



VIRGINIA MUTCD

PROPOSED KEY CHANGES FROM THE 11TH EDITION OF THE MUTCD

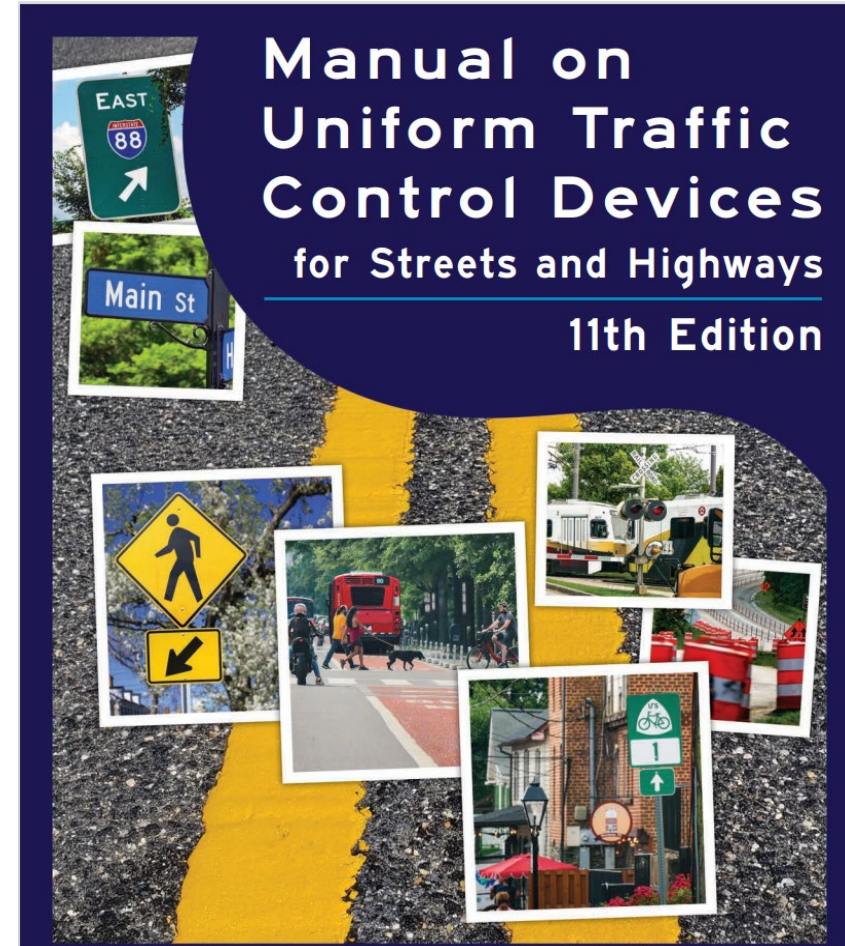
Statewide Review Period

| Central Office Traffic Operations Division

March 18, 2025

Agenda

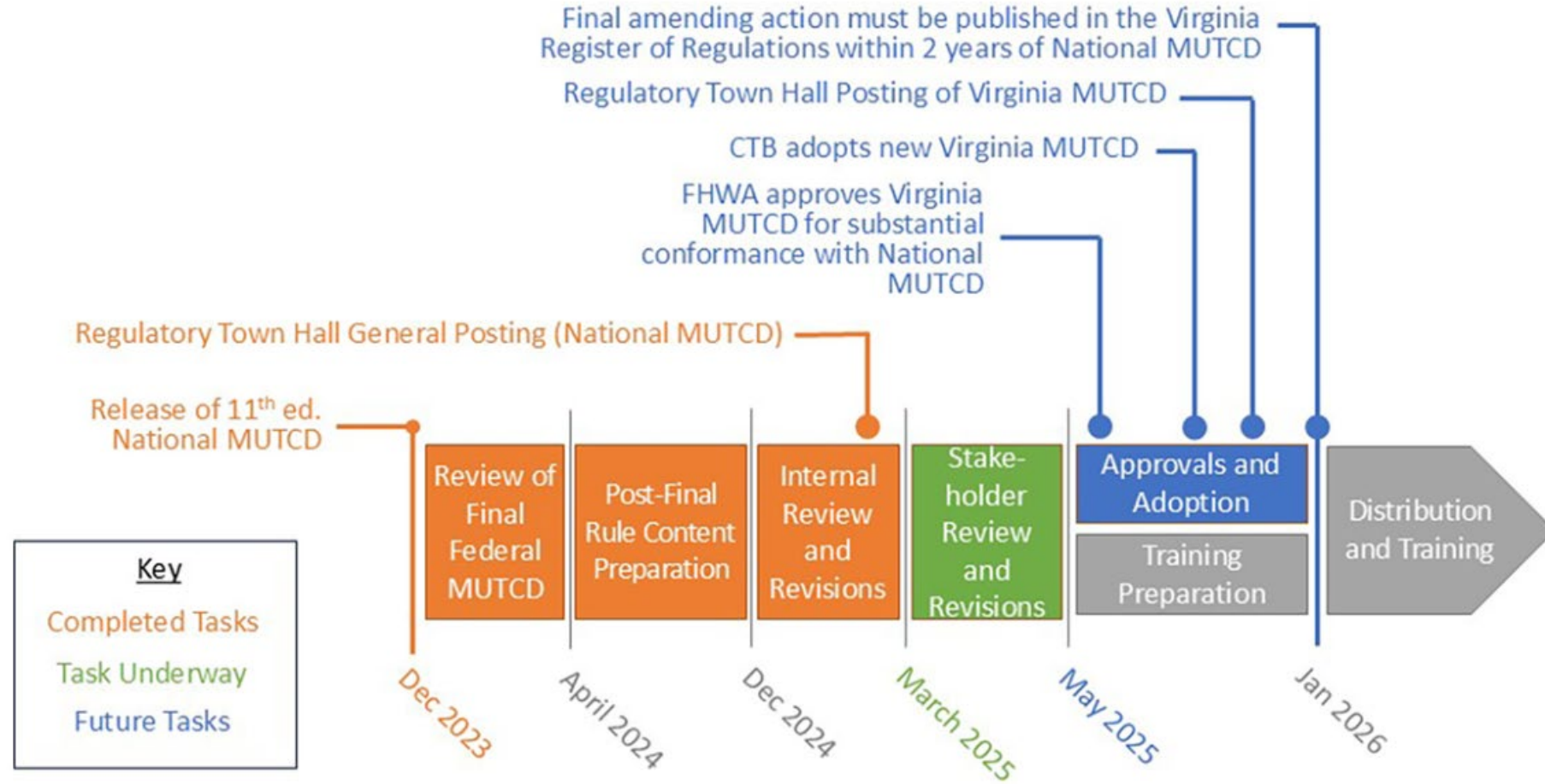
- Introduction to the VA MUTCD
- Adoption & Review Process
- Differences in Virginia and Federal content
 1. General
 2. Signs
 3. Markings
 4. Signals
 5. Automated Vehicles
 7. Traffic Control for School Areas
 8. Railroad and LRT
 9. Bicycles



Virginia MUTCD

- **Adoption of the 11th Edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)**
 - 11th Edition took effect on January 18, 2024
 - States have two years from the effective date to formally adopt
- **Virginia MUTCD**
 - Builds upon the federal MUTCD by incorporating modifications tailored to Virginia's unique regulations, roadway conditions, or operational practices—all while maintaining substantial conformance with the federal MUTCD.
 - Replaces and improves upon the previous Virginia Supplement by combining federal and state-specific provisions into a single, comprehensive document.
 - Part 6 is in the Virginia Work Area Protection Manual and is being reviewed separately.

Virginia MUTCD



Note: This is the anticipated schedule and is subject to change

Virginia MUTCD: Statewide Review

- Sections of draft content are available on the review website
- Comments requested by April 16, 2025
 - Download files from review website
 - Save file with new filename
 - Make comments in your individual PDF file
 - Please use Sticky Note, Text Callout, Highlighter, Strikethrough
 - See review website for supporting information
 - Upload your comment files to the review website
- Your perspective and feedback during this statewide review is critical



Review Website

<https://projects.vhbapps.com/vdotmutcdreview/>

Virginia MUTCD: Statewide Review

Review Example:

Section 2A.08 Word Messages


Standard:

- 01 Except as otherwise provided in this Manual, all word messages shall be aligned horizontally across a sign, reading left to right.
- 02 Except as provided in Section 2A.04, all word messages shall use standard wording as shown in this Manual, the “Standard Highway Signs” publication (see Section 1A.05).

Final Product Example:

Section 2A.08 Word Messages

Standard:

- 
- 01 Except as otherwise provided in this Manual, all word messages shall be aligned horizontally across a sign, reading left to right.
 - 02 Except as provided in Section 2A.04, all word messages shall use standard wording as shown in this Manual and in the “Standard Highway Signs” publication (see Section 1A.05).

