VIRGINIA DEPARTMENT OF TRANSPORTATION

TRAFFIC ENGINEERING DIVISION

MEMORANDUM

GENERAL SUBJECT: Signs	**NUMBER:** TE-379 **SUPERSEDES:** None
SPECIFIC SUBJECT: Overhead Street Name Signs (OSNS)	**DATE:** April 2, 2015 Errata revision May 18, 2017 **SUNSET DATE:** None
DIRECTED TO: District Location & Design Engineers Regional Operations Directors Regional Traffic Engineers Regional Operations Maintenance Managers District Transportation & Land Use Directors	**APPROVAL:** /original signed by/ Raymond J. Khoury, P.E. State Traffic Engineer Richmond, VA Approved April 2, 2015

PURPOSE AND NEED

Overhead Street Name Signs (OSNS) provide important destination information to drivers and they shall be attached to traffic signal mast arms whenever possible. However, longer street names can sometimes result in excessive additional loading (dead load and wind loading) on the structure, and/or make it impractical to fit the sign on the mast arm.

This Memorandum modifies Section 2D.43 of the 2011 Virginia Supplement to the MUTCD to provide guidance and increase flexibility for designers. The purpose is to balance the need for easily readable OSNS with the practical constraints that can inhibit the use of large OSNS. The designer is responsible for selecting the OSNS text height in consideration of the specific site conditions.

This Memorandum applies to OSNS (D3-V1 series signs) that are attached to either the mast arm or to the pole. It does not apply to smaller street name (D3-1 series) signs, which are typically owned and maintained by the locality. It also does not apply to advance street name signs (D3-2, D3-V2) or block number signs (D3-V3). Those signs should be used and designed as per the MUTCD and Virginia Supplement to the MUTCD.

EFFECTIVE DATE

Future contracts: This Memorandum shall be effective for all contracts with an advertisement on or after November 1, 2015.

Existing contracts: This Memorandum may be applied to signals constructed under existing contracts (including existing Regional Traffic Signal Construction Contracts) if the change is approved by the Project Engineer.

Land use permit for private developments: this Memorandum shall be effective for all projects where the signal design has not yet been submitted to VDOT, and may also be applied to permit projects currently under VDOT review if feasible to do so. The permittee may request to apply this policy to a previously-approved permit if approved by the District's Land Use Permit Office and the Regional Traffic Engineer (RTE) or their designee.

Design-Build or PPTA projects: this Policy shall be effective for projects in which the design criteria package has not been completed for advertisement as of November 1, 2015. For current Design-Build or PPTA projects, this Policy should be implemented where feasible.

Signs that have already been fabricated may be installed.

Existing signs: OSNS panels installed prior to this Memorandum's issuance date may remain through the end of their useful service life. Existing sign panels which are being replaced as a result of maintenance may optionally be replaced in-kind.

CC:

District Engineers/Administrators
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ATTACHMENTS

- Attachment A – OSNS Standards
- Attachment B – List of Corridors of Statewide Significance (CoSS)

TE Memo 379 – Attachment A
Overhead Street Name Sign (OSNS) Standards

1.0 SUMMARY OF REVISIONS

The below list summarizes the major changes to Section 2D.43 of the 2011 Virginia Supplement to the Manual on Uniform Traffic Control Devices (MUTCD), Revision 1:

- In order to address ongoing concerns regarding very large street name signs and their effect on the structural loading of mast arm structures, the revised policy reduces the recommended text height of single-line OSNS from 12" to 10" for speed limits of 40-45 mph, and from 12" to 8" for speed limits of 35 mph and below. The recommended text height remains 12" for speed limits of 50 mph and above.
- Provides an 8" maximum text height for dual-line OSNS (D3-V1a signs).
- Allows the use of 6" or 7" text at low-speed intersections where the speed limits on all approaches are 35 mph or less.
- Sets a maximum 18.0' width for all OSNS on mast arms and 7.0' width for OSNS that are banded to a pole.
- Provides guidance on what engineering constraints may necessitate a reduction in the OSNS size, and if so how the OSNS width can be reduced.
- Addresses the use of route shields on OSNS (D3-V1c signs), particularly for OSNS displaying the street names of Corridors of Statewide Significance (CoSS).

2.0 BACKGROUND

The current standards and guidance in Section 2D.43 of the 2011 Virginia Supplement to the MUTCD, Revision 1 has sometimes resulted in very large street name signs that can be difficult to accommodate on existing signal pole structures because of structural or space constraints. These modifications should reduce the likelihood of structural or space constraints precluding the use of OSNS, without unduly compromising the legibility of such signs for all drivers (including older drivers, as detailed in the 2014 FHWA Handbook for Designing Roadways for the Aging Population).

3.0 STANDARDS

3.1 - Potential OSNS Size Constraints

The recommended dimensions and letters for the D3-V1, D3-V1a, D3-V1b, and D3-V1c OSNS, as detailed in **Table 1**, shall be used whenever possible. The sign fabrication details for these signs are included in Revision 1 to the 2011 *Virginia Standard Highway Signs* book.

OSNS sign dimensions shall only be reduced below the recommended size when one or more of the following conditions cannot be accommodated, as documented in the design documentation on file:

1) Lateral width: The OSNS shall not obstruct the connection point between the arm and the pole (so as not to impede structural inspections). The lateral distance between the OSNS and the gusset plate, other signs, or signal heads should be at least 8" (recommended) or at least 2" (minimum).

   Mast arm lengths should not be lengthened just for the purposes of accommodating an OSNS. The designer should determine the necessary length based on site conditions

(e.g. required signal head and regulatory sign placement, clear zone considerations, etc.), and then determine whether and what size OSNS can be accommodated.

Signal heads should not be adjusted from their optimal location (for viewing by approaching traffic) to accommodate the OSNS.

2) Regional Contract limitations: For traffic signals being constructed through existing Regional Traffic Signal Construction Contracts, the proposed OSNS should not exceed the maximum OSNS dimensions established in the Contract's Special Provisions.

3) Existing mast arms: When making changes that will affect the loadings on an existing mast arm structure, the designer shall ensure that the resultant loading will not exceed the structural design loadings.

4) Maximum width (mast arm-mounted signs): The D3-V1, D3-V1a, D3-V1b, and D3-V1c signs shall not exceed 18.0' in width. For D3-V1 signs with unusually long street names, the sign could be designed with the destination split into two lines, for example "Lee-Jackson" on line 1 and "Memorial Hwy" on line 2.

5) Maximum width (pole-mounted signs): It is desirable to place the OSNS on the mast arm. Where it is necessary to place the OSNS on the pole – for example, if a mast arm is not perpendicular to approaching traffic – then the OSNS width shall not exceed seven feet.

6) Engineering judgment: The sign size may be reduced if the above constraints are not present, however there is documented engineering judgment on file justifying the reduced sign size.

3.2 – Alternatives for Shrinking or Eliminating the OSNS

If the recommended OSNS size cannot be used because of one or more of the above criteria, the designer should examine the following alternatives (in order of preference):

1) Specify Clearview 5-W-R or FHWA Standard Highway Alphabet Series D Mixed Case lettering in lieu of Clearview 5-W. Series C or B lettering shall not be used.

2) Use a text height shorter than recommended (see **Table 1**). The designer should use an iterative process and first attempt to utilize a text height of 1 inch below recommended. If that sign cannot be accommodated, then a text height of 2 inches below recommended should be used, and so on until a letter size at or above the minimum text height that can be accommodated is achieved.

3) Eliminate the OSNS sign, and instead use a smaller D3-1 street name blade. As per Section 2D.43 of the Virginia Supplement to the MUTCD, either an OSNS or a D3-1 street name blade shall be posted at all signalized intersections.

   To achieve optimum visibility, the D3-1 street name blade should be mounted 8'6" to 9'0" above the road, and should be placed as close to the travel way as possible. At wider intersections, at least two D3-1 signs should be placed (in two opposing quadrants).

Ground-mount advance street name (D3-2 or D3-V2) signs may be placed in advance of any signal. If the OSNS sign is eliminated, then advance street signs should be placed approaching the intersection whenever feasible.

If conditions require the use of a reduced text height (below recommended height) on one approach, then the designer may choose to apply that reduced text height to the other OSNS at that intersection. However it is recommended that each OSNS sign be evaluated individually.

Table 1 – Recommended and Minimum Text Heights

Sign	Intersection Speed Limit *(a)*	Recommended Text Height *(b)*	Minimum Text Height
D3-V1	≥ 50 mph	12”	8”
	40 – 45 mph	10”	8”
	≤ 35 mph	8”	6”
D3-V1a *(c)*	≥ 50 mph	8”	8”
	40 – 45 mph		8”
	≤ 35 mph		6”
D3-V1b *(c)*	≥ 50 mph	12” (street name) 7” (block numbers)	8” (street name) 6” (block numbers)
	40 – 45 mph	10” (street name) 7” (block numbers)	8” (street name) 6” (block numbers)
	≤ 35 mph	8” (street name) 6” (block numbers)	6” (street name) 5” (block numbers)
D3-V1c	≥ 50 mph	12” (street name) 20” (shield)	8” (street name) 14” (shield)
	40 – 45 mph	10” (street name) 20” (shield)	8” (street name) 14” (shield)
	≤ 35 mph	8” (street name) 14” (shield)	6” (street name) 10” (shield)

(a) The intersection speed limit is the speed limit of the major road or minor road, whichever is higher. Prevailing speed may be used instead of posted/statutory speed limit based on engineering judgment, for example if horizontal curvature on the roadway approach limits the approach speed.
(b) The height of the prefix (e.g. the “E” in E Broad St”) and/or the suffix (e.g. the “Pkwy” in “Colonial Pkwy” may be reduced to a height of 67% of the main text).
(c) The size of the arrows should be reduced proportionally with the reduction in text height.

3.3 – OSNS with Route Shields (D3-V1c Signs)

D3-V1c signs (with route shields) may be used at any traffic signal where the route is more typically referred to by its route number than the local street name, and/or for routes that are often used by non-local drivers. They should be used instead of a D3-V1 sign when the sign is displaying the street name for a Corridor of Statewide Significance (CoSS). A complete listing of all CoSS routes is shown in the Attachments to this Memorandum.

At signalized intersections at the terminus of Interstate or other CoSS Route off-ramps, the D3-V1C sign should be used with a single-line message showing the CoSS freeway number, cardinal direction, and arrow, e.g. “← [95] North”.

Route shields on the OSNS may be omitted if there are multiple overlapping route numbers.

If the recommended width of the D3-V1c sign cannot be accommodated because of the criteria described above, then the designer may either a) use a D3-V1 sign (without route shield) at recommended text height, or b) use a D3-V1c sign with reduced shield height and text height.

Route shields should not be used on D3-V1a dual-line OSNS signs.

The use of a D3-V1c sign with route shield does not eliminate the need to provide standard ground-mount route marker signage.

3.4 – Other Design Details

In order to minimize the overall torsional loads being applied to the mast arm structure, OSNS should be placed as close to the pole as possible. The OSNS may be placed further away from the pole as a way to improve sight distance for the sign, such as when the approaching roadway is on a horizontal curve, if structurally feasible.

ALL UPPER-CASE letters shall not be used for street names on new or replacement signs.

Names should not use periods for the prefix or suffix - “W Broad St” instead of “W. Broad St.”.

The design of the signs will vary slightly if the street name has descending lower-case letters (g j p q y). The presence of descending lower-case letters does not affect the overall sign height.

Other aspects of the OSNS sign design, including colors and use of pictographs, shall be as per the MUTCD, Virginia Supplement to the MUTCD, and the latest edition of TE Memo 337.

4.0 REFERENCE

- 2009 MUTCD
- 2011 Virginia Supplement to the MUTCD With Revisions
- Revision 1 to the Virginia Standard Highway Signs Book
- FHWA Handbook for Designing Roadways for the Aging Population

TE Memo 379 – Attachment B
Corridor of Statewide Significance (CoSS) Routes *(Last updated 5/18/17)*

*(**NOTE:** This table is complete as of May 2017.)*

District	CoSS Name	Route**	Length
Bristol	Crescent (I-81)	US 11	all
	West Mountain (I-77)	US 52	all
	Southside (US 58)	US 58	all
		US 58 Business	all
		US 58 BYP	all
		US 58 ALT	all
	Heartland (US 460)	US 460	all
		Coalfields Expwy	(future route)
		US 460 Business	all
Salem	Crescent (I-81)	US 11	all
		US 11 ALT	all
	West Mountain (I-77)	US 52	all
	Southside (US 58)	US 58	all
		US 58 Business	all
	Heartland (US 460)	US 460	all
		US 460 Business	all
		US 460 Bypass	all
	NC to WV (US 220)	US 220	all
		US 220 Business	all
		220 ALT	all
Lynchburg	East-West (I-64)	US 60	all
		US 250	all
	Seminole (US 29)	US 29	all
		US 29 Business	all
	Southside (US 58)	US 58	all
		US 58 Bypass	all
		US 58 Business	all
	Heartland (US 460)	US 460	all
		US 460 Business	all
Richmond	Washington to NC (I-95)	US 1	all
		US 301	all
	East-West (I-64)	US 250	West of Richmond
		US 60	East of I-95
	Southside (US 58)	US 58	all
		US 58 Business	all
	Heartland (US 460)	US 460	all
		US 460 Business	all

***** All Interstates and Interstate ramps are part of the CoSS network.***

TE Memo 379 – Attachment B
Corridor of Statewide Significance (CoSS) Routes *(Last updated 5/18/17)*

District	CoSS Name	Route**	Length
Hampton Roads	Washington to NC (I-95)	US 301	all
	East-West (I-64)	US 60	all
	Southside (US 58)	US 58	all
		US 58 Business	all
	Heartland (US 460)	US 460	all
		US 460 Business	all
		US 460 ALT	all
	Coastal (US 17)	US 17	all
		US 17 Business	all
	Eastern Shore (US 13)	US 13	all
		US 13 Business	all
Fredericks-burg	Washington to NC (I-95)	US 1	all
		US 301	all
		Route 207	all
	Coastal (US 17)	US 17	all
		US 17 Business	all
Culpeper	Northern Virginia (I-66)	US 50	all
		Route 55	all
	East-West (I-64)	US 250	all
		US 250 Business	all
	Seminole (US 29)	US 29	all
		US 29 Business	all
		VA 28	all
	Coastal (US 17)	US 17	all
		US 17 Business	all
Staunton	Northern Virginia (I-66)	VA 55	east of I-81
	East-West (I-64)	US 60	west of I-81
		US 60 Business	All
		US 250	east of US 11
	Crescent (I-81)	US 11	all
	Coastal (US 17)	US 17	east of US 11
	NC to WV (US 220)	US 220	all

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Northern Virginia	Washington to NC (I-95)	US 1	all
	Northern Virginia (I-66)	US 50	all
		VA 55	all
	Seminole (US 29)	US 29	all
		VA 28	all
	North-South (VA 234)	VA 234	all
		VA 234 Business	all
		Route 659	Rt 234 to Rt 7

***** All Interstates and Interstate ramps are part of the CoSS network.***