date of installation, and/or the date of removal and the locations of the MOVE ACCIDENTS FROM TRAVEL LANES signs by either Control Section – Logmile or GPS coordinates.

Section 2B.11

MOVE OVER

2B.11.1 LOUISIANA LAW

Revised Statute 32:125

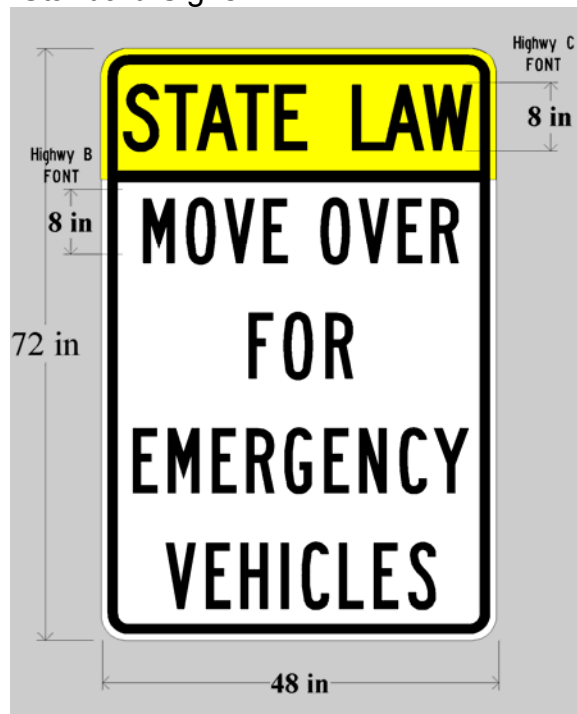
2B.11.2 CONDITIONS FOR USE

The MOVE OVER signs are placed where the District Traffic Operations Engineer in coordination with the State Troopers determines that drivers need to be alerted to emergency vehicles.

2B.11.3 LOCATION

Shall be placed at the State Lines. All other sign locations shall be approved by Traffic Engineering Management Administrator.

Figure 2B.11.1 Move Over Standard Signs



2B.11.4 APPROVAL

Sign locations shall be approved by Traffic Engineering Management Administrator.

2B.11.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the date of installation, and/or the date of removal and the locations of the MOVE OVER signs by either Control Section – Logmile or GPS coordinates.

Section 2C.3

TRAFFIC SIGNAL UNDER STUDY FOR REMOVAL SIGN

2C.3.1 PURPOSE

The purpose of the Traffic Signal Under Study sign is to define the sign to be used for informing the public of a traffic signal removal study. This sign shall be used in conjunction with Section 4B.3 Removal of Traffic Signals.

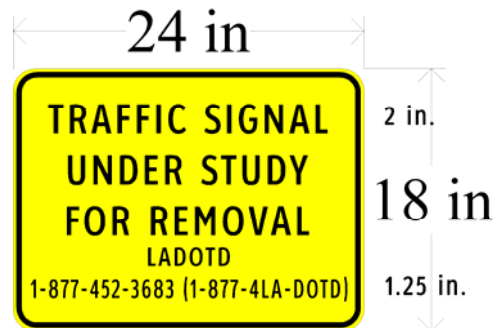
2C.3.2 SIGN DESIGN

The signs shall be designed as follows:

1. The signs shall be made with yellow background reflective sheeting. The primary legend in black reflective sheeting in Series D font.
2. Signs within the clear zone shall be installed on breakaway posts or shall be installed behind existing guardrail. Breakaway posts shall be AASHTO approved.
3. The signs shall be 24" X 18".
4. Minimum letter heights for capital letters for the primary message are 2 inch lettering and 1.25 inch lettering for the remaining information.

The back of the signs must have the installation date either on a weather proof sticker or written neatly in black permanent marker.

Figure 2C.3.1 Example of Traffic Signal Under Study for Removal Sign



2C.3.3 PLACEMENT

When sign is installed at the traffic signal location(s), contact the District Administrator, District Public Information Officer, and Headquarters Public Affairs office to notify them.

2C.3.4 APPROVAL

The District Traffic Operations Engineer shall approve the use of the Traffic Signal Under Study signs based on Section 4B.3 of this manual.

Section 2C.4

USE OF SIGNAL AHEAD SIGNS

2C.4.1 MUTCD SECTION REFERENCE

Signal Ahead Sign (W3-3)

2C.4.2 CONDITIONS FOR USE

The District Traffic Operations Engineer shall erect SIGNAL AHEAD (W3-3) signs at locations:

1. Temporarily for thirty (30) days where a new signal has been turned on or
2. Permanently on an approach to a signal where a continuous view of at least two signal faces for the distance specified in *MUTCD Table 4D-1 "Minimum Sight Distance"* does not exist or
3. Permanently on an approach to a signal where a crash history exists.

2C.4.3 SIGN SUPPLEMENT

The SIGNAL AHEAD (W3-3) sign may be supplemented with a flashing beacon if the SIGNAL AHEAD (W3-3) sign has been installed on an approach to a signal where a crash history of three (3) or more correctable crashes associated with advanced warning exists for the last 12 months of record.

2C.4.4 LOCATION AND PLACEMENT

SIGNAL AHEAD (W3-3) shall be placed according to *MUTCD Table 2C-4 Guidelines for Advance Placement of Warning Signs* using a Stop Condition (deceleration speed of 0 mph).

2C.4.5 APPROVAL

The District Traffic Operations Engineer shall approve the use of Signal Ahead Signs if it meets the conditions for use above in part 2C.4.2, otherwise the Traffic Engineering Management Administrator shall approve if the conditions are not met.

2C.4.6 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the date of installation, and/or the date of removal and the locations of the SIGNAL AHEAD (W3-3) signs by either Control Section – Logmile or GPS coordinates.

Section 2C.5

USE OF LOW CLEARANCE SIGNS

2C.5.1 MUTCD SECTION REFERENCE

Low Clearance Signs (W12-2 and W12-2P)

2C.5.2 CONDITIONS FOR USE

The District Traffic Operations Engineer shall erect LOW CLEARANCE (W12-2 or W12-2P) signs at locations where it has been determined a structure is less than 12 inches above the statutory maximum vehicle height of 13' 6" set by Revised Statute 32:381. Therefore, any vertical clearance equal to or less than 14' 6" shall be signed.

2C.5.3 LOCATION AND PLACEMENT

LOW CLEARANCE (W12-2P) sign shall be placed on the structure. If this sign cannot be placed on the structure then the LOW CLEARANCE (W12-2) sign shall be placed on the ground in advance of the structure.

LOW CLEARANCE (W12-2) with a DISTANCE AHEAD (W16-2 or W16-3) plaque shall be placed at the nearest intersecting road where a vehicle can detour or turn around.

2C.5.4 APPROVAL

The District Traffic Operations Engineer shall approve the use of Low Clearance signs.

2C.5.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the LOW CLEARANCE signs by either Control Section – Logmile or GPS coordinates.

Section 2C.6

WARNING SIGNS FOR PLAY ACTIVITIES

2C.6.1 MUTCD SECTION REFERENCE

Playground Sign (W15-1)

2C.6.2 CONDITIONS FOR USE

PLAYGROUND signs and non-standard play activity signs shall not be installed on Louisiana state owned roadways. The MUTCD states that the use of warning signs should be kept to a minimum as the unnecessary use of warning signs tends to breed disrespect for all signs. The intent of this sign does not inform the motorist to do anything more than what he should be doing already and that is pay attention. These signs just remind the motorist to be aware of their surroundings.

Figure 2C.6.1 Examples of Play Activity Signs



W 15-1



Section 2C.7

WARNING SIGNS FOR ANIMALS

2C.7.1 MUTCD SECTION REFERENCE

W 11-3 (Deer), W 11-4 (Cow), W11-7 (Horseback rider), W 11- 16 (Bear), W11-17 (Sheep), W11-18 (Bighorn Sheep), W 11-19 (Donkey), W11-20 (Elk), W11-21 (Moose), W11-22 (Wild Horses) and any non-standard word message warning of an animal crossing.

2C.7.2 CONDITIONS FOR USE

Animal warning signs shall not be installed on Louisiana state owned roadways. The MUTCD states that the use of warning signs should be kept to a minimum as the unnecessary use of warning signs tends to breed disrespect for all signs. The intent of this sign does not inform the motorist to do anything more than what he should be doing already and that is pay attention. These signs just remind the motorist to be aware of their surroundings. Animals can be found alongside all of our highways and do not cross at a crosswalk or a sign.

Figure 2C.7.1 Examples of Animal Crossing Signs



W 11-18 (Bighorn Sheep)



W 11-3 (Deer)



W 11-4 (Cow)



W 11-7 (Horseback rider)

Section 2C.8

CHURCH WARNING SIGN POLICY

2C.8.1 MUTCD REFERENCE

Vehicular Traffic Warning signs, Section 2C.49

2C.8.2 LEGAL

Revised Statute 48:277 allows the department to erect signs in advance of driveways for churches located along state highways.

2C.8.3 CONDITIONS FOR USE

Church warning signs shall be used when vehicles on the state highway cannot see vehicles in the church driveway by the specified distance listed in Table 2C-4 in the MUTCD under condition B, column 0. If there are objects such as trees, fences, etc. blocking the driver's vision to the church driveway on the church property, the objects shall be removed and the site shall be re-evaluated prior to sign approval.

2C.8.4 APPROVAL

Church warning signs shall be approved by the District Traffic Operations Engineer if the Conditions for Use in the above section (2C.8.3) are met. If the conditions are not met, the sign shall be approved by the Traffic Engineering Management Administrator.

2C.8.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the church warning signs by either Control Section – Logmile or GPS coordinates.

Section 2C.9

BRIDGE ICES BEFORE ROAD SIGN POLICY

2C.9.1 MUTCD REFERENCE

Surface Condition Signs, W8-13

2C.9.2 CONDITIONS FOR USE

BRIDGE ICES BEFORE ROAD signs shall be installed on all bridges 100 feet or longer. Exceptions may be made at locations in horizontal curves or where vehicles are required to stop for a stop sign or traffic signal.

2C.9.3 APPROVAL

Bridge Ices signs shall be approved by the District Traffic Operations Engineer if the Conditions for Use in the above section (2C.9.2) are met. If the conditions are not met, the sign shall be approved by the Traffic Engineering Management Administrator.

2C.9.4 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the BRIDGE ICES BEFORE ROAD signs by either Control Section – Logmile or GPS coordinates.

Section 2D.2

JURISDICTIONAL BOUNDARY SIGNS ON INTERSTATE AND NON-INTERSTATE HIGHWAYS

2D.2.1 DEFINITIONS

1. Jurisdictional Boundary Signs:
 - a. Standard Political Boundary Signs are highway signs designating the state line, parish line, and corporate limits.
 - b. Permitted Political Boundary Signs shall contain the official name and may contain a unique message and logo.
2. Railroad Stations, Bus Stations, and Commercial Aviation Airports: Must provide at least two scheduled movements (one-way) per day.
3. General Aviation Airports: Facility must accommodate freight, charter and private aircraft, have a minimum of five year-round based aircraft, and have a fixed based operator.
4. Hospital: Must have 24-hr inpatient treatment facilities.

2D.2.2 LEGAL

Revised Statute 32:235 requires that local governments must have Department approval to install signs in the highway right-of-way.

Revised Statute 48:348 gives the Department the authority to remove objects, including unapproved signs from the highway right-of-way.

LAC 70:701 provides criteria for the permitting of flagpoles within the highway right-of-way.

LAC 70:117 provides criteria for the permitting of landscaping within the highway right-of-way.

This policy rescinds all previous policy memorandums and EDSM on this issue.

2D.2.3 CRITERIA FOR PLACING SIGNS

Standard Political Boundary signs may be installed by DOTD on controlled and uncontrolled access routes. A local governing agency may apply for Permitted Political Boundary Signs to be installed and maintained in a community by the local governing agency. Un-incorporated communities as well as incorporated ones shall have a letter of concurrence from the parish government concurring with the name and location of the signs.

A. Standard Political Boundary Signs on Controlled Access Routes:

The Department may install Standard Political Boundary Signs (examples in Figure 2D.2.1) on controlled access routes but only at the following locations:

1. State line
2. Parish line
3. Corporate limits (city must be incorporated)

B. Standard Political Boundary Signs for Non-Controlled Access Routes:

The Department may install Standard Political Boundary Signs (examples in Figure 2D.2.1) on non-controlled access routes at the above locations as well as for political boundaries for communities which are recognized by the parish government and that have one of the following public facilities:

1. Railroad Station, Bus Station, Commercial Airport, or General Aviation Airport.
2. Post Office or Driver's License Office
3. Police or Fire Station
4. Library or Public Community Center
5. Public School, Technical College, or Private College
6. Hospital

If a community does not have one of the above facilities, it may apply for a permit.

C. Permitted Political Boundary Signs:

Any community may apply for a permit to replace existing political boundary signs located on controlled access and non-controlled access routes with Permitted Political Boundary Signs. Examples of such signs are illustrated in Figure 2D.2.2. The permit sign shall include the original boundary designation as well as a special message or approved logo such as "Keep our City Beautiful", "Welcome to Jackson", "Home of the Yellow Jackets", etc., and shall be installed and maintained by the local governing agency requesting the permitted sign.

2D.2.4 PERMITS

Only local governments will be permitted to install and maintain jurisdictional boundary signs in accordance with the provision of the Political Boundary Permit Request Form. All costs associated with the installation and maintenance of permitted signs shall be borne by the local government.

Applications for a Political Boundary Sign Permit Request may be sent to the District Office to which the requested sign would belong.

To obtain a Political Boundary permit:

1. The permit must be signed by an official of the local government requesting the sign
2. The signs shall be installed on a breakaway support
3. The following must be attached to the request:
 - a. A map illustrating where the signs will be placed
 - b. If incorporated: A legal copy of the limits of corporation showing the city or town limits
 - c. If not incorporated: A signed document by the parish government agreeing to the sign placements at the boundaries
 - d. Shop drawings illustrating the size of sign, lettering height, font, legend, and type of material (sheeting) to be used

2D.2.5 SIGN DESIGN PERMITTED

The political boundary signs are standard highway signs and shall be designed as follows:

1. The signs shall be made with green background reflective sheeting with the primary legend in white reflective sheeting in a standard font. Other legends and symbols may be in different colors, fonts, and reflective or non-reflective sheeting.
2. Signs within the clear zone shall be installed on breakaway posts or shall be installed behind existing guardrail. Breakaway posts shall be AASHTO approved.
3. The signs shall contain no commercial advertising or sponsorship.
4. Minimum letter heights for capital letters are shown below for all messages outside of a logo:
 - a. two lane roadways - 4 to 6 inches
 - b. multilane roadways, 45 mph or less - 4 to 6 inches
 - c. multilane roadways, 50 mph or greater – 6 to 8 inches
 - d. control of access roadways – 8 to 13 inches

The back of the boundary sign shall have the following information either on a weather proof sticker or written neatly in black permanent marker:

1. The proper agency to call for maintenance
2. The permit number
3. The installation date

2D.2.6 APPROVAL

Standard Sign (meets 2D.2.3.B): District Traffic Operations Engineer may approve the permit and install the sign.

Non-Standard: District Traffic Operations Engineer shall recommend for approval and Traffic Engineering Management Administrator shall approve the permit.

2D.2.7 LOCATION AND PLACEMENT

Standard and Permitted Jurisdictional Boundary signs are to be placed at the official corporate limits or as close as possible. Un-incorporated communities shall have a letter of concurrence from the parish government concurring with the name and location of the signs. Location of each sign shall be shown on the permit form and approved by the District Traffic Operations Engineer.

2D.2.8 EXAMPLES OF STANDARD POLITICAL BOUNDARY SIGNS INSTALLED BY DOTD

Figure 2D.2.1 Example of Standard Political Boundary Signs for State Limits and Corporate Limits installed by DOTD



Figure 2D.2.2 Example of a Permitted Political Boundary Sign at a Corporate Limit Installed by Permit to a Local Community



Figure 2D.2.3 Example of an Interstate Permitted Political Boundary Sign



Note: The sign is bridge-mounted sign behind rail with the legend: "Enter St. Martin Parish"

Section 2D.3

GATEWAYS INTERSTATE AND NON-INTERSTATE HIGHWAYS

2D.3.1 DEFINITIONS

Gateways: All gateways installed on state right-of-way require a permit signed by the local entity; this includes signs installed under a construction project. Typically these signs do not include a standard roadway sign but do include a wood or masonry non-standard sign structure with legend incorporated into some type of landscaping. Gateways may also include lighting and flagpoles and are not considered traffic control devices.

2D.3.2 LEGAL

Revised Statute 32:236 states that privately owned signs on public rights of way are prohibited with exceptions from the authority of municipalities and Department.

Revised Statute 32:235 requires that local governments must have Department approval to install signs in the highway right-of-way.

Revised Statute 48:347 gives the Department the authority to remove objects, including unapproved signs from the highway right-of-way.

LAC 70:701 provides criteria for the permitting of flagpoles within the highway right-of-way.

LAC 70:117 provides criteria for the permitting of landscaping within the highway right-of-way.

Figures 2-1 thru 2-4 of the DOTD Road Design Manual establishes minimum design standards, which include minimum horizontal clearance for various design speeds, and shoulder and curb combinations.

This policy rescinds all previous policy memorandums and EDSM on this issue.

2D.3.3 CRITERIA FOR PLACING SIGNS

Un-incorporated communities, neighborhoods, etc. shall have a letter of concurrence from the parish government concurring with the name and location of the signs.

A. Gateways on Controlled Access Routes:

With proper permits, gateways may be placed on controlled access routes for communities, which have an incorporated government and a population of at least 10,000 residents.

B. Gateways on Non-Controlled Access Routes:

With proper permits, gateways may be placed on non-controlled access routes for communities. These permits shall be signed by a local authority.

2D.3.4 PERMITS

Only local governments will be permitted to install and maintain gateways in accordance with the provision of the Gateway Sign Permit form. All costs associated with the installation and maintenance of permitted signs shall be borne by the local government.

Signs to be placed within the control of access of the Interstate shall require approval of the FHWA prior to final permit approval.

A permit request form for a Gateway Sign permit may be sent to the District Office to which the requested sign would belong.

To obtain a Gateway Sign permit:

1. A Permit Request Form for a Gateway Sign must be signed by an official of the local government requesting the sign.
2. The signs shall be installed on a breakaway support if within the clear zone.
3. The following must be attached to the request:
 - a. A map illustrating where the signs will be placed
 - b. If incorporated: A legal copy of the limits of corporation showing the city or town limits
 - c. If not incorporated: A signed document by the parish government agreeing to the sign placements at the boundaries
 - d. Shop drawings illustrating the size of sign, lettering height, font, legend, and type of material (sheeting) to be used
 - e. Lighting plan if applicable
 - f. Landscaping plan if applicable

2D.3.5 SIGN DESIGN

Signs installed with Gateways

Signs installed with Gateways are not standard highway signs but may contain messages and shall be designed as follows:

1. Legends shall be made with white reflective sheeting or illuminated by appropriately placed spotlights or streetlights. Legends, which are illuminated, may be any color.
2. Gateways should be placed outside of the clear zone. If not possible, the gateway signs within the clear zone shall be installed on breakaway supports or shall be installed behind existing guardrail. Breakaway posts shall be AASHTO approved.
3. Gateways shall contain no commercial advertising.
4. Minimum letter heights for capital letters are as shown below for all messages outside of a logo:
 - a. two lane roadways - 4 to 6 inches
 - b. multilane roadways, 45 mph or less - 4 to 6 inches
 - c. multilane roadways, 50 mph or greater – 6 to 8 inches
 - d. control of access roadways – 8 to 13 inches

2D.3.6 APPROVAL

Gateway signs shall be recommended by the District Traffic Operations Engineer and approved by the Traffic Engineering Management Administrator along with FHWA if applicable.

2D.3.7 LOCATION AND PLACEMENT

Gateways are to be placed at the official corporate limits or as close as possible. Un-incorporated communities shall have a letter of concurrence from the parish government concurring with the name and location of the signs. Location of each sign shall be shown on the permit form and approved by the District Traffic Operations Engineer.

2D.3.8 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the location of the community signs by either Control Section – Logmile or GPS coordinates.

2D.3.9 EXAMPLES GATEWAYS INSTALLED BY PERMIT

Figure 2D.3.1 Example of a Non-Interstate Gateway Installed by Permit



Note:

The wood sign within clear zone on 6" x 6" breakaway wood posts with the legend:
"Welcome to St. Francisville, Audubon Pilgrimage, Third Weekend in March."

Figure 2D.3.2 Example of a Non-Interstate Gateway Installed by Permit



Note:

The brick sign is located in median (outside of clear zone) with lights and landscaping with the legend: "Welcome to Historic Natchitoches."

Figure 2D.3.3 Example of an Interstate Gateway Installed by Permit



Note:

The sign is a brick sign located in an interchange (outside of clear zone) with flagpoles, lights, and landscaping with the legend: "Welcome to Shreveport Bossier."

Section 2D.4

USE OF HOSPITAL SPECIFIC SERVICE SIGNS ON INTERSTATES/NON-INTERSTATES FOR EMERGENCY SERVICES

2D.4.1 MUTCD SECTION REFERENCE

Hospital Signs (D9-13aP, D9-2) and Directional Arrows Signs (M5-1, 5-2, 6-1, 6-2, 6-3)

2D.4.2 CONDITIONS FOR USE

HOSPITAL (D9-13aP, D9-2) signs shall only be used at qualifying hospitals with approval from the appropriate source. Primary consideration shall be to provide access for motorist unfamiliar with the area to the emergency entrances of the hospital.

Qualifying hospitals shall be open to the public, have no other guide signs installed on the roadway such as supplemental signs, shall be located no further than 5 miles from the interchange (intersection) and must meet all requirements in the MUTCD listed below:

1. 24-hour service, 7 days per week
2. Emergency department facilities with a physician (or emergency care nurse on duty within the emergency department with a physician on call) trained in emergency medical procedures on duty
3. Licensed or approved for definitive medical care by an appropriate state authority
4. Equipped for radio voice communications with ambulances and other hospitals

2D.4.3 LOCATION AND PLACEMENT

Hospital signs may be placed on both interstate and non-interstate routes.

A. Placing HOSPITAL (D9-2) signs and Directional Arrow signs on Non-Interstate Routes

1. No trailblazing will be allowed. Two Hospital (D9-2) and directional arrow signs if approved will be placed only on the route leading directly to the hospital (only one set allowed in each direction).
2. No sign shall be placed in front of the facility.
3. Engineering judgment shall be used for the placement of these signs and to determine whether the amount of existing signs allows space for the HOSPITAL (D9-2) and directional arrow signs.

B. Placing HOSPITAL (D9-2 and D9-13aP) signs and Directional Arrow signs on Interstate Routes

1. HOSPITAL (D9-13aP) signs shall only be installed at the bottom center of the ½ mile interstate guide sign. Once installed if the HOSPITAL (D9-13aP) sign touches a guide sign leg, then it needs to be reinstalled at the bottom center of the interstate guide sign above the hinge point. In addition, HOSPITAL (D9-2) signs shall be installed on the off ramp with an appropriate directional arrow (both on the guide sign

- below the hinge point of the leg in the direction required to travel to the facility). One additional trailblazer sign may be installed if necessary.
2. If more than one hospital qualifies at a particular interchange, additional arrows may be added to the off-ramp sign.

See Figure 2D.4.1 for illustrations.

2D.4.4 SIGN DESIGN

Only HOSPITAL (D9-2 and D9-13aP) signs that follow the dimensions and design illustrated in the MUTCD will be approved for use.

2D.4.5 APPROVAL

On Interstates:

Hospital signs shall be recommended by the District Traffic Operations Engineer and approved by the Traffic Engineering Division Administrator.

On Non-interstates:

Hospital signs shall be approved by the District Traffic Operations Engineer.

2D.4.6 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the hospital signs by either Control Section – Logmile or GPS coordinate.

2D.4.7 EXAMPLES OF NON-INTERSTATE AND INTERSTATE ROUTE HOSPITAL SIGNS

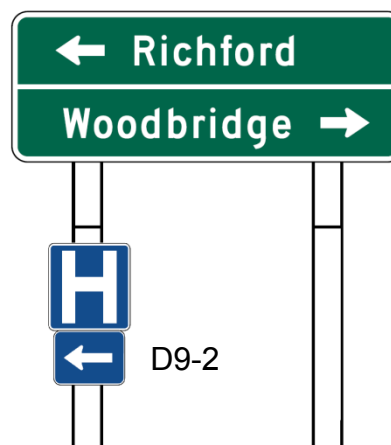
Figure 2D.4.1 Hospital Assembly for Non-Interstate Routes



Figure 2D.4.2 Hospital Assembly for Interstate Routes



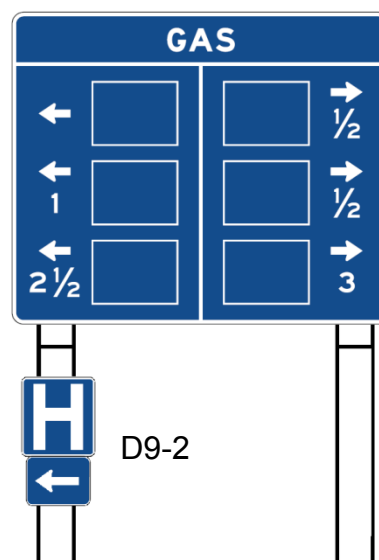
1/2 Mile Assembly



Off-Ramp Assembly
Option 1
(Preferred Option)



Off Ramp Assembly
Option 2



Off Ramp Assembly
Option 3

Section 2D.5

USE OF PHARMACY SIGNS ON INTERSTATE HIGHWAYS

2D.5.1 MUTCD SECTION REFERENCE

General Service Signs (D9-20)

2D.5.2 CONDITIONS FOR USE

Qualifying pharmacies shall be open to the public and shall have a State-licensed pharmacist present and on duty, 24 hours a day, 7 days a week, 365 days a year and be located within 3 miles of an interchange with the State's Interstate system.

2D.5.3 LOCATION AND PLACEMENT

1) Pharmacy signs shall only be installed on the leg of the ½ mile interstate guide sign (below the hinge point) and on the leg of the exit gore sign. In addition, Pharmacy signs shall be installed on the off ramp with an appropriate directional arrow. See Figure 2D.1.

2) If more than one pharmacy qualifies at a particular interchange, additional arrows may be added to the off-ramp sign.

2D.5.4 SIGN DESIGN

Pharmacy (D9-20) signs shall be as shown in figure 2D.5.1

2D.5.5 APPROVAL

The District Traffic Operations Engineer shall study the request and if signing is warranted, shall make such recommendation in a report to the Traffic Engineering Management Administrator. Pharmacy (D9-20) signs shall only be authorized by the Traffic Engineering Division Administrator (or his designated representative).

2D.5.6 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the pharmacy signs by either Control Section – Logmile or GPS coordinate.

2D.5.7 EXAMPLE PHARMACY SIGNS

Figure 2D.5.1 Pharmacy (D9-20) Assembly for Interstate Routes



1/2 Mile Assembly



Gore Assembly



Ramp Assembly

Section 2D.6

USE OF SUPPLEMENTAL GUIDE SIGNS ON NON-INTERSTATE HIGHWAYS

2D.6.1 MUTCD SECTION REFERENCE

Chapter 2D and Chapter 2M

2D.6.2 DEFINITION

A supplemental guide sign is a “directional sign” which serves the public purpose of directing vehicular traffic to or identifying buildings, facilities, or other entities or locations which are of interest to the public.

2D.6.3 LEGAL

Revised Statute 32:238 requires that local governing authority request a directional sign on a state route.

2D.6.4 PURPOSE

Normal guide, information and destination signs are used to inform vehicle operators of a specific route or destination and guide them along the route to their destination. Frequently, a private or public development which generates a significant volume of traffic that is unfamiliar with the local area is encountered adjacent to or near a highway. To properly serve traffic, it is desirable to provide additional guide signs to direct traffic to these traffic generators.

The purpose of traffic generator signing is to provide supplemental signing that will inform vehicle operators of facilities that generate a comparatively large volume of traffic and improve traffic flow and safety near traffic generators. It is necessary to establish criteria for determining which traffic generators should be shown on supplemental guide signs, so that the traffic generators shown are the ones which best satisfy the information requirements of vehicle operators that are unfamiliar with the area. The criteria should also limit the number of traffic generator signs installed to minimize confusion that may occur when vehicle operators are faced with an informational overload.

Not all facilities that meet the criteria for signing should automatically receive it. Signing for traffic generators is considered supplemental to the overall signing.

2D.6.5 APPROVAL

If the sign is supplied by permit, the owner shall request the sign through a permit application in which the District Traffic Operations Engineer shall recommend for approval. The unanimously passed resolution and supplemental guide sign permit request form shall be submitted to the District for processing. The District Traffic Operations Engineer, Area Engineer and the Traffic

Engineering Management Administrator will need to sign the permit prior to the DOTD headquarter permit approval.

2D.6.6 CRITERIA FOR PLACING SIGNS

Once the supplemental guide sign permit has been approved by DOTD and assigned a permit number, the requesting governing authority shall deliver the sign to their local DOTD District for installation according to RS 32:238.

2D.6.7 CONDITIONS FOR USE

1. The distance of the generator shall be no more than 5 road miles from the intersection of a state route unless it is a state park.
2. No trailblazing or multiple signs directing people onto multiple routes (state or local) shall be allowed except for state parks and state museums.
3. DOTD shall not place a sign in front of the facility.
4. Signs at the facility shall be in place prior to DOTD signing.
5. Verbiage of the facility shall match the official name (including what is on the facility sign and on the internet).
6. Only 3 supplements (both green and brown) shall be installed at an intersection.
7. Only 2 routes to get to the facility shall be signed.
8. If 2 facilities have similar names, then a common name with supplemental plaques shall be installed.
9. Prior to DOTD installing these signs, additional signing may be required on local streets.
10. The request for directional signs shall be in the form of a resolution unanimously passed by the governing authority making the request, and shall state the information which is to appear on the sign, the name and general location of the entity to which the public is to be directed, and the general location at which the sign is to be located.
However, if the request is to sign for a state park or state museum, the request shall come on official letterhead from the Secretary of the Department.
11. See figure 2D.6.1 below for locations that qualify for signing.

Figure 2D.6.1 Non-Interstate Highway Traffic Generator Criteria
(Only facilities listed in chart will qualify for a sign.)

Classification	Criteria	Color	Sign Supplied By:
Transportation Facilities	Provide 2 Scheduled movements (one way) per day, such as RR stations, bus stations & commercial airports.	Green	Permit
Educational Institutions & Non-Professional Sports facilities	<ol style="list-style-type: none"> 1. Post high-school institutions which own their facilities or have a long term lease (at least 10 years) having a minimum of 1,000 full time students or part-time students where every day at least 500 students must attend a class located on the signed campus grounds. 2. State schools for special education such as Louisiana School for the Deaf & Louisiana School for the Visually Impaired. 3. Public or private schools or non-professional sports facilities that have a football stadium, soccer fields, baseball fields, track or gymnasium where at least 4 events are held each year at the signed campus with rival teams from out of town. 4. Public or private schools that host at least 4 educational competitions each year with at least 5 schools from out of town participating. 	Green	<ol style="list-style-type: none"> 1. Permit 2. DOTD 3. Permit 4. Permit
Correctional Institutions	Federal or state operated facilities such as correctional centers, youth camps or prisons	Green	DOTD
Hospital and Health Care Facilities	<ol style="list-style-type: none"> 1. State or federally owned hospitals, operating 24 hours/day, 7 days/week and/or maintained medical facilities having 10 licensed beds or more, properly staffed and equipped for the diagnosis, treatment and care of persons admitted for overnight stay or longer who are suffering from illness, injury or deformity or other physical or mental condition for which medical, surgical and/or obstetrical services would be available and appropriate. 2. Signs can also be permitted if on DHH hospital site, http://new.dhh.louisiana.gov/index.cfm/directory/category/169?sid=1. 	Green	State Owned – DOTD Other – Permit
Large Traffic Generating Entertainment Areas	<ol style="list-style-type: none"> 1. Signing shall lead to parking areas. 2. Minimum of 500,000 attendees per year in facilities such as arenas, auditoriums, convention halls, stadiums, fairgrounds or racetracks. 	Green	Permit
Governmental Facilities	Any building complex housing a local, state or federal governmental agency that is open 8 hours a day for at least 5 days a week & has at least 12 public meetings per year or is open for public business such as military bases, courthouses, police stations, locations of the Department of Motor Vehicles, post offices or libraries.	Green	State Owned – DOTD Other – Permit
Parking Facilities	<ol style="list-style-type: none"> 1. Open to the public 2. Located no more than 4 blocks off the marked route 3. Minimum of 400 parking spaces 	Green	Permit

Recreational Facilities <i>(Signs shall lead only to the headquarters buildings for National Parks & National Forests.)</i>	<ol style="list-style-type: none"> 1. Open to the public at least 8 months out of the year. 2. Governmentally owned such as wildlife management or refuge areas, national forests or parks, state parks, lakes, beaches or dams. 	Brown	State & Federally Owned – DOTD Other – Permit
Historical Facilities, State or Federally Owned	<ol style="list-style-type: none"> 1. Open to the public for 8 hours a day for at least 5 days a week with advertised hours of operation (if seasonal – open for at least 8 months). 2. At least 1000 visitors per year. 	Brown	DOTD
National Cemeteries, State or Federal Historical Sites	<ol style="list-style-type: none"> 1. Open to the public. 2. If a historical site, then shall be on historical registry. 	Brown	DOTD

Note: If a facility is not on this list, they should apply for Tourist Oriented Directional Signs (TODS).

2D.6.8 EXAMPLES THAT DO NO WARRANT SIGNING

DOTD does not sign for:

TV/Radio stations; Theaters; Motels/Hotels/Inns; Small city or parish parks; Dog parks; Trailer parks; Local, state or private cemeteries; Nursing homes; Halfway houses; Retirement facilities; Animal medical facilities; Churches; Subdivisions; Country Clubs; Golf Courses; Fish Hatcheries; Game farms, preserves or refuges; Tree nurseries; Maintenance facilities; National Guard Armory; City Museum; Historical Downtown; Shopping Areas; Governmental offices not open to the public.

2D.6.9 SIGN DESIGN PERMITTED

The guide signs are standard highway signs and shall be designed as follows:

5. The signs shall be made with background reflective sheeting in the color specified in Figure 2D.6.1. The primary legend in white reflective sheeting in a standard font.
6. Signs within the clear zone shall be installed on breakaway posts or shall be installed behind existing guardrail. Breakaway posts shall be AASHTO approved.
7. The signs shall contain no commercial advertising or sponsorship.
8. Minimum letter heights for capital letters for the primary message are:
 - a. two lane roadways – 4 to 6 inches
 - b. multilane roadways, 45 mph or less - 4 to 6 inches
 - c. multilane roadways, 50 mph or greater – 6 to 8 inches

The back of the supplemental guide signs must have the following information either on a weather proof sticker or written neatly in black permanent marker:

1. The proper agency to call for maintenance
2. The permit number
3. The installation date

2D.6.10 MAINTENANCE

The Department will be responsible for maintaining all supplemental guide signs that meet this policy.

2D.6.11 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the location of the supplemental signs by either Control Section – Logmile or GPS coordinates.

Section 2D.7

DESTINATION SIGNING FOR NON-CONTROL OF ACCESS ROUTES

2D.7.1 MUTCD SECTION REFERENCE

Destination Signs, Section 2D.37 and 2D.42

2D.7.2 LEGAL

Revised Statute 48:273

2D.7.3 CONDITIONS FOR USE

1. Destination signs shall be installed with no more than 3 destinations shown on the sign.
2. Sign shall be warranted if the destination is an AASHTO designated interstate highway control city or if it is incorporated and has a population of at least 5,000 residents.

2D.7.4 LOCATION AND PLACEMENT

Destination signs shall be placed outside of a built up area after a state route junction.

2D.7.5 SIGN DESIGN PERMITTED

Destination signs are standard highway signs and shall be designed as follows:

1. The signs shall be made with green background reflective sheeting with the primary legend in white reflective sheeting in a standard font.
2. Signs within the clear zone shall be installed on breakaway posts or shall be installed behind existing guardrail. Breakaway posts shall be AASHTO approved.
3. The signs shall contain no commercial advertising or sponsorship.
4. Minimum letter heights for capital letters for the primary message are:
 - a. two lane roadways - 4 to 6 inches
 - b. multilane roadways, 45 mph or less - 4 to 6 inches
 - c. multilane roadways, 50 mph or greater – 6 to 8 inches

The back of the boundary sign shall have the following information either on a weather proof sticker or written neatly in black permanent marker:

1. The proper agency to call for maintenance
2. The permit number
3. The installation date

2D.7.6 APPROVAL

If conditions from 2D.7.3 are met, the District Traffic Operations Engineer shall approve. If the conditions for use in 2D.7.3 are not met, the Traffic Engineering Management Administrator shall approve.

2D.7.7 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the location of the destination distance signs by either Control Section – Logmile or GPS coordinates.

2D.7.8 EXAMPLE OF DESTINATION DISTANCE SIGNS FOR NON-INTERSTATE ROUTES INSTALLED BY DOTD

Figure 2D.7.1 Example of DOTD Destination Distance Sign with Mileage



Figure 2D.7.2 Example of DOTD Destination Sign with Arrows



Section 2D.8

INSTALLATION AND MAINTENANCE OF LOCAL STREET NAME SIGNS

[ADVANCED, LOCAL, INTERSECTION WARNING SIGNS WITH LOCAL ROAD NAME
PLAQUES AND NEXT INTERSECTION SIGNS]

2D.8.1 MUTCD SECTION REFERENCE

Street name signs 2D.43 (D3-1, D3-1a), Advance street name signs 2D.44 (D3-2, W2-1, W2-2, W2-3, W2-4, W2-5) Design of supplemental warning plaques 2C.54, Advance street name plaques 2C.58 (W16-8P, W16-8aP)

2D.8.2 LOCAL STREET NAME

When state routes pass through municipalities, these routes also bear local street names.

The Department requires official action (typically ordinances) by the local governing bodies for changes to street names that appear on Interstate exit guide signs since changes in local street names may require expensive modifications to these Interstate exit guide signs.

The naming or numbering of local roads is completely under the jurisdiction of the local government. The local government shall provide documentation stating the official road name to the Department. Honorary road names shall follow supplemental guide sign policy.

2D.8.3 INSTALLATION AND MAINTENANCE

DOTD shall not fabricate, pay for, install or maintain Street Name signs on any roadway.

The installation and maintenance of these street name signs as well as intersecting street name signs is the responsibility of the local governing body.

Permits are only required for the following situations:

- (1) Street Name Signs on existing signal supports or LADOTD owned poles.
- (2) Overhead street name signs on signal supports – These will only be approved if the local government has a full signal maintenance agreement with LADOTD and the poles can handle the wind loads.

2D.8.4 PERMITS

Only local governments will be permitted to install and maintain street name signs in accordance with the provision of the Local Street Name Permit. If local street name sign is installed overhead on a signal pole, then a Traffic Signal Permit shall be required also. All costs associated with the installation and maintenance of permitted signs shall be borne by the local government. Shop drawings shall be attached to the permit along with a map showing the proposed location of the signs.

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The back of the signs must have the following information either on a weather proof sticker or written neatly in black permanent marker:

4. The proper agency to call for maintenance
5. The permit number
6. The installation date

2D.8.5 APPROVAL

All local street name signs shall be approved by the District Traffic Operations Engineer.

2D.8.6 SIGN DESIGN

See Section 2D.43 in the 2009 MUTCD for sign color, letter size, font, border, reflectivity, and shape or logo information.

Section 2D.9

LANDSCAPE SPONSORSHIP SIGNS FOR ROUNDABOUTS

2D.9.1 DEFINITION

This policy is intended to provide guidance on the issuance of permits to any entity for signs displaying the sponsorship of landscaping in the center island of roundabouts.

2D.9.2 CONDITIONS FOR PLACING SIGN

The Department will not install landscaping sponsorship signs. Applications for a Gateway or Roundabout Landscaping Sponsorship Sign permit may be sent to the District Office to which the requested sign would belong.

To obtain a Gateway or Roundabout Landscaping Sponsorship Sign permit:

1. A permit request form for Gateway or Roundabout Landscaping Sponsorship
2. The request must specify where the signs will be placed
3. The following must be attached to the request:
 - a. A map illustrating where the signs will be placed
 - b. Shop drawings illustrating the size of sign, lettering height, font, legend, and type of material (sheeting) to be used

2D.9.3 LOCATION AND PLACEMENT

The Roundabout Landscaping Sponsorship signs shall only be placed in an area within the center island of the roundabout behind the truck apron curb. The sign shall be mounted as an independent sign assembly that is 2 feet above ground.

2D.9.4 SIGN DESIGN PERMITTED

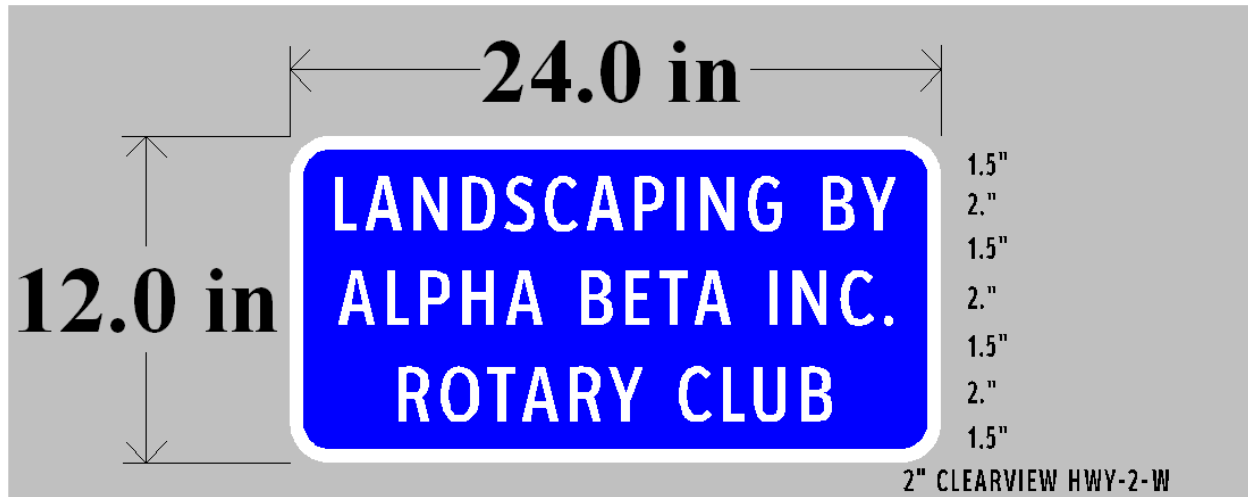
Sponsorship signs are non-standard highway signs and shall be designed as follows:

1. The signs shall be made with blue background reflective sheeting with the primary legend in white reflective sheeting.
2. Signs shall be installed with breakaway square tubing.
3. Letters are capitalized in 2 inch Clearview Hwy-2-W font.

The back of the sponsorship sign shall have the following information either on a weather proof sticker or written neatly in black permanent marker:

1. The proper agency to call for maintenance
2. The permit number
3. The installation date

Figure 2D.9.1 Example Landscape Sponsorship Sign for a roundabout on a state highway.



2D.9.5 APPROVAL

The applicant shall request the sign through a Gateway Sign and Sponsorship Signs for Roundabout Landscaping permit application in which the District Traffic Operations Engineer shall recommend for approval. The Traffic Engineering Management Administrator shall approve the permit.

2D.9.6 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the Sponsorship signs by either Control Section – Logmile or GPS coordinates.

Section 2E.2

TOURIST INFORMATION AND WELCOME CENTER SIGNING

2E.2.1 MUTCD SECTION REFERENCE

Tourist Information and Welcome Centers 2I.08

2E.2.2 BACKGROUND

MUTCD section *Tourist Information and Welcome Centers* contains only one specific criterion, Item 3, which states “Continuous staffed or unstaffed operation 8 hours a day, 7 days a week is required.” However, Item 4 of this section states: “Additional criteria as developed by individual States may be used.” Accordingly, the MUTCD permits the states to adopt criteria that are more specific as the criteria prepared by the Department and the Department of Culture, Recreation & Tourism.

DOTD and the Department of Culture, Recreation & Tourism jointly sponsor the Louisiana Welcome Centers at the borders and at regional locations. These State run Welcome Centers shall take precedence over local tourist information centers.

2E.2.3 CRITERIA FOR PLACING SIGN

1. For Interstate routes, signing shall be limited to one tourist information center, per parish, per Interstate route.
2. For non-Interstate routes, signing should be limited to signing for one tourist information center per community.
3. Tourist information centers shall operate all year, 7 days a week, and at least 8 hours a day. The centers may be staffed or unstaffed during these times of operation, but shall be staffed at least five days a week, and at least 40 hours a week. During unstaffed operations, at a minimum, printed material shall be made available to the public including, official state maps and state tour guides.
4. Tourist information centers shall provide statewide travel and tourism information, and should have a person available to provide travelers with knowledgeable directions to area attractions and amenities.
5. Tourist information centers shall provide adequate public visitor services such as restrooms, public telephone (or make a private telephone available to the public), drinking water, adequate parking, and be handicapped accessible as per the Americans Disabilities Act.
6. Tourist information centers signs should not be provided for tourist information centers contained in commercial businesses such as shops, galleries, restaurants, and service stations.
7. All tourist information center signing not meeting this criteria should be identified for removal.
8. For all routes, tourist information centers shall be within 3 miles of the Interstate exit or highway intersection where the initial sign is located.

2E.2.4 APPROVAL

The District Traffic Operations Engineer shall recommend and the Traffic Engineering Management Administrator shall approve.

2E.2.5 SIGN DESIGN

Tourist Information Center signs shall be blue with white legend. On interstates, the signs shall be supplemental panels attached to the advance guide signs. These signs shall typically extend downward from the main sign between the sign posts.

Louisiana Welcome Center signs shall be blue with white legend. The signs shall be primary guide signs for exclusive exits and supplemental guide signs for shared exits.

2E.2.6 LOCATION AND PLACEMENT

Tourist Information signs may be installed as supplemental guide signs or as general service signs. As supplemental signs they may be installed individually or in combination with other qualifying supplemental destinations. As general service signs they shall be installed below existing guide signs or on the legs of cantilever or trusses.

2E.2.7 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the community signs by either Control Section – Logmile or GPS coordinates.

Figure 2E.2.1 Example Tourist Information and Welcome Center Signs



D9-10
Tourist Information

Section 2F.1

SCENIC RIVER SYSTEM SIGNING

2F.1.1 BACKGROUND

The Louisiana Legislature established the states scenic river system with the passage of the Louisiana Scenic Rivers Act during the 1988 Regular Session. Rules developed under this Act required that “A sign indicating a LOUISIANA NATURAL AND SCENIC RIVER will be placed in a prominent location along the bridge approaches on both sides of the stream.” For more information, <http://www.wlf.louisiana.gov/scenic-rivers>

2F.1.2 APPROVAL

The District Traffic Operations Engineer shall approve.

2F.1.3 SIGN DESIGN

Louisiana Natural and Scenic River sign shall be an 18” X 24” green sign with white legend “LOUISIANA NATURAL AND SCENIC RIVER SYSTEM”.

2F.1.4 LOCATION AND PLACEMENT

Louisiana Natural and Scenic River signs shall be installed under the stream or river sign that is part of the scenic river system.

2F.1.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the river system signs by either Control Section – Logmile or GPS coordinates.

Figure 2F.1.1 Example Louisiana Natural Scenic River System Sign



Section 2G.1

WATERWAY SIGNING

2G.1.1 DEFINITION

A waterway is signed when it is a geological & political boundary for parishes or if it is part of the scenic river system (see section 2F).

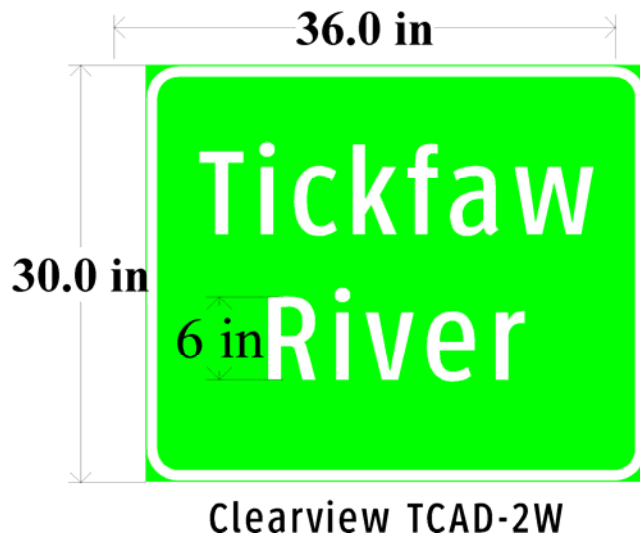
2G.1.2 APPROVAL

The District Traffic Operations Engineer shall approve.

2G.1.3 SIGN DESIGN

The waterway sign shall be a green sign with white legend naming the specific waterway.

Figure 2G.1.1 Example of a Waterway Sign



2G.1.4 LOCATION AND PLACEMENT

Waterway signs shall be installed at the boundary of the stream or river sign that is located on a state route.

2G.1.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the waterway signs by either Control Section – Logmile or GPS coordinates.

Section 2H.1

ACKNOWLEDGEMENT SIGNS OR PLAQUES

2H.1.1 MUTCD REFERENCE

Acknowledgement Signs Section 2H.08; also FHWA Order 5160.1A

2H.1.2 DEFINITION

An acknowledgement sign is a way of recognizing a company, business, or volunteer group that provides a highway-related service.

2H.1.3 SIGN DESIGN

The acknowledgment sign shall have a maximum area of 24 square feet. The maximum sponsor logo area shall be 1/3 of the entire sign assembly. See Figure 2H.1.1 for examples.

The acknowledgement plaque sign shall have an area lesser than 1/3 of the qualifying General Service sign or 24 square feet. The plaque must include a legend such as SPONSORED BY.

2H.1.4 LOCATION AND PLACEMENT

Acknowledgment signs shall be installed near the sponsored service with the exception of rest areas, which may be located on highway mainlines.

Acknowledgement plaques shall be installed below qualifying General Service signs.

2H.1.5 APPROVAL

The District Traffic Operations Engineer shall approve.

2H.1.6 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the waterway signs by either Control Section – Logmile or GPS coordinates.

Figure 2H.1.1 Example of Acknowledgement Signs



Section 2M.1

MEMORIAL AND DEDICATION SIGNS

2M.1.1 MUTCD SECTION REFERENCE

Memorial or dedication signing 2M.10

2M.1.2 DEFINITION

This policy is intended to define DOTD installations of memorial and dedication signing. Named highways are officially designated and shown on official maps and serve the purpose of providing route guidance, primarily on unnumbered highways. A highway designated as a memorial or dedication is not considered to be a named highway, hence the address would not be affected.

2M.1.3 STATE ROUTE NUMBERING

In accordance with RS 32:235, the Department has adopted the MUTCD as the standard for traffic control devices on all roadways in the state. The MUTCD requires the establishment of a route number system to which the Department conforms. All Louisiana state highways have a route designation and are signed with this route designation system.

2M.1.4 NAMING STATES HIGHWAYS AND BRIDGES

RS 48:192 gives the Louisiana legislature the exclusive right to name state highways and bridges. To date over fifty legislative Acts have been passed that name various highways and bridges across the state typically as memorials to individuals or groups. Most of these Acts simply designate the name of the route. However, some acts also direct the Department to install signs.

2M.1.5 LOCATION AND PLACEMENT

When the Act directs the installation of signs by the Department the following section of the MUTCD applies:

If the installation of a memorial or dedication marker off the main roadway is not practical, memorial or dedication signs may be installed on the mainline.

Where such memorial or dedication signs are installed on the mainline, (1) memorial or dedication names shall not appear on directional guide signs, (2) memorial or dedication signs shall not interfere with the placement of any other necessary signing, and (3) memorial or dedication signs shall not compromise the safety or efficiency of traffic flow. The memorial or dedication signing shall be limited to one sign at an appropriate location in each route direction, each as an independent sign installation.

2M.1.6 MEMORIAL GUIDE SIGN DESIGN

For Acts of the Legislature which direct the Department to install signs, the Department will install brown signs with white legends on each end of the route at appropriate locations. The signs are made of 0.08-inch aluminum, with brown reflective sheeting and the sign legends are white reflective sheeting. There shall be no graphical elements, logos or pictograph symbols.

The sign and legend are sized according to the route type. The minimum letter heights for capital letters are:

- a. two lane roadways - 4 to 6 inches
- b. multilane roadways, 45 mph or less - 4 to 6 inches
- c. multilane roadways, 50 mph or greater - 4 to 6 inches
- d. control of access roadways - 8 to 13 inches

2M.1.7 MEMORIAL GUIDE SIGN APPROVAL

Traffic Engineering Management (section 77) shall review the Acts of Legislature directing DOTD to install the memorial sign and shall then send the sign fabrication request to Traffic Services (section 45). Traffic Services shall fabricate the sign for the District to install unless the sign is on the interstate. If the sign is located on the interstate, Traffic Services shall install it.

Figure 2M.1.1 Example DOTD Memorial Guide Sign



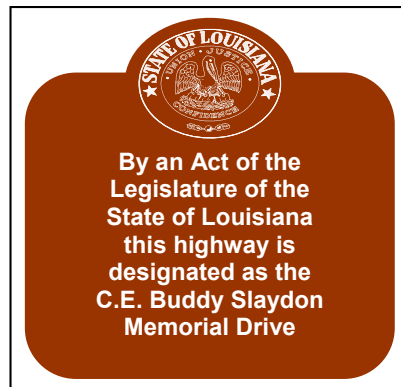
2M.1.8 MEMORIAL PLAQUE SIGN DESIGN

For Acts of the Legislature that do not require signs but signs are requested, the Department has developed a standard memorial plaque shown below for installation at appropriate locations. The plaque is made of 0.08 inch aluminum, is 24 inches by 30 inches, letter size is 1-½ inches, the background is brown reflective sheeting and the legend are white reflective sheeting. There shall be no graphical elements, logos or pictograph symbols.

2M.1.9 MEMORIAL PLAQUE APPROVAL

Traffic Engineering Management (section 77) shall review the Acts of Legislature directing DOTD to install the memorial sign and shall then send the sign fabrication request to Traffic Services (section 45). Traffic Services shall fabricate the sign for the District to install.

Figure 2M.1.2 Example DOTD Memorial Plaque



2M.1.10 MEMORIAL MARKERS BY OTHERS

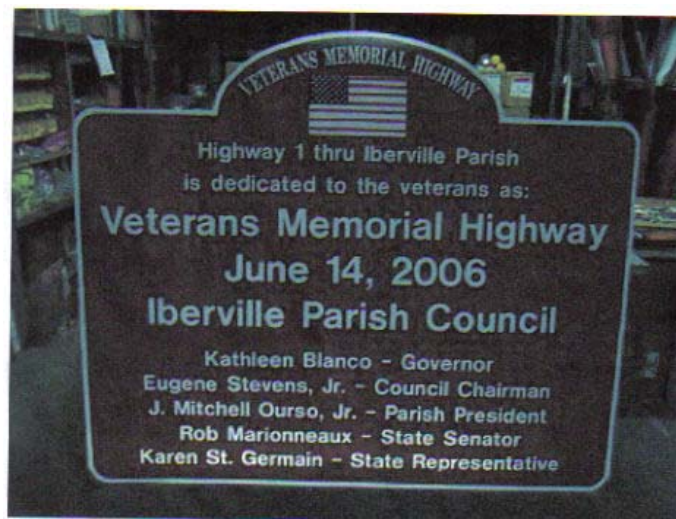
In both cases the local government also has the ability to erect memorial markers such as the one shown in Figure 2M.1.3 thru the Department's Memorial Sign permit process. The local government is responsible for the cost of the sign, the permit application, the installation of the sign, and the maintenance of the sign.

Typically these markers are installed in parks or rest areas where motorists can safely stop to read the marker.

2M.1.11 MEMORIAL MARKER APPROVAL

The District Traffic Operations Engineer shall recommend for approval and the Traffic Engineering Management Administrator shall approve.

Figure 2M.1.3 Example of a Memorial Marker



2M.1.12 UNOFFICIAL ROADSIDE MEMORIALS

Unofficial roadside memorials consisting of crosses, flowers, ribbons, or other items are occasionally placed by friends or relatives on highways at or near the site of crashes which involve fatalities. Such encroachments on DOTD right of way and are illegal (LA R.S. 48: 347). However, DOTD does not regularly remove such memorials unless complaints are received, an unreasonable safety hazard is created, or they interfere with routine mowing and roadside maintenance functions.

Figure 2M.1.4 Unofficial Roadside Memorial



2M.1.13 DOCUMENTATION

The District Traffic Operations Engineer may consider document the locations of the memorial/dedication signs by either Control Section – Logmile or GPS coordinates.

Section 3B.2

MARKED CROSSWALK GENERAL INFORMATION

3B.2.1 MUTCD SECTION REFERENCE

Crosswalk Markings 3B.18

3B.2.2 TYPES

Crosswalks can be installed for: a school, an uncontrolled approach at an intersection; mid-block; or a controlled approach at an intersection. These locations have different sets of criteria for installation.

3B.2.3 DEFINITIONS

1. *Uncontrolled Approach:* An approach at an intersection that is not controlled by either a traffic signal, a flashing beacon, or a stop sign.
2. *Controlled Approach:* An approach at an intersection that is controlled by either a traffic signal, a flashing beacon, or a stop sign.
3. *Pedestrian Generator:* A school, library, community center, shopping center, etc.
4. *Adequate stopping sight distance on all approaches:* May be estimated with the equation – Sight Distance (ft) = 10 X Speed Limit (mph)
5. *Median Width:* The ideal median width is 6' with a minimum 5' cut or ADA compliant ramp. The minimum median width is 4'.
6. *ADA Compliant:* The entire intersection must meet all current requirements of the Americans with Disabilities Act. This means the sidewalks must be the correct width, ramps must be present with truncated domes and meet all ADA requirements, pavement/concrete must be in good shape, signs for direction of crossing and pushbuttons are to be tactile and if pedestrian pushbuttons or heads exist then they must be audible and visual.

3B.2.4 REQUIREMENTS FOR ALL CROSSWALKS

A crosswalk may be installed when the following criteria are met:

1. Connect to a sidewalk on each end of the crosswalk unless associated with a pedestrian generator.
2. Intersection must meet ADA compliance.
3. Street parking must be restricted adjacent to the crosswalk. (Typically for a minimum of 50' in advance.)

4. Adequate sight distance of pedestrians by motorists exists and adequate sight distance of motorists by pedestrians exists.
5. Volume requirements as defined below.

3B.2.5 SCHOOL

See Section 7A.2 for school crosswalks.

3B.2.6 UNCONTROLLED APPROACH AT AN INTERSECTION

A. May install if:

1. There are a minimum of 20 pedestrians crossing in a 2 hour period during any 24 hour period and the pedestrians have fewer than 5 gaps in traffic per 5 minute period; or
2. Engineering judgment indicated a need.

B. Do not install if:

1. Posted speeds exceed 40 mph;
2. On a roadway with 4 or more lanes:
 - a. without a raised median or crossing island that has (or will soon have) an ADT of 12,000 or more;
 - b. with an ADA compliant raised median or crossing island that has (or will soon have) an ADT of 15,000 or more;
3. If engineering judgment indicates.

3B.2.7 MID BLOCK CROSSWALKS

National studies have been conducted on marked mid-block crosswalks versus unmarked crosswalks. These studies have shown that pedestrians pay more attention when crossing the street when there is no marked crosswalk at a mid-block location. Care must be exercised when determining if a mid-block crossing will be marked.

A. May install if:

1. There are 40 or more pedestrians that cross during a one hour period or 25 or more cross per hour for 4 consecutive hours and fewer than 5 gaps in traffic during the peak 5 minute period; and
2. The Average Daily 2 way traffic is above 3500 vehicles per day; or
3. Engineering judgment indicated a need.

B. Do not install if:

1. Another crosswalk exists within 600'; or
2. Posted speeds exceed 40 mph; or
3. If engineering judgment indicates.

3B.2.8 CONTROLLED APPROACH AT AN INTERSECTION

A. May install if:

1. There are a minimum of 20 pedestrians crossing in a 2 hour period during any 8 hour period; or
2. If engineering judgment indicates a need.

Note: If there is a large number of turning vehicles that conflict with the pedestrian movements, then countermeasures such as protected only turns at a signalized intersection should be considered.

3B.2.9 TRAFFIC ENGINEERING STUDY

A traffic engineering study is required to determine if the criteria and warrants are met for a marked crosswalk at a particular approach, and to determine the level of marking justified. The level of detail required for a traffic engineering study will vary with the location under consideration.

The engineering study may include but is not limited to the following:

1. Speed and traffic volume data on streets being crossed
2. Pedestrian volume (Note approximate number of young children and seniors and level of mobility)
3. Location of pedestrian origin and destination points and crossing pattern
4. Existing sidewalk network and sidewalk ramps
5. Sight distances and sight obstructions
6. Street characteristics including grades, curvature, pavement widths, and number of vehicle and bicycle lanes
7. Location of adjacent driveways
8. On-street parking
9. Street lighting
10. Location of drainage structures
11. Distance to nearest protected or marked crossing
12. Traffic signal progression
13. Potential for rear end accidents
14. ADA compliance.

See Figures 3B.2.1 and 3B.2.2 for the Pedestrian Volume and Summary Sheets.

3B.2.10 EQUATIONS

Usable gap (seconds) = $[W / \text{pedestrian crossing rate}] + 3 + (n-1) * 2$

Where **W** = the distance, in feet, from the curb, minus the parking lane or the distance, in feet, from the curb to a raised pedestrian refuge island;

pedestrian crossing rate = 2.5 ft/sec to 3.5 ft/sec depending on pedestrian make up; **3** = the perception and reaction time in seconds; **n** = is the number of rows of pedestrians, consisting of 5 pedestrians in each row, n=1 for any group less than 5 (a group of 16 pedestrians, n=4)

{Gaps should be observed during peak traffic hours or peak pedestrian use time, if the peak traffic hours and peak pedestrian use time are not the same.}

Average number of gaps per 5 minute period = total usable gap time in seconds divided by pedestrian crossing rate (2.5 ft/sec to 3.5 ft/sec) multiplied by 12.

3B.2.11 APPROVAL

If the requirements in 3B2.4 are met and a traffic engineering study determines the justified implementation of a marked crosswalk, the District Traffic Operations Engineer may approve.

3B.2.12 DESIGN

For Crosswalk design, see LADOTD Standard Plan PM-08.

3B.2.13 MAINTENANCE

Each crosswalk location should be repaired or replaced as necessary. This includes not only the pavement markings but also the signs associated with the crossing.

Each crosswalk associated with a school crossing should be inspected according to Section 7A.2 Policy for School Areas in this manual.

3B.2.14 IMPLEMENTATION

All new installations shall follow this policy. All other locations may be reexamined using this policy through normal maintenance activities.

3B.2.15 PEDESTRIAN SIGNALS

Refer to LADOTD Traffic Signal Design Manual for the Departments policy on pedestrian heads and pushbuttons.

3B.2.16 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the marked crosswalks by either Control Section – Logmile or GPS coordinates.

Figure 3B.2.1 Pedestrian Volume Sheet

Pedestrian Volume Sheet					
Location ID:					
Parish:		City:		Type of Control:	
Study Date:		Time From: _____ to _____		Observer:	
Remarks:					

Distance _____ feet

Raised Median:	Yes	No
Parking Lane:	Yes	No

Street

Distance _____ feet

Raised Median:	Yes	No
Parking Lane:	Yes	No

Distance _____ feet

Raised Median:	Yes	No
Parking Lane:	Yes	No

Street

Distance _____ feet


Raised Median:	Yes	No
Parking Lane:	Yes	No

Distance = from the curb, minus the parking lane or from the curb to a raised pedestrian refuge island

Raised Median= Check yes if the raised median is at least 4 feet wide and capable of providing refuge to pedestrians crossing the street

Age of Pedestrians- Make a note on the crossings as to the age and physical condition of the pedestrians

Figure 3B.2.2 Summary of Pedestrian Movements

Summary of Pedestrian Movements				
Location ID:				
District:	Parish:		Date:	
Observer:	City:		Weather:	
			Roadway Width (feet): N/S E/W Median Width (feet): >= 4 feet <input type="radio"/> <4 feet <input type="radio"/>	
Sketch of crossings. Show proposed crosswalks/signs if any.			Remarks:	
Pedestrian Movements				
TIME	NORTH	SOUTH	EAST	WEST
TOTAL				
* Note the age and ability of Pedestrians				

Section 3B.3

NO PASSING ZONES

3B.3.1 MUTCD SECTION REFERENCE

No-Passing Zone Pavement Markings and Warrants 3B.02; DO NOT PASS (R4-1) sign 2B.28

3B.3.2 LEGAL

Revised Statute 32:71 Driving on right side of road; exceptions, Revised Statute 32:76 Further limitations on passing on the left & Revised Statute 32:77 No passing zones

3B.3.3 CONDITIONS FOR USE

DOTD shall not stripe no passing zones at intersections as per state law. The DO NOT PASS (R4-1) sign may be used in addition to pavement markings to emphasize the restriction on passing. DOTD shall not install or replace the pendant NO PASSING ZONE (W14-3) sign.

3B.3.4 LOCATIONS

Mark no passing zones at:

- a. any approach controlled by a traffic signal or flashing beacon.
- b. all highway-rail grade crossings as shown on Pavement Marking Standard, PM-07.
- c. narrow bridges for a bridge culvert that has a clear width less than the approach roadway (travel lanes plus shoulders).
- d. other situations once an engineering study indicates a need.
(Engineering study may include one or all of the following:
 1. ADT volumes
 2. Directional distribution of traffic
 3. Approach speeds
 4. Turning movements
 5. Vehicle classification
 6. Accident history
 7. Sight distance
 8. Roadway widths

Connect no passing markings when the distance between no passing zones is less than 400 feet.

Calculate no passing zones based on the greater of the posted speed or the 85th percentile speed, but do not exceed the statutory limit.

3B.3.5 IMPLEMENTATION

This policy shall apply to all resurfaced or newly constructed roadways as well as all of the federal and primary highway system. The remainder of the state maintained system shall be brought into conformance with this policy as time permits.

Section 3C.2

USE OF OBJECT MARKERS

3C.2.1 MUTCD SECTION REFERENCE

Object Markers

3C.2.2 TYPE

Only TYPE 2 OBJECT MARKERS and TYPE 3 OBJECT MARKERS are discussed in this policy.

3C.2.3 HEIGHT

When used for marking objects in the roadway or objects that are 8 ft or less from the shoulder or curb, the mounting height to the bottom of the object marker should be at least 4 ft above the surface of the nearest traffic lane.

When used to mark objects more than 8 ft from the shoulder or curb, the mounting height to the bottom of the object marker should be at least 4 ft above the ground.

3C.2.4 LOCATION

The inside edge of the marker should be approximately in line with the inner edge of the obstruction.

3C.2.5 USE

1. Objects in the Right-of-Way.

- a. Type 2 object markers shall be the primary means to mark objects within the highway right-of-way. (Exception to this policy will be for guard rails and the roadway/shoulder area as described below.)

2. Guard Rails.

- a. For new or existing guard rails with MELT (or BCT) ends a single Type 3 object marker shall be required at the bridge end along with a square object marker pattern decal attached directly on the guard rail nose.
- b. For existing guard rails with turn down ends or other type end treatment which cannot accommodate a square object marker pattern decal then a single Type 3 object marker shall be required at the bridge end along with a Type 3 object marker after the third post.

3. Object in the Roadway and Shoulder.

- a. Type 3 object markers shall be used to mark objects within the roadway (travel lanes) and shoulder.

3C.2.6 IMPLEMENTATION

New Construction shall follow Standard Plans HS-03 and any other standard plan or special details for guard rails.

Existing Non-Conforming Conditions will be updated through normal maintenance activities.

Section 4B.3

REMOVAL OF TRAFFIC SIGNALS

4B.3.1 MUTCD SECTION REFERENCE

4B.02 Basis of Installation or Removal of Traffic Control Signals

4B.3.2 JUSTIFICATION FOR REMOVAL

The purpose of this procedure is to establish the process to be followed to remove a traffic signal. The objective is to clarify and streamline the process so that it can be completed with improved efficiency and consistency.

4B.3.3 DOCUMENTATION

The District Traffic Operations Engineer shall maintain documentation of the signal removal process.

4B.3.4 SIGNAL REMOVAL

A. Not within a construction project

To start the signal removal process the District Traffic Operations Engineer shall fill out Procedure for Traffic Signal Removal in Figure 4B.3.1.

B. Within a construction project

EDSM VI.3.1.6 shall be followed as appropriate. A public meeting shall be held to inform the public and give the public a chance to comment.

Figure 4B.3.1 Procedure for Traffic Signal Removal Form
(See following 3 pages.)

4B.3.5 APPROVAL

The District Traffic Operations Engineer is authorized to remove traffic signals.

The District Traffic Operations Engineer shall update the traffic signal database.

Figure 4B.3.1 Procedure for Traffic Signal Removal Form

Procedure for Traffic Signal Removal

Purpose and Objective:

The purpose of this procedure is to establish the process to be followed to remove a traffic signal. The objective is to clarify and streamline the process so that it can be completed with improved efficiency and consistency. For convenience, this procedure is designed to be used as a form.

References:

Manual of Uniform Traffic Control Devices
Traffic Engineering Manual
DOTD Traffic Signal Manual
EDSM VI.3.1.6

Process:

1. Existing signalized intersection is identified as one that may function better as an unsignalized intersection.

Location: _____

Identified by: _____ Date: _____

Why was intersection selected to be studied for removal? _____

2. Complete a traffic engineering study that includes the following:

- ☐ Warrant Analysis Summary
- ☐ Crash History
- ☐ Site conditions, especially sight distance problems
- ☐ Public, business, school board or governmental complaints resulting in the original signal installation
- ☐ Present and future developmental growth
- ☐ Known reasons for change in traffic patterns or volumes
- ☐ Capacity analysis for the alternate traffic control scheme most likely to be installed if signal is removed
- ☐ Analysis of the cost of continued signal operation versus a one-time signal removal cost
- ☐ Discussion of traffic volume growth needed to warrant the signal

Study completed by: _____ Date: _____

Recommended alternate form of traffic control (i.e. two-way stop, all-way stop, etc.) _____

3. Decide whether or not to proceed with removal process based on study.

- ☐ Continue with removal process

- ☐ Defer removal of traffic signal

If removal is deferred, the location shall be reconsidered for removal every year until a signal warrant or other determination of permanent retention is satisfied.

- ☐ Traffic Signal to remain based on the following:

Traffic Engineering Manual

Signals

4. Host an open house public meeting. Location: _____ Date: _____
Attach attendance roster.

Organization	Contact	Method (i.e. email, letter)	Date

5. Prepare intersection for alternate traffic control.
Remove or reduce intersection sight distance restrictions, if needed.
Date Completed: _____
Install the "Traffic Signal Under Study for Removal" sign next to the signal heads on each approach.
See attachment.
Date Completed: _____
Public Affairs Contacted Date: _____
Check the controller cabinet wiring to ensure that the color of the flashing indications will agree with the alternate traffic control scheme.
Date Completed: _____
Install the alternate traffic control devices (i.e. Stop signs and advanced warning signs). DO NOT remove stop lines on the uncontrolled approaches at this time.
Date Completed: _____
Press release sent out Date: _____
6. Flash or Cover the signal heads for 90 days
Beginning Date of 90 day period: _____
End Date of 90 day period: _____
Monitor, investigate, and respond to concerns of the public.

Name	Affiliation	Source (email, letter, etc.)	Date Received	Date Responded

Sum up the comments received – did certain concerns keep resurfacing, could any of the concerns be mitigated by making changes to the site conditions or other appropriate countermeasure?

Traffic Engineering Manual

Signals

Monitor the crash experience throughout the 90 day period.

Did crashes of types susceptible to correction by traffic signal control increase by more than two?
Yes ☐ No ☐

If no, continue with removal process.

If yes, the signalized location shall remain covered for an additional 60 day period.

Last day of 60 day period: _____

During the 60 day period, did more than two crashes of types susceptible to correction by traffic signal control occur? Yes ☐ No ☐

If no, continue with the removal process.

If yes, the signal shall be placed into operation until the site conditions can be improved to reduce the crash frequency.

7. Remove signal heads and signs with poles. Leave controller cabinet in place for a minimum of 60 days.

Monitor the crashes during the 60 day period.

Did the absence of flashing traffic signals result in an increase in crashes? Yes ☐ No ☐

If yes, should traffic signal be converted to a flashing beacon? Yes ☐ No ☐

8. Remove the equipment

Remove poles, foundations, pull boxes, overhead cables, and controller; underground conduit and cables may be abandoned in place.

Date removal is completed: _____

Will the site be monitored for an extended period of time? Yes ☐ No ☐

If yes, are poles and cables to be left in place for a period up to one year? Yes ☐ No ☐

Date Completed: _____

9. Notify all affected parties of removal of the traffic signal and termination of any applicable agreements.

Is the traffic signal part of a maintenance agreement? Yes ☐ No ☐

If yes, update maintenance agreement.

Update Traffic Signal Database.

10. Final summary and comments

When was the signal placed in flash? _____

When was the signal shut off? _____

When was the equipment removed? _____

Was traffic signal removed? Yes ☐ No ☐

Why or why not? _____

What other changes were made to the intersection? _____

Is any further action needed? Yes ☐ No ☐

If yes, please explain: _____

Attached Documents:

- ☐ Initiating letter, study, etc.
- ☐ Traffic Engineering Study (Step 2)
- ☐ Copies/documentation of all correspondence
- ☐ Crash Data obtained throughout study for removal
- ☐ Other information: _____

Section 4B.4

USE OF NON STANDARD TRAFFIC SIGNAL POLES

4B.4.1 DEFINITIONS

A Non-Standard Signal Pole is any traffic signal pole that is not stocked by DOTD such as ornamental poles, painted poles, luminary poles etc.

4B.4.2 JUSTIFICATION

For a governmental body to request the installation of a non-standard traffic signal pole there must be either:

1. a full signal maintenance agreement with the city where the city has accepted responsibility for installation and maintenance of any non-standard poles; or
2. an agreement must be made with the governmental body that states they will pay the difference to DOTD for the cost of the non-standard poles and if the poles are damaged DOTD will replace with either stock poles or non-standard poles supplied by the governmental body.

4B.4.3 APPROVAL

The District Traffic Operations shall recommend the use of non-standard traffic signal poles and the Traffic Engineering Management Administrator shall approve.

4B.4.4 DOCUMENTATION

It shall be the responsibility of the District Traffic Operations Engineer to document the request for installation of non-standard poles.

When a full signal maintenance agreement does not exist the District Traffic Operations Engineer will be responsible for establishing an agreement with the governmental body as described in this policy.

Section 4L.1

REMOVAL OF INTERSECTION CONTROL BEACONS

4L.1.1 MUTCD SECTION REFERENCE

See Section 4L Flashing Beacons and See EDSM VI.3.1.2

4L.1.2 FLASHING BEACON JUSTIFICATION

This justification is the same as when a location for a new flashing beacon is being considered and/or if there was a project to correct a geometric issue at the intersection.

4L.1.3 TRAFFIC STUDY

Defined in EDSM VI.3.1.2. As part of the study, the sight distance from all approaches shall be checked.

4L.1.4 DOCUMENTATION

The District Traffic Operations Engineer shall maintain documentation of the beacon removal process.

4L.1.5 FLASHING BEACON REMOVAL

If the existing flashing beacon does not meet current Department Policy for Flashing Beacon Justification the District Traffic Operations Engineer shall make the following determination depending on the type of beacon:

Intersection Control Beacon: place oversize stop signs and any warning signs deemed necessary.

Once the flashing beacons have been authorized for removal then the signal heads and overhead signs shall be removed with the poles and cabinet.

4L.1.6 APPROVAL

The District Traffic Operations Engineer is authorized to remove unwarranted flashing beacons.

Traffic Engineering Management Section shall receive a copy of the final authorization for removal.

Section 6A.1

QUEUE ANALYSIS FOR LANE CLOSURES ON INTERSTATE

6A.1.1 LEGAL

Revised Statute 48:279

6A.1.2 DEFINITION

This policy is regarding queue analyses for scheduled Interstate lane closures for construction, maintenance and permit projects.

6A.1.3 POLICY

The queue analysis shall determine delay caused by lane closures. A queue analysis shall be performed for all lane closures on Interstates with ADT's equal to and greater than 25,000. Lanes shall not be closed during the hours where the lane capacity exceeds 1,309 vehicles per hour lane. The restrictions may be more restrictive if the District Traffic Operations Engineer (DTOE) or Project Engineer (PE) deems necessary.

- i. Queue analysis shall be requested by:
 1. Construction projects - during Stage 0 and reevaluated by the Project Manager at Stage 3 and Stage 4 to validate traffic volumes
 2. Maintenance projects - during the planning stage by Maintenance Project Managers
 3. Permitted projects - prior to issuance of the permit by the District
- ii. The DTOE, Metropolitan Planning Organizations, Office of Planning and Programming, or consultants may collect traffic volumes. Traffic volumes shall consist of 24 hour, 7 day counts in 15 minute intervals.
- iii. Adjust raw volumes with adjustment factors obtained from the DOTD Planning Division. These factors are:
 1. % Trucks
 2. Axle Adjustments
 3. Adjustment for month of count
 4. Adjustment for month of construction
- iv. The DTOE shall perform or review and approve all queue analyses based on the following method:
 1. Using the 7 day 24 hour adjusted volumes, the minimum work restrictions shall occur where there are more than 1,309 vehicles per hour per open lane (*Highway Capacity Manual*, 2010, Ch.10)

- v. The PE shall report back to the DTOE on actual queues experienced during construction. This will allow the DTOE to refine the queue analysis.

Alternatives to Prevent, Reduce, and Mitigate Queues Due to Lane Closures:

- i. Projects with expected delay due to lane closures shall include:
 - 1. Standard Temporary Traffic Control Details (TTC) in plans
 - 2. Standard specification for Temporary Traffic Control pay item
- ii. The designer should consider the following to mitigate delays when lane closures are necessary:
 - 1. Alternate route plan
 - 2. Limit lane closures to off peak week nights and weekends
 - 3. Limit maximum physical length of lane closure
 - 4. Maintain existing number of lanes with lane narrowing and lane shifts
 - 5. Merge left before a lane closure
 - 6. Public information program identifying alternate routes through press releases

6A.1.4 APPROVAL

The District Traffic Operations Engineer shall perform or review all queue analyses based on using 7 day 24 hour adjusted volumes and the minimum work restrictions where 1,309 vehicles per hour per open lane.

The Project Engineer shall report back to the DTOE during construction to allow for the refinement of the queue analysis.

6A.1.5 WAIVERS

The minimum work restrictions may be less restrictive with a written justification based on the history of a previous project recommended for approval by the DTOE and the District Administrator and approved by the Chief Engineer.

Section 7A.2

POLICY FOR SCHOOL AREAS

7A.2.1 MUTCD SECTION REFERENCE

Section 7 Traffic Control for School Areas-General

7A.2.2 SCHOOL WARNING SIGN ASSEMBLY (S1-1 AND W16-9p)

School Warning Sign Assembly shall be warranted when the school has at least one driveway on a state route and enrollment is greater than 100 students in any combination of grades K-12.

Schools accepting state vouchers may receive a permit to install all school warning signs and flashing beacons when the school has at least one driveway on a state route no matter the number of students attending the school. DOTD will not be required to install or maintain these signs.

Colleges, Universities and Preschools/Daycares shall not be signed or marked as a School Zone.

7A.2.3 SCHOOL CROSSWALKS

A School Crosswalk shall be warranted when the School Warning Sign Assembly is warranted and the volume of school children crossing the state route exceeds 10 during a period extending from not earlier than 45 minutes before school starts until 15 minutes after school starts or a period from 15 minutes before the end of school to 45 minutes after school ends.

A School Crosswalk shall not be installed:

1. within 600 ft of another school crosswalk or a pedestrian crosswalk
2. at any location that has inadequate stopping sight distance
3. where approach speeds exceed 50 mph
4. for colleges, universities and preschools/daycares
5. for loading and unloading zones

7A.2.4 REDUCED SCHOOL SPEED ZONES

A Reduced School Speed Zone may be installed for schools where the School Warning Sign Assembly is warranted.

7A.2.5 FLASHING SCHOOL SIGNS

DOTD will not install or maintain flashing beacon signs at schools. The school, school board or local government may complete a Warning Sign & School Sign with Flashing Beacon Permit and submit to the appropriate District Office. The sign post shall be break away.

To obtain a Warning Sign & School Sign with Flashing Beacon permit:

1. A Warning Sign & School Sign with Flashing Beacon permit must be signed by an official of the local government, school board or school administration requesting the sign
2. The request must specify where the signs will be placed. This includes the distance from the edge of the travel lane and sign location in relation to the school property
3. The following must be attached to the request:
 - a. A map illustrating where the signs will be placed
 - b. A shop drawing of the signs which would indicate type of material, size of sign, height of assembly, height of foundation from the pavement, electrical service
 - c. Foundation design

7A.2.6 TIME

The enforceable periods of reduced speed in a Reduced Speed School Zone shall be as short a duration as possible. The enforcement period shall be a time extending from not earlier than 45 minutes before school begins until 15 minutes after school begins and a period extending from 15 minutes prior to the end of school to not later than 45 minutes after school ends.

A supplemental plaque stating the times of operations (S4-1) should be placed under the reduced speed limit sign. If a flashing beacon is installed by the school then the supplemental plaque WHEN FLASHING (S4-4 or S5-1) may be placed under the reduced speed limit sign.

If a flashing beacon is installed by the school and an adult crossing guard is present, then the flashing beacon should be operated manually and only while the crossing guard is present.

7A.2.7 SPEED REDUCTIONS

Table 7A.2.1 Speed Limit Reductions for a School Zone

The following table should be used as a reference for maximum speed limit reductions:

SPEED LIMIT REDUCTIONS	
EXISTING SPEED LIMIT (MPH)	REDUCTION (MPH)
25 OR LESS	0
30	5
35-45	10
50 OR ABOVE	15

7A.2.8 CHIEF ENGINEER'S ORDER

If a Reduced School Speed Zone is justified then a Chief Engineer's Order must be written. The Chief Engineer's Order shall include the reduced speed, the beginning and ending control section log-miles and the time of the Reduced School Speed Zone.

The time will be stated such that the Reduced School Speed Zone shall start in the morning 45 minutes before the start of school and shall end 15 minutes after the start of school. The afternoon Reduced School Speed Zone shall start 15 minutes before the end of school and shall end 45 minutes after school ends. (Specific times will not be stated in the Order.)

Example of School Zone wording for Chief Engineer's Order:

"No person shall operate any vehicle at a speed in excess of 30 miles per hour on State Route US 65 in Madison Parish between (1) a point located 2888 feet north of its junction with US 80 (C.S. 020-07, LM 0.547) and (2) a point located 3976 feet north of its junction with US 80 (C.S. 020-07, LM 0.753) during school days beginning 45 minutes before school starts until 15 minutes after school starts and 15 minutes before school dismissal until 45 minutes after school dismissal."

7A.2.9 SIGNS AND LOCATIONS

A SCHOOL CROSSWALK WARNING ASSEMBLY (S1-1 AND W16-7p) shall be placed at the crosswalk for both directions of travel.

A SCHOOL ADVANCE WARNING ASSEMBLY (S1-1 AND W16-9p) shall be placed 300' before the crosswalk only when no Reduced Speed Zone is associated with the School Zone.

The SPEED LIMIT XX AHEAD (W3-5) fluorescent yellow-green sign with the SCHOOL (S4-3P) plaque should be used in advance of a reduced school speed zone. This sign should be placed according to the MUTCD Table 2C-4. This sign shall not be placed before an intersection controlled by a stop sign or a traffic signal.

In accordance with Act 410 of 2014, the HANDS FREE ZONE supplemental plaques are to be mounted under the existing school zone speed limit signs via permit only. DOTD will not install the HANDS FREE ZONE sign.

Figure 7A.2.1 Example of Hands Free Zone plaque design and placement





The end of an authorized and posted school speed zone shall be marked with a standard SPEED LIMIT sign showing the speed limit for the section of highway that follows or with an END SCHOOL ZONE sign.

7A.2.10 MAINTENANCE

Every school in the District with school signs and markings on state routes shall be inspected and repaired before the start of the new school year.

7A.2.11 DOCUMENTATION

Each District Traffic Operations Engineer may consider maintaining a Road Log for each school in their District that has any school signs associated with it. The Road Log will consist of a sketch of the area with the following noted (See Figure 7A.2.1):

1. Traffic volumes
2. Pedestrian volumes
3. 85th percentile speed
4. Road characteristics such as width and condition of the roadway, width and condition of shoulders, number of traffic lanes
5. Anything leading to shortened sight distance such as the existence of curves, hills and nearby buildings
6. Parking and loading zones
7. All locations and conditions of traffic control devices such as school crossing signs, pavement markings, signals, school patrol locations, school zone warning signs and speed limit signs
8. Sidewalks
9. Fencing

Figure 7A.2.1 Example of a Road Log for School Zones (page 1 of 2)



ROAD LOG FOR Red Creek Elementary School

State Route LA 45

Control Section 450-20

Beginning Logmile 22.2

Ending Logmile 22.27

Enrollment 225

Grades K-5

Approx. Length of Zone 400 FT

Roadway:

Type: Bit

Width: 24'

Condition: Fair

Number of Traffic Lanes: E 1 W 1

Shoulder:

Type: Gravel (some bit)

Width: 6' – 10'

Condition: Fair

Posted Speed Limit 45 mph

85th Percentile Speed 48 mph

Sight Distance Restriction: No

Vehicular Volumes: 1200 ADT

Pedestrian Volumes: 25 School Children Cross at Willows Sub. in am

20 School Children Cross at Willows Sub. in pm

Crash Experience:

Study Period: 1999-2003

Number of School Related Crashes: None

Number of Pedestrian Accidents: None

Sidewalk on Willows Sub

Condition: Good

School Cross Walk at Willows Sub.

Condition: Poor

School Warning Sign Assembly Warrant met Yes

School Crosswalk Warrant met Yes

Reduced School Speed Zone Warrant met Yes if yes then the

Recommended School Speed Limit is 35 mph

Land Use all residential in the school zone, some business located outside of the zone

Cross Traffic at Willows Sub. and Second Street

Sight Distance Restrictions none

General Comments: The school has installed flashing beacons and there is an adult crossing guard on duty in the morning and afternoons to assist the children in crossing both the school driveway and the state highway. Also, there is a chain link fence in front and the west side of the school.

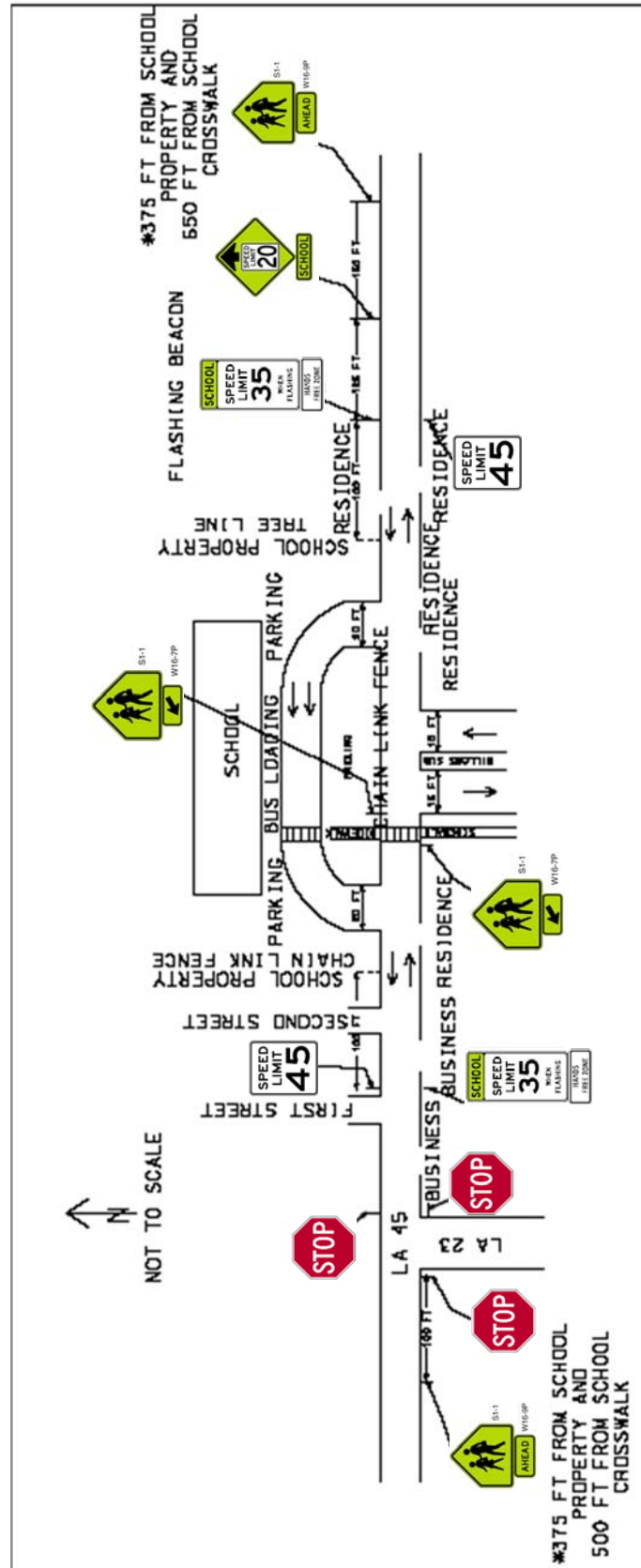
Study By: Sam Dell

Date: 2/25/05

Approved By: Ronald Streep

Date: 3/10/05

Figure 7A.2.1 Example of a Road Log for School Zones (page 2 of 2)



Section 8A.1

DO NOT STOP ON TRACKS

8A.1.1 MUTCD REFERENCE

8B.09 DO NOT STOP ON TRACKS Signs (R8-8)

8A.1.2 CONDITIONS FOR USE

DO NOT STOP ON TRACKS sign shall be installed at all Traffic Signals with railroad preemption. Sign should only be installed on the approach where queuing is expected on the track. DO NOT STOP ON TRACKS signs may also be installed at other railroad crossings based on engineering judgment.

8A.1.3 APPROVAL

DO NOT STOP ON TRACKS signs shall be approved by the District Traffic Operations Engineer.

8A.1.4 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the DO NOT STOP ON TRACKS signs by either Control Section – Logmile or GPS coordinates.

Section 8B.1

RAILROAD STORAGE SPACE SIGNS

8B.1.1 MUTCD REFERENCE

8B.24 Storage Space Signs (W10-11, W-11a, W-11b)

8B.1.2 CONDITIONS FOR USE

When an engineering study determines that adequate space is not available to store a design vehicle(s) between the highway intersection and dynamic envelope of a railroad crossing, W10-11, W10-11a and W-11b signs may be installed.

8B.1.3 LOCATION AND PLACEMENT

W10-11 and W10-11a signs may be mounted as close as practical to the stop bar prior to the railroad crossing on their own pole.

W10-11b may be used beyond the grade crossing on a local road and state highway intersection mounted under a STOP or YIELD sign (8B.24.03).

8B.1.4 APPROVAL

W10-11, W10-11a and W10-11b signs shall be approved by the District Traffic Operations Engineer.

8B.1.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the W10-11a signs by either Control Section – Logmile or GPS coordinates.

Section 9B.2

BICYCLE SHARE THE ROAD ASSEMBLY

9B.2.1 MUTCD SECTION REFERENCE

Bicycle (W11-1) Sign and Share The Road (W16-1P) Sign

9B.2.2 CONDITIONS FOR USE

All installations of the BICYCLE (W11-1) and SHARE THE ROAD (W16-1P) signs and pavement markings will require a Share the Road permit sent to the appropriate District Office. The BICYCLE (W11-1) and SHARE THE ROAD (W16-1P) signs and pavement markings shall only be placed in an area that has adopted an official local bike plan passed by the local governing agency. See Figure 9B.2.1 and Figure 9B.2.2.

To obtain a Share the Road permit:

1. A Share the Road permit must be signed by an official of the local government requesting the sign (or markings)
2. The request must specify where the signs (or markings) will be placed
3. The following must be attached to the request:
 - a. A map illustrating where the signs will be placed
 - b. A copy of the official adopted local bike plan
 - c. Break away sign support specifications
 - d. Specifications for pavement markings

9B.2.3 SIGN DESIGN

Only BICYCLE (W11-1) and SHARE THE ROAD (W16-1P) signs that follow the dimensions and design as illustrated in the *MUTCD* will be approved for use. This sign shall have a yellow or fluorescent yellow/green background with black lettering and border.

The back of the BICYCLE (W11-1) signs installed by permit must have the following information either on a weather proof sticker or written neatly in black marker:

1. The proper agency to call for maintenance
2. The permit number
3. The installation date

Figure 9B.2.1 Share the Road Assembly

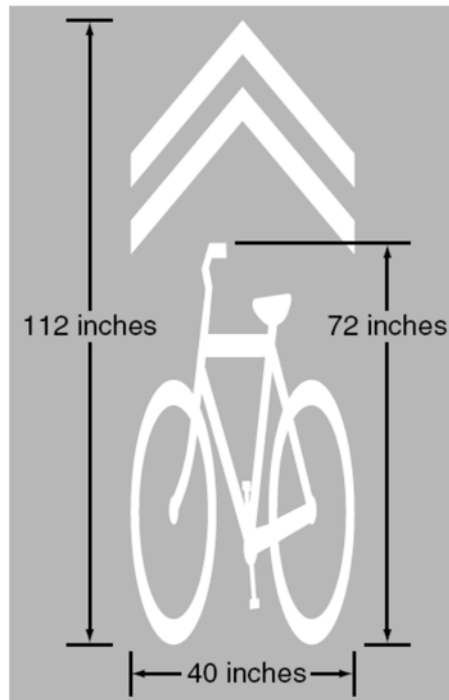


W11-1



W16-1P

Figure 9B.2.2 Shared Lane Pavement Marking



9B.2.4 APPROVAL

If the conditions for use in 9B.2.2 are met and are justified, then the District may approve the Traffic Control Device permit.

9B.2.5 DOCUMENTATION

The District Traffic Operations Engineer may consider documenting the locations of the community signs by either Control Section – Logmile or GPS coordinates.

Section 20.1

AJR NETWORK STUDY

20.1.1 PURPOSE

The following study is to accompany the Access Justification Reports EDSM I.4.3.2.

20.1.2 PROCEDURE

There are 2 phases in the AJR study process. Phase 1 is for existing AJR network studies and Phase 2 is for alternative AJR studies.

Phase 1 - AJR Existing Network Study:

I. GROWTH RATES

- A. Proposed growth rates
 - i. The sponsor will be expected to submit the proposed growth rates along with assumptions for each roadway within the study area for the existing network.
 - ii. Sponsor shall follow all applicable DOTD policy and guidance.

I. GROWTH RATE DELIVERABLES

- C. Report of assumptions for growth rates.

II. DATA COLLECTION

- A. Counts
 - i. Counts shall be taken when all schools are in session. No holiday weeks.
 - ii. Prior to the counts starting the DTOE and the Traffic Engineering Management (TEM) Section shall approve all count dates and times in writing.
 - iii. If counts exist, they must be no older than 2 years from date of initiation meeting.
 - iv. Exact count types and locations shall be spelled out in the MOU but at a minimum there should be:
 - 1. 7 day 24 hour counts and classification counts in both directions one per corridor for non-interstate routes within the study area
 - 2. For an IJR 7 day 24 hour counts and classification counts for both directions on the interstate one on each side of adjacent interchanges and one at proposed interchange site
 - 3. For an IMR 7 day 24 hour counts and classification counts for both directions on the interstate one each side of the interchange
 - v. The 7 day 24 hour counts shall be delivered to the TEM Section and the DTOE for approval of peak hour times. Turning Movement Counts (TMC) shall be taken during the approved hours. Typically

- there should be no more than 4 and no fewer than 2 turning movement counts per intersection. The turning movement counts shall include queue lengths every 15 minutes on each approach.
- vi. 48 hour counts and classifications shall be required for each approach of major intersections at the same time as the turning movement counts.
 - vii. 15 minute counts may be required at minor roadway approaches, driveways and median openings
- B. Signal Warrant Analysis for major intersections for existing conditions
- i. All MUTCD warrants
 - ii. If reduction is applicable, must analyze with reduction and at 100%
- C. Speed Study
- i. Minimum of 1 per corridor and within each speed zone
 - ii. Must meet requirements in EDSM VI.1.1.1
- D. Crashes
- i. All crash records are to be pulled for the last three years within the study area
 - ii. Summary of all crash types and locations
 - iii. Over represented crash type- each relevant crash report shall be read
 - iv. State Average comparison (intersections, segments, spots)
 - v. Existing Conflict types shall be identified
 - vi. Crash diagrams presented on an aerial
 - vii. Report given to DOTD to detail which crash reports were not reported correctly on the crash listing and what needs to be corrected
- E. Travel Time
- i. Average Vehicle Method utilizing the maximum car technique is to be used (TEM Section may approve other methods upon request)
 - ii. Minimum length of route shall be 1 mile
 - iii. Shall be run at each approved peak hour
 - iv. The number of runs for each peak hour shall be determined with a confidence level of 95%.
 - v. The date, time of run, weather, direction, starting location, ending location, trip length, trip time, travel speed, running time, stopped time, running speed shall be noted for each run.
 - vi. A summary with averages for all data points shall be completed for each peak hour.
- F. Peak hour Observations at Major Intersections and along corridors within study area
- i. Performed by a Professional Engineer licensed in Louisiana.

II. DATA COLLECTION DELIVERABLES

- A. 7 day 24 hour counts with recommended peak hours for turning movement counts (TMC) {MUST BE APPROVED PRIOR TO PERFORMING ANY OTHER COUNTS}
- i. Electronic copy (excel or other approved software)
 - ii. Hardcopy showing hourly counts

- iii. Recommended peak hours
- B. Counts
 - i. 48 hour electronic copy (excel or other approved software) and hardcopy showing hourly counts
 - ii. Peak hour hardcopy showing TMC and 15 minute counts
 - iii. Layout of peak hour counts on map
- C. Warrant Analysis printout of warrants, volumes and which hours meet
- D. Speed Study printouts as described in EDSM VI.1.1.1
- E. Crashes
 - i. Crash diagrams for each major intersection
 - ii. Summary charts of overrepresented crashes
 - iii. Charts of State Averages
 - iv. Summary of conflict types
 - v. Report on incorrect crash reports
- F. Travel time runs
- G. Peak hour observations report given to DOTD highlighting any issues at the intersections within the study area such as queuing, turning conflicts etc.
- H. Layout on map for build and future analysis with % growth rate and traffic generator
 - i. Explanation of the traffic generator location assumptions and how growth was determined
- I. QA/QC documentation

III. EXISTING NETWORK ANALYSIS

- A. Software Analysis tools shall be defined in the MOU
 - i. No micro simulation tools shall be used in this step
- B. Scenarios for analysis for build year and design year as defined in MOU
 - i. Existing network no build
 - ii. Existing network with Transportation Systems Management (TSM) Alternatives for entire study area
 - 1. At a minimum, 4 alternatives are to be considered including the no build
 - iii. Analysis shall include network components within study area such as:
 - 1. Basic freeway segments
 - 2. Freeway Merge/Diverge segments
 - 3. Freeway Weaving Segments
 - 4. Major intersections
 - iv. Analysis results of network components with appropriate Measures of Effectiveness (MOE) shall be defined in the MOU. These may include but not limited to:
 - 1. Delay
 - 2. Travel Time
 - 3. Queue
 - 4. v/c

- 5. Density
- 6. LOS

IV. *EXISTING NETWORK ANALYSIS DELIVERABLES*

- A. Report of results for each scenario during build and design year including:
 - i. Summary of assumptions, analysis and findings (All deliverables from A & B)
 - ii. Table of network freeway components and appropriate MOE
 - iii. Table of network major intersections and appropriate MOE
 - iv. Figures of lane configuration and layout to scale with aerial
 - v. Appendix with relevant software analysis output
 - vi. Signed and Stamped by Professional Engineer licensed in Louisiana
- B. Electronic files of report (pdf) and of the software analysis
- C. QA/QC documentation

V. *MEETING*

The TEM Section will call a meeting to determine if the proposed TSM alternatives adequately address deficiencies defined in Purpose and Need and Goals and Objectives as outlined in the MOU

- A. Attendees:
 - i. Sponsor
 - ii. LADOTD Traffic Engineering Management
 - iii. LADOTD Safety
 - iv. FHWA
- B. Review of Existing Network Analysis Deliverables
- C. Decision to be made after meeting if AJR study continues
 - v. If study doesn't continue then alternative is chosen from the Existing Network Analysis
 - vi. If study does continue then MOU is modified and Phase II Alternative Analysis process begins

Phase 2 - AJR Alternative Study:

I. ALTERNATIVE ANALYSIS DATA

- A. Adjust Study Area
 - i. Should include a length of interstate for an interstate corridor study according to point 6 in the Federal CFR
- B. Volume Distribution Diagram
- C. Evaluation Criterion defined
 - i. Traffic Operations
 - ii. Right of Way
 - iii. Environmental/Social Impacts
 - iv. Costs
- D. Interchange Form Consideration/Screening Matrix
 - i. Perform Tier 1 Analysis (as described in ITE Freeway and Interchange Geometric Design Handbook): All interchange forms are considered and screened for fatal flaws. The process begins

with the identification of the “System-Area Environment” which identifies base conditions in terms of broad controls. The various interchange forms are considered based on the system area environment as described. These are then screened for fatal flaws. The screening considerations are then evaluated and decision making criterion established. By documenting the evaluation of alternatives in Tier 1, the planner/engineer considers all potential interchange candidates and records why some alternatives were eliminated from further study.

I. ALTERNATIVE ANALYSIS DATA DELIVERABLES

- A. Aerial outlining the adjusted study area with major intersections labeled
- B. A list of any new required data due to the adjusted study area
- C. Volume Distribution Diagram
- D. Interchange Screening Matrix
- E. QA/QC documentation

II. ALTERNATIVE ANALYSIS DATA MEETING

The TEM Section will call a meeting to determine which interchanges from Tier 1 analysis will move on to full alternative analysis

- A. Attendees:
 - i. Sponsor
 - ii. Sponsor’s consultant
 - iii. LADOTD Traffic Engineering Management
 - iv. LADOTD Traffic Engineering Development
 - v. LADOTD Safety
 - vi. FHWA
- B. Review of Alternative Analysis Data Deliverables
- C. Decision to be made at meeting which interchange types move to full alternative analysis (at least 3 alternatives)
- D. Discuss future study criteria for alternatives to be studies
 - i. MOE
 - ii. Software
- E. After meeting Study Criteria Memorandum will be distributed for review and signature by TEM Section

III. STUDY CRITERIA MEMORANDUM

The study criteria memorandum shall include:

- A. Volume distribution
- B. Software to be used for analysis of the 3 alternatives
- C. MOEs

The MOEs may include but are not limited to:

- i. Delay
- ii. Travel time
- iii. Queue
- iv. v/c

- v. Density
- vi. LOS
- vii. ROW/COA Cost
- viii. Construction cost
- ix. Known utility constraints
- x. Throughput
- xi. Conflict points (by type)
- xii. Geometric areas of concern
- D. Scaled conceptual drawings
- E. Timelines for submittals and reviews

IV. *FULL ALTERNATIVE ANALYSIS*

- A. Analysis will include network components within study area such as, but not limited to:
 - i. Basic Freeway segments
 - ii. Freeway Merge/Diverge Segments
 - iii. Freeway Weaving Segments
 - iv. Major Intersections
- B. Analyze the alternatives defined in the Study Criteria Memorandum to include:
 - i. MOEs as defined in the memorandum
 - ii. Future traffic and lane requirements for entire study area
 - iii. Public transportation plan, pedestrian and bicycle requirements
 - iv. Future highway network
 - v. Land use, environmental and right of way considerations
 - vi. ITS strategies and HOV facilities
 - vii. Design guidelines and criteria
 - viii. Safety analysis
 - 1. Include analysis of new conflict points. This may be accomplished using the predictive method in the HSM or another approved method.
- C. Prepare conceptual layouts to scale for each alternative to include at a minimum:
 - i. Identify utility conflicts
 - ii. Proposed and existing ROW
 - iii. Signing
 - iv. Striping
 - v. Geometric details
 - vi. Driveways and roadway connections with labels
 - vii. Drainage structures and bridges

IV. *FULL ALTERNATIVE ANALYSIS DELIVERABLES*

- A. Signed and stamped report by Professional Engineer licensed in Louisiana to include
 - i. Summary of findings
 - ii. Summary of analysis

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- iii. Summary of assumptions
- iv. Relevant Software analysis output
- v. Design guidelines and criteria
- vi. Safety analysis
- vii. MOE comparison for 3 alternatives, no build alternative and the alternative with TSM improvements for design and build year
 - 1. Table of network freeway components and appropriate MOE
 - 2. Table of network major intersections and appropriate MOE
- B. Electronic copy of software analysis
- C. Scaled Conceptual Layout

V. *FINAL AJR SUBMITTAL*

- A. Combine all Deliverables into final report format
 - viii. Address all 8 points in Federal CFR
 - ix. Sign and Stamp by Professional Engineer licensed in Louisiana
- B. Check list
- C. 4 Hardcopies delivered to Traffic Engineering Management
- D. Electronic copy of report

Section 20.2 SPEED STUDY

20.2.1 PURPOSE

The following study is to accompany the Establishment of Speed Zones EDSM VI.1.1.1. The purpose of the SPEED STUDY is to determine the basic measure of traffic performance. The study is also used to measure speeds at locations under the traffic and environmental conditions prevailing at the time of the study.

20.2.2 EQUIPMENT AND PERSONNEL

Test vehicle (passenger car/vehicle), driver, observer, radar unit, laser unit or stop watch, SPOT SPEED STUDY TABLE (Figure 20.2.1) to input data.

20.2.3 PROCEDURE

The following is the minimum that should be collected and/or examined:

1. Calculate the 95th, 85th, and 15th percentile speeds and the 10 miles per hour pace speed range.
 - **Equipment** – Radar Unit, Laser Unit or Stop watch.
 - **Locations** – where drivers can obtain uninterrupted free flow speed. (i.e. tangent sections, outside of braking area for intersection)
 - **Sample size** – a minimum of 100 vehicles of spot speeds should be recorded. If 100 vehicles cannot be achieved, 2 hours of data is sufficient.
 - **Time of Day** – Outside of peak hours. Typically 10am-noon or 1pm-3pm depending upon location.
 - **Weather** – dry and sunny
2. Note the roadway characteristics, such as but not limited to:
 - Curves
 - Lane width and number of lanes
 - Medians
 - Sight distance
 - Traffic control features and spacing of such
 - Number of driveways
 - Number of side streets
 - ADT
 - Shoulder conditions
 - Pavement Conditions
3. Crash analysis for the last 3 years (i.e. abnormal crashes, crash type, crash summary, traffic volumes, etc.)

20.2.4 SPEED STUDY REPORT

The report should follow the order below and include all described information.

1. Description of roadway characteristics
2. Reason for zoning study
3. Write up with supporting documentation
4. Crash analysis and crash summary with description (i.e. abnormal crashes, crash type, crash summary, traffic volumes, etc.)
5. Explanation of additional information deemed necessary by engineering judgment.
6. Conclusion
7. Proposed Chief Engineer's Order (not required if speed is statutory) – The order must include a description containing intersecting street or bridge names, control section and logmiles from Agile Assests for the beginning and end of the zone. An example Chief Engineer's Order is shown below:

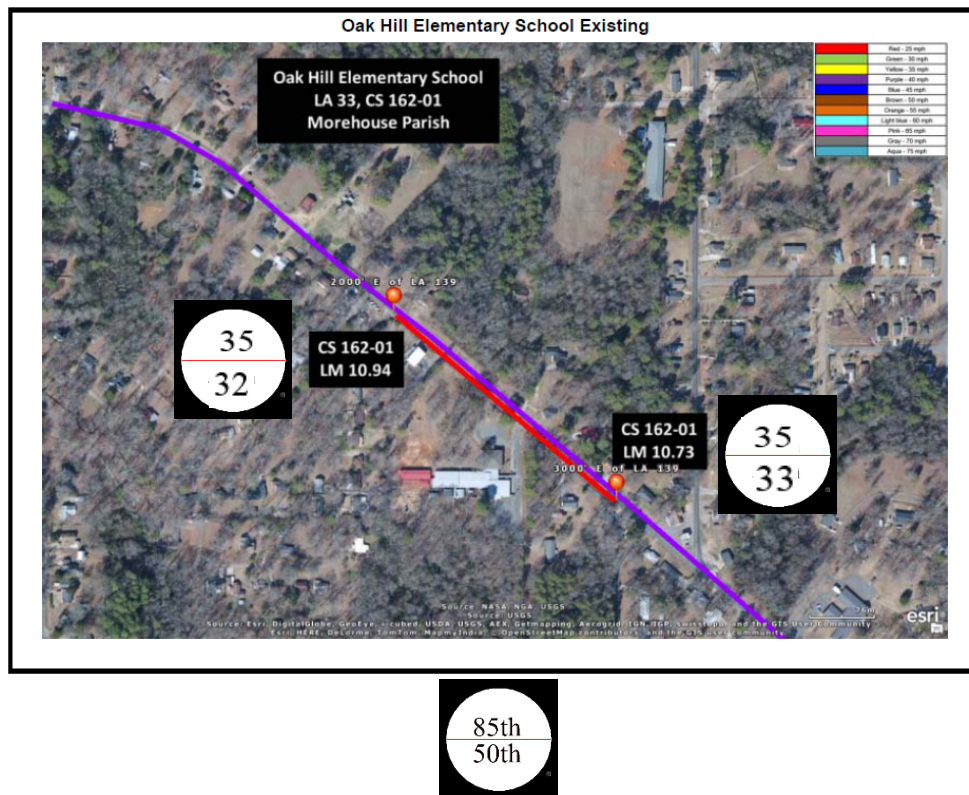
"No person shall operate any vehicle at a **speed** in excess of **45 miles per hour** on **State Route LA 447** between (1) a point 470 feet north of its intersection with Crotwell Drive (CS 268-01, LM 6.08) and (2) its intersection with State Route LA 1027 (CS 268-02, LM 0.04), in the Town of Walker, all in Livingston Parish."

8. **Current Speed Zone Map on aerial** (Figure 20.2.2) – Shows the existing speed limit(s), location, logmiles, and speed study locations with the 85th and 50th percentile speeds identified.

All maps included in the report should follow the coloring scheme below.

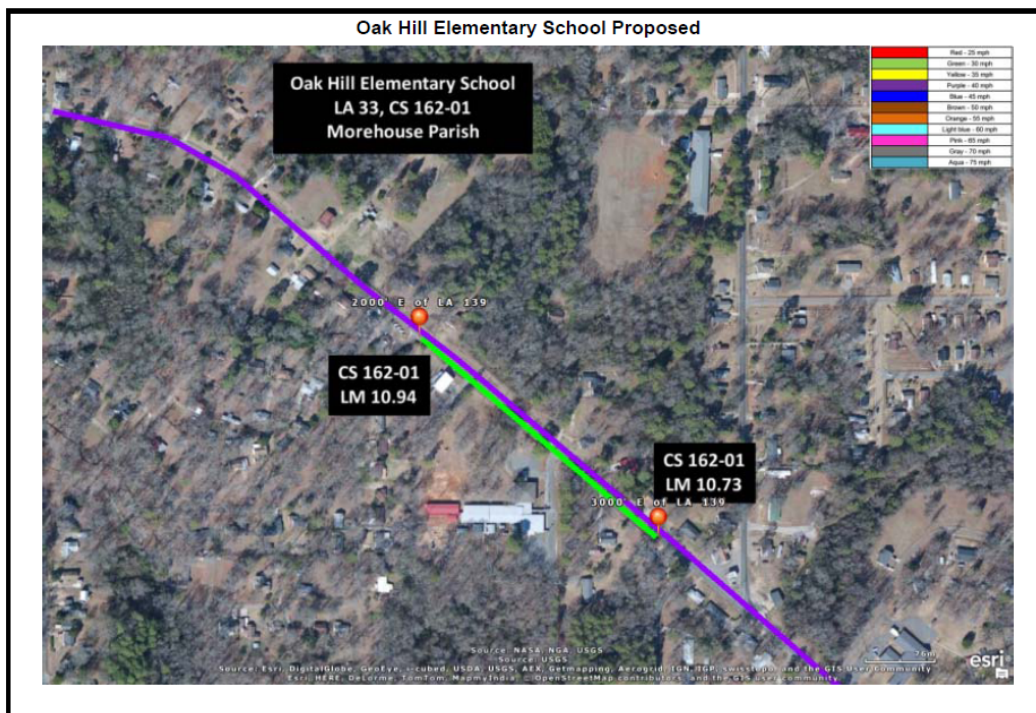
	Red - 25 mph
	Green - 30 mph
	Yellow - 35 mph
	Purple - 40 mph
	Blue - 45 mph
	Brown - 50 mph
	Orange - 55 mph
	Light blue - 60 mph
	Pink - 65 mph
	Gray - 70 mph
	Aqua - 75 mph

Figure 20.2.2 Current Speed Zone Map Example



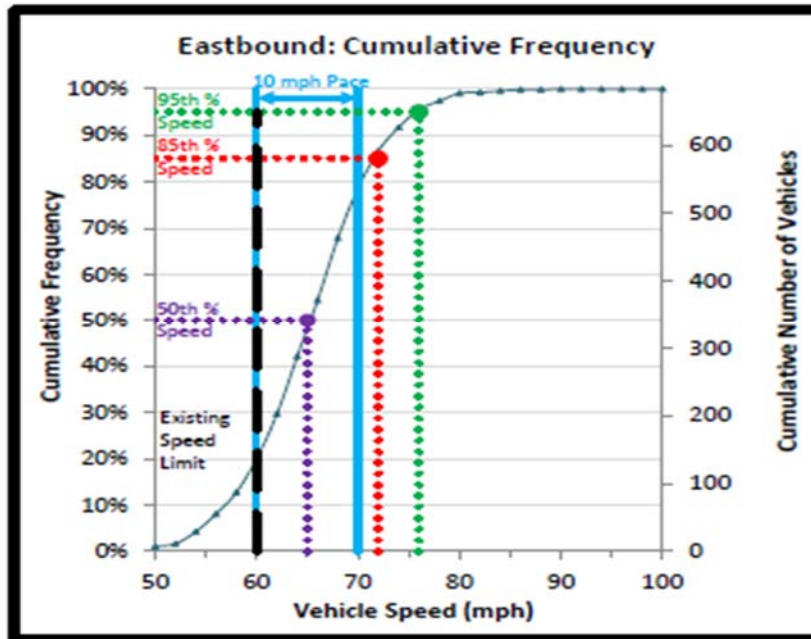
9. **Suggested Speed Zone Map on aerial** (Figure 20.2.3) – Shows the proposed speed limit (s) location, and logmiles.

Figure 20.2.3 Suggested Speed Zone Map Example



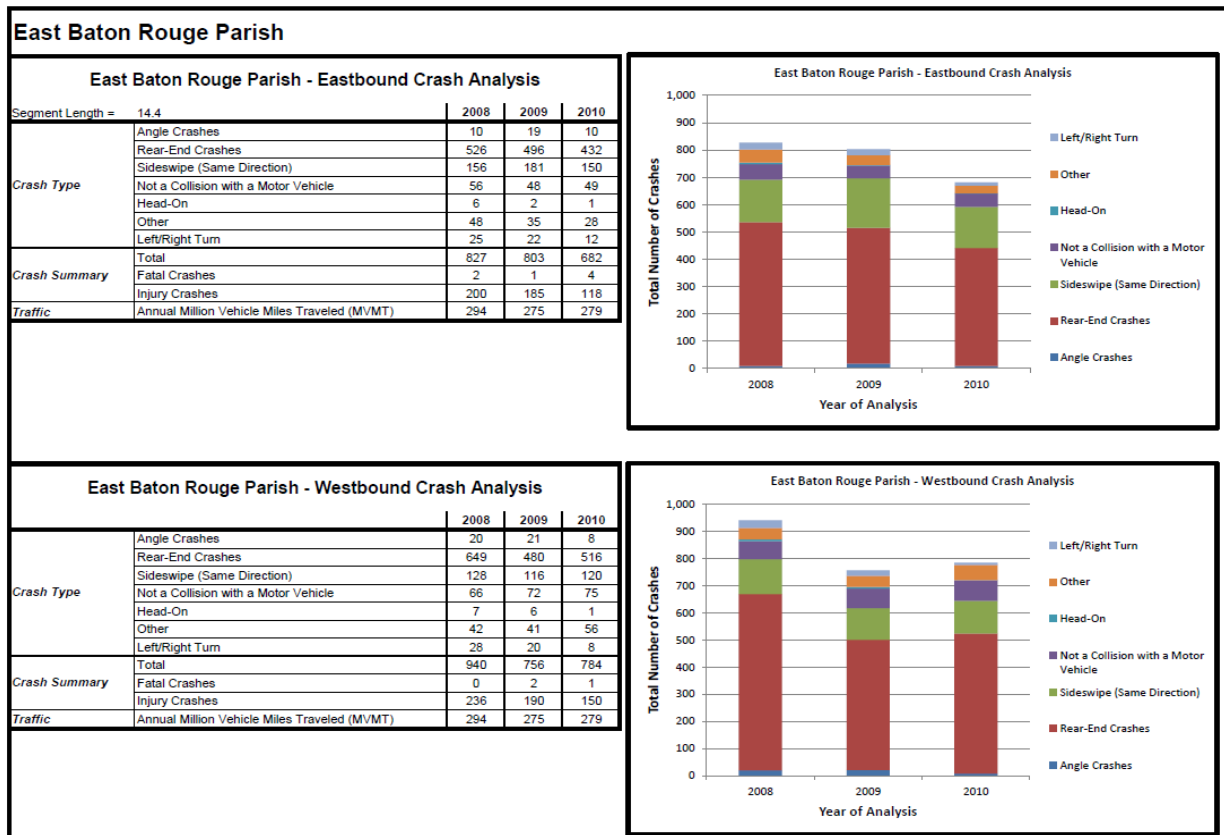
10. **Spot Speed Study Table** (Figure 20.2.1) – Shows the 95th, 85th, and 50th percentile speeds along with the 10 miles per hour pace range.
11. **Cumulative Frequency Curve Form** (Figure 20.2.4) – Shows a graphical representation of the 95th, 85th, and 50th percentile speeds.

Figure 20.2.4 Cumulative Frequency Curve Example



12. **Crash Data Tables** (See below or [Road Safety Triage](#)) – Must include 3 years of crash data describing all types of crashes.

Figure 20.2.5 Crash Data Table Example



20.2.5 SPEED LIMIT SIGNS

The following guidelines apply to the length of zones and placement of signs.

- Speed limit signs shall be placed at the beginning of all speed zones.
- Suggested sign spacing for additional speed limit signs:
 - Urban highways – a two block interval between signs
 - Rural areas – a one mile interval between signs if the speed limit is not statutory
 - After state route intersections
- If the speed limit is statutory, suggested sign spacing is as follows:
 - Rural areas – five mile spacing
 - Urban highways – one mile spacing
 - After state route intersections

Speed Limit signs indicating the statutory speed limits shall be installed at entrances to the State and, where appropriate, at jurisdictional boundaries in urban areas. A W3-5 Reduced Speed Limit Ahead sign should be used with all speed zones unless there is insufficient room or if the speed zone begins at a stop, signalized, or yield controlled intersection.

Figure 20.2.1 Spot Speed Study Table Example

SPOT SPEED STUDY

LOCATION :	On US 167, 1000' north of the LA 8 intersection, in Bentley.		
REPORT #		TIME OF STUDY:	10:20 A-11:30 A
DATE:	5/29/2013	WEATHER:	Partly Cloudy
DIRECTION OF TRAVEL :	Southbound	ROAD CONDITIONS:	Dry
ROUTE:	US 167	PARISH:	Grant
CONTROL SECTION:	023-02	POSTED SPEED LIMIT:	45 mph

MEAN (AVERAGE): 47.0	50 TH PERCENTILE: 46
MODE: 51	85 TH PERCENTILE: 51
MEDIAN: 46	95 TH PERCENTILE: 55
BOTTOM OF 10 MPH PACE SPEED: 43	NO. OF OBSERVATIONS: 104
TOP OF 10 MPH PACE SPEED: 52	% OF VEHICLES IN PACE RANGE: 72.1%

SPEED	FREQ.	Percent	Cumulative Percent	SPEED	FREQ.	Percent	Cumulative Percent
15				49	3	2.88	64.42%
16				50	7	6.73	71.15%
17				51	13	12.50	83.65%
18				52	5	4.81	88.46%
19				53	4	3.85	92.31%
20				54	1	0.96	93.27%
21				55	1	0.96	94.23%
22				56	2	1.92	96.15%
23				57	2	1.92	98.08%
24				58	2	1.92	100.00%
25				59			
26				60			
27				61			
28				62			
29				63			
30				64			
31				65			
32				66			
33				67			
34	1	0.96	0.96%	68			
35				69			
36				70			
37	2	1.92	2.88%	71			
38				72			
39	1	0.96	3.85%	73			
40	3	2.88	6.73%	74			
41	7	6.73	13.46%	75			
42	3	2.88	16.35%	76			
43	11	10.58	26.92%	77			
44	10	9.62	36.54%	78			
45	11	10.58	47.12%	79			
46	1	0.96	48.08%	80			
47	6	5.77	53.85%				
48	8	7.69	61.54%				

Section 20.3

CURVE SPEED STUDY

20.3.1 PURPOSE

The purpose of the CURVE SPEED STUDY is to determine the speed that a vehicle can negotiate a given horizontal curve under ideal conditions and other conditions which may require a recommended advisory speed. The study is also used to determine where turn and curve signs with advisory speed plates are required for horizontal curves. The study shall be sealed by a Louisiana registered professional engineer taking responsibility for the study recommendations and conclusions.

20.3.2 EQUIPMENT AND PERSONNEL

Test vehicle (passenger car/vehicle), driver, observer, ball bank indicator (slope meter safe curve indicator), Distance Measuring Instrument (DMI), and the CURVE SPEED STUDY form to input data.

20.3.3 PROCEDURE FOR USE OF EQUIPMENT

1. The ball bank indicator is used to measure the overturning force (side friction), measured in degrees, on a vehicle negotiating a horizontal curve. The ball bank should be mounted in such a position as to allow the ball to rest freely at the zero degree position when the vehicle is standing level. The movement of a car around a curve to the left, for example, causes the ball to swing to the right of the zero degree position. The faster the car moves around the curve or the sharper the curve, the greater degree indication from the zero degree position.
2. Beginning well in advance of the curve being checked during free flow conditions, the driver should enter the curve at a predetermined speed (mph as stated in the paragraph below), drive the car parallel with the centerline of that travel lane, and *maintain uniform speed throughout the curve*. The curve should be driven a number of times until at least two identical ball bank readings (degrees) for each direction of travel are obtained. Each direction of travel shall be considered separately. See Table 20.3.1 for criteria in determining the curve advisory speed.

Table 20.3.1 Criteria for Curve Advisory Speed Determination

Speeds (mph)	Ball Bank Reading (degrees)
≤ 20	16
25-30	14
≥ 35	12

3. The first trial run is made at a speed below the anticipated maximum speed. Subsequent trial runs are conducted at 5 mph speed increments. Readings of 16 degrees for speeds of 20 mph or less, 14 degrees for speeds of 25 mph through 30 mph and 12 degrees for speeds of 35 mph or greater are the usually accepted limits beyond which riding discomfort will be excessive and loss of vehicle control may occur.
4. The recommended advisory speed should be to the nearest 5 mph less than the maximum negotiable speed determined separately for each direction of travel. Considerations of sight distance, intersections, crash records, and other conditions may result in a recommended speed lower than that derived by the ball bank indicator method.
5. Advisory speed plates (mph) should be used in conjunction with curve and turn signs when the operating speed is below the posted or prevailing speed on the roadway. When plates are used with curve and turn signs, the miles-per-hour value shown on each plate should be determined by the use of the ball-bank indicator. The lowest speed (to the nearest 5 mph) obtained during trial runs that create a reading equal to or more than the degrees stated in Table 20.3.1 with the corresponding mph should be posted. Each direction should be checked independently and may be posted with different speeds.
6. A horizontal alignment sign with advisory speed plates shall be required for speed advisories differing more than 9 mph from the posted speed. A horizontal alignment sign may be installed for alignments differing less than 9 mph. To decide if the horizontal alignment sign should be a turn or a curve sign, the driver should make test runs at 30 mph (or less, for safety). If the ball bank indicator exceeds 12 degrees or more, a turn sign will be required. If the indicator reading is less than 12 degrees at test run speeds of 30 mph, then test runs should be made at greater speeds. If the indicator exceeds 12 degrees at speeds between 31 and 65 mph, then a curve sign is required. See Table 20.3.2 below and Table 2C-5 in the MUTCD for further guidance.

Table 20.3.2 Turn Sign vs. Curve Sign

Number of Alignment Changes	Advisory Speed Sign	
	≤ 30 mph	> 30 mph
1	Turn (W1-1)	Curve (W1-2)
2	Reverse Turn (W1-3)	Reverse Curve (W1-4)
3 or more	Winding Road (W1-5)	

20.3.4 PLACEMENT OF WARNING SIGNS

1. Since warning signs are primarily for the benefit of the driver who is unfamiliar with the road, it is very important that care be given to the placement of such signs. Warning signs should provide adequate time for the driver to perceive, identify, decide, and perform any necessary maneuver to safely negotiate the curve. This total time to perceive and complete a reaction to a sign is the sum










of the times necessary for perception, identification/understanding, emotion/decision-making, and execution of decision. This time may vary from approximately 3-seconds for general warning signs to as much as 10-seconds for high driver judgment condition warning signs. The advance distance for the placement of warning signs is determined by the posted speed or the 85th percentile speed as calculated from speed study data and conditions that exist on the section of roadway being studied. Once the type of warning signs has been selected, the proper sign location can be determined. The advance warning sign placement shall be in accordance with Table 2C-4 Guidelines for Advance Placement of Warning Signs in the current adopted edition of the MUTCD.

2. Warning signs and advisory speed plates shall be erected in accordance with the general requirements of the MUTCD.

20.3.5 USE OF CURVE SPEED STUDY FORM (FIGURE 20.3.2)

1. Enter the *Roadway I.D.* and *Location* so that the curve speed study location is thoroughly identified. The street name(s), state road number(s), parish, and control section should be included.
2. Enter the *Posted Speed Limit*, *Pavement Condition*, *Date of Study*, and *Observer(s)* in the appropriate spaces. Include any information that may need to be considered in addition to data being collected in the *Remarks* area.
3. In the *Direction of Travel* column enter *North*, *East*, *South*, or *West* indicating the direction of the study vehicle. In the *Logmile* column enter the logmile for the beginning of the curve or in the GPS column enter the gps coordinates of the beginning of the curve. In the *Speed on Curve* column enter the constant speed of the study vehicle as the vehicle travels through the curve. In the *Degree of Deflection* column, enter the degree of deflection as shown on the ball bank indicator for constant speed of the study vehicle as the vehicle passed through the curve.

Figure 20.3.2 Curve Speed Study Example

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  <p>DOTD DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT</p> </div> <div style="text-align: center;"> <p>State of Louisiana Department of Transportation and Development</p> <p>CURVE SPEED STUDY</p> <p>Traffic Engineering</p> </div> <div> <table border="1"> <thead> <tr> <th>Speeds (mph)</th> <th>Ball Bank Reading (degrees)</th> </tr> </thead> <tbody> <tr> <td>≤ 20</td> <td>16</td> </tr> <tr> <td>25 - 30</td> <td>14</td> </tr> <tr> <td>≥ 35</td> <td>12</td> </tr> </tbody> </table> </div> </div>						Speeds (mph)	Ball Bank Reading (degrees)	≤ 20	16	25 - 30	14	≥ 35	12
Speeds (mph)	Ball Bank Reading (degrees)												
≤ 20	16												
25 - 30	14												
≥ 35	12												
LOCATION I.D.: US 190 (Near Cedar Ridge Road)													
PARISH: EBR		CONTROL SECTION: 013-05											
POSTED SPEED (mph): 55		PAVEMENT CONDITION: Dry											
DATE: 01-10-10		OBSERVERS: Todd Humphreys & Monique Ordogne											
REMARKS: None													
LOGMILE/GPS: BEGIN CURVE <u>8.317</u> END CURVE <u>8.428</u>													
DIRECTION OF TRAVEL	SPEED ON CURVE	DEGREE OF DEFLECTION	# of curves	Less than or equal to 30 mph	Greater than or equal to 35 mph								
North	40	8	1	  W1-1	  W1-2								
South	40	7											
North	45	10											
South	45	8	2	 W1-3 L or R	 W1-4 L or R								
North	50	12											
South	50	11											
North	45	10	3 or more	 W1-5 L or R	 W1-5 L or R								
South	45	9											
North	45	10											
South	45	8	Advisory Speed:										
			Recommended Signs:										
			Approved by District Traffic Oper. Engineer:										

20.3.6 EQUIPMENT AND PERSONNEL

A reproducible copy of the CURVE SPEED STUDY is in Appendix A. This form is also available on the Departments internet site under Traffic Engineering.










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<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  </div> <div> <p>State of Louisiana Department of Transportation and Development</p> <h2 style="margin: 0;">CURVE SPEED STUDY</h2> <p style="margin: 0;">Traffic Engineering</p> </div> </div>												
				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 2px;">Speeds (mph)</th> <th style="padding: 2px;">Ball Bank Reading (degrees)</th> </tr> <tr> <td style="text-align: center;">≤ 20</td> <td style="text-align: center;">16</td> </tr> <tr> <td style="text-align: center;">25 - 30</td> <td style="text-align: center;">14</td> </tr> <tr> <td style="text-align: center;">≥ 35</td> <td style="text-align: center;">12</td> </tr> </table>	Speeds (mph)	Ball Bank Reading (degrees)	≤ 20	16	25 - 30	14	≥ 35	12
Speeds (mph)	Ball Bank Reading (degrees)											
≤ 20	16											
25 - 30	14											
≥ 35	12											
LOCATION I.D.:												
PARISH:			CONTROL SECTION:									
POSTED SPEED (mph):			PAVEMENT CONDITION:									
DATE:			OBSERVERS:									
REMARKS:												
LOGMILE/GPS: BEGIN CURVE _____ END CURVE _____												
DIRECTION OF TRAVEL	SPEED ON CURVE	DEGREE OF DEFLECTION	# of curves	Less than or equal to 30 mph	Greater than or equal to 35 mph							
			1	 	 							
				W1-1	W1-2							
			2									
				W1-3 L or R	W1-4 L or R							
			3 or more									
				W1-5 L or R	W1-5 L or R							
			Advisory Speed:									
			Recommended Signs:									
			Approved by District Traffic Oper. Engineer:									

APPENDIX B

MUTCD REFERENCES

Section 2A.16 Standardization of Location

Support:

01 Standardization of position cannot always be attained in practice. Examples of heights and lateral locations of signs for typical installations are illustrated in Figure 2A-2, and examples of locations for some typical signs at intersections are illustrated in Figures 2A-3 and 2A-4.
02 Examples of advance signing on an intersection approach are illustrated in Figure 2A-4. Chapters 2B, 2C, and 2D contain provisions regarding the application of regulatory, warning, and guide signs, respectively.

Standard:

03 **Signs requiring separate decisions by the road user shall be spaced sufficiently far apart for the appropriate decisions to be made. One of the factors considered when determining the appropriate spacing shall be the posted or 85th-percentile speed.**

Guidance:

04 *Signs should be located on the right-hand side of the roadway where they are easily recognized and understood by road users. Signs in other locations should be considered only as supplementary to signs in the normal locations, except as otherwise provided in this Manual.*

05 *Signs should be individually installed on separate posts or mountings except where:*

- A. One sign supplements another;*
- B. Route or directional signs are grouped to clarify information to motorists;*
- C. Regulatory signs that do not conflict with each other are grouped, such as turn prohibition signs posted with one way signs or a parking regulation sign posted with a speed limit sign; or*
- D. Street name signs are posted with a stop or yield sign.*

06 *Signs should be located so that they:*

- A. Are outside the clear zone unless placed on a breakaway or yielding support (see Section 2A.19),*
- B. Optimize nighttime visibility,*
- C. Minimize the effects of mud splatter and debris,*
- D. Do not obscure each other,*
- E. Do not obscure the sight distance to approaching vehicles on the major street for drivers who are stopped on minor-street approaches, and*
- F. Are not hidden from view.*

Support:

07 The clear zone is the total roadside border area, starting at the edge of the traveled way, available for use by errant vehicles. The width of the clear zone is dependent upon traffic volumes, speeds, and roadside geometry. Additional information can be found in AASHTO's "Roadside Design Guide" (see Section 1A.11).

Guidance:

08 *With the increase in traffic volumes and the desire to provide road users regulatory, warning, and guidance information, an order of priority for sign installation should be established.*

Support:

09 An order of priority is especially critical where space is limited for sign installation and there is a demand for several different types of signs. Overloading road users with too much information is not desirable.

Traffic Engineering Manual

Appendix

Guidance:

10 Because regulatory and warning information is more critical to the road user than guidance information, regulatory and warning signing whose location is critical should be displayed rather than guide signing in cases where conflicts occur. Community wayfinding and acknowledgment guide signs should have a lower priority as to placement than other guide signs. Information of a less critical nature should be moved to less critical locations or omitted.

Option:

11 Under some circumstances, such as on curves to the right, signs may be placed on median islands or on the left-hand side of the road. A supplementary sign located on the left-hand side of the roadway may be used on a multi-lane road where traffic in a lane to the right might obstruct the view to the right.

Guidance:

12 In urban areas where crosswalks exist, signs should not be placed within 4 feet in advance of the crosswalk (see Drawing D in Figure 2A-3).

Section 2A.21 Posts and Mountings

Standard:

01 Sign posts, foundations, and mountings shall be so constructed as to hold signs in a proper and permanent position, and to resist swaying in the wind or displacement by vandalism.

Support:

02 The latest edition of AASHTO's "Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" contains additional information regarding posts and mounting (see Page i for AASHTO's address).

Option:

03 Where engineering judgment indicates a need to draw attention to the sign during nighttime conditions, a strip of retroreflective material may be used on regulatory and warning sign supports.

Standard:

04 If a strip of retroreflective material is used on the sign support, it shall be at least 2 inches in width, it shall be placed for the full length of the support from the sign to within 2 feet above the edge of the roadway, and its color shall match the background color of the sign, except that the color of the strip for the YIELD and DO NOT ENTER signs shall be red.

Section 2B.03 Size of Regulatory Signs

Standard:

01 Except as provided in Section 2A.11, the sizes for regulatory signs shall be as shown in Table 2B-1.

Support:

02 Section 2A.11 contains information regarding the applicability of the various columns in Table 2B-1.

Standard:

03 Except as provided in Paragraphs 4 and 5, the minimum sizes for regulatory signs facing traffic on multi-lane conventional roads shall be as shown in the Multi-lane column of Table 2B-1.

Option:

04 Where the posted speed limit is 35 mph or less on a multi-lane highway or street, other than for a STOP sign, the minimum size shown in the Single Lane column in Table 2B-1 may be used.

05 Where a regulatory sign, other than a STOP sign, is placed on the left-hand side of a multi-lane roadway in addition to the installation of the same regulatory sign on the right-hand side or the roadway, the size shown in the Single Lane column in Table 2B-1 may be used for both the sign on the right-hand side and the sign on the left-hand side of the roadway.

Standard:

06 A minimum size of 36 x 36 inches shall be used for STOP signs that face multi-lane approaches.

07 Where side roads intersect a multi-lane street or highway that has a speed limit of 45 mph or higher, the minimum size of the STOP signs facing the side road approaches, even if the side road only has one approach lane, shall be 36 x 36 inches.

08 Where side roads intersect a multi-lane street or highway that has a speed limit of 40 MPH or lower, the minimum size of the STOP signs facing the side road approaches shall be as shown in the Single Lane or Multi-lane columns of Table 2B-1 based on the number of approach lanes on the side street approach.

Guidance:

09 The minimum sizes for regulatory signs facing traffic on exit and entrance ramps should be as shown in the column of Table 2B-1 that corresponds to the mainline roadway classification (Expressway or Freeway). If a minimum size is not provided in the Freeway column, the minimum size in the Expressway column should be used.

Section 2B.10 STOP Sign or YIELD Sign Placement

Standard:

01 The STOP or YIELD sign shall be installed on the near side of the intersection on the right-hand side of the approach to which it applies. When the STOP or YIELD sign is installed at this required location and the sign visibility is restricted, a Stop Ahead sign (see Section 2C.36) shall be installed in advance of the STOP sign or a Yield Ahead sign (see Section 2C.36) shall be installed in advance of the YIELD sign.

02 The STOP or YIELD sign shall be located as close as practical to the intersection it regulates, while optimizing its visibility to the road user it is intended to regulate.

03 STOP signs and YIELD signs shall not be mounted on the same post.

04 No items other than inventory stickers, sign installation dates, and bar codes shall be affixed to the fronts of STOP or YIELD signs, and the placement of these items shall be in the border of the sign.

05 No items other than official traffic control signs, inventory stickers, sign installation dates, anti-vandalism stickers, and bar codes shall be mounted on the backs of STOP or YIELD signs.

06 No items other than retroreflective strips (see Section 2A.21) or official traffic control signs shall be mounted on the fronts or backs of STOP or YIELD signs supports.

Guidance:

07 STOP or YIELD signs should not be placed farther than 50 feet from the edge of the pavement of the intersected roadway (see Drawing F in Figure 2A-3).

08 A sign that is mounted back-to-back with a STOP or YIELD sign should stay within the edges of the STOP or YIELD sign. If necessary, the size of the STOP or YIELD sign should be increased

so that any other sign installed back-to-back with a STOP or YIELD sign remains within the edges of the STOP or YIELD sign.

Option:

09 Where drivers proceeding straight ahead must yield to traffic approaching from the opposite direction, such as at a one-lane bridge, a TO ONCOMING TRAFFIC (R1-2aP) plaque may be mounted below the YIELD sign.

Section 2B.28 Do Not Pass Sign (R4-1)

Option:

01 The Do Not Pass (R4-1) sign (see Figure 2B-10) may be used in addition to pavement markings (see Section 3B.02) to emphasize the restriction on passing. The Do Not Pass sign may be used at the beginning of, and at intervals within, a zone through which sight distance is restricted or where other conditions make overtaking and passing inappropriate.

02 If signing is needed on the left-hand side of the roadway for additional emphasis, NO PASSING ZONE (W14-3) signs may be used (see Section 2C.45).

Support:

03 Standards for determining the location and extent of no-passing zone pavement markings are set forth in Section 3B.02.

Section 2B.30 KEEP RIGHT EXCEPT TO PASS Sign (R4-16) and SLOWER TRAFFIC KEEP RIGHT Sign (R4-3)

Option:

01 The KEEP RIGHT EXCEPT TO PASS (R4-16) sign (see Figure 2B-10) may be used on multi-lane roadways to direct drivers to stay in the right-hand lane except when they are passing another vehicle.

Guidance:

02 *If used, the KEEP RIGHT EXCEPT TO PASS sign should be installed just beyond the beginning of a multi-lane roadway and at selected locations along multi-lane roadways for additional emphasis.*

Option:

03 The SLOWER TRAFFIC KEEP RIGHT (R4-3) sign (see Figure 2B-10) may be used on multi-lane roadways to reduce unnecessary lane changing.

Guidance:

04 *If used, the SLOWER TRAFFIC KEEP RIGHT sign should be installed just beyond the beginning of a multi-lane pavement, and at selected locations where there is a tendency on the part of some road users to drive in the left-hand lane (or lanes) below the normal speed of traffic. This sign should not be used on the approach to an interchange or through an interchange area.*

Section 2B.59 Weight Limit Signs (R12-5)

Option:

05 Posting of specific load limits may be accomplished by use of the Weight Limit symbol sign (R12-5). A sign containing the legend WEIGHT LIMIT on the top two lines, and showing three different truck symbols and their respective weight limits for which restrictions apply may be used, with the weight limits displayed to the right of each symbol as XX T. A bottom line of legend stating GROSS WT may be included if needed for enforcement purposes.

Standard:

06 **If used, the Weight Limit sign (see Figure 2B-29) shall be located in advance of the applicable section of highway or structure.**

Guidance:

07 *If used, the Weight Limit sign with an advisory distance ahead legend should be placed at approach road intersections or other points where prohibited vehicles can detour or turn around.*

Section 2B.61 TRUCK ROUTE Sign (R14-1)

Guidance:

01 *The TRUCK ROUTE (R14-1) sign (see Figure 2B-30) should be used to mark a route that has been designated to allow truck traffic.*

Option:

02 **On a numbered highway, the TRUCK (M4-4) auxiliary sign may be used (see Section 2D.20).**

Section 2B.62 Hazardous Material Signs (R14-3)

Option:

02 On routes where the transporting of hazardous material is prohibited, the Hazardous Material Prohibition (R14-3) sign (see Figure 2B-30) may be used.

Guidance:

03 *If used, the Hazardous Material Prohibition sign should be installed on a street or roadway at a point where vehicles transporting hazardous material have the opportunity to take an alternate route.*

Section 2B.63 National Network Signs (R14-4, R14-5)

Support:

01 The signing of the National Network routes for trucking is optional.

Standard:

02 **When a National Network route is signed, the National Network (R14-4) sign (see Figure 2B-30) shall be used.**

Option:

03 The National Network Prohibition (R14-5) sign (see Figure 2B-30) may be used to identify routes, portions of routes, and ramps where trucks are prohibited. The R14-5 sign may also be used to mark the ends of designated routes.

Section 2C.27 Low Clearance Signs (W12-2 and W12-2a)

Standard:

01 **The Low Clearance (W12-2) sign (see Figure 2C-5) shall be used to warn road users of clearances less than 12 inches above the statutory maximum vehicle height.**

Guidance:

02 *The actual clearance should be displayed on the Low Clearance sign to the nearest 1 inch not exceeding the actual clearance. However, in areas that experience changes in temperature causing frost action, a reduction, not exceeding 3 inches, should be used for this condition.*

03 *Where the clearance is less than the legal maximum vehicle height, the W12-2 sign with a supplemental distance plaque should be placed at the nearest intersecting road or wide point in the road at which a vehicle can detour or turn around.*

04 In the case of an arch or other structure under which the clearance varies greatly, two or more signs should be used as necessary on the structure itself to give information as to the clearances over the entire roadway.

05 Clearances should be evaluated periodically, particularly when resurfacing operations have occurred.

Option:

06 The Low Clearance sign may be installed on or in advance of the structure. If a sign is placed on the structure, it may be a rectangular shape (W12-2a) with the appropriate legend (see Figure 2C-5).

Section 2C.32 Surface Condition Signs (W8-5, W8-7, W8-8, W8-11, W8-13, and W8-14)

Option:

01 The Slippery When Wet (W8-5) sign (see Figure 2C-6) may be used to warn of unexpected slippery conditions. Supplemental plaques with legends such as ICE, WHEN WET, STEEL DECK, or EXCESS OIL may be used with the W8-5 sign to indicate the reason that the slippery conditions might be present.

02 The LOOSE GRAVEL (W8-7) sign (see Figure 2C-6) may be used to warn of loose gravel on the roadway surface.

03 The ROUGH ROAD (W8-8) sign (see Figure 2C-6) may be used to warn of a rough roadway surface.

04 An UNEVEN LANES (W8-11) sign (see Figure 2C-6) may be used to warn of a difference in elevation between travel lanes.

05 The BRIDGE ICES BEFORE ROAD (W8-13) sign (see Figure 2C-6) may be used in advance of bridges to advise bridge users of winter weather conditions. The BRIDGE ICES BEFORE ROAD sign may be removed or covered during seasons of the year when its message is not relevant.

06 The FALLEN ROCKS (W8-14) sign (see Figure 2C-6) may be used in advance of an area that is adjacent to a hillside, mountain, or cliff where rocks frequently fall onto the roadway.

Guidance:

07 When used, Surface Condition signs should be placed in advance of the beginning of the affected section (see Table 2C-4), and additional signs should be placed at appropriate intervals along the road where the condition exists.

Section 2C.36 Advance Traffic Control Signs (W3-1, W3-2, W3-3, W3-4)

Standard:

01 The Advance Traffic Control symbol signs (see Figure 2C-6) include the Stop Ahead (W3-1), Yield Ahead (W3-2), and Signal Ahead (W3-3) signs. These signs shall be installed on an approach to a primary traffic control device that is not visible for a sufficient distance to permit the road user to respond to the device (see Table 2C-4). The visibility criteria for a traffic control signal shall be based on having a continuous view of at least two signal faces for the distance specified in Table 4D-2.

Support:

02 Figure 2A-4 shows the typical placement of an Advance Traffic Control sign.

03 Permanent obstructions causing the limited visibility might include roadway alignment or structures. Intermittent obstructions might include foliage or parked vehicles.

Guidance:

04 *Where intermittent obstructions occur, engineering judgment should determine the treatment to be implemented.*

Option:

05 An Advance Traffic Control sign may be used for additional emphasis of the primary traffic control device, even when the visibility distance to the device is satisfactory.

06 An advance street name plaque (see Section 2C.58) may be installed above or below an Advance Traffic Control sign.

07 A warning beacon may be used with an Advance Traffic Control sign.

08 A BE PREPARED TO STOP (W3-4) sign (see Figure 2C-6) may be used to warn of stopped traffic caused by a traffic control signal or in advance of a section of roadway that regularly experiences traffic congestion.

Standard:

09 **When a BE PREPARED TO STOP sign is used in advance of a traffic control signal, it shall be used in addition to a Signal Ahead sign and shall be placed downstream from the Signal Ahead (W3-3) sign.**

Option:

10 The BE PREPARED TO STOP sign may be supplemented with a warning beacon (see Section 4L.03).

Guidance:

11 *When the warning beacon is interconnected with a traffic control signal or queue detection system, the BE PREPARED TO STOP sign should be supplemented with a WHEN FLASHING (W16-13P) plaque (see Figure 2C-12).*

Support:

12 Section 2C.40 contains information regarding the use of a NO MERGE AREA (W4-5P) supplemental plaque in conjunction with a Yield Ahead sign.

Section 2C.49 Vehicular Traffic Warning Signs (W8-6, W11-1, W11-5, W11-5a, W11-8, W11-10, W11-11, W11-12P, W11-14, W11-15, and W11-15a)

Option:

01 Vehicular Traffic Warning (W8-6, W11-1, W11-5, W11-5a, W11-8, W11-10, W11-11, W11-12P, W11-14, W11-15, and W11-15a) signs (see Figure 2C-10) may be used to alert road users to locations where unexpected entries into the roadway by trucks, bicyclists, farm vehicles, emergency vehicles, golf carts, horse-drawn vehicles, or other vehicles might occur. The TRUCK CROSSING (W8-6) word message sign may be used as an alternate to the Truck Crossing (W11-10) symbol sign.

Support:

02 These locations might be relatively confined or might occur randomly over a segment of roadway.

Guidance:

03 *Vehicular Traffic Warning signs should be used only at locations where the road user's sight distance is restricted, or the condition, activity, or entering traffic would be unexpected.*

04 *If the condition or activity is seasonal or temporary, the Vehicular Traffic Warning sign should be removed or covered when the condition or activity does not exist.*

Option:

⁰⁵ The combined Bicycle/Pedestrian (W11-15) sign may be used where both bicyclists and pedestrians might be crossing the roadway, such as at an intersection with a shared-use path. A TRAIL X-ING (W11-15P) supplemental plaque (see Figure 2C-10) may be mounted below the W11-15 sign. The TRAIL CROSSING (W11-15a) sign may be used to warn of shared-use path crossings where pedestrians, bicyclists, and other user groups might be crossing the roadway.

⁰⁶ The W11-1, W11-15, and W11-15a signs and their related supplemental plaques may have a fluorescent yellow-green background with a black legend and border.

⁰⁷ Supplemental plaques (see Section 2C.53) with legends such as AHEAD, XX FEET, NEXT XX MILES, or SHARE THE ROAD may be mounted below Vehicular Traffic Warning signs to provide advance notice to road users of unexpected entries.

Guidance:

⁰⁸ *If used in advance of a pedestrian and bicycle crossing, a W11-15 or W11-15a sign should be supplemented with an AHEAD or XX FEET plaque to inform road users that they are approaching a point where crossing activity might occur.*

Standard:

⁰⁹ **If a post-mounted W11-1, W11-11, W11-15, or W11-15a sign is placed at the location of the crossing point where golf carts, pedestrians, bicyclists, or other shared-use path users might be crossing the roadway, a diagonal downward pointing arrow (W16-7P) plaque (see Figure 2C-12) shall be mounted below the sign. If the W11-1, W11-11, W11-15, or W11-15a sign is mounted overhead, the W16-7P supplemental plaque shall not be used.**

Option:

¹⁰ The crossing location identified by a W11-1, W11-11, W11-15, or W11-15a sign may be defined with crosswalk markings (see Section 3B.18).

Standard:

¹¹ **The Emergency Vehicle (W11-8) sign (see Figure 2C-10) with the EMERGENCY SIGNAL AHEAD (W11-12P) supplemental plaque (see Figure 2C-10) shall be placed in advance of all emergency-vehicle traffic control signals (see Chapter 4G).**

Option:

¹² The Emergency Vehicle (W11-8) sign, or a word message sign indicating the type of emergency vehicle (such as rescue squad), may be used in advance of the emergency-vehicle station when no emergency-vehicle traffic control signal is present.

¹³ A Warning Beacon (see Section 4L.03) may be used with any Vehicular Traffic Warning sign to indicate specific periods when the condition or activity is present or is likely to be present, or to provide enhanced sign conspicuity.

¹⁴ A supplemental WHEN FLASHING (W16-13P) plaque (see Figure 2C-12) may be used with any Vehicular Traffic Warning sign that is supplemented with a Warning Beacon to indicate specific periods when the condition or activity is present or is likely to be present.

Section 2C.50 Non-Vehicular Warning Signs (W11-2, W11-3, W11-4, W11-6, W11-7, W11-9, and W11-16 through W11-22)

Option:

⁰¹ Non-Vehicular Warning (W11-2, W11-3, W11-4, W11-6, W11-7, W11-9, and W11-16 through W11-22) signs (see Figure 2C-11) may be used to alert road users in advance of

locations where unexpected entries into the roadway might occur or where shared use of the roadway by pedestrians, animals, or equestrians might occur.

Support:

02 These conflicts might be relatively confined, or might occur randomly over a segment of roadway.

Guidance:

03 *If used in advance of a pedestrian, snowmobile, or equestrian crossing, the W11-2, W11-6, W11-7, and W11-9 signs should be supplemented with plaques (see Section 2C.55) with the legend AHEAD or XX FEET to inform road users that they are approaching a point where crossing activity might occur.*

Standard:

04 **If a post-mounted W11-2, W11-6, W11-7, or W11-9 sign is placed at the location of the crossing point where pedestrians, snowmobilers, or equestrians might be crossing the roadway, a diagonal downward pointing arrow (W16-7P) plaque (see Figure 2C-12) shall be mounted below the sign. If the W11-2, W11-6, W11-7, or W11-9 sign is mounted overhead, the W16-7P plaque shall not be used.**

Option:

05 A Pedestrian Crossing (W11-2) sign may be placed overhead or may be post-mounted with a diagonal downward pointing arrow (W16-7P) plaque at the crosswalk location where Yield Here To (Stop Here For) Pedestrians signs (see Section 2B.11) have been installed in advance of the crosswalk.

Standard:

06 **If a W11-2 sign has been post-mounted at the crosswalk location where a Yield Here To (Stop Here For) Pedestrians sign is used on the approach, the Yield Here To (Stop Here For) Pedestrians sign shall not be placed on the same post as or block the road user's view of the W11-2 sign.**

Option:

07 An advance Pedestrian Crossing (W11-2) sign with an AHEAD or a distance supplemental plaque may be used in conjunction with a Yield Here To (Stop Here For) Pedestrians sign on the approach to the same crosswalk.

08 The crossing location identified by a W11-2, W11-6, W11-7, or W11-9 sign may be defined with crosswalk markings (see Section 3B.18).

09 The W11-2 and W11-9 signs and their related supplemental plaques may have a fluorescent yellow-green background with a black legend and border.

Guidance:

10 *When a fluorescent yellow-green background is used, a systematic approach featuring one background color within a zone or area should be used. The mixing of standard yellow and fluorescent yellow-green backgrounds within a selected site area should be avoided.*

Option:

11 A Warning Beacon (see Section 4L.03) may be used with any Non-Vehicular Warning sign to indicate specific periods when the condition or activity is present or is likely to be present, or to provide enhanced sign conspicuity.

12 A supplemental WHEN FLASHING (W16-13P) plaque (see Figure 2C-12) may be used with any Non-Vehicular Warning sign that is supplemented with a Warning Beacon

to indicate specific periods when the condition or activity is present or is likely to be present.

Section 2C.51 Playground Sign (W15-1)

Option:

01 The Playground (W15-1) sign (see Figure 2C-11) may be used to give advance warning of a designated children's playground that is located adjacent to the road.

02 The Playground sign may have a fluorescent yellow-green background with a black legend and border.

Guidance:

03 *If the access to the playground area requires a roadway crossing, the application of crosswalk pavement markings (see Section 3B.18) and Non-Vehicular Warning signs (see Section 2C.50) should be considered.*

Section 2C.54 Design of Supplemental Warning Plaques

Standard:

01 **A supplemental warning plaque used with a warning sign shall have the same legend, border, and background color as the warning sign with which it is displayed.**

A supplemental warning plaque used with a regulatory sign shall have a black legend and border on a yellow background.

02 **Supplemental warning plaques shall be square or rectangular.**

Section 2C.58 Advance Street Name Plaque (W16-8P, W16-8aP)

Option:

01 An Advance Street Name (W16-8P or W16-8aP) plaque (see Figure 2C-12) may be used with any Intersection sign (W2 series, W10-2, W10-3, or W10-4) or Advance Traffic Control (W3 series) sign to identify the name of the intersecting street.

Standard:

02 **The lettering on Advance Street Name plaques shall be composed of a combination of lower-case letters with initial upper-case letters.**

03 **If two street names are used on the Advance Street Name plaque, a directional arrow pointing in the direction of the street shall be placed next to each street name. Arrows pointing to the left shall be placed to the left of the street name, and arrows pointing to the right shall be placed to the right of the street name.**

Guidance:

04 *If two street names are used on the Advance Street Name plaque, the street names and associated arrows should be displayed in the following order:*

A. For a single intersection, the name of the street to the left should be displayed above the name of the street to the right; or

B. For two sequential intersections, such as where the plaque is used with an Offset Side Roads (W2-7) or a Double Side Road (W2-8) symbol sign, the name of the first street encountered should be displayed above the name of the second street encountered, and the arrow associated with the second street encountered should be an advance arrow, such as the arrow shown on the W16-6P arrow plaque (see Figure 2C-12).

Section 2C.63 Object Marker Design and Placement Height

Support:

01 Type 1, 2, and 3 object markers are used to mark obstructions within or adjacent to the roadway. Type 4 object markers are used to mark the end of a roadway.

Standard:

02 When used, object markers (see Figure 2C-13) shall not have a border and shall consist of an arrangement of one or more of the following types:

Type 1—a diamond-shaped sign, at least 18 inches on a side, consisting of either a yellow (OM1-1) or black (OM1-2) sign with nine yellow retroreflective devices, each with a minimum diameter of 3 inches, mounted symmetrically on the sign, or an all-yellow retroreflective sign (OM1-3).

Type 2—either a marker (OM2-1V or OM2-1H) consisting of three yellow retroreflective devices, each with a minimum diameter of 3 inches, arranged either horizontally or vertically on a white sign measuring at least 6 x 12 inches; or an all-yellow horizontal or vertical retroreflective sign (OM2-2V or OM2-2H), measuring at least 6 x 12 inches.

Type 3—a striped marker, 12 x 36 inches, consisting of a vertical rectangle with alternating black and retroreflective yellow stripes sloping downward at an angle of 45 degrees toward the side of the obstruction on which traffic is to pass. The minimum width of the yellow and black stripes shall be 3 inches.

Type 4—a diamond-shaped sign, at least 18 inches on a side, consisting of either a red (OM4-1) or black (OM4-2) sign with nine red retroreflective devices, each with a minimum diameter of 3 inches, mounted symmetrically on the sign, or an all-red retroreflective sign (OM4-3).

Support:

03 A better appearance can be achieved if the black stripes are wider than the yellow stripes.

04 Type 3 object markers with stripes that begin at the upper right side and slope downward to the lower left side are designated as right object markers (OM3-R). Object markers with stripes that begin at the upper left side and slope downward to the lower right side are designated as left object markers (OM3-L).

Guidance:

05 When used for marking obstructions within the roadway or obstructions that are 8 feet or less from the shoulder or curb, the minimum mounting height, measured from the bottom of the object marker to the elevation of the near edge of the traveled way, should be 4 feet.

06 When used to mark obstructions more than 8 feet from the shoulder or curb, the clearance from the ground to the bottom of the object marker should be at least 4 feet.

07 Object markers should not present a vertical or horizontal clearance obstacle for pedestrians.

Option:

08 When object markers or markings are applied to an obstruction that by its nature requires a lower or higher mounting, the vertical mounting height may vary according to need.

Support:

09 Section 9B.26 contains information regarding the use of object markers on shared-use paths.

Section 2D.26 Advance Turn Arrow Auxiliary Signs (M5-1, M5-2, and M5-3)

Standard:

01 If used, the Advance Turn Arrow auxiliary sign (see Figure 2D-5) shall be mounted directly below the route sign in Advance Route Turn assemblies, and displays a right or left arrow, the shaft of which is bent at a 90-degree angle (M5-1) or at a 45-degree angle (M5-2).

02 If used, the curved-stem Advance Turn Arrow auxiliary (M5-3) sign shall be used only on the approach to a circular intersection to depict a movement along the

circulatory roadway around the central island and to the left, relative to the approach roadway and entry into the intersection.

Guidance:

03 If the M5-3 sign is used, then this arrow type should also be used consistently on any regulatory lane-use signs (see Chapter 2B), Destination signs (see Section 2D.37), and pavement markings (see Part 3) for a particular destination or movement.

Section 2D.37 Destination Signs (D1 Series)

Standard:

01 Except on approaches to interchanges (see Section 2D.45), the Destination (D1-1 through D1-3) sign (see Figure 2D-7), if used, shall be a horizontal rectangle displaying the name of a city, town, village, or other traffic generator, and a directional arrow.

Option:

02 The distance (see Section 2D.41) to the place named may also be displayed on the Destination (D1-1a through D1-3a) sign (see Figure 2D-7). If several destinations are to be displayed at a single point, the several names may be placed on a single sign with an arrow (and the distance, if desired) for each name. If more than one destination lies in the same direction, a single arrow may be used for such a group of destinations.

Guidance:

03 Adequate separation should be made between any destinations or group of destinations in one direction and those in other directions by suitable design of the arrow, spacing of lines of legend, heavy lines entirely across the sign, or separate signs.

Support:

04 Separation of destinations by direction by the use of a horizontal separator line can enhance the readability of a Destination sign by relating an arrow and its corresponding destination(s) and by eliminating the need for multiple arrows that point in the same direction and excessive space between lines of legend.

Standard:

05 Except as otherwise provided in this Manual, an arrow pointing to the right shall be at the extreme right of the sign, and an arrow pointing left or up shall be at the extreme left. The distance numerals, if used, shall be placed to the right of the destination names.

Option:

06 An arrow pointing up may be placed at the extreme right of the sign when the sign is mounted to the left of the traffic to which it applies.

Guidance:

07 Unless a sloping arrow will convey a clearer indication of the direction to be followed, the directional arrows should be horizontal or vertical.

08 If several individual name signs are assembled into a group, all signs in the assembly should be of the same horizontal width.

09 Destination signs should be used:

A. At the intersections of U.S. or State numbered routes with Interstate, U.S., or State numbered routes; and

B. At points where they serve to direct traffic from U.S. or State numbered routes to the business section of towns, or to other destinations reached by unnumbered routes.

Standard:

¹⁰ Where a total of three or less destinations are provided on the Advance Guide (see Section 2E.33) and Supplemental Guide (see Section 2E.35) signs, no more than three destination names shall be used on a Destination sign. Where four destinations are provided by the Advance Guide and Supplemental Guide signs, no more than four destination names shall be used on a Destination sign.

Guidance:

¹¹ If space permits, four destinations should be displayed as two separate signs at two separate locations.

Option:

¹² Where space does not permit, or where all four destinations are in one direction, a single sign may be used. Where a single sign is used and all destinations are in the same direction, the arrow may be placed below the destinations for the purpose of enhancing the conspicuity of the arrow.

Standard:

¹³ Where a single four-name sign assembly is used, a heavy line entirely across the sign or separate signs shall be used to separate destinations by direction.

Guidance:

¹⁴ The closest destination lying straight ahead should be at the top of the sign or assembly, and below it the closest destinations to the left and to the right, in that order. The destination displayed for each direction should ordinarily be the next county seat or the next principal city, rather than a more distant destination. In the case of overlapping routes, only one destination should be displayed in each direction for each route.

Standard:

¹⁵ If more than one destination is displayed in the same direction, the name of a nearer destination shall be displayed above the name of a destination that is further away.

Section 2D.42 Location of Distance Signs

Guidance:

⁰¹ If used, Distance signs should be installed on important routes leaving municipalities and just beyond intersections of numbered routes in rural areas. If used, they should be placed just outside the municipal limits or at the edge of the built-up area if it extends beyond the limits.

⁰² Where overlapping routes separate a short distance from the municipal limits, the Distance sign at the municipal limits should be omitted. The Distance sign should be installed approximately 300 feet beyond the separation of the two routes.

⁰³ Where, just outside of an incorporated municipality, two routes are concurrent and continue concurrently to the next incorporated municipality, the top name on the Distance sign should be that of the place where the routes separate; the bottom name should be that of the city to which the greater part of the through traffic is destined.

Support:

⁰⁴ Figure 2D-6 shows typical placements of Distance signs.

Section 2D.43 Street Name Signs (D3-1 or D3-1a)

Guidance:

01 Street Name (D3-1 or D3-1a) signs (see Figure 2D-10) should be installed in urban areas at all street intersections regardless of other route signs that might be present and should be installed in rural areas to identify important roads that are not otherwise signed.

Option:

02 For streets that are part of a U.S., State, or county numbered route, a D3-1a Street Name sign (see Figure 2D-10) that incorporates a route shield may be used to assist road users who might not otherwise be able to associate the name of the street with the route number.

Standard:

03 The lettering for names of streets and highways on Street Name signs shall be composed of a combination of lower-case letters with initial upper-case letters (see Section 2A.13).

Guidance:

04 Lettering on post-mounted Street Name signs should be composed of initial upper-case letters at least 6 inches in height and lower-case letters at least 4.5 inches in height.

05 On multi-lane streets with speed limits greater than 40 mph, the lettering on post-mounted Street Name signs should be composed of initial upper-case letters at least 8 inches in height and lower-case letters at least 6 inches in height.

Option:

06 For local roads with speed limits of 25 mph or less, the lettering on post-mounted Street Name signs may be composed of initial upper-case letters at least 4 inches in height and lower-case letters at least 3 inches in height.

Guidance:

07 If overhead Street Name signs are used, the lettering should be composed of initial upper-case letters at least 12 inches in height and lower-case letters at least 9 inches in height.

Support:

08 The recommended minimum letter heights for Street Name signs are summarized in Table 2D-2.

Option:

09 Supplementary lettering to indicate the type of street (such as Street, Avenue, or Road) or the section of the city (such as NW) on the D3-1 and D3-1a signs may be in smaller lettering, composed of initial upper-case letters at least 3 inches in height and lower-case letters at least 2.25 inches in height. Conventional abbreviations (see Section 1A.15) may be used except for the street name itself.

10 A pictograph (see definition in Section 1A.13) may be used on a D3-1 sign.

Standard:

11 Pictographs shall not be displayed on D3-1a or Advance Street Name (D3-2) signs (see Section 2D.44).

12 If a pictograph is used on a D3-1 sign, the height and width of the pictograph shall not exceed the upper-case letter height of the principal legend of the sign.

Guidance:

13 The pictograph should be positioned to the left of the street name.

Standard:

14 The Street Name sign shall be retroreflective or illuminated to show the same shape and similar color both day and night. The color of the legend (and border, if used) shall contrast with the background color of the sign.

Option:

15 The border may be omitted from a Street Name sign.

16 An alternative background color other than the normal guide sign color of green may be used for Street Name (D3-1 or D3-1a) signs where the highway agency determines this is necessary to assist road users in determining jurisdictional authority for roads.

Standard:

17 Alternative background colors shall not be used for Advance Street Name (D3-2) signs (see Section 2D.44).

18 The only acceptable alternative background colors for Street Name (D3-1 or D3-1a) signs shall be blue, brown, or white. Regardless of whether green, blue, or brown is used as the background color for Street Name (D3-1 or D3-1a) signs, the legend (and border, if used) shall be white. For Street Name signs that use a white background, the legend (and border, if used) shall be black.

Guidance:

19 *An alternative background color for Street Name signs, if used, should be applied to the Street Name (D3-1 or D3-1a) signs on all roadways under the jurisdiction of a particular highway agency.*

20 *In business or commercial areas and on principal arterials, Street Name signs should be placed at least on diagonally opposite corners. In residential areas, at least one Street Name sign should be mounted at each intersection. Signs naming both streets should be installed at each intersection. They should be mounted with their faces parallel to the streets they name.*

Option:

21 To optimize visibility, Street Name signs may be mounted overhead. Street Name signs may also be placed above a regulatory or STOP or YIELD sign with no required vertical separation.

Guidance:

22 *In urban or suburban areas, especially where Advance Street Name signs for signalized and other major intersections are not used, the use of overhead Street Name signs should be strongly considered.*

Option:

23 At intersection crossroads where the same road has two different street names for each direction of travel, both street names may be displayed on the same sign along with directional arrows.

Support:

24 Information regarding the use of street names on supplemental plaques for use with intersection-related warning signs is contained in Section 2C.58.

Section 2D.44 Advance Street Name Signs (D3-2)

Support:

01 Advance Street Name (D3-2) signs (see Figure 2D-10) identify an upcoming intersection. Although this is often the next intersection, it could also be several intersections away in cases where the next signalized intersection is referenced.

Standard:

02 Advance Street Name (D3-2) signs, if used, shall supplement rather than be used instead of the Street Name (D3-1) signs at the intersection.

Option:

03 Advance Street Name (D3-2) signs may be installed in advance of signalized or unsignalized intersections to provide road users with advance information to identify the name(s) of the next intersecting street to prepare for crossing traffic and to facilitate timely deceleration and/or lane changing in preparation for a turn.

Guidance:

04 *On arterial highways in rural areas, Advance Street Name signs should be used in advance of all signalized intersections and in advance of all intersections with exclusive turn lanes.*

05 *In urban areas, Advance Street Name signs should be used in advance of all signalized intersections on major arterial streets, except where signalized intersections are so closely spaced that advance placement of the signs is impractical.*

06 *The heights of the letters on Advance Street Name signs should be the same as those used for Street Name signs (see Section 2D.43).*

Standard:

07 If used, Advance Street Name signs shall have a white legend and border on a green background.

08 If used, Advance Street Name signs shall provide the name(s) of the intersecting street(s) on the top line(s) of the legend and the distance to the intersecting streets or messages such as NEXT SIGNAL, NEXT INTERSECTION, NEXT ROUNDABOUT, or directional arrow(s) on the bottom line of the legend.

09 Pictographs shall not be displayed on Advance Street Name signs.

Option:

10 Directional arrow(s) may be placed to the right or left of the street name or message such as NEXT SIGNAL, as appropriate, rather than on the bottom line of the legend. Curved-stem arrows may be used on Advance Street Name signs on approaches to circular intersections.

11 For intersecting crossroads where the same road has a different street name for each direction of travel, the different street names may be displayed on the same Advance Street Name sign along with directional arrows.

12 In advance of two closely-spaced intersections where it is not practical to install separate Advance Street Name signs, the Advance Street Name sign may include the street names for both intersections along with appropriate supplemental legends for both street names, such as NEXT INTERSECTION, 2ND INTERSECTION, or NEXT LEFT and NEXT RIGHT, or directional arrows.

Guidance:

13 *If two street names are used on the Advance Street Name sign, the street names should be displayed in the following order:*

A. For a single intersection where the same road has a different street name for each direction of travel, the name of the street to the left should be displayed above the name of the street to the right; or

B. For two closely-spaced intersections, the name of the first street encountered should be displayed above the name of the second street encountered, and the arrow associated

with the second street encountered should be an advance arrow, such as the arrow shown on the W16-6P arrow plaque (see Figure 2C-12).

Option:

¹⁴ An Advance Street Name (W16-8P or W16-8aP) plaque (see Section 2C.58) with black legend on a yellow background, installed supplemental to an Intersection (W2 series) or Advance Traffic Control (W3 series) warning sign may be used instead of an Advance Street Name guide sign.

Section 2M.10 Memorial or Dedication Signing

Support:

⁰¹ Legislative bodies will occasionally adopt an act or resolution memorializing or dedicating a highway, bridge, or other component of the highway.

Guidance:

⁰² *Such memorial or dedication names should not appear on or along a highway, or be placed on bridges or other highway components. If a route, bridge, or highway component is officially designated as a memorial or dedication, and if notification of the memorial or dedication is to be made on the highway right-of-way, such notification should consist of installing a memorial or dedication marker in a rest area, scenic overlook, recreational area, or other appropriate location where parking is provided with the signing inconspicuously located relative to vehicle operations along the highway.*

Option:

⁰³ If the installation of a memorial or dedication marker off the main roadway is not practical, memorial or dedication signs may be installed on the mainline.

Guidance:

⁰⁴ *Memorial or dedication signs should have a white legend and border on a brown background.*

Standard:

⁰⁵ **Where such memorial or dedication signs are installed on the mainline, (1) memorial or dedication names shall not appear on directional guide signs, (2) memorial or dedication signs shall not interfere with the placement of any other necessary signing, and (3) memorial or dedication signs shall not compromise the safety or efficiency of traffic flow. The memorial or dedication signing shall be limited to one sign at an appropriate location in each route direction, each as an independent sign installation.**

⁰⁶ **Memorial or dedication signs shall be rectangular in shape. The legend displayed on memorial or dedication signs shall be limited to the name of the person or entity being recognized and a simple message preceding or following the name, such as “Dedicated to” or “Memorial Parkway.” Additional legend, such as biographical information, shall not be displayed on memorial or dedication signs. Decorative or graphical elements, pictographs, logos, or symbols shall not be displayed on memorial or dedication signs. All letters and numerals displayed on memorial or dedication signs shall be as provided in the “Standard Highway Signs and Markings” book (see Section 1A.11). The route number or officially mapped name of the highway shall not be displayed on the memorial or dedication sign.**

⁰⁷ **Memorial or dedication names shall not appear on supplemental signs or on any other information sign on or along the highway or its intersecting routes.**

Option:

08 The lettering for the name of the person or entity being recognized may be composed of a combination of lower-case letters with initial upper-case letters.

Guidance:

09 *Freeways and expressways should not be signed as memorial or dedicated highways.*

Support:

10 Named highways are officially designated and shown on official maps and serve the purpose of providing route guidance, primarily on unnumbered highways. A highway designated as a memorial or dedication is not considered to be a named highway. Section 2D.53 contains provisions for the signing of named highways.

Section 2H.08 Acknowledgment Signs

Support:

01 Acknowledgment signs are a way of recognizing a company, business, or volunteer group that provides a highway-related service. Acknowledgment signs include sponsorship signs for adopt-a-highway litter removal programs, maintenance of a parkway or interchange, and other highway maintenance or beautification sponsorship programs.

Guidance:

02 *A State or local highway agency that elects to have an acknowledgment sign program should develop an acknowledgment sign policy. The policy should require that eligible sponsoring organizations comply with State laws prohibiting discrimination based on race, religion, color, age, sex, national origin, and other applicable laws. The acknowledgment sign policy should include all of the provisions regarding sign placement and sign design that are described in this Section.*

Standard:

03 **Because regulatory, warning, and guide signs have a higher priority, acknowledgment signs shall only be installed where adequate spacing is available between the acknowledgment sign and other higher priority signs. Acknowledgment signs shall not be installed in a position where they would obscure the road users' view of other traffic control devices.**

04 **Acknowledgment signs shall not be installed at any of the following locations:**

A. On the front or back of, adjacent to, or around any other traffic control device, including traffic signs, highway traffic signals, and changeable message signs;

B. On the front or back of, adjacent to, or around the supports or structures of other traffic control devices, or bridge piers; or

C. At key decision points where a road user's attention is more appropriately focused on other traffic control devices, roadway geometry, or traffic conditions, including exit and entrance ramps, intersections, grade crossings, toll plazas, temporary traffic control zones, and areas of limited sight distance.

Guidance:

05 *The minimum spacing between acknowledgment signs and any other traffic control signs, except parking regulation signs, should be:*

A. 150 feet on roadways with speed limits of less than 30 mph,

B. 200 feet on roadways with speed limits of 30 to 45 mph, and

C. 500 feet on roadways with speed limits greater than 45 mph.

If the placement of a newly-installed higher-priority traffic control device, such as a higher-priority sign, a highway traffic signal, or a temporary traffic control device, conflicts with an existing acknowledgment sign, the acknowledgment sign should be relocated, covered, or removed.

Option:

Traffic Engineering Manual

Appendix

07 State or local highway agencies may develop their own acknowledgment sign designs and may also use their own pictograph (see definition in Section 1A.13) and/or a brief jurisdiction-wide program slogan as part of any portion of the acknowledgment sign, provided that the signs comply with the provisions for shape, color, and lettering style in this Chapter and in Chapter 2A.

Guidance:

08 *Acknowledgment signs should clearly indicate the type of highway services provided by the sponsor.*

Standard:

09 **In addition to the general provisions for signs described in Chapter 2A and the sign design principles covered in the “Standard Highway Signs and Markings” book (see Section 1A.11), acknowledgment sign designs developed by State or local highway agencies shall comply with the following provisions:**

A. Neither the sign design nor the sponsor acknowledgment logo shall contain any contact information, directions, slogans (other than a brief jurisdiction-wide program slogan, if used), telephone numbers, or Internet addresses, including domain names and uniform resource locators (URL);

B. Except for the lettering, if any, on the sponsor acknowledgment logo, all of the lettering shall be in upper-case letters as provided in the “Standard Highway Signs and Markings” book (see Section 1A.11);

C. In order to keep the main focus on the highway-related service and not on the sponsor acknowledgment logo, the area reserved for the sponsor acknowledgment logo shall not exceed 1/3 of the total area of the sign and shall be a maximum of 8 square feet, and shall not be located at the top of the sign;

D. The entire sign display area shall not exceed 24 square feet;

E. The sign shall not contain any messages, lights, symbols, or trademarks that resemble any official traffic control devices;

F. The sign shall not contain any external or internal illumination, light-emitting diodes, luminous tubing, fiber optics, luminescent panels, or other flashing, moving, or animated features; and

G. The sign shall not distract from official traffic control messages such as regulatory, warning, or guidance messages.

Support:

10 Examples of acknowledgment sign designs are shown in Figure 2H-5.

Section 2I.02 General Service Signs for Conventional Roads

Support:

01 On conventional roads, commercial services such as gas, food, and lodging generally are within sight and are available to the road user at reasonably frequent intervals along the route. Consequently, on this class of road there usually is no need for special signs calling attention to these services. Moreover, General Service signing is usually not required in urban areas except for hospitals, law enforcement assistance, tourist information centers, and camping.

Option:

02 General Service signs (see Figure 2I-1) may be used where such services are infrequent and are found only on an intersecting highway or crossroad.

Standard:

03 **All General Service signs and supplemental sign panels shall have white letters, symbols, arrows, and borders on a blue background.**

Guidance:

04 *General Service signs should be installed at a suitable distance in advance of the turn-off point or intersecting highway.*

05 *States that elect to provide General Service signing should establish a statewide policy or warrant for its use, and criteria for the availability of services. Local jurisdictions electing to use such signing should follow State policy for the sake of uniformity.*

Option:

06 Individual States may sign for whatever alternative fuels are available at appropriate locations.

Standard:

07 **General Service signs, if used at intersections, shall be accompanied by a directional message.**

Option:

08 The Advance Turn (M5 series) or Directional Arrow (M6 series) auxiliary signs with white arrows on blue backgrounds as shown in Figure 2I-1 may be used with General Service symbol signs to create a General Service Directional Assembly.

09 The General Service sign legends may be either symbols or word messages.

Standard:

10 **Symbols and word message General Service legends shall not be intermixed on the same sign. The Pharmacy (D9-20) sign shall only be used to indicate the availability of a pharmacy that is open, with a State-licensed pharmacist present and on duty, 24 hours per day, 7 days per week, and that is located within 3 miles of an interchange on the Federal-aid system. The D9-20 sign shall have a 24 HR (D9-20aP) plaque mounted below it.**

Support:

11 Formats for displaying different combinations of these services are described in Section 2I.03.

Option:

12 If the distance to the next point at which services are available is 10 miles or more, a NEXT SERVICES XX MILES (D9-17P) plaque (see Figure 2I-2) may be installed below the General Service sign.

13 The International Symbol of Accessibility for the Handicapped (D9-6) sign may be used beneath General Service signs where paved ramps and rest room facilities accessible to, and usable by, the physically handicapped are provided.

Guidance:

14 *When the D9-6 sign is used in accordance with Paragraph 13, and van-accessible parking is available at the facility, a VAN ACCESSIBLE (D9-6P) plaque (see Figure 2I-1) should be mounted below the D9-6 sign.*

Option:

15 The Recreational Vehicle Sanitary Station (D9-12) sign may be used as needed to indicate the availability of facilities designed for the use of dumping wastes from recreational vehicle holding tanks.

16 The Litter Container (D9-4) sign may be placed in advance of roadside turnouts or rest areas, unless it distracts the driver's attention from other more important regulatory, warning, or directional signs.

¹⁷ The Emergency Medical Services (D9-13) symbol sign may be used to identify medical service facilities that have been included in the Emergency Medical Services system under a signing policy developed by the State and/or local highway agency.

Standard:

¹⁸ **The Emergency Medical Services symbol sign shall not be used to identify services other than qualified hospitals, ambulance stations, and qualified free-standing emergency medical treatment centers. If used, the Emergency Medical Services symbol sign shall be supplemented by a sign identifying the type of service provided.**

Option:

¹⁹ The Emergency Medical Services symbol sign may be used above the HOSPITAL (D9-13a) sign or Hospital (D9-2) symbol sign or above a sign with the legend AMBULANCE STATION (D9-13b), EMERGENCY MEDICAL CARE (D9-13c), or TRAUMA CENTER (D9-13d). The Emergency Medical Services symbol sign may also be used to supplement Telephone (D9-1), Channel 9 Monitored (D12-3), or POLICE (D9-14) signs.

Standard:

²⁰ **The legend EMERGENCY MEDICAL CARE shall not be used for services other than qualified free-standing emergency medical treatment centers.**

Guidance:

²¹ *Each State should develop guidelines for the implementation of the Emergency Medical Services symbol sign.*

²² *The State should consider the following guidelines in the preparation of its policy:*

A. AMBULANCE

- 1. 24-hour service, 7 days per week.*
- 2. Staffed by two State-certified persons trained at least to the basic level.*
- 3. Vehicular communications with a hospital emergency department.*
- 4. Operator should have successfully completed an emergency-vehicle operator training course.*

B. HOSPITAL

- 1. 24-hour service, 7 days per week.*
- 2. Emergency department facilities with a physician (or emergency care nurse on duty within the emergency department with a physician on call) trained in emergency medical procedures on duty.*
- 3. Licensed or approved for definitive medical care by an appropriate State authority.*
- 4. Equipped for radio voice communications with ambulances and other hospitals.*

C. Channel 9 Monitored

- 1. Provided by either professional or volunteer monitors.*
- 2. Available 24 hours per day, 7 days per week.*
- 3. The service should be endorsed, sponsored, or controlled by an appropriate government authority to guarantee the level of monitoring.*

Section 2I.03 General Service Signs for Freeways and Expressways

Support:

⁰¹ General Service (D9-18 series) signs (see Figure 2I-3) are generally not appropriate at major interchanges (see definition in Section 2E.32) and in urban areas.

Standard:

02 General Service signs shall have white letters, symbols, arrows, and borders on a blue background. Letter and numeral sizes shall comply with the minimum requirements of Tables 2E-2 through 2E-5. All approved symbols shall be permitted as alternatives to word messages, but symbols and word service messages shall not be intermixed. If the services are not visible from the ramp of a single-exit interchange, the service signing shall be repeated in smaller size at the intersection of the exit ramp and the crossroad. Such service signs shall use arrows to indicate the direction to the services.

Option:

03 For numbered interchanges, the exit number may be incorporated within the sign legend (D9-18b) or displayed on an Exit Number (E1-5P) plaque (see Section 2E.31).

Guidance:

04 Distance to services should be displayed on General Service signs where distances are more than 1 mile.

05 General Service signing should only be provided at locations where the road user can return to the freeway or expressway and continue in the same direction of travel.

06 Only services that fulfill the needs of the road user should be displayed on General Service signs. If State or local agencies elect to provide General Service signing, there should be a statewide policy for such signing and criteria for the availability of the various types of services. The criteria should consider the following:

A. Gas, Diesel, LP Gas, EV Charging, and/or other alternative fuels if all of the following are available:

- 1. Vehicle services such as gas, oil, and water;*
- 2. Modern sanitary facilities and drinking water;*
- 3. Continuous operations at least 16 hours per day, 7 days per week; and*
- 4. Public telephone.*

B. Food if all of the following are available:

- 1. Licensing or approval, where required;*
- 2. Continuous operation to serve at least two meals per day, at least 6 days per week;*
- 3. Public telephone; and*
- 4. Modern sanitary facilities.*

C. Lodging if all of the following are available:

- 1. Licensing or approval, where required;*
- 2. Adequate sleeping accommodations;*
- 3. Public telephone; and*
- 4. Modern sanitary facilities.*

D. Public Telephone if continuous operation, 7 days per week is available.

E. Hospital if continuous emergency care capability, with a physician on duty 24 hours per day, 7 days per week is available. A physician on duty would include the following criteria and should be signed in accordance with the priority as follows:

- 1. Physician on duty within the emergency department;*
- 2. Registered nurse on duty within the emergency department, with a physician in the hospital on call; or*
- 3. Registered nurse on duty within the emergency department, with a physician on call from office or home.*

F. 24-Hour Pharmacy if a pharmacy is open, with a State-licensed pharmacist present and on duty, 24 hours per day, 7 days per week and is located within 3 miles of an interchange on the Federal-aid system.

G. Camping if all of the following are available:

- 1. Licensing or approval, where required;*
- 2. Adequate parking accommodations; and*
- 3. Modern sanitary facilities and drinking water.*

Standard:

07 For any service that is operated on a seasonal basis only, the General Service signs shall be removed or covered during periods when the service is not available.

08 The General Service signs shall be mounted in an effective location, between the Advance Guide sign and the Exit Direction sign, in advance of the exit leading to the available services.

Guidance:

09 The General Service sign should contain the interchange number, if any, as shown in Figure 2I-3.

Option:

10 If the distance to the next point where services are available is greater than 10 miles, a NEXT SERVICES XX MILES (D9-17P) plaque (see Figure 2I-2) may be installed below the Exit Direction sign.

Standard:

11 Signs for services shall comply with the format for General Service signs (see Section 2I.02) and as provided in this Manual. No more than six general road user services shall be displayed on one sign, which includes any appended supplemental signs or plaques. General Service signs shall carry the legends for one or more of the following services: Food, Gas, Lodging, Camping, Phone, Hospital, 24-Hour Pharmacy, or Tourist Information.

12 The qualified services available shall be displayed at specific locations on the sign.

13 To provide flexibility for the future when the service might become available, the sign space normally reserved for a given service symbol or word shall be left blank when that service is not present.

Guidance:

14 The standard display of word messages should be FOOD and PHONE in that order on the top line, and GAS and LODGING on the second line. If used, HOSPITAL and CAMPING should be on separate lines (see Figure 2I-3).

Option:

15 Signing for DIESEL, LP-Gas, or other alternative fuel services may be substituted for any of the general services or appended to such signs. The International Symbol of Accessibility for the Handicapped (D9-6) sign (see Figure 2I-1) may be used for facilities that qualify.

Guidance:

16 When symbols are used for the road user services, they should be displayed as follows:

A. Six services:

- 1. Top row—GAS, FOOD, and LODGING**
- 2. Bottom row—PHONE, HOSPITAL, and CAMPING**

B. Four services:

- 1. Top row—GAS and FOOD**
- 2. Bottom row—LODGING and PHONE**

C. Three services:

1. Top row—GAS, FOOD, and LODGING

Option:

¹⁷ Substitutions of other services for any of the services described in Paragraph 16 may be made by placing the substitution in the lower right (four or six services) or extreme right (three services) portion of the sign. An action message or an interchange number may be used for symbol signs in the same manner as they are used for word message signs. The Diesel Fuel (D9-11) symbol or the LP-Gas (D9-15) symbol may be substituted for the symbol representing fuel or appended to such assemblies. The Tourist Information (D9-10) symbol or the 24-Hour Pharmacy (D9-20 and D9-20aP) symbol may be substituted on any of the configurations provided in Paragraph 16.

¹⁸ At rural interchange areas where limited road user services are available and where it is unlikely that additional services will be provided within the near future, a supplemental plaque displaying one to three services (words or symbols) may be appended below a post-mounted interchange guide sign.

Standard:

¹⁹ **If more than three services become available at rural interchange areas where limited road user services were anticipated, the appended supplemental plaque described in Paragraph 18 shall be removed and replaced with an independently mounted General Service sign as described in this Section.**

Option:

²⁰ A separate Telephone Service (D9-1) sign (see Figure 2I-1) may be installed if telephone facilities are located adjacent to the route at places where public telephones would not normally be expected.

²¹ The Recreational Vehicle Sanitary Station (D9-12) sign (see Figure 2I-1) may be used as needed to indicate the availability of facilities designed for dumping wastes from recreational vehicle holding tanks.

²² In some locations, signs may be used to indicate that services are not available.

²³ A separate Truck Parking (D9-16) sign (see Figure 2I-1) may be mounted below the other general road user services to direct truck drivers to designated parking areas.

Section 2I.08 Tourist Information and Welcome Center Signs

Support:

⁰¹ Tourist information and welcome centers have been constructed within rest areas on freeways and expressways and are operated by either a State or a private organization. Others have been located within close proximity to these facilities and operated by civic clubs, chambers of commerce, or private enterprise.

Guidance:

⁰² *An excessive number of supplemental sign panels should not be installed with Tourist Information or Welcome Center signs so as not to overload the road user.*

Standard:

⁰³ **Tourist Information or Welcome Center signs (see Figure 2I-7) shall have a white legend and border on a blue background. Continuously staffed or unstaffed operation at least 8 hours per day, 7 days per week, shall be required.**

⁰⁴ **If operated only on a seasonal basis, the Tourist Information or Welcome Center signs shall be removed or covered during the off seasons.**

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Guidance:

05 *For freeway or expressway rest area locations that also serve as tourist information or welcome centers, the following signing criteria should be used:*

A. The locations for tourist information and welcome center Advance Guide, Exit Direction, and Exit Gore signs should meet the General Service signing requirements described in Section 2I.03.

B. If the signing for the tourist information or welcome center is to be accomplished in conjunction with the initial signing for the rest areas, the message on the Advance Guide (D5-7) sign should be REST AREA, TOURIST INFO CENTER, XX MILES or REST AREA, STATE NAME (optional), WELCOME CENTER XX MILES. On the Exit Direction (D5-8 or D5-11) sign the message should be REST AREA, TOURIST INFO CENTER with a diagonally upward-pointing directional arrow (or NEXT RIGHT), or REST AREA, STATE NAME (optional), WELCOME CENTER with a diagonally upward-pointing directional arrow (or NEXT RIGHT).

C. If the initial rest area Advance Guide and Exit Direction signing is in place, these signs should include, on supplemental signs, the legend TOURIST INFO CENTER or STATE NAME (optional), WELCOME CENTER.

D. The Exit Gore sign should contain only the legend REST AREA with the arrow and should not be supplemented with any legend pertaining to the tourist information center or welcome center.

Option:

06 An alternative to the supplemental TOURIST INFO CENTER legend is the Tourist Information (D9-10) sign (see Figure 2I-1), which may be appended beneath the REST AREA advance guide sign.

07 The name of the State or local jurisdiction may appear on the Advance Guide and Exit Direction tourist information/welcome center signs if the jurisdiction controls the operation of the tourist information or welcome center and the center meets the operating criteria set forth in this Manual and is consistent with State policies.

Guidance:

08 *For tourist information centers that are located off the freeway or expressway facility, additional signing criteria should be as follows:*

A. Each State should adopt a policy establishing the maximum distance that a tourist information center can be located from the interchange in order to be included on official signs.

B. The location of signing should be in accordance with requirements pertaining to General Service signing (see Section 2I.03).

C. Signing along the crossroad should be installed to guide the road user from the interchange to the tourist information center and back to the interchange.

Option:

09 As an alternative, the Tourist Information (D9-10) sign (see Figure 2I-1) may be appended to the guide signs for the exit that provides access to the tourist information center. As a second alternative, the Tourist Information sign may be combined with General Service signing.

Section 3B.02 No-Passing Zone Pavement Markings and Warrants

Standard:

01 **No-passing zones shall be marked by either the one direction no-passing zone pavement markings or the two-direction no-passing zone pavement markings described in Section 3B.01 and shown in Figures 3B-1 and 3B-3.**

02 **When center line markings are used, no-passing zone markings shall be used on two-way roadways at lane-reduction transitions (see Section 3B.09) and on approaches to obstructions that must be passed on the right (see Section 3B.10).**

03 **On two-way, two- or three-lane roadways where center line markings are installed, no-passing zones shall be established at vertical and horizontal curves and other locations where an engineering study indicates that passing must be prohibited because of inadequate sight distances or other special conditions.**

04 On roadways with center line markings, no-passing zone markings shall be used at horizontal or vertical curves where the passing sight distance is less than the minimum shown in Table 3B-1 for the 85th-percentile speed or the posted or statutory speed limit. The passing sight distance on a vertical curve is the distance at which an object 3.5 feet above the pavement surface can be seen from a point 3.5 feet above the pavement (see Figure 3B-4). Similarly, the passing sight distance on a horizontal curve is the distance measured along the center line (or right-hand lane line of a three-lane roadway) between two points 3.5 feet above the pavement on a line tangent to the embankment or other obstruction that cuts off the view on the inside of the curve (see Figure 3B-4).

Support:

05 The upstream end of a no-passing zone at point “a” in Figure 3B-4 is that point where the sight distance first becomes less than that specified in Table 3B-1. The downstream end of the no-passing zone at point “b” in Figure 3B-4 is that point at which the sight distance again becomes greater than the minimum specified.

06 The values of the minimum passing sight distances that are shown in Table 3B-1 are for operational use in marking no-passing zones and are less than the values that are suggested for geometric design by the AASHTO Policy on Geometric Design of Streets and Highways (see Section 1A.11).

Guidance:

07 *Where the distance between successive no-passing zones is less than 400 feet, no-passing markings should connect the zones.*

Standard:

08 Where center line markings are used, no-passing zone markings shall be used on approaches to grade crossings in compliance with Section 8B.27.

Option:

09 In addition to pavement markings, no-passing zone signs (see Sections 2B.28, 2B.29, and 2C.45) may be used to emphasize the existence and extent of a no-passing zone.

Support:

10 Section 11-307 of the “Uniform Vehicle Code (UVC)” contains further information regarding required road user behavior in no-passing zones. The UVC can be obtained from the National Committee on Uniform Traffic Laws and Ordinances at the address shown on Page i.

Standard:

11 On three-lane roadways where the direction of travel in the center lane transitions from one direction to the other, a no-passing buffer zone shall be provided in the center lane as shown in Figure 3B-5. A lane-reduction transition (see Section 3B.09) shall be provided at each end of the buffer zone.

12 The buffer zone shall be a flush median island formed by two sets of double yellow center line markings that is at least 50 feet in length.

Option:

13 Yellow diagonal crosshatch markings (see Section 3B.24) may be placed in the flush median area between the two sets of no-passing zone markings as shown in Figure 3B-5.

Guidance:

14 *For three-lane roadways having a posted or statutory speed limit of 45 mph or greater, the lane transition taper length should be computed by the formula $L = WS$. For roadways where the posted or statutory speed limit is less than 45 mph, the formula $L = WS^2/60$ should be used to compute the taper length.*

Support:

15 Under both formulas, L equals the taper length in feet, W equals the width of the center lane or offset distance in feet, and S equals the 85th-percentile speed or the posted or statutory speed limit, whichever is higher.

Guidance:

16 The minimum lane transition taper length should be 100 feet in urban areas and 200 feet in rural areas.

Section 3B.18 Crosswalk Markings

Support:

01 Crosswalk markings provide guidance for pedestrians who are crossing roadways by defining and delineating paths on approaches to and within signalized intersections, and on approaches to other intersections where traffic stops.

02 In conjunction with signs and other measures, crosswalk markings help to alert road users of a designated pedestrian crossing point across roadways at locations that are not controlled by traffic control signals or STOP or YIELD signs.

03 At non-intersection locations, crosswalk markings legally establish the crosswalk.

Standard:

04 When crosswalk lines are used, they shall consist of solid white lines that mark the crosswalk. They shall not be less than 6 inches or greater than 24 inches in width.

Guidance:

05 If transverse lines are used to mark a crosswalk, the gap between the lines should not be less than 6 feet. If diagonal or longitudinal lines are used without transverse lines to mark a crosswalk, the crosswalk should be not less than 6 feet wide.

06 Crosswalk lines, if used on both sides of the crosswalk, should extend across the full width of pavement or to the edge of the intersecting crosswalk to discourage diagonal walking between crosswalks (see Figures 3B-17 and 3B-19).

07 At locations controlled by traffic control signals or on approaches controlled by STOP or YIELD signs, crosswalk lines should be installed where engineering judgment indicates they are needed to direct pedestrians to the proper crossing path(s).

08 Crosswalk lines should not be used indiscriminately. An engineering study should be performed before a marked crosswalk is installed at a location away from a traffic control signal or an approach controlled by a STOP or YIELD sign. The engineering study should consider the number of lanes, the presence of a median, the distance from adjacent signalized intersections, the pedestrian volumes and delays, the average daily traffic (ADT), the posted or statutory speed limit or 85th-percentile speed, the geometry of the location, the possible consolidation of multiple crossing points, the availability of street lighting, and other appropriate factors.

09 New marked crosswalks alone, without other measures designed to reduce traffic speeds, shorten crossing distances, enhance driver awareness of the crossing, and/or provide active warning of pedestrian presence, should not be installed across uncontrolled roadways where the speed limit exceeds 40 mph and either:

A. The roadway has four or more lanes of travel without a raised median or pedestrian refuge island and an ADT of 12,000 vehicles per day or greater; or

B. The roadway has four or more lanes of travel with a raised median or pedestrian refuge island and an ADT of 15,000 vehicles per day or greater.

Support:

10 Chapter 4F contains information on Pedestrian Hybrid Beacons. Section 4L.03 contains information regarding Warning Beacons to provide active warning of a pedestrian's presence. Section 4N.02 contains information regarding In-Roadway Warning Lights at crosswalks. Chapter 7D contains information regarding school crossing supervision.

Guidance:

¹¹ *Because non-intersection pedestrian crossings are generally unexpected by the road user, warning signs (see Section 2C.50) should be installed for all marked crosswalks at non-intersection locations and adequate visibility should be provided by parking prohibitions.*

Support:

¹² Section 3B.16 contains information regarding placement of stop line markings near crosswalk markings.

Option:

¹³ For added visibility, the area of the crosswalk may be marked with white diagonal lines at a 45-degree angle to the line of the crosswalk or with white longitudinal lines parallel to traffic flow as shown in Figure 3B-19.

¹⁴ When diagonal or longitudinal lines are used to mark a crosswalk, the transverse crosswalk lines may be omitted. This type of marking may be used at locations where substantial numbers of pedestrians cross without any other traffic control device, at locations where physical conditions are such that added visibility of the crosswalk is desired, or at places where a pedestrian crosswalk might not be expected.

Guidance:

¹⁵ *If used, the diagonal or longitudinal lines should be 12 to 24 inches wide and separated by gaps of 12 to 60 inches. The design of the lines and gaps should avoid the wheel paths if possible, and the gap between the lines should not exceed 2.5 times the width of the diagonal or longitudinal lines.*

Option:

¹⁶ When an exclusive pedestrian phase that permits diagonal crossing of an intersection is provided at a traffic control signal, a marking as shown in Figure 3B-20 may be used for the crosswalk.

Guidance:

¹⁷ *Crosswalk markings should be located so that the curb ramps are within the extension of the crosswalk markings.*

Support:

¹⁸ Detectable warning surfaces mark boundaries between pedestrian and vehicular ways where there is no raised curb. Detectable warning surfaces are required by 49 CFR, Part 37 and by the Americans with Disabilities Act (ADA) where curb ramps are constructed at the junction of sidewalks and the roadway, for marked and unmarked crosswalks. Detectable warning surfaces contrast visually with adjacent walking surfaces, either light-on-dark, or dark-on-light. The “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)” (see Section 1A.11) contains specifications for design and placement of detectable warning surfaces.

Section 4B.02 Basis of Installation or Removal of Traffic Control Signals

Guidance:

⁰¹ *The selection and use of traffic control signals should be based on an engineering study of roadway, traffic, and other conditions.*

Support:

⁰² A careful analysis of traffic operations, pedestrian and bicyclist needs, and other factors at a large number of signalized and unsignalized locations, coupled with engineering

judgment, has provided a series of signal warrants, described in Chapter 4C, that define the minimum conditions under which installing traffic control signals might be justified.

Guidance:

03 Engineering judgment should be applied in the review of operating traffic control signals to determine whether the type of installation and the timing program meet the current requirements of all forms of traffic.

04 If changes in traffic patterns eliminate the need for a traffic control signal, consideration should be given to removing it and replacing it with appropriate alternative traffic control devices, if any are needed.

05 If the engineering study indicates that the traffic control signal is no longer justified, and a decision is made to remove the signal, removal should be accomplished using the following steps:

A Determine the appropriate traffic control to be used after removal of the signal.

B. Remove any sight-distance restrictions as necessary.

C. Inform the public of the removal study.

D. Flash or cover the signal heads for a minimum of 90 days, and install the appropriate stop control or other traffic control devices.

E. Remove the signal if the engineering data collected during the removal study period confirms that the signal is no longer needed.

Option:

06 Because Items C, D, and E in Paragraph 5 are not relevant when a temporary traffic control signal (see Section 4D.32) is removed, a temporary traffic control signal may be removed immediately after Items A and B are completed.

07 Instead of total removal of a traffic control signal, the poles, controller cabinet, and cables may remain in place after removal of the signal heads for continued analysis.

Section 4B.03 Advantages and Disadvantages of Traffic Control Signals

Support:

01 When properly used, traffic control signals are valuable devices for the control of vehicular and pedestrian traffic. They assign the right-of-way to the various traffic movements and thereby profoundly influence traffic flow.

02 Traffic control signals that are properly designed, located, operated, and maintained will have one or more of the following advantages:

A. They provide for the orderly movement of traffic.

B. They increase the traffic-handling capacity of the intersection if:

1. Proper physical layouts and control measures are used, and

2. The signal operational parameters are reviewed and updated (if needed) on a regular basis (as engineering judgment determines that significant traffic flow and/or land use changes have occurred) to maximize the ability of the traffic control signal to satisfy current traffic demands.

C. They reduce the frequency and severity of certain types of crashes, especially right-angle collisions.

D. They are coordinated to provide for continuous or nearly continuous movement of traffic at a definite speed along a given route under favorable conditions.

E. They are used to interrupt heavy traffic at intervals to permit other traffic, vehicular or pedestrian, to cross.

03 Traffic control signals are often considered a panacea for all traffic problems at intersections. This belief has led to traffic control signals being installed at many locations where they are not needed, adversely affecting the safety and efficiency of vehicular, bicycle, and pedestrian traffic.

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04 Traffic control signals, even when justified by traffic and roadway conditions, can be ill-designed, ineffectively placed, improperly operated, or poorly maintained. Improper or unjustified traffic control signals can result in one or more of the following disadvantages:

- A. Excessive delay,
- B. Excessive disobedience of the signal indications,
- C. Increased use of less adequate routes as road users attempt to avoid the traffic control signals, and
- D. Significant increases in the frequency of collisions (especially rear-end collisions).

Section 8B.09 DO NOT STOP ON TRACKS Sign (R8-8)

Guidance:

01 A DO NOT STOP ON TRACKS (R8-8) sign (see Figure 8B-1) should be installed whenever an engineering study determines that the potential for highway vehicles stopping on the tracks at a grade crossing is significant. Placement of the R8-8 sign should be determined as part of the engineering study. The sign, if used, should be located on the right-hand side of the highway on either the near or far side of the grade crossing, depending upon which position provides better visibility to approaching drivers.

02 If a STOP or YIELD sign is installed at a location, including at a circular intersection, that is downstream from the grade crossing such that highway vehicle queues are likely to extend beyond the tracks, a DO NOT STOP ON TRACKS sign (R8-8) should be used.

Option:

03 DO NOT STOP ON TRACKS signs may be placed on both sides of the track.

04 On divided highways and one-way streets, a second DO NOT STOP ON TRACKS sign may be placed on the near or far left-hand side of the highway at the grade crossing to further improve visibility of the sign.

Section 8B.24 Storage Space Signs (W10-11, W10-11a, W10-11b)

Guidance:

01 A Storage Space (W10-11) sign supplemented by a word message storage distance (W10-11a) sign (see Figure 8B-4) should be used where there is a highway intersection in close proximity to the grade crossing and an engineering study determines that adequate space is not available to store a design vehicle(s) between the highway intersection and the train or LRT equipment dynamic envelope.

02 The Storage Space (W10-11 and W10-11a) signs should be mounted in advance of the grade crossing at an appropriate location to advise drivers of the space available for highway vehicle storage between the highway intersection and the grade crossing.

Option:

03 A Storage Space (W10-11b) sign (see Figure 8B-4) may be mounted beyond the grade crossing at the highway intersection under the STOP or YIELD sign or just prior to the signalized intersection to remind drivers of the storage space between the tracks and the highway intersection.

Section 9B.18 Bicycle Warning and Combined Bicycle/Pedestrian Signs (W11-1 and W11-15)

Support:

01 The Bicycle Warning (W11-1) sign (see Figure 9B-3) alerts the road user to unexpected entries into the roadway by bicyclists, and other crossing activities that might cause conflicts. These conflicts might be relatively confined, or might occur randomly over a segment of roadway.

Option:

02 The combined Bicycle/Pedestrian (W11-15) sign (see Figure 9B-3) may be used where both bicyclists and pedestrians might be crossing the roadway, such as at an intersection with a shared-use path. A TRAIL X-ING (W11-15P) supplemental plaque (see Figure 9B-3) may be mounted below the W11-15 sign.

03 A supplemental plaque with the legend AHEAD or XX FEET may be used with the Bicycle Warning or combined Bicycle/Pedestrian sign.

Guidance:

04 *If used in advance of a specific crossing point, the Bicycle Warning or combined Bicycle/Pedestrian sign should be placed at a distance in advance of the crossing location that conforms with the guidance given in Table 2C-4.*

Standard:

05 **Bicycle Warning and combined Bicycle/Pedestrian signs, when used at the location of the crossing, shall be supplemented with a diagonal downward pointing arrow (W16-7P) plaque (see Figure 9B-3) to show the location of the crossing.**

Option:

06 A fluorescent yellow-green background color with a black legend and border may be used for Bicycle Warning and combined Bicycle/Pedestrian signs and supplemental plaques.

Guidance:

07 *When the fluorescent yellow-green background color is used, a systematic approach featuring one background color within a zone or area should be used. The mixing of standard yellow and fluorescent yellowgreen backgrounds within a zone or area should be avoided.*

Section 9B.19 Other Bicycle Warning Signs

Option:

01 Other bicycle warning signs (see Figure 9B-3) such as PATH NARROWS (W5-4a) and Hill (W7-5) may be installed on shared-use paths to warn bicyclists of conditions not readily apparent.

02 In situations where there is a need to warn motorists to watch for bicyclists traveling along the highway, the SHARE THE ROAD (W16-1P) plaque (see Figure 9B-3) may be used in conjunction with the W11-1 sign.

Guidance:

03 *If used, other advance bicycle warning signs should be installed at least 50 feet in advance of the beginning of the condition.*

04 *Where temporary traffic control zones are present on bikeways, appropriate signs from Part 6 should be used.*

Option:

05 Other warning signs described in Chapter 2C may be installed on bicycle facilities as appropriate.

APPENDIX C

LEGAL REFERENCES

RS 32:71 Driving on right side of road; exceptions

A. Upon all roadways of sufficient width a vehicle shall be driven upon the right half of the roadway, except as follows:

(1) When overtaking and passing another vehicle proceeding in the same direction under the rules governing such movement, including passing lanes;

(2) When the right half of a roadway is closed to traffic while under construction or repair;

(3) Upon a roadway designated and signposted for one-way traffic.

B.(1)(a) Upon all multilane highways, no vehicle shall be driven in the left-hand lane except when directed otherwise, preparing for a left turn at an intersection or private road or driveway, overtaking or passing another vehicle proceeding in the same direction, or when right-hand lanes are congested; however, no vehicle being driven in the left lane except when directed otherwise or preparing for a left turn at an intersection, private road, or driveway shall impede any other vehicle that is traveling in the same lane and behind that vehicle.

(b) Upon all multilane highways, no vehicle traveling in the left-hand lane shall be driven at a speed slower than any vehicle traveling to its right on the same roadway.

(c) Upon all multilane highways any vehicle proceeding at less than the normal speed of traffic at the time and place and under the circumstances then existing, shall be driven in the right-hand lane then available for traffic except when preparing for a left turn at an intersection or into a private road or driveway, or passing or overtaking a vehicle proceeding in the same direction, if passing on the left side of it. Nothing herein contained shall be construed to authorize driving any vehicle in the left lane so as to prohibit, impede, or block passage of an overtaking vehicle in such lane and in such event the vehicle in the left lane prohibiting, impeding, or blocking passage of an overtaking vehicle shall expeditiously merge into the right lane of traffic.

(d) The provisions of this Subsection shall not apply during a declared state of emergency when contraflow has been activated.

(2) In addition to the requirement of Paragraph 1 hereof, any vehicle proceeding on a multilane highway at a speed slower than ten miles per hour less than the posted maximum speed limit shall be driven in the right hand lane then available for traffic, or as close as practicable to the right hand curb or edge of the roadway, except when overtaking and passing a vehicle proceeding in the same direction or when preparing for a left turn at an intersection or into a private road or driveway. Persons in violation of this Paragraph shall be punished by a fine of not more than one hundred dollars, or by imprisonment for not more than thirty days, or both.

C. The Department of Public Safety and Corrections, office of motor vehicles, is directed to include a summary of this Section in any instructional publication for drivers.

D. The Department of Transportation and Development is directed to place signs on multilane highways, in an effort to make motorists aware of the provisions provided for in this Section.

E. The Louisiana Highway Safety Commission and the Department of Transportation and Development are directed to cooperatively develop and engage a public awareness campaign to notify motorists of the provisions of this Section. Acts 1962, No. 310, §1. Amended by Acts 1970, No. 608, §1; Acts 1975, No. 290, §1; Acts 1988, No. 246, §1; Acts 2009, No. 190, §1

RS 32:77. No passing zones

A. The Department is hereby authorized to determine those portions of any highway where overtaking and passing or driving to the left of the roadway would be especially hazardous, and shall by appropriate signs or markings on the roadway indicate the beginning and end of such zones, and when such signs and markings are in place and are clearly visible to an ordinary observant person, every driver shall obey the directions thereof.

B. Where signs or markings are in place to define a no-passing zone as set forth in paragraph A, no driver shall at any time drive on the left side of the roadway within such zone, or on the left side of any pavement striping, designated to mark such no-passing zone, throughout its length. Acts 1962, No. 310, §1.

RS 32:125. Procedure on approach of an authorized emergency vehicle; passing a parked emergency vehicle

A. Upon the immediate approach of an authorized emergency vehicle making use of audible or visual signals, or of a police vehicle properly and lawfully making use of an audible signal only, the driver of every other vehicle shall yield the right-of-way and shall immediately drive to a position parallel to, and as close as possible to, the right-hand edge or curb of the highway clear of any intersection, and shall stop and remain in such position until the authorized emergency vehicle has passed, except when otherwise directed by a police officer.

B. When any vehicle making use of any visual signals as authorized by law, including the display of alternately flashing amber or yellow warning lights, is parked on or near the highway, the driver of every other vehicle shall:

(1) When driving on an interstate highway or other highway with two or more lanes traveling in the same direction, yield the right-of-way by making a lane change into a lane not adjacent to the parked vehicle, if possible with due regard to safety and traffic conditions. If a lane change is not possible, the driver shall slow to a reasonably safe speed.

(2) Maintain a safe speed for road conditions, if unable or unsafe to change lanes, or driving on a two-lane road or highway.

C. This Section shall not operate to relieve the driver of an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons using the highway.

D. Any person who violates the provisions of this Section shall, upon conviction, be subject to a fine not to exceed two hundred dollars.

Acts 1962, No. 310, §1. Amended by Acts 1980, No. 160, §1; Acts 2001, No. 583, §1; Acts 2008, No. 429, §1, eff. June 21, 2008; Acts 2008, No. 746, §1.

RS 32:235. Uniform highway marking system

A.(1) The department shall adopt a manual and specifications for a uniform system of traffic control devices consistent with the provisions of this Chapter for use upon highways within this state. Such uniform system shall correlate with and so far as possible conform to the system then current as approved by the United States Department of Transportation, Federal Highway Administration, provided that the department is authorized to deviate from said system and to erect advisory signs only to post advisory weight limits on state bridges where a state bridge is scheduled for replacement or strengthening within three years from the date of approval by the chief engineer of the department's weight rating evaluation of any state bridge.

In addition, the department may deviate from the criteria contained in said system for location of traffic signals to the extent that additional weighted consideration shall be given to pedestrian and vehicular traffic volumes associated with schools which are located on state highways.

(2) The department shall require that any signage on public highways which indicates maximum or minimum speed limits in kilometers also indicate such speed limits in miles per hour.

B. Local municipal and parish authorities in their respective jurisdictions shall place and maintain such traffic control devices upon highways under their jurisdiction as they may deem necessary to indicate and to carry out the provisions of this Chapter, regulations of the department and commissioner adopted pursuant hereto, and local traffic ordinances adopted pursuant to the authority granted by R.S. 32:41 and R.S. 32:42. All such traffic control devices hereafter erected shall conform to the department's manual or specifications. If any such device hereafter erected by a political subdivision of this state fails to conform to the manual or specifications, payment of any funds allocated to that political subdivision shall be withheld by the department until the standards established by the department are complied with.

C. No local municipal or parish authority shall place or maintain any traffic control device upon any state maintained highway without having first obtained the written approval of the department.

D. Wherever any highway crosses the boundaries of and enters into the state of Louisiana, the department may erect appropriate signs giving notice of the maximum speed limits authorized by law for each type of vehicle upon the highways of this state.

E. Proof that any state, parochial or municipal authority was at the time of any incident complained of in compliance with the provisions of the department's traffic control devices manual shall be prima facie evidence of discharge by such authority of its obligations to the motoring public.

Acts 1962, No. 310, §1. Amended by Acts 1968, No. 182, §1; Acts 1968, No. 273, §3; Acts 1977, No. 113, §1, eff. June 22, 1977; Acts 1977, No. 211, §1, eff. July 7, 1977; Acts 1978, No. 35, §1, eff. May 31, 1978; Acts 1995, No. 282, §1; Acts 1995, No. 1125, §1.

RS 32:236. Privately owned signs on public rights of way prohibited

Privately owned signs on public rights of way prohibited; exceptions; authority of municipalities and department of highways; advertising on convenience facilities at public transit stops

A. No person, contractor, or public service corporation shall erect or maintain any sign of any nature or a traffic control device or any thing resembling a traffic control device within the right-of-way of any highway or street, without having official permission to install or maintain same in the public right-of-way under the provisions of R.S. 48:344 and R.S. 48:381, except the governing authority maintaining the highway or street.

B. Contractors may place such signs and warning devices and permit holders may place such temporary signs and warning devices as are authorized to warn the traveling public of dangers arising from the work being done within the right-of-way. The department may place such directional, regulatory, and warning signs, signals and barricades, or other traffic control devices as are desirable in its judgment to guide, inform, regulate, and warn the traveling public.

C. A public body, such as a parish or municipal governing authority maintaining a highway or street, may authorize and adopt rules to regulate advertising on convenience facilities such as benches, shelters, and kiosks, located within the public rights of way at designated stops of a public transit system, as designated or contracted for by the governing authority.

Acts 1962, No. 310, §1. Amended by Acts 1964, No. 299, §1; Acts 1977, No. 113, §1, eff. June 22, 1977; Acts 1990, No. 220, §1; Acts 1992, No. 732, §1.

RS 32:238. Directional signs

A. The governing authority of any parish, municipality, or school board may request the Department of Transportation and Development to place directional signs on the rights of way of the streets and highways which are within the state highway system and which are within the territorial jurisdiction of the governing authority making the request.

B. As used in this Section, a "directional sign" is a sign which serves the public purpose of directing vehicular traffic to or identifying streets, highways, buildings, facilities, or other entities or locations which are of interest to the public. Entities or locations which are of interest to the public include but are not limited to governmental buildings, churches, libraries, public or private schools, hospitals, historic districts, seasonal attractions, and tourist attractions.

C. The request for directional signs shall be in writing, shall be in the form of a resolution unanimously passed by the governing authority making the request, and shall state the information which is to appear on the sign, the name and general location of the entity to which the public is to be directed, and the general location at which the sign is to be located.

D. The Department of Transportation and Development shall erect and maintain each sign requested under this Section in accordance with federal regulations.

E. The Department of Transportation and Development shall adopt administrative rules to implement the provisions of this Section as authorized by and in accordance with state law and federal regulations.

F. Any signing requested shall be paid for in advance, sign cost only, by the requestor or public body making such request.

Acts 1990, No. 976, §1; Acts 1999, No. 222, §1.

RS 32:380. Width; projecting loads on vehicles

**SUBPART A. SIZE, WIDTH, HEIGHT, LENGTH, WEIGHT
AND LOAD OF VEHICLES IN REGULAR OPERATION**

- A. The width of any vehicle shall not exceed one hundred two inches, exclusive of safety devices.
- B. The load on any vehicle shall not project more than twelve inches beyond the width of its body.
- C. The width of a farm tractor shall not exceed nine feet.
- D. The secretary shall designate the qualifying highway system to which the foregoing width limitations shall apply.
- E. Repealed by Acts 2003, No. 347, §2. Added by Acts 1977, No. 113, §1, eff. June 22, 1977.
- Acts 1983, No. 416, §1; Acts 1990, No. 51, §1; Acts 1990, No. 896, §1; Acts 2003, No. 347, §§1 and 2.

RS 32:382. Length; special length limits

A. Length

- (1) The length of a single vehicle shall not exceed forty-five feet. The length of a trailing unit on any single vehicle shall not exceed thirty feet. The length of the semitrailer portion of a tractor-semitrailer combination shall not exceed fifty-nine feet and six inches. The length of the semitrailer or trailer portion of a tractor-semitrailer-trailer combination shall not exceed thirty feet. The length of the trailer portions of a tractor-trailer-trailer combination shall not exceed thirty feet. The length of the semitrailer portions of a tractor-semitrailer-semitrailer combination shall not exceed thirty feet.
- (2)(a) The load carried by a combination of vehicles transporting timber poles and piling shall not exceed sixty-five feet plus one foot additional tolerance in length. The load carried by a combination of vehicles transporting forest products in their natural or treated state shall not exceed sixty-five feet plus one foot additional tolerance in length. Said combinations transporting poles and piling or forest products in their natural or treated state shall operate only during daylight hours and shall display a red flag or cloth not less than one foot square at the rear of the load. A combination of vehicles transporting forest products in their natural state shall be equipped with stationary vertical retaining poles on the driver's side of the trailer portion.
- (b) No combination of vehicles shall consist of more than two vehicles, except as provided in R.S. 32:384(C) and R.S. 32:382(A)(3) and except that combinations of truck-tractor and two trailers; truck-tractor and two semi-trailers; or truck-tractor, semi-trailer, and trailer are permitted.
- (c) The combination of vehicles consisting of three vehicles excepted in this Section by Subsection A(2)(b) shall be permitted to operate over all highways within the Interstate System and other highways designated by the secretary.
- (d) No combination of vehicles operated on any parish road under the jurisdiction of the police jury shall consist of more than two vehicles, except as provided in R.S. 32:382(A)(3).
- (3)(a) A vehicle having no more than two axles may tow any combination of two vehicles, provided the combination of vehicles does not exceed sixty-five feet.

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(b) A vehicle having no more than two axles and owned and/or operated by a manufacturer or dealer of boats may tow two boat trailers.

B. Special length limits

(1) Subject to the provisions of R.S. 32:380, R.S. 32:381, and Subsection A of this Section, the load upon any single vehicle or upon the front vehicle of a combination of vehicles shall not project more than four feet beyond the foremost part of said vehicle, and the load upon any single vehicle or upon the rear vehicle of a combination of vehicles shall not project more than eight feet beyond the rear of the bed or body of said vehicle, except that the load upon the rear vehicle of a combination of vehicles transporting poles and piling shall not project more than fifteen feet beyond the rear of the bed or rear tire of said vehicle, whichever is further from the cab, and the load upon the rear vehicle of a combination of vehicles transporting forest products in their natural state shall not project more than twenty feet beyond the rear of the bed or rear tire of said vehicle, whichever is further from the cab, and said load or loads must maintain a two foot clearance above the pavement structure, and provided further said combination of vehicles transporting forest products in their natural state with a rear projecting load in excess of fifteen feet shall operate only during daylight hours and shall display a red flag or cloth not less than one foot square at the rear of its projected load. A combination of vehicles transporting forest products in their natural state shall be equipped with stationary vertical retaining poles on the driver's side of the trailer portion.

(2) Equipment that is permanently attached to and cannot be readily removed from a vehicle shall not constitute load and the provisions of Subsection B(1) of this Section shall not apply to such vehicles if the following conditions exist:

(a) The vehicle meets requisite state safety standards to be and is licensed for use on state highways; and

(b) That portion of such equipment which extends in front of the foremost part of said vehicle has a minimum vertical clearance above the surface of the highway of six feet.

(c) The provisions of this Section shall not apply to vehicles collecting garbage, rubbish, refuse, or recyclable materials which are equipped with front-end loading attachments and containers provided that the vehicles are actively engaged in the collection of garbage, rubbish, refuse, or recyclable materials.

(3) Sportsmen coaches or vehicles obviously used solely for recreational purposes and registered therefore may tow a combination of no more than two vehicles and shall not exceed seventy feet in total length.

C. The combinations of vehicles consisting of three vehicles excepted in this Section by Subsection A(2)(b) shall have reasonable access, not to exceed ten miles, between the interstate system or other highways designated by the secretary and terminals and facilities for food, fuel, repairs, and rest, unless otherwise prohibited. Household goods carriers shall have unrestricted access for loading and unloading purposes only, unless otherwise prohibited.

D. The secretary shall designate the qualifying highway system to which the foregoing length limitations shall apply.

E. The foregoing regulations of tractor-semi-trailer combinations shall not prohibit the operation, replacement, or reasonable business expansion of those types or lengths of vehicles which are in actual and lawful use on or before July 2, 1983.

F. All vehicles of legal length on the interstate system and other designated systems but which are not of legal length off of the interstate system and other designated systems shall have reasonable access, not to exceed ten miles, between the interstate system or other highways designated by the secretary and terminals and facilities for food, fuel, repairs, and rest, unless otherwise prohibited. Household goods carriers shall have unrestricted access for loading and unloading purposes only, unless otherwise prohibited. Acts 1977, No. 113, §1, eff. June 22, 1977. Amended by Acts 1978, No. 35, §1, eff. May 31, 1978; Acts 1979, No. 87, §1, eff. June 29, 1979; Acts 1982, No. 410, §1; Acts 1982, No. 438, §1; Acts 1983, No. 416, §1; Acts 1984, No. 948, §1; Acts 1985, No. 260, §1, eff. July 6, 1985; Acts 1985, No. 960, §1; Acts 1987, No. 405, §1; Acts 1988, No. 663, §1; Acts 1990, No. 51, §1; Acts 1995, No. 1185, §1; Acts 1997, No. 764, §1; Acts 1997, No. 940, §1.

RS 32:386. Weight

- A. The total gross weight of any vehicle or combination of vehicles shall not exceed eighty thousand pounds, and no vehicle or combination of vehicles shall exceed its licensed gross weight.
- B. No tire mounted on any axle attached to any vehicle or combination of vehicles shall impose a greater weight on the surface of a highway than six hundred fifty pounds per inch width of tire.
- C. The total gross weight of any single axle attached to any vehicle and equipped with low pressure pneumatic tires shall not exceed twenty thousand pounds.
- D. The total gross weight of any tandem axle or tandem steering axle attached to any vehicle and equipped with low pressure pneumatic tires shall not exceed thirty-four thousand pounds. However on any vehicle carrying forest products in their natural state, the weight limitation shall be thirty-seven thousand pounds per tandem axle and equipped with low pressure pneumatic tires except on the Interstate system.
- E. The total gross weight of any tridum axle attached to any vehicle and equipped with low pressure pneumatic tires shall not exceed forty-two thousand pounds.
- E-1. The total gross weight of any quadrum axle attached to any vehicle and equipped with low pressure pneumatic tires shall not exceed fifty thousand pounds.
- F. The total gross weight of any single axle or any single steering axle attached to any vehicle and equipped with high pressure pneumatic, solid rubber or cushion tires shall not exceed eighteen thousand pounds.
- G. The total gross weight of any tandem axle or any tandem steering axle attached to any vehicle and equipped with high pressure pneumatic, solid rubber or cushion tires shall not exceed thirty-two thousand pounds.
- H.(1) For vehicles using the Interstate system, the overall maximum gross weight, including enforcement tolerances, on a group of two or more consecutive axles, shall be produced by application of the following formula:
- $$W = 500(LN/(N - 1) + 12N + 36)$$
- where W equals overall gross weight on any group of two or more consecutive axles to the nearest five hundred pounds, L equals distance in feet between the extreme of any group of two or more consecutive axles, and N equals number of axles in group under consideration, except that two consecutive sets of tandem axles may carry a gross load of thirty-four thousand pounds each provided the overall distance between the first and last

axles of the consecutive sets of tandem axles is thirty-six feet or more. The overall gross weight shall not exceed eighty thousand pounds, including all enforcement tolerances, except for those vehicles and loads which cannot be easily dismantled or divided and which have been issued special permits.

(2) In accordance with 23 U.S.C.A. 127, certain vehicles carrying certain commodities shall be exempt from application of the formula. The exemptions shall include the following:

Vehicles with Type Two axle configuration (three axle combination with one single axle and one set of tandem axles); or Type Six axle configuration (five axle combination with one single axle and two sets of tandem axles); or a vehicle with Type Eight axle configuration (six axle combination with one single axle, one tandem axle, and one tridem axle); or vehicles with Type Ten axle configuration (double bottom); or Type Eighteen axle configuration (four axle combination with one single axle and one set of tridem axles) carrying any of the following bulk commodities thereof: forest products in their natural state, lumber, sand, gravel, agricultural products in their natural state, loose or mixed concrete (including asphaltic or Portland cement), or bulk liquid commodities.

(3) All vehicles which are rendered economically useless by application of the bridge formula which are legal and operational on the effective date of this Subsection shall remain legal for a period of five years from the effective date of this Subsection. The trucking industry is hereby granted a phase-in period to extend for a period of five years from the effective date of this Subsection, within which time it shall adjust, modify, or replace equipment to comply with the provisions of this Subsection.

I. Notwithstanding the provisions of Subsection (A) of this Section and subject to the provisions of Subsections (B), (C), (D), (E), and (E-1) of this section, the total gross weight of any combination of vehicles which has a tridem axle or a quadrum axle shall not exceed eighty-eight thousand pounds while operating on any state-maintained highway except the Interstate System and shall not exceed eighty-three thousand four hundred pounds while operating on the Interstate System within this state.

J. When by reason of the condition of the weather or other emergency, or the physical condition of any highway or its recent construction, or the making of repairs thereto, the secretary deems it necessary, then for such time as is reasonably necessary to remedy the situation, he may prohibit the use of such highway or specify lesser gross weights than those fixed in this Section, pursuant to the recommendations of the chief engineer of the department, in order to protect the public highways and the persons and property of the traveling public from unnecessary damage. Notice of such restrictions, prohibitions, or weight reductions shall be given by the secretary by posters at the terminal of the highway. However, failure to post such notice shall under no circumstances make either the state or the department liable for damages which may result because of such failure.

K. Vehicles and combinations of vehicles shall be loaded in such manner that the axle limitations set forth in Subsections C, D, E, E-1, F and G of this Section are not exceeded. However, while operating on any state-maintained highway except the Interstate System, the provisions of Subsections C, D, E, E-1, F and G of this section shall not be deemed to have been violated unless the axle weight exceeds by more than two thousand pounds Subsections C and F of this section or more than three thousand pounds Subsections D, E, E-1, and G of this section.

This Subsection shall in no way be construed to allow the total gross weight in any vehicle or combination of vehicles to exceed the gross weight limits set forth in Subsections A or I of this Section.

Acts 1977, No. 113, §1, eff. June 22, 1977. Amended by Acts 1978, No. 35, §1, eff. May 31, 1978; Acts 1982, No. 196, §1; Acts 1987, No. 686, §1. {{NOTE: SEE ACTS 1987, NO. 686, §2 FOR RULEMAKING AUTHORITY.}}

RS 32:1521. Restrictions on transportation of hazardous materials

A. No carrier shall transport hazardous materials on Louisiana Highway 73 between Interstate 10 and Louisiana Highway 74 and within three hundred yards or less of any building used as a public or private elementary or secondary school, except for carriers making local deliveries on this portion of Highway 73.

B. No carrier shall transport hazardous materials on Louisiana Highway 1 between its intersection with Louisiana Highway 3132 and its intersection with Interstate 220 and within three hundred yards or less of any building used as a public or private elementary or secondary school, except for carriers making local pickups or deliveries, carriers using the route to reach a local pickup or delivery point, or carriers using the route to reach maintenance or service facilities.

C. No carrier shall transport hazardous materials on U.S. Highway 171 between its intersection with Louisiana Highway 3132 and its intersection with U.S. Highway 80 and within three hundred yards or less of any building used as a public or private elementary or secondary school, except for carriers making local pickups or deliveries, carriers using the route to reach a local pickup or delivery point, or carriers using the route to reach maintenance or service facilities.

D. No carrier shall transport hazardous materials on U.S. Highway 71 between its intersection with Interstate 220 and its intersection with Interstate 20 and within three hundred yards or less of any building used as a public or private elementary or secondary school, except for carriers making local pickups or deliveries, carriers using the route to reach a local pickup or delivery point, or carriers using the route to reach maintenance or service facilities.

E. Except for carriers making local pickups or deliveries, carriers using the route to reach a local pickup or delivery point, or carriers traveling to or from their terminal facilities, or carriers using the route to reach maintenance or service facilities within the boundaries of the parish, no carrier shall transport hazardous materials in the parishes of Caddo or Bossier, except on the following routes:

(1) Interstate 20 between the Texas-Louisiana state boundary and the Caddo-Bossier parish boundary.

(2) Interstate 220 between its intersection with Interstate 20 and the Caddo-Bossier parish boundary.

(3) Interstate 49 between the Caddo-DeSoto parish boundary and its intersection with Interstate 20.

(4) Louisiana Highway 1 between the Caddo-Red River parish boundary and its intersection with Louisiana Highway 3132.

(5) Louisiana Highway 1 between its intersection with Interstate 220 and the Louisiana-Arkansas state boundary.

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(6) U.S. Highway 171 between the Caddo-DeSoto parish boundary and its intersection with Louisiana Highway 3132.

(7) Louisiana Highway 2 between its intersection with Louisiana Highway 1 and the Caddo-Bossier parish boundary.

(8) U.S. Highway 79 between the Louisiana-Texas state boundary and its intersection with Interstate 20.

(9) U.S. Highway 71 between its intersection with Interstate 220 and the Louisiana-Arkansas state boundary.

(10) U.S. Highway 80 from the Louisiana-Texas state boundary to Greenwood, Louisiana.

(11) Louisiana Highway 3132.

(12) Louisiana Highway 526.

F. No carrier shall transport hazardous materials on any route in the parishes of Caddo or Bossier within three hundred yards or less of any building used as a public or private elementary or secondary school, except for carriers making local pickups or deliveries, carriers using the route to reach a local pickup or delivery point, or carriers using the route to reach maintenance or service facilities within the boundaries of the parishes.

G. Except for carriers making local pickups and deliveries, carriers using the route to reach a local pickup or delivery point, or carriers using the route to reach maintenance or service facilities, no carriers shall transport hazardous materials in the parishes of Caddo and Bossier, except on the following routes:

(1) Interstate 20 between the Bossier-Caddo parish boundary and the Bossier-Webster parish boundary.

(2) Interstate 220 between the Bossier-Caddo parish boundary and its intersection with Interstate 20.

(3) U.S. Highway 71 between the Bossier-Red River parish boundary and its intersection with Interstate 20.

(4) Louisiana Highway 3105 (Airline Drive) between the Louisiana-Arkansas state boundary and its intersection with U.S. Highway 71.

(5) Louisiana Highway 3 (Benton Road) between the Louisiana-Arkansas state boundary and its intersection with Interstate 20.

(6) Louisiana Highway 2 between the Bossier-Caddo parish boundary and the Bossier-Webster parish boundary.

(7) Louisiana Highway 511 (Jimmie Davis Highway) between its intersection with U.S. Highway 71 and its intersection with Louisiana Highway 3132.

H.(1) Whoever violates the provisions of Subsection A of this Section shall be fined not more than two hundred dollars, or imprisoned for not more than ninety days, or both.

(2) On a second or subsequent violation, the offender shall be fined not less than twenty-five nor more than five hundred dollars, or imprisoned for not less than ten days nor more than six months, or both.

I.(1) Whoever violates the provisions of Subsection B, C, D, E, F, or G of this Section shall be fined not more than one thousand dollars, or imprisoned for not more than ninety days, or both.

(2) On a second or subsequent violation, the offender shall be fined not less than five hundred dollars nor more than three thousand dollars, or imprisoned for not less than thirty days nor more than six months, or both.

Added by Acts 1979, No. 83, §1. Amended by Acts 1980, No. 603, §1, eff. July 23, 1980; Acts 1982, No. 539, §1; Acts 1999, No. 829, §1; Acts 2001, No. 618, §1.

RS 48:192. Engineering standards; naming state highways

A. The department shall immediately establish and maintain design standards for the functional classifications of state highways, following the best engineering practices and experiences for the construction of all roads, bridges, drainage structures, or other work which may be necessary from time to time which said standards shall comply with all federal regulations necessary to obtain federal aid for road and bridge construction in Louisiana.

B. The department may take into the state highway system any parish or municipal road needed to complete a necessary segment of a road; however, the total length of the state highway system established hereby is not exceeded and said road taken into the state highway system will not necessarily delay the needed construction and maintenance of roads on the existing system. The department may negotiate an exchange of roads in any parish or municipality for roads on the state-maintained highway system provided that the roads taken into the system in said exchange will not necessarily delay needed construction and maintenance of roads on the existing system.

C. The department may at any time the need justifies transfer a state highway from one functional classification to another.

D. Notwithstanding any other provision of law to the contrary, it shall be unlawful to name any state highway except by an Act of the legislature.

Acts 1955, No. 40, §3; Acts 1990, No. 200, §1; Acts 1997, No. 1028, §1, eff. July 11, 1997.

RS 48:273. Placing of distance markers on highways

Distance markers, which designate the distances from the point of the marker to the municipality indicated on the marker, shall be placed alongside the highways of this state by the department for incorporated and unincorporated municipalities having a population of five thousand or more persons.

The department may place distance markers for incorporated and unincorporated municipalities having a population of less than five thousand persons. The distance markers are to be placed in accordance with regulations promulgated by the Department of Transportation and Development.

Added by Acts 1976, No. 276, §1. Amended by Acts 1977, No. 291, §1; Acts 2006, No. 11, §5.

RS 48:277. Signs in advance of driveways for churches

The department may erect signs indicating the location of churches located along state highways. The points for location of such signs shall be determined by the traffic engineer of the highway district in which the church is located. The signs shall conform to a standard size and design prepared by the department.

Acts 1997, No. 1230, §1.

RS 48:279. Night time work on construction and maintenance projects; exceptions

A. On any construction or maintenance project which requires the temporary closure of a lane on a controlled access principal arterial interstate, the department shall perform a traffic queue analysis and where the analysis determines a potential for traffic which may result in undue hardship or significant delay to the motoring public, the department shall ensure that such construction or maintenance work is performed during non-peak traffic hours, including night work between the hours of 8 p.m. and 6 a.m. and weekends, unless specific traffic studies determine that such non-peak hour work is not feasible. For purposes of this Section, peak traffic hours shall be considered 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. on weekdays. On projects where the department has found non-peak work feasible and provides an incentive to construct expeditiously, the contractor shall perform non-peak work or provide just cause for failure to perform non-peak work in order to qualify for or earn the incentive to construct expeditiously.

B. If after reviewing existing traffic volumes, congestion, traffic control measures, motorist safety, project cost, project quality, inspection obligations, highway user costs, work force availability, work zone lighting, worker safety, and other factors which the department may deem necessary in determining the feasibility of non-peak hour construction or maintenance, the department determines that it is not feasible to perform construction or maintenance work during non-peak hours, the secretary shall provide a written report on the feasibility study to be delivered by certified mail to the cochairmen of the Joint Committee on Transportation, Highways, and Public Works including specific details of factors which contributed to the determination. Within forty-five days of receipt of the report, the joint committee may conduct a hearing to review the report. If at the hearing the committee finds the determination of the department unacceptable by a majority vote of the members, then such determination shall be sent to the governor and the department.

C. When the department determines that a construction or maintenance project on a controlled access principal arterial interstate highway will have the potential of causing significant traffic delays or undue hardship to the public using such highway, advance signing shall be posted on the right of way of such highway at a location in advance of the last exit prior to the traffic buildup in order to allow the operator of a vehicle to exit the highway and avoid such buildup. Such signing shall indicate that there is traffic congestion ahead and such exit is the last opportunity for exiting the highway before such congestion.

Acts 1999, No. 831, §1; Acts 2001, No. 77, §1; Acts 2003, No. 753, §1; Acts 2006, No. 727, §1, eff. June 29, 2006.

RS 48:347. Removal of obstacles or hazards from highway or vicinity; campaign signs

A. The department may apply to the court for any process necessary to prevent the installation of any structure, sign, obstacle, object, deposit, or thing within the limits of a highway contrary to this Chapter or any lawful regulation issued hereunder.

B. Whenever any advertising sign located within fifty feet of the outer edge of the right of way constitutes a dangerous hazard to the traveling public, the department may,

after due notice to the owner thereof to remove it, apply to the district court of the parish in which the sign is located for the process necessary to effect the removal of the sign.

C. Whenever any of the things described in Subsection A of this Section are found to exist within the limits of a highway, the department may summarily remove and dispose of it at the expense of the person responsible therefor. If it retains apparent value, the owner shall be notified, orally or in writing, to remove it within five days or such other period as may be agreed upon. If the owner be unknown or cannot be found, a written notice shall be affixed to the object setting forth that it must be removed within a period not less than five days from the date specified. Failure to remove within the specified period operates as a forfeiture of all rights thereto and the department may remove the object for its own use, or dispose of it at private or public sale, or destroy it, or dispose of it in any manner. The owner and any other person responsible therefor remains liable for any damage to public property or expenditure of highways funds resulting from the installation or removal of such things.

D. Notwithstanding any other provision of law to the contrary, political campaign signs shall not be erected, displayed, or posted within any highway right-of-way or litter-free zone, subject to the provisions and penalties of R.S. 30:2531 and R.S. 30:2544, and the collection and distribution of fines as provided in R.S. 30:2532.

Amended by Acts 1954, No. 126, §1; Acts 1984, No. 225, §1; Acts 1989, No. 768, §4; Acts 1998, 1st Ex. Sess., No. 148, §6.

RS 48:348. Informational maps and literature

The secretary may, from time to time, issue maps of the state highway system, or brochures or pamphlets for the information and education of the traveling public in matters of traffic and safety. All such literature shall be issued in the name of the department and shall not bear the name of any individual employed by the state or seeking an elective office of the state. Reproduction of maps, brochures or pamphlets by any individual, firm or agency without the written approval of the secretary is prohibited. Amended by Acts 1977, No. 291, §1.