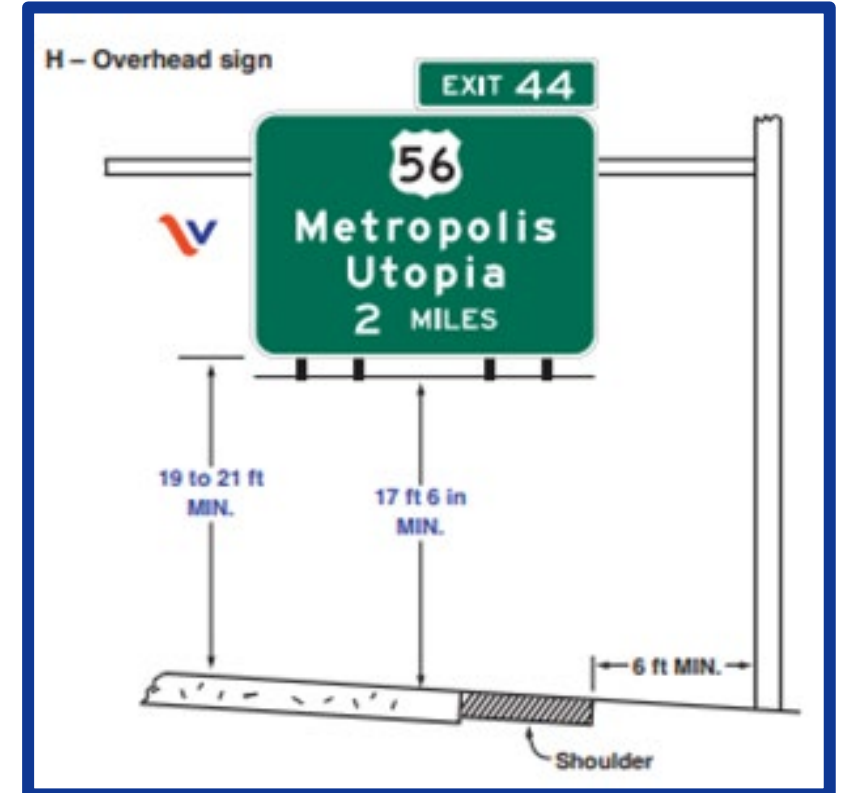
Part 1: General

Chapter	Examples of Key Changes
Chapter 1A. General	<ul style="list-style-type: none">• Clarifies the authority of the Commissioner of Highways• Defines roles of staff regarding TCDs• Requires signs to be designed and fabricated per the Virginia SHS book• Acknowledges deviations from the federal MUTCD• Introduces Appendix A for Virginia-specific publications
Chapter 1B. Legal Requirements for Traffic Control Devices	<ul style="list-style-type: none">• Manual aligned with federal law, the Code of Virginia, and VA Administrative Code.• Manual applies to facilities owned, maintained, or operated by VDOT.• Coordination is centralized through the State Traffic Operations Engineer (e.g., for contact with FHWA HQ, requests for interpretations, experimentation with new TCDs, and requests for changes to the MUTCD.)
Chapter 1C. Definitions, Acronyms, and Abbreviations Used in This Manual	<ul style="list-style-type: none">• Introduces new definitions for key terms (e.g., Limited Access Highway)• Includes state-specific acronyms, e.g., TOD (VDOT Traffic Operations Division)
Chapter 1D. Provisions Applicable to TCDs in General	<ul style="list-style-type: none">• Code of Virginia § 46.2-1312 requires that signs, signals, and markings placed by local authorities conform in size, design, and color to those placed for same purpose by VDOT.• References IIM-TE-362 for work products that shall be signed and sealed by a Virginia Professional Engineer (PE)

Part 2: Signs

Chapter 2A. General

- *Updates to sign design, dimensions, word messages, and mounting height.*



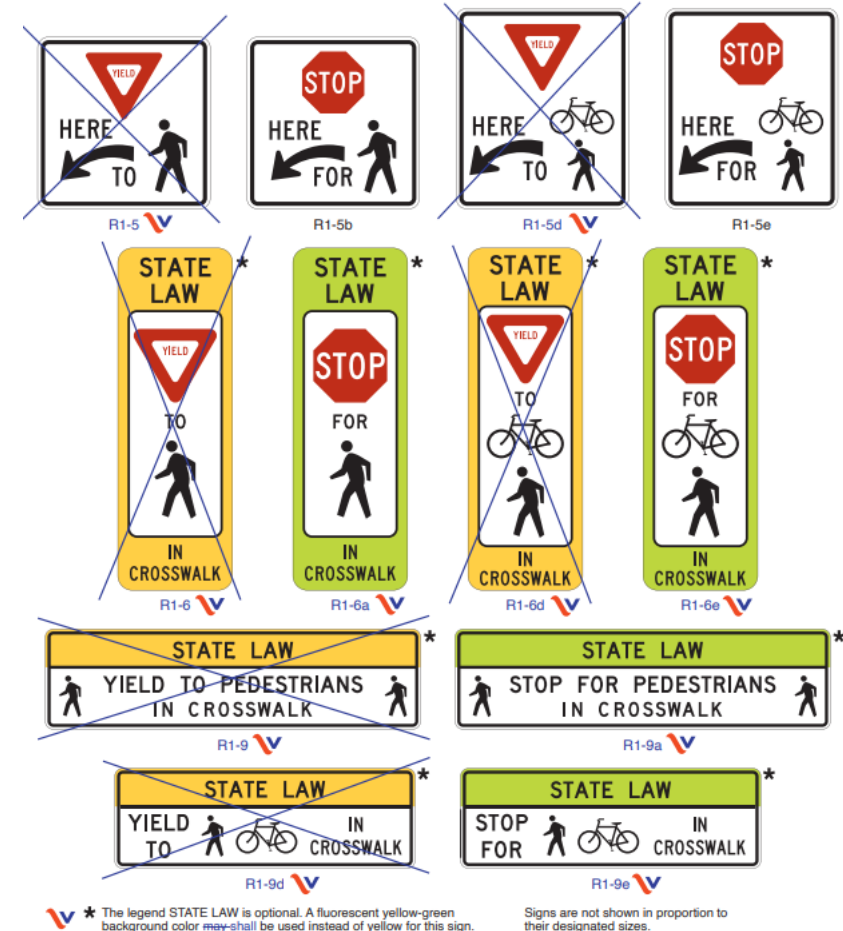
ADDS GUIDANCE FOR VERTICAL CLEARANCE OF OVERHEAD SIGNS (19 FT TO 21 FT FROM BOTTOM OF SIGN TO CROWN OF ROADWAY) AND LUMINAIRES (AT LEAST 17 FT 6 IN).

Part 2: Signs

Chapter 2B. Regulatory Signs, Barricades, and Gates

- Introduces several updates regarding regulatory signs, intersection control, pedestrian signing, speed limit signs, and movement prohibition signs.*

Figure 2B-2(VA). Unsignalized Pedestrian Crosswalk Signs



ELIMINATES YIELD TO PEDESTRIAN SIGNS TO ALIGN WITH THE CODE OF VIRGINIA AND CHANGES THE BACKGROUND TO FLUORESCENT YELLOW-GREEN.

Part 2: Signs

Chapter 2B. Regulatory Signs, Barricades, and Gates

- **Example refinements to intersection control:**
 - All intersections should utilize intersection control.
 - **Minor road stop control is required** at controlled intersections unless another control method is used.
 - **Adds criteria** for selecting the minor road to be STOP or YIELD controlled.
 - Updates **all-way stop control criteria** to allow thresholds to be met from either roadway or split throughout the day.
- Added guidance that, in **cases with an acceleration lane, YIELD signs should only be used for the entering roadway** for a merge-type movement when engineering judgment indicates the control is needed.



R1-1



R1-2

Part 2: Signs

Chapter 2B. Regulatory Signs, Barricades, and Gates

- Speed Limit sign provisions are clarified, and new state-specific sign provisions are introduced for speed limits, variable speed limits, and additional fine zones.*



SIGN NOW REQUIRED
(WAS AN OPTION)



REQUIRED, WITH FLASHING BEACONS,
BEFORE ANY PERMANENT VSL CORRIDOR
CONTROLLED BY A DYNAMIC ALGORITHM.



REQUIRED AT THE
BEGINNING OF ZONES
WHERE AN ADDITIONAL
\$200 FINE ON LOCAL
RESIDENTIAL STREETS
THAT COMPLY WITH VA
CODE § 46.2-878.2

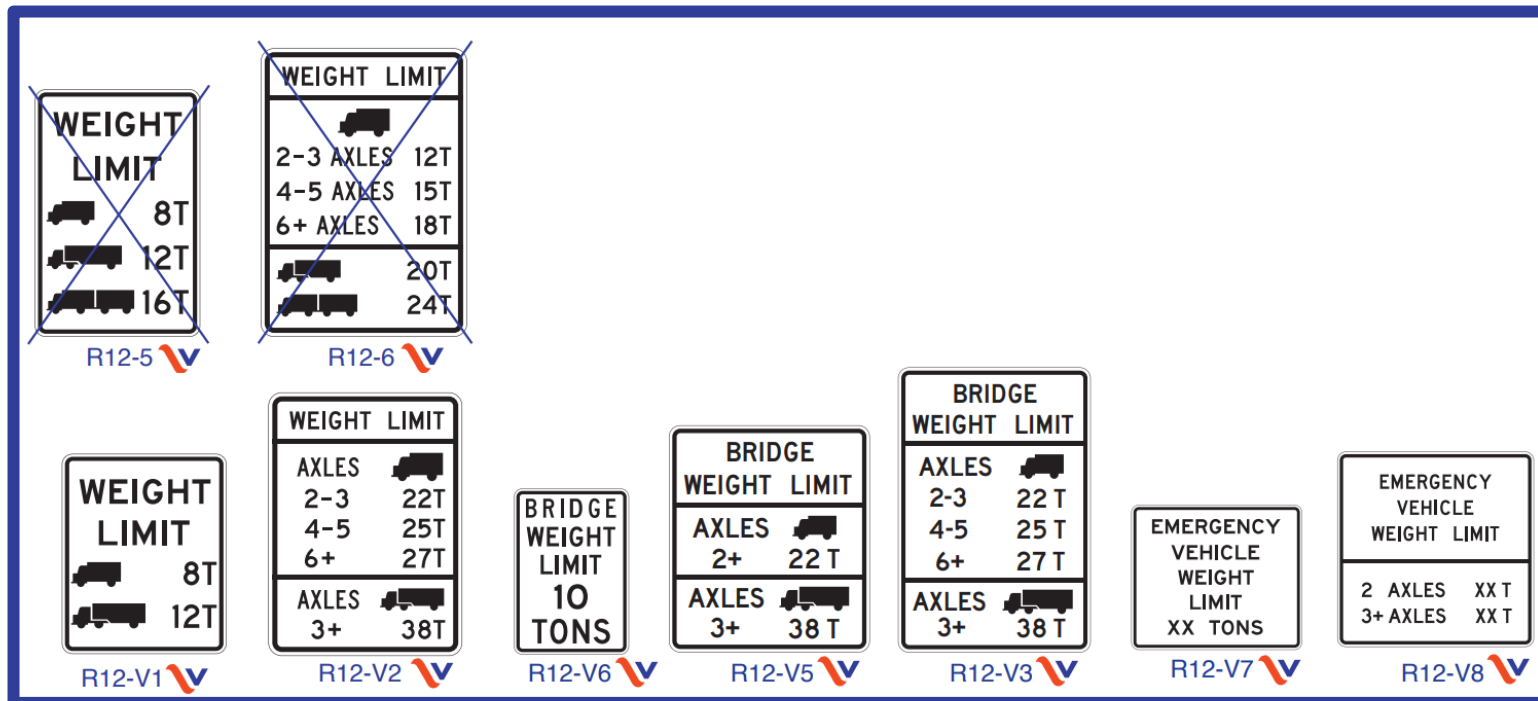


SIGN ADDED

Part 2: Signs

Chapter 2B: Regulatory Signs, Barricades, and Gates

- *Adds provisions or information for various existing signs and Virginia-specific signs.*



REQUIRED ON LIMITED-ACCESS HIGHWAYS WHERE CTB HAS IMPOSED SUCH RESTRICTION.

ADDS VIRGINIA WEIGHT LIMIT SIGNS AND PROVISIONS FOR USE AT BRIDGES AND APPROACHING BRIDGES. REFERENCES RELEVANT CODE OF VIRGINIA.

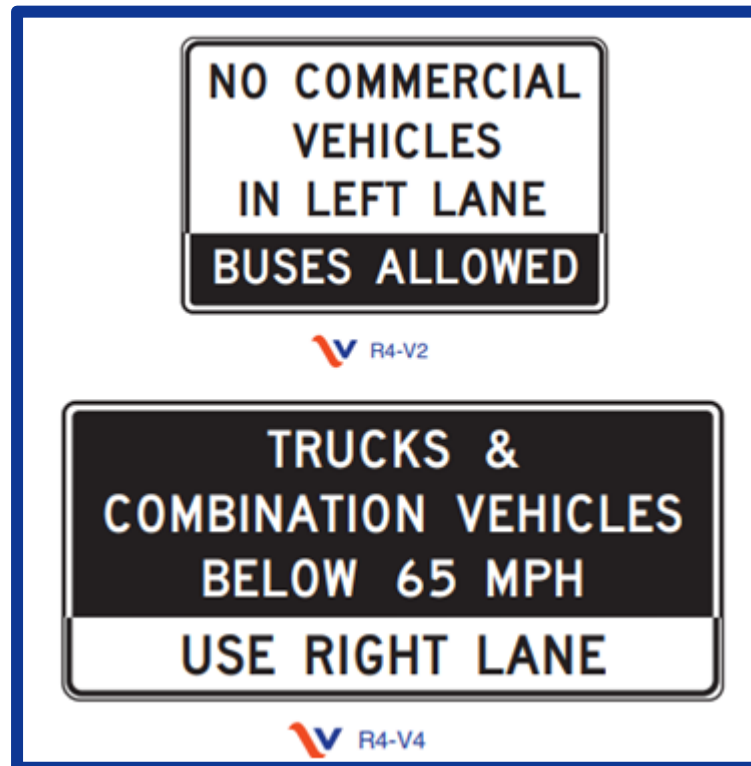
Part 2: Signs

Chapter 2B: Regulatory Signs, Barricades, and Gates

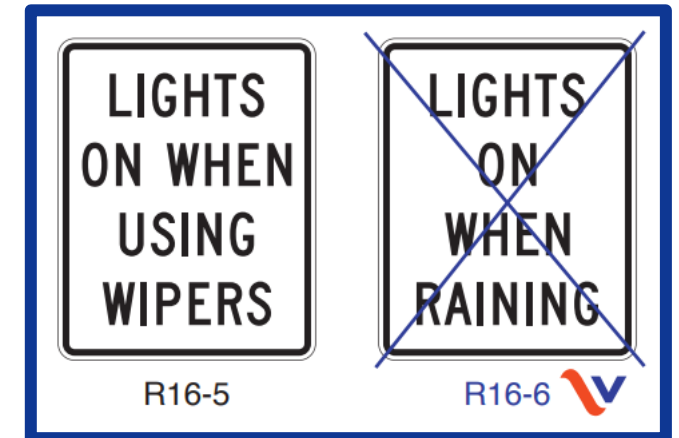
- *Adds other Virginia-specific regulatory signs and plaques and provisions for their use.*



ADDS ANTI-LITTERING SIGNS AND PROVISIONS ALLOWING THEIR USE.



ADDS SIGNS FOR COMMUNICATING LANE RESTRICTIONS FOR COMMERCIAL VEHICLES IN ACCORDANCE WITH THE CODE OF VIRGINIA § § 46.2-803.1 AND 46.2-804.



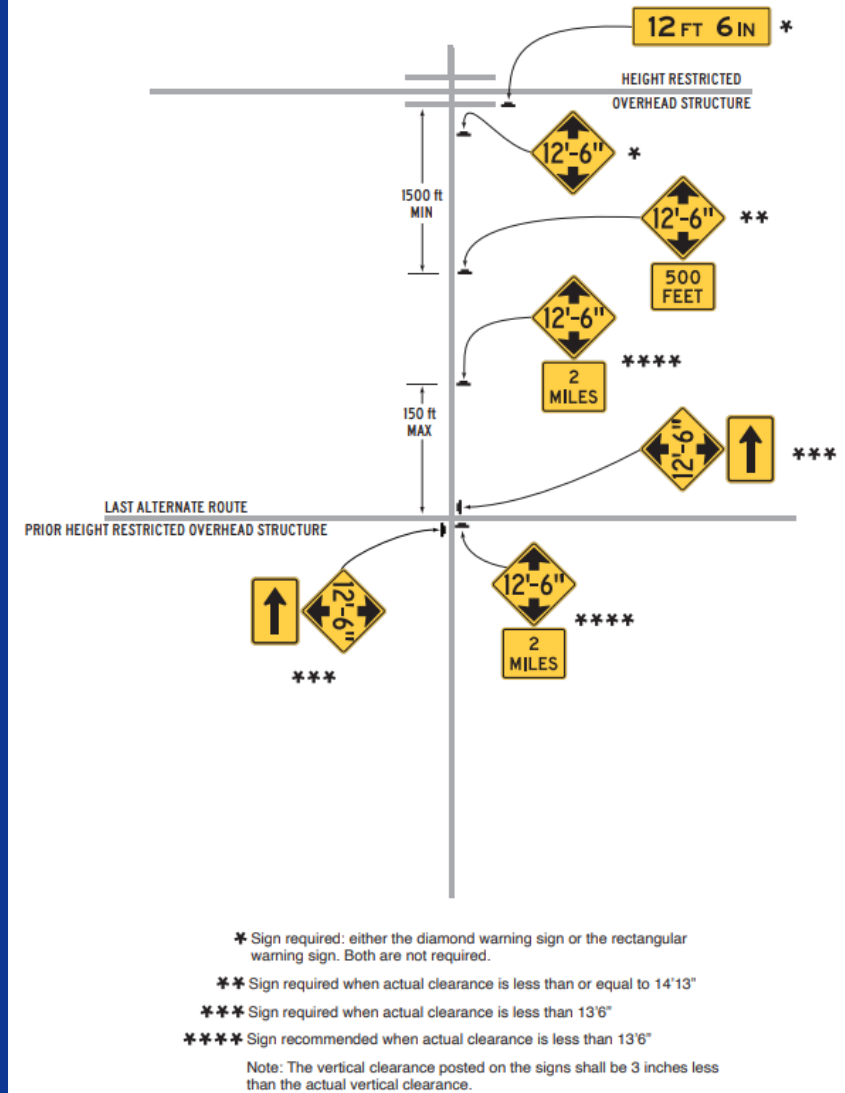
CODE OF VA § 46.2-1030, REQUIRES DRIVERS TO TURN ON VEHICLE HEADLIGHTS WHEN USING WIPERS.

Part 2: Signs

Chapter 2C: Warning Signs and Object Markers

- Adds standard figure and table for **Low Clearance Structure Signing** and **Minimum Signing for Vertical Clearances of Structures**.
- Adds spacing and placement guidance for the ONE LANE BRIDGE (W5-3) sign; adds a figure with **Typical Signing and Markings for One Lane Bridge Approach**.

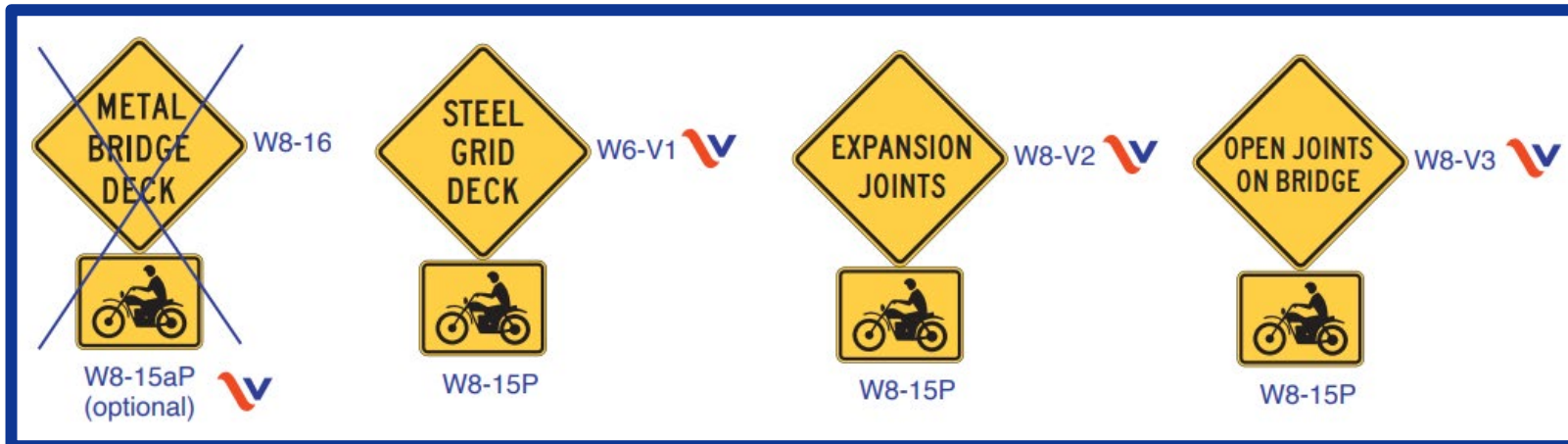
Figure 2C-V2. Low Clearance Structure Signing



Part 2: Signs

Chapter 2C: Warning Signs and Object Markers

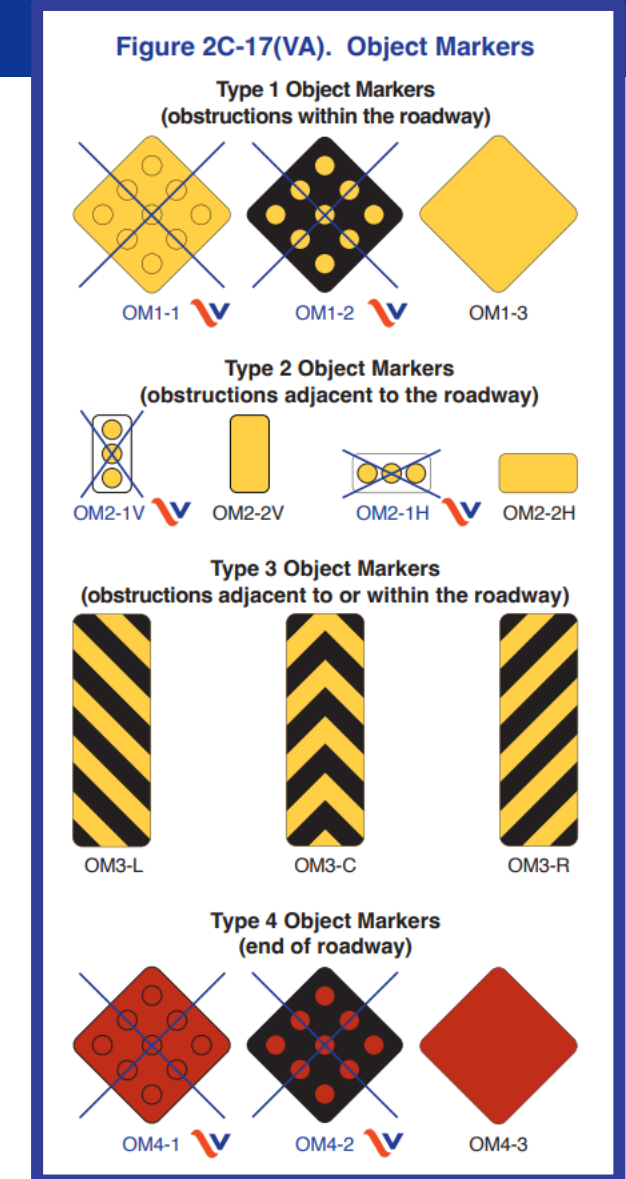
- Revises provisions for various warning signs, including requiring **fluorescent yellow-green backgrounds** for pedestrian, bicyclist, and playground warning signs.
- Removes METAL BRIDGE DECK (W8-16) sign and adds **provisions for warning signs and plaques for motorcyclists.**



Part 2: Signs

Chapter 2C: Warning Signs and Object Markers

- *Eliminates several object markers and refine provisions on when specific object markers may or should be used.*
- Adds the **WATCH FOR TURNING VEHICLES (W11-V3)** sign, **Watch for Children (W15-V1)** sign, **Person with Disability (W15-V2)** sign, and **STEEP GRADE AHEAD (W7-VP1)** plaque.



Part 2: Signs

Chapter 2D: Guide Signs – Conventional Roads

- *Several changes to clarify route signing and numbering, placement of distance signs, and design and location details for Street Name signs.*
- Updates Table 2D-1 with **Virginia specific signs** and references **Virginia SHS** book.
- Adds design and location details for **Street Name signs**; Overhead or post-mounted Street Name signs **shall be used at all signalized intersections.**
- Provides guidance and increases flexibility in the design of Overhead Street Name Signs (former IIM-TE-379).



- * These signs shall be mounted overhead.
- ** Alternate layout of D3-V1b sign for short street names.

Part 2: Signs

Chapter 2E: Guide Signs – Freeways and Expressways

- Adds guidance that **Clearview** should be used in place of Series E(mod) for names of places, streets, and highways on freeway and expressway guide signs. All others still require the use of FHWA Standard Alphabet Series E (modified).



Virginia



Virginia

Chapter 2F: Toll Road Signs

- Adds standards to require a changeable message element for 3 or more rates. Static signing can be used when there are only 2 rates.
- Elevates use of **LAST EXIT BEFORE TOLL** plaques to a standard. Option to include times.
- Adds guidance to place toll signing far enough from on-ramps to allow decision-making time.



LAST EXIT BEFORE TOLL

W16-16P



LAST EXIT
BEFORE TOLL

W16-16aP

Part 2: Signs

Chapter 2G: Preferential and Managed Lane Signs

- Adds standard for installation of **Preferential Lane Ends (R3-12d)** and **Preferential Lane Advance (R3-12e)** signs. Adds option for **spacing of Preferential Lane regulatory sign** sequences.
- Adds a standard for **no more than 3 exits** to be listed on an Exit Destination guide sign and adds option to include **“NO ACCESS TO [destination]”**.
- Adds an option for EXPRESS EXIT Advance Guide and Exit Direction signs to display exit numbers.

Chapter 2J: Specific Service Signs (IDSP)

- **References IDSP manual as the guidance document for VDOT roads.**
- Removes support that General Services signs are more appropriate than Specific Service signs in locations where services are abundant.
- Removes guidance for having no more than four business panels on a sign.

Part 3: Markings

Chapter 3A. General

- *Revises various provisions for longitudinal pavement markings.*

Category	Example Changes
Black Markings	<ul style="list-style-type: none">• Optional use with broken white lines (outline or alternating pattern) to improve contrast
Normal Line Width	<ul style="list-style-type: none">• Default width changed to 4 inches (was 4-6 inches)• Exceptions (freeways/limited access) revised
Double Line Spacing	<ul style="list-style-type: none">• 4 inches (without PIMs)• 7 inches (with PIMs)
Broken Lines	<ul style="list-style-type: none">• 10-ft segments and 30-ft gaps (now standard, was guidance)
Dotted Lines	<ul style="list-style-type: none">• Lane drop markings: 3-ft segments and 9-ft gaps (now standard, was guidance)• Line extensions: 2-ft segments and 6-ft gaps (now standard, was guidance)

Part 3: Markings

Chapter 3B. Pavement and Curb Markings

Expanded requirements for center line markings

- Example: Threshold for paved roadways with a pavement width of ≥ 18 feet (other than undivided limited access highways or bi-directional multilane roadways) was lowered from 6,000 to 500 vehicles per day.

Changes to where and how no passing zones are applied

- Example: Now required on three-lane roadways where there are two travel lanes in one direction and a single opposing lane.
- Example: Added guidance that minimum passing zone length should equal or exceed the minimum passing sight distance specified in Table 3B-1 based on 85th percentile or governing speed limit.

Clarification of center line breaks and no passing zones at intersections

- Example: Breaks in center line markings shall be made at intersections with public roads.



Part 3: Markings

Chapter 3B. Pavement and Curb Markings

Revised provisions for:

Edge line pavement markings

- Example: Provides additional standard warrants for use (e.g., two-lane roadways with lower ADