

# **Virginia Supplement to the 2009 MUTCD Revision #1: Frequently Asked Questions**

## ***Part 1 - General Questions***

### **1. Does the Virginia Supplement to the MUTCD apply to locally-maintained roadways (roads not maintained by VDOT)?**

Localities that maintain their own roadways (such as independent cities and large towns) have the *option* of adopting the Virginia Supplement to the MUTCD and/or the Virginia Work Area Protection Manual (VWAPM), and are encouraged to do so in order to promote uniformity of traffic control devices throughout the Commonwealth. **If adoption is not chosen, the agency still must comply with the National MUTCD per US Code and the Code of Virginia.**

Since the Federal Highway Administration (FHWA) considers the Virginia Supplement to the MUTCD to be a more appropriate version of the MUTCD for use on Virginia roadways, FHWA may require compliance with the Virginia Supplement on Federally-funded local roadway projects, even if the locality has not formally adopted the Supplement.

Localities should also note that some Virginia Supplement language is based on Code of Virginia requirements, which often equally apply to locally-maintained roads.

### **2. What modifications can be made to the appearance and application of traffic control devices in the Virginia Supplement?**

Minor modifications to word messages in signs contained in the Virginia Supplement are permitted. Major modifications to the specific design elements of a traffic control device that do not preserve the essential appearance characteristics of the device, including *any* modification to symbols or colors, are only permitted by following the formal Experimentation Process described in Section 1A.10 of the Virginia Supplement. Prior to submitting a Request for Experimentation, the VDOT State Traffic Engineer or designee must be consulted to ensure the needs of all Districts are taken into consideration in any experimentation request.

### **3. What governs when there is an IIM Memorandum, Standard, or Specification that appears to conflict with the Virginia Supplement?**

Since the release of Revision #1 to the Supplement in September 2013, VDOT has continued to evaluate its policies and procedures. There have been official policy documents (principally I&I Memoranda and Road and Bridge Standards) that have been released since September 2013 and supersede the Virginia Supplement Revision 1.

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Until a Revision #2 is issued, for any official policy documents issued after September 2013 that conflicts with the Virginia Supplement Revision #1, the other official policy document governs. Individual instances of such occurrences are listed in detail below.

## **Part 2A – Signs (General)**

### **1. What grade of sheeting is required for VDOT signs?**

VDOT's requirements for sign sheeting are in Section 247 of the Road & Bridge Specifications.

Any future changes to sign sheeting requirements will be included as Supplemental Specifications to the 2016 Spec Book. Contractors must abide by such Supplemental Specifications if those contracts are advertised on or after the effective date of the SS.

Any signs being erected by VDOT maintenance forces shall comply with the above requirements, with the exception that signs previously fabricated by the Central Virginia Sign Shop and sitting in inventory may be erected, as long as the sheeting is otherwise in satisfactory condition.



### **2. In what cases should the fluorescent yellow-green color be used for warning signs?**

In accordance with the National MUTCD, fluorescent yellow-green warning signs are required in school areas. The Virginia Supplement to the MUTCD also requires a fluorescent yellow-green background for all bicycle and pedestrian warning signs, including WATCH FOR CHILDREN (W15-V1) and Playground (W15-1) signs.

Warning signs on shared use paths which warn bicyclists of conditions on the path itself should be yellow.

### **3. When should I use Clearview lettering?**

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Signs shall be designed using VDOT's Clearview Highway Lettering policy, as per the latest effective revision of [IIM-TE-337](#). This policy was most recently updated in May 2018, following FHWA's reinstatement of Interim Approval for Clearview Highway lettering.

As per VDOT and FHWA policy, Clearview:

- Shall only be used for positive-contrast portions of signs (white text on green, blue, or brown background).
- Shall only be used for Mixed-Case Messages (utilizing uppercase and lowercase letters). Shall not be used for ALL-CAPITALS messages such as "EXIT 1 MILE" or "NEXT RIGHT".

For Virginia-specific signs in the Virginia Standard Highway Signs Book that show use of Clearview font for ALL-CAPITALS lettering, the equivalent Standard Highway Signs font should be used instead. This will be clarified in future revisions to the VSHS Book.

#### 4. Is there a maximum mounting height for signs?

Ground-mounted signs shall be placed as shown in the latest effective revision to Standard Drawing STP-1 in the VDOT [Road and Bridge Standards](#). The bottom of signs shall not be more than 8 feet above roadway elevation, except when necessary because the sign is in a steep cut slope or if necessary to improve sign legibility when the sign is just beyond a hill crest.

## **Part 2B – Signs (Regulatory)**

#### 1. Can I use Rectangular Rapid Flashing Beacons (RRFBs)?

Yes. VDOT has received Interim Approval from FHWA, on behalf of VDOT and all Virginia localities, to use RRFBs in conjunction with pedestrian crossings as per [Interim Approval #21](#). RRFBs shall be as per the latest effective revision to [IIM-TE-384](#) and the requirements of IA #21, including the use of Audible Information Devices (AIDs) at all RRFB crossings. Localities that install/maintain their own RRFBs must agree to follow all the requirements of IA #21.



RRFB use for non-crosswalk applications requires a Request to Experiment from FHWA, which must be coordinated with CO-TED.

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### 2. How do I decide on the appropriate Speed Limit?

Speed Limits shall be set and changed by an engineering study as per the latest effective revision to [TE Memo 365](#). The engineering study shall be signed as sealed as per the latest effective revision to [IIM-TE-362](#).



### 3. What are the requirements for Variable Speed Limit (VSL) Signs?

VSL Zones shall be established as per the latest effective revision to [TE Memo 370](#).

A yellow-background "Speed Limit May Vary Next XX Miles" sign shall be placed prior to entering the VSL corridor. This sign shall be erected with flashing beacons, and shall incorporate a changeable message sign element that can display the reason for the reduced speed limit if the speed limit ahead is reduced (e.g. fog or congestion).



A white-background "End Variable Speed Zone" sign shall be placed at the end of the corridor.

Contact Central Office Traffic Engineering Division (CO-TED) for sign layout details.

### 4. What are the requirements for Pole-Mounted Speed Display (PMSD) Signs?

PMSD signs shall be erected as per the latest effective revision to [TE Memo 374](#).



### 5. How should "Additional \$200 Fine" speed zones be signed?

Additional \$200 Fine speed zones shall be established based on the requirements of [Virginia Code § 46.2-878.2](#) and the corresponding [Commonwealth Transportation Board \(CTB\) policy](#).

When such a zone has been established, an R2-VP2 "Additional \$200 Fine" sign shall be placed beneath the R2-1 Speed Limit sign.



Previously, VDOT used a sign that stated "Speeding | Additional \$200 Fine". Such signs may remain until the end of their useful life span.



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Signs that more generically state “Fines Higher” shall not be used due to the requirements of § 46.2-878.2, except in conjunction with School Zone Speed Limits as per the latest effective version of IIM-TE-183.

### **6. Why does the Virginia Supplement show a Virginia-specific design for the R5-11 “Authorized Vehicles Only” sign?**

The next revision to the VA Supplement will eliminate the 36”x24” R5-11(V) sign. Any new signs should be fabricated using the MUTCD standard 30”x24” signs. However any 36”x24” signs that have already been fabricated can be erected. There is minimal difference in legibility between the two sign designs, and drivers are unlikely to notice if a corridor includes a mixture of 36”x24” and 30”x24” signs.



(The R5-11(v) sign was included in the initial edition of the VA Supplement as a carryover from VDOT’s pre-2011 Supplement. FHWA did not have a standard “Authorized Vehicles Only” sign prior in pre-2009 editions of the MUTCD.)

### **7. How should Through Truck Restrictions be signed?**

Through Truck Restrictions are established through [these CTB procedures](#) and [§ 46.2-809](#) of the Code of Virginia.



When such zones are established, they shall be signed with the R5-V3 “No Thru Trucks” sign.

Previously, VDOT used a sign that said “Through Trucks Prohibited”. The new sign design was developed in November 2015 to simplify the wording. “Through Trucks Prohibited” signs that have previously been erected may remain until the end of their useful life.

### **8. Can “No Jake Braking” or similar engine noise restriction signs be erected?**

No, such sign shall not be erected. VDOT policy is included in the latest effective revision to [IIM-TE-316](#). There is no basis for such signs in Virginia Code, and such signs could present a tort liability issue as truck drivers sometimes use engine braking as a way to more effectively decelerate. In



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addition, “Jake Brake” is a specific manufacturer and as such the name could not be placed on a regulatory sign.

### 9. Should “Road Ends X.X Miles” signs be erected?

No. This sign (the VG-7 sign in the old Virginia Supplement) was discontinued when the 2011 Virginia Supplement was first issued. This was done to be consistent with how the MUTCD recommends signing such conditions (using “Dead End” or “No Outlet” warning signs, with no distance). In addition, the VG-7 sign used regulatory colors (black letters on white background) but was not conveying a regulatory-type message.

Existing signs may remain until the end of their useful life. When the signs are “dead”, they should either be removed or replaced with a “Dead End” or “No Outlet” sign as per Section 2C.26 of the MUTCD.

### 10. When should Virginia-specific truck lane restriction signs be used?

Section 2B.V7 of the Virginia Supplement has been superseded by guidance that has been prepared by CO-TED and is available from them upon request.

The “Commercial Vehicles Except Buses | Use Right Lane When Operated 65 mph or Below” (R4-V1) sign shall not be used in Virginia.

Any existing R4-V1 signs should be removed as they are no longer supported by VA Code.



The R4-V2 sign design has been modified to read “No Commercial Vehicles In Left Lane | Buses Allowed”. The sign shall only be used pursuant to [§ 46.2-803.1](#) – Interstates with 3+ lanes per direction that are either a) 65 or greater mph speed limit, b) I-81, or c) any Interstate in Northern Virginia District.

The R4-V4 sign design has been modified to read “Trucks & Combination Vehicles Below 65 mph | Use Right Lane”. The sign shall only be used pursuant to [§ 46.2-804](#) – Interstates with 2 lanes per direction where upgrades can cause trucks to slow down below the speed limit. In 2007 VDOT identified 52 such locations (all on portions of I-64, I-77, and I-81 in northwest or southwest Virginia).

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## 11. How do I sign parking spaces for persons with disabilities?

The requirements for signing for parking spaces for persons with disabilities is explained in the latest effective revision of [TE Memo 284](#), which in turn is based on [§ 36-99.11](#). It is important to note that the Code of Virginia requires the TOW-AWAY ZONE PENALTY \$100-\$500 FINE (R7-VP1) sign at all disabled parking spaces in order for the parking restriction to be legally effective.

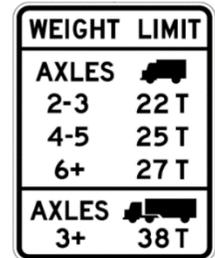


## 12. When are Traffic Signal – PHOTO ENFORCED signs required?

Although the Virginia Supplement says that PHOTO ENFORCED (R10-8a) signs “may” be installed, in fact [§ 15.2-968.1](#) requires that signs informing drivers of the photo enforcement shall be conspicuously placed within 500 feet of the intersection.

## 13. How does Virginia post bridge weight limits?

VDOT has revised its bridge weight limit (R12-series) signs from what is currently shown in Revision 1 of the VA Supplement, based on extensive coordination with Structure & Bridge Division. See [this document](#) for additional information.



## 14. What sign does VDOT post for Virginia’s “Move It” law requiring motorists to clear the travel lanes after a minor crash without injuries?

In 2017, VDOT changed the design of the R16-4(V) sign to read “Crash – No Injuries | Move Vehicles Off Travel Lanes”. This was done in part due to the 2017 revisions to §46.2-888.



## Part 2C – Signs (Warning)

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### 1. Where can “Watch for Motorcycles” signs be erected?

Such warning signs cannot be used as part of a general “safety campaign”. A warning sign by definition should only be considered where a demonstrated need exists to advise road users of an unapparent, unexpected condition or where a speed reduction and/or action might be necessary.



If requested by a motorcyclist or advocacy group, VDOT can consider erecting these signs at isolated locations where an engineering evaluation determines that the presence of motorcyclists at that location is not expected by drivers (including where motorcycles are routinely turning onto or crossing the roadway at locations with sight distance limitations).

Signs that display the name of a sponsor, e.g. “Allstate Insurance” or “Harley-Davidson”, shall not be installed.

### 2. In what circumstances should the RESCUE SQUAD sign be used?

The RESCUE SQUAD (W11-V1) sign shall no longer be used for new installations, though existing signs can remain. Driver expectations are the same regardless of whether a station serves fire trucks, ambulances, or both. A word-message “Emergency Vehicles” sign may be used in place of the standard W11-8 sign (with fire truck symbol).



### 3. In what circumstances should DEER (W11-3) or other large animal warning signs be used?

Refer to the latest effective revision of [TE Memo 369](#).

Note that this memo does not apply to farmed/domesticated animals that cross at controlled crossing locations such as cattle or horses.



### 4. In what circumstances should small animal warning signs (turtles, ducks, etc.) be used?

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VDOT does not erect small animal warning signs. While it is within VDOT's mission to be faithful stewards of the environment, VDOT's primary concern must be the safety of Virginia's (human) road users. Small animal warning signs are generally ineffective due to the random crossing locations. Moreover, there is reduced likelihood of serious vehicle damage or injury when a vehicle strikes turtles or other small animals due to their smaller mass, as compared to the risk associated with striking large animals. There are indirect safety concerns when drivers swerve or brake suddenly to try to avoid striking the small animal, however any crashes resulting from such maneuvers are the result of operator error and not a danger automatically inherent in the animal's presence.



### 5. In what circumstances can WATCH FOR CHILDREN signs be erected?

Localities may apply for permits to erect and maintain WATCH FOR CHILDREN (W15-V1) signs on VDOT-maintained roads. Refer to the latest effective revision of [TE Memo 280](#).



## *Parts 2D thru 2M – Other Signs*

### 1. Can letter heights be reduced on overhead street name signs?

Yes. VDOT guidance in the Supplement Revision #1 is partially superseded by the latest effective revision of [TE Memo 379](#). This memo establishes circumstances when reduced letter heights can or should be used on overhead street name signs.



### 2. What should the size be for Virginia Primary Route (M1-V1) signs and Virginia Secondary Route (M1-V2) signs?

There is an error in Table 2D-1(VA) of the Virginia Supplement that will be corrected the next time the Supplement is revised. The table mistakenly implies that 36"x36" or 45"x36" signs shall be used on conventional roads. This is of course illogical as there is no reason for Virginia Primary or Virginia Secondary signs to be any larger than the comparable US Route or Interstate Route signs.



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The correct minimum sign sizes are shown in the below table.

Sign Type	# Digits	Conventional	Minimum	Oversized
M1-V1 series	1 or 2	24" x 24"	24" x 24"	36" x 36"
	3	30" x 24"	30" x 24"	45" x 36"
M1-V2 series	1 or 2	24" x 24"	24" x 24"	36" x 36"
	3 or more	24" x 24"	24" x 24"	36" x 36"

Table 2E-1(VA) is correct.

### 3. When is sign lighting required for overhead guide signs?

Refer to the latest effective revision to TE Memo [IIM-TE-380](#).

### 4. What are Virginia's requirements for Supplemental Guide Signs?

Supplemental Guide Signs for attractions (e.g. parks and colleges) are considered a part of the Integrated Directional Sign Program (IDSP). Refer to the [IDSP program website](#) for additional information.



Supplemental Guide Signs for communities and for multimodal transportation nodes (airports/train stations/ports) are not part of the IDSP program.

### 5. What are the Virginia's requirements for Logo Signs, Tourist Oriented Directional (TOD) Signs, and General Motorist Service signs?

Logo signs, TOD signs, and General Motorist Service signs are all part of the IDSP program. Refer to the [IDSP program website](#) for additional information.



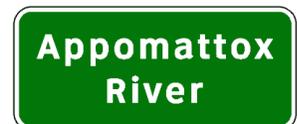
### 6. Where is the most recent guidance regarding Memorial Highways/Bridges?

Refer to the latest effective revision to [TE Memo 278](#).



### 7. Which waterways require I-V9 Named Waterway signs?

I-V9 signs are intended to aid in emergency response by giving motorists an identifiable landmark when they call police. As such, these signs are only not recommended for minor non-navigable waterways that are not well known.



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### 8. What is the process for requesting addition of new Reference Location Signs (RLS) and Intermediate Reference Location Signs (IRLS) on VDOT roads?

VDOT may install RLS and IRLS on existing roads without such signs, if it receives a written request from state or local police stating the justification, and the request is approved by the District Engineer or designee.

RLS signs should be the D10-1, D10-2, or D10-3 signs that read "Mile XXX". Enhanced RLS (D10-4/D10-5) signs shall not be used without State Traffic Engineer approval.

IRLS signs shall be the VDOT-standard IRLS signs (D10-V1a, D10-V2a, or D10-V3a). IRLS should be placed at 0.2-mile intervals; signs shall not be placed at 0.1-mile intervals unless approved by the State Traffic Engineer.



It is acceptable to place the eastbound/northbound IRLS at the 0.2, 0.4, 0.6, and 0.8 mile points, and place the westbound/southbound IRLS at the 0.1, 0.3, 0.5, 0.7, and 0.9 mile points. If this numbering scheme is used, then the D10-1/D10-2/D10-3 RLS signs may be omitted in the WB direction in order to avoid installing more signs in the westbound/southbound direction.

Existing 0.1-mile increment IRLS and existing Enhanced RLS systems may be maintained (Districts may replace knockdowns of existing signs as-is to be consistent with surrounding signs). However RLS systems should be brought into compliance with VDOT policy when there is major reconstruction/widening of a significant portion of the existing corridor.

### 9. What is VDOT policy for Variable Message Sign messages?

VMS signs shall be as per the latest effective revision to [IIM-OD-13-03](#).

### 10. What is the process for installing Roadside Memorial Signs?

VDOT will install Roadside Memorial Signs as explained on [this web page](#). Requests for such signs should be directed to the appropriate VDOT Residency.



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## **Part 3 – Markings**

### **1. What line widths should be utilized for longitudinal pavement markings (e.g. edge lines and skip lines)?**

A “normal line” is defined in the Virginia Supplement as 4-inches wide, and is the default pavement marking width for most roadways. Some roadways, such as limited access freeways, require the use of 6-inch lane and edge line pavement markings. Any roadway may utilize 6-inch pavement markings if engineering judgment determines a need for them. “Wide” lines shall be used when required in the Supplement or the PM-series portion of the VDOT [Road and Bridge Standards](#). On Interstates and freeways, “wide” lines shall be a minimum 8” wide.

### **2. When should contrast markings be used?**

Engineering judgment should be used to determine when contrast markings should be used. Such markings provide important benefits under certain circumstances, but are also more expensive to install and maintain. (It is estimated that the materials cost for contrast tape is 50%~60% more expensive than equivalent non-contrast tape, though labor costs would not significantly differ.) Factors to consider should include:

- General
  - Contrast markings are typically not used for symbols or messages, except for HOV diamonds on concrete roads.
  - It is acceptable to use contrast markings for white but not yellow markings, given the inherently greater color contrast between yellow and concrete.
  - Contrast markings provide greater benefit on new (whiter) concrete than aged concrete, both for “normal” drivers and for vehicles that attempt to sense the edge lines and lane lines for lane departure avoidance systems.
  - Speed and ADT of facility. Contrast markings typically are not necessary on roads with speed limit less than 45 mph.
  - Facility alignment – some markings on east-west roads may be particularly susceptible to “washing out” during sunrise and sunset periods.
- Bridges
  - Length of bridge deck
  - Is the bridge deck on straight or curved alignment?



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- Concrete pavements
  - Contrast markings shall be used for longitudinal markings that are not parallel to the joints, or where there is potential for a vehicle using an automated lane departure avoidance system to cause a crash if it mistook the longitudinal joint for a pavement marking.
  - Contrast markings should be used for gore markings (but not for the chevron markings, if present).

Upcoming revisions to the VA Supplement will clarify when contrast markings should or shall be used.

Contrast markings are typically accomplished with Type B, Class VI tape. If other materials are used for the longitudinal lines, then the contrast markings would use alternating white and black stripes; such use must first be discussed with CO-TED.

3. **Section 3B.01 of the Supplement states that breaks in center line markings should not be provided for “low-volume public roadways or private road entrances”. What constitutes a “low-volume” public road?**



There is no set definition; this can be determined by engineering judgment. (Note that the MUTCD uses a threshold of 400 ADT to define “low-volume”.) Since pavement marking technicians typically do not have traffic volume information in the field, an acceptable field practice is to provide breaks for public roads or commercial entrances which have a dedicated left turn lane for entering that public road/commercial entrance.

4. **Where is a one-way no-passing zone required near an intersection?**

The pre-2011 VA Supplement and original 2011 VA Supplement required one-way no-passing zone markings on two-lane two-way roadways for 335 feet in advance of an intersection where total side street ADT exceeds 500 vehicles per day. This guidance was deleted with Revision #1 to the Supplement as the 335-foot distance did not appear to be consistent with current AASHTO sight distance formulae. Now there is no direct standard; when evaluating passing zone markings that pass through an intersection, the designer should consider speed on the major street, and volumes on both the major and the minor street.

5. **What are the requirements for dotted (“puppy track”) lines for dual left or dual right turn lanes through signalized intersections?**

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Section 3B.08 of the VA Supplement states that dotted lines shall be used. Solid lines are not permitted for this application.

- 6. Section 3B.07 states that edgelines shall be installed on all two-lane paved highways without curb and gutter if they have pavement width  $\geq$  20 feet and center line markings. However many two-lane VDOT roads with centerlines have ADT's as low as 500. Is it required to put edge lines on such roads ?**

No. The intent of Section 3B.07 of the Supplement was to make edge lines a “shall” condition on such two-lane roads (without curb & gutter, and with pavement width  $\geq$  20 feet) only for roads with ADT  $\geq$  3000.

There are many very low-volume roads (ADT between 500 and 3000) that have centerline markings because of VDOT's desire to conform with the wishes of the General Assembly as expressed in a 1994 House Joint Resolution. However the General Assembly has never expressed an opinion regarding edge line markings. So the presence of center line markings does not automatically mean that edge line markings should or shall also be installed.

For very low-volume two-lane roads (< 3000 ADT), edge line markings should only be installed where an engineering study has indicated a need.

Below is a revised version of Table 3B-V2 that will be incorporated into the next Revision to the VA Supplement.

Pavement Width	Traffic Volume	Limited Access Freeway	Ramp	Divided Highway	Multilane Undivided	Two-Lane Undivided that serves thru traffic	Local Residential
$\geq$ 20 ft	$\geq$ 3,000 vpd	Required	Required	Required	Required	Recommended	Only when Engineering Study indicates a need
	< 3,000 vpd	Required	Required	Required	Required	Only when Engineering Study indicates a need	
< 20 ft	$\geq$ 3,000 vpd	Required	Required	Required	Required	Engineering Study indicates a need	
	< 3,000 vpd	Required	Required	Required	Required	Engineering Study indicates a need	

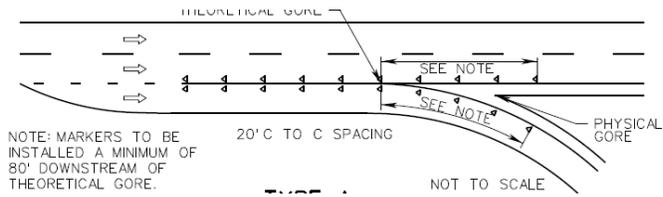
- 7. Where yellow edge lines are adjacent to medians, does the yellow line have to wrap around the median nose?**

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No. See July 2016 updates to the Road & Bridge Standards. VDOT no longer requires the line to wrap around the nose because of the complications this causes during construction (lines around noses cannot be installed using line marking machines, and requires complicated MOT). The lines shall extend straight (parallel to the travel lane) as far as the median nose.

### 8. What is the required spacing and placement for Snowplowable Raised Pavement Markers (SRPMs)?

The Virginia Supplement Revision #1 is partially superseded by Standard Drawing PM-8 of the [Road and Bridge Standards](#). In particular, on undivided roadways center line SRPMs may be placed at 80' spacing on tangent sections or curves with less than 3 degrees of curvature.



SRPMs shall not be installed on bridge decks without the approval of the District Structure & Bridge Engineer.

### 9. What is the minimum stop line placement from the cross street?

Stop line placement shall be as per Section 3B.16 of the Supplement, except that stop lines may be placed 4 feet minimum (instead of 8 feet minimum) from the nearest edge of the intersecting traveled way when necessary to avoid creating an intersection sight distance hazard.

### 10. What crosswalk marking pattern should I use?

High-visibility crosswalks are any crosswalk marking patterns other than the Transverse Lines crosswalk (two white lines parallel to the direction of pedestrian travel).

Crosswalk markings shall be as per the latest effective revision to [IIM-TE-384](#).

### 11. How many turn arrows should be provided in turn lanes?

The requirements of Section 3B.20 of the Virginia Supplement are partially superseded by Standard Drawing PM-3 of the Road and Bridge Standards.



In short (< 100 feet) turn lanes, only one arrow is required.

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### **12. Can U-Turn Arrows be used?**

Yes. Contact CO-TED for design details.

### **13. What is the required spacing for chevron markings in freeway gore areas?**

Standard PM-1 of the Road and Bridge Standards allows for chevrons to be spaced at up to 30 feet spacing. This supersedes the requirement in Section 3B.24 that the chevrons be spaced at three times the width of the chevron (e.g. 6-foot spacing for 24" chevrons).

### **14. Are post-mounted delineators required at interchange ramp curves with guardrail or barrier present?**

The requirement is that delineation be placed on the outside edge of interchange ramps. If guardrail or concrete barrier is present and they are properly delineated, then post-mounted delineators are not necessary.

### **15. Are flexible post delineators allowed?**

Yes – flexible post delineators may be used as an alternative to ED-3 post-mounted delineators. They are addressed in Section 702 of the 2016 *Road & Bridge Specifications*.

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## **Part 4 – Signals**

### **1. If a signal is warranted, does that mean it can be built?**

A Signal Justification Report (SJR) must be prepared to justify the installation of a new traffic signal, as outlined in the latest effective revision of [IIM-TE-387](#). An SJR must show that a signal is both warranted (using the signal warrant procedures of MUTCD Part 4C) and justified. IIM-TE-387 also contains requirements for the analysis and consideration of stop-controlled or Innovative Intersection configurations in lieu of a traditional traffic signal.

Contact the District Traffic Engineer or his delegate to obtain the most recent SJR template.

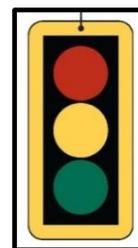
### **2. Can I use the alternative method for Warrant #7, Crash Experience, as per [FHWA Interim Approval #19](#)?**

Yes. VDOT has received FHWA approval for Alternative Warrant #7, on behalf of both VDOT and all Virginia localities. The Alternative Method should be used instead of the traditional method, and 3 years of crash data should be used unless the 3 years of data isn't available.

All tables listed as "rural" in IA#19 should be applied to any intersection where the major approach's speed exceeds 40 mph, regardless of whether the intersection is in a rural or urban setting, as per clarification that FHWA has provided to VDOT regarding the intent of IA #17.

### **3. When should a flashing YELLOW ARROW (FYA) signal indication be used?**

VDOT guidance in the Supplement Revision #1 is partially superseded by the latest effective revision of TE Memo [IIM-TE-381](#).

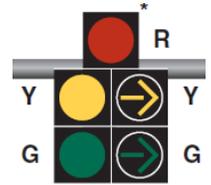


### **4. When should High-Visibility Backplates (HVSBs) be used?**

VDOT guidance in the Supplement Revision #1 is partially superseded by the latest effective revision of TE Memo [IIM-TE-378](#).

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5. **Section 4D.05 Paragraph 12 of the Supplement provides the Option, “A right-turn GREEN ARROW may be considered if the right-turning volume exceeds 200 vehicles per hour.” What is the intent of this Option and how should pedestrians be considered in its application?**



This option statement is intended to highlight the option of a right-turn overlap phase at locations with “high” right-turning volumes. While a volume of 200 vehicles per hour is provided as a point of reference, this should not be interpreted that a right-turn overlap is inappropriate for right-turning volumes below that threshold, nor should it be interpreted to automatically advocate for a right-turn overlap when volumes exceed that threshold.

Application of this option requires consideration of the intersection-specific characteristics that support a right-turn overlap, such as an exclusive right-turn lane, corresponding left-turn phase from the perpendicular approach, conflicting U-turn movements, as well as pedestrian movements. This option is not intended to imply that a green arrow be displayed at all times when right-turn traffic is moving within the signal cycle without consideration of conflicts with a signalized vehicular and/or pedestrian movement.

6. **Why does Section 4D.V1 require yellow signal housings?**

A yellow housing is required per Section 4D.V1 to create the best color contrast between the traffic signal, the backplate, and the surrounding environment. Other colors, such as dark green or black, will more easily blend in with certain environments potentially making it more difficult to see the traffic signal face, particularly in the varying light and weather conditions across the Commonwealth.

Emergency Vehicle Traffic Control Signals may use either yellow or red housings.

7. **What is VDOT's policies regarding Accessible Pedestrian Signals (APSs) and Accessible Pedestrian Signal Detectors (APDs)?**

APS and APD shall be installed or improved during Signal Alteration Activities for all impacted pedestrian crossings where pedestrian control features are to be provided in the final condition, as per the latest effective revision to [IIM-TE-388](#) that was initially released in December 2017.



8. **Q: Who installs and maintains Emergency Vehicle Traffic Control Signals (EVTCSs) in Virginia? What are the requirements for their operation and display?**

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EVTCSs may be used at emergency response stations that house fire trucks and/or Emergency Medical Services (EMS) vehicles.



As per [24VAC30-151-510](#) of the Virginia Administrative Code, EVTCSs on VDOT-maintained roads are owned and maintained by the locality under permit with VDOT.

EVTCSs shall use three-section signal heads with 8" flashing yellow, 12" steady yellow, and 12" steady red indications as per Section 4G.03 of the MUTCD. Either red or yellow housings may be used.

Contact CO-TED for additional EVTCS policies and recommendations.

### **9. Should I use a Yellow "X" or a Downward Diagonal Yellow Arrow for Lane Use Control Signals (LUCSs) as per Chapter 4M?**

VDOT has received FHWA Approval to experiment with downward diagonal arrow indications. All new LUCS installations must be coordinated with CO-TED to determine appropriate signal indications for the particular application.

### **10. Q: May I use a red horizontal line for the "Stop" indication for Light Rail Transit/Bus Rapid Transit (LRT/BRT) signal indications as per Section 8C.11 and Figure 8C-3 of the MUTCD?**

No. The Go, Prepare to Stop, and Stop indications shall all be white. The reason is to keep the LRT/BRT signal indications from being mistaken for vehicular signal heads. In particular, a red horizontal line looks too similar to a vehicular red arrow indication (drivers may think the arrowhead portion of the red arrow is burnt out).



## **Part 5 – Low-Volume Roads**

### **1. Why is there no Part 5 to the Virginia Supplement?**

VDOT has not made any modifications to Part 5. Low-volume road policies are governed by Part 5 of the MUTCD.

## **Part 6 – Temporary Traffic Control**

## **Virginia Supplement to the 2009 MUTCD Revision #1: Frequently Asked Questions**

### **1. Why is there no Part 6 to the Virginia Supplement?**

Part 6 of the MUTCD is replaced in its entirety by the [Virginia Work Area Protection Manual](#) (VWAPM). Although the VWAPM is a physically separate publication, it is considered part of the Virginia Supplement to the MUTCD.

# Virginia Supplement to the 2009 MUTCD Revision #1: Frequently Asked Questions

## **Part 7 – School Areas**

### **1. What is VDOT’s policy on School Zone Speed Limits (SZSLs)?**

VDOT’s SZSL policy is governed by the latest effective revision of [TE Memo IIM-TE-183](#). SZSLs shall be installed in accordance with [§ 46.2-873](#).

### **2. Can I install a SZSL sign that uses a static plaque that reads “when children are present” or “7:30am – 9:30 am Mon-Fri”?**

No. § 46.2-873 requires that all SZSL signs be “tilt-over, portable, or fixed blinking”. Tilt-over and portable signs are rarely used in Virginia, but if they are they shall be crashworthy and shall display signs that are in conformance with the MUTCD. Fixed blinking signs (flashing beacons using hardwire or solar power) are the most common method of displaying SZSL messages.



### **3. What are the requirements for adult crossing guards?**

Crossing guards must control traffic in accordance with [§46.2-834](#) and [46.2-1309](#) of the Code of Virginia and Chapter 7D of the MUTCD.

As per Chapter 7D of the MUTCD, crossing guards shall solely be used to pick opportune times to create a sufficient gap in the traffic flow for pedestrians to cross. They are not to be used to facilitate ingress or egress of school buses or vehicles at schools with negligible pedestrian activity.



The MUTCD requires crossing guards to wear Class 2 high-visibility retroreflective safety apparel and to carry 18” x 18” STOP paddles. However, it is recommended that adult crossing guards wear Class 3 vests and use larger 24” x 24” paddles, to improve their visibility and to be consistent with VDOT’s requirements for flaggers in work zones. Crossing guards must also carry whistles as per the Code of Virginia.

[§46.2-1309](#) also lays out specific procedures for hand gestures and whistle blasts.

# Virginia Supplement to the 2009 MUTCD Revision #1: Frequently Asked Questions

## **Part 8 – Railroad Crossings**

**1. What is VDOT’s policy on Low Ground Clearance Grade Crossing signs?**

Additional policy regarding these signs can be found in [TE Memo MM-315](#).



**2. How close should pavement markings get to the railroad tracks?**

In recent years there have been troubling instances where drivers are intending to turn off the road onto another road or property entrance, but instead turn onto the railroad tracks and get stuck. This phenomenon seems most likely to happen at skewed crossings, and/or crossings that are in close proximity to adjacent intersections/entrances, and seems most likely to happen at night or in inclement weather.

To address this concern, national studies have recommended extending the longitudinal pavement markings as close to the railroad tracks as possible.

VDOT intends to revise Standard Drawing PM-7 to require all longitudinal lines to extend to 2 feet from the outer rail. The lines should not extend through the crossing, and railroad companies will not allow pavement marking material to adhere to the rails themselves.

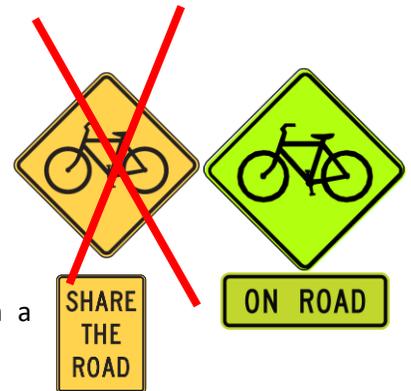
Lines can be truncated further from the rail at “humped” railroad crossings that are signed with the W10-5 sign, in order to minimize risk of damaging the pavement marking vehicle during application.

Based on discussions with the Rail Program of VDOT’s ROW & Utilities Division, there is no need for extra coordination with the railroad companies (advance notification or railroad flagging) to extend pavement markings to within two feet of the rail.

## **Part 9 – Bicycles**

**1. What is VDOT’s Policy on “Share the Road” and “Bicycles May Use Full Lane” assemblies?**

VDOT revised its policy in June 2016 to eliminate future use of the “Share the Road” assembly. Instead, a W11-VP2 “On Road” plaque should be used beneath the W11-1 Bicycle warning sign, when a warning sign is deemed appropriate.



## Virginia Supplement to the 2009 MUTCD Revision #1: Frequently Asked Questions

This was done because of ongoing concerns that the Bicycle Share the Road sign was being misinterpreted by motorists. While the intent of the sign is to advise motorists that they may encounter bicyclists riding in the center of the travel lane, motorists have instead understood the sign as advising bicyclists that they must “share the road” (ride all the way to the right-hand side) with motorists.

Historically, the W16-1P “Share the Road” plaque was intended to be used beneath other types of warning signs such as Tractor, Golf Cart, and Horse-and-Buggy signs. The W16-1P plaque may still be used beneath those signs.

VDOT’s June 2016 guidance also includes additional information on recommended use of Bicycle On Road assemblies and the “Bikes May Use Full Lane” sign. Contact CO-TED for additional information.



### **2. Where should a right turn lane’s arrows be placed in relation to the adjacent bicycle lane?**

Figure 9C-V1 of the Virginia Supplement is superseded by the latest effective revision to [Standard Drawing PM-6](#).

### **3. How should the shared lane marking (“sharrow”) be laterally placed?**

Refer to the latest effective revision to [Standard Drawing PM-6](#).



### **4. Can I put up signs stating “STATE LAW – 3’ PASSING MINIMUM” or similar?**

No. In recent years, Virginia law (and the laws of many other states) has been revised to require that drivers give bicyclists at least 3 feet berth when passing them. In response, some jurisdictions in other states have experimented with using signs similar to the one depicted here. However, at this time there is no consensus on a sign design that is proven to be effective and not prone to misunderstanding. Other methods of public education (bumper stickers, websites, brochures, etc.) are considered more effective.



### **5. Can innovative bicycle treatments such as green colored pavement, cycle tracks, two-stage bicycle turn boxes, intersection bicycle boxes, or contraflow bicycle boxes be used?**

## Virginia Supplement to the 2009 MUTCD Revision #1: Frequently Asked Questions

Below is a table summarizing questions about use of various innovative bicycle treatments in Virginia.

<b>Treatment</b>	<b>Current Status</b>	<b>Use in Virginia</b>
Green Colored Pavement	<ul style="list-style-type: none"> <li>• FHWA has issued Interim Approval IA-14.</li> <li>• VDOT has received Interim Approval from FHWA, on behalf of both VDOT and all Virginia localities.</li> </ul>	<ul style="list-style-type: none"> <li>• All use of green colored pavement shall be as per the conditions imposed by FHWA in their IA-14.</li> <li>• Some VDOT Districts may require green colored pavement to be installed and maintained by localities under permit.</li> <li>• Contact CO-TED for additional information on green colored pavement material specifications.</li> </ul>
Buffered bicycle lanes	Buffered bicycle lanes are allowed under the 2009 MUTCD	Buffered bicycle lanes may be used
Intersection Bicycle Boxes, Two-Stage Bicycle Turn Boxes, and Bicycle Signal Indications	<ul style="list-style-type: none"> <li>• FHWA has issued Interim Approval for these treatments (IA-18, 20, and 16 respectively).</li> <li>• VDOT has not yet received Interim Approval from FHWA.</li> </ul>	<ul style="list-style-type: none"> <li>• Localities that maintain their own roads may separately pursue FHWA Interim Approval for such treatments.</li> <li>• Any proposed treatments on VDOT roads must be coordinated with CO-TED, who will evaluate the request and, if appropriate, coordinate the Interim Approval process</li> </ul>
Other innovative treatments	Any other proposed innovative treatments (e.g. cycletracks and contraflow bicycle lanes) must be coordinated on case-by-case basis with CO-TED.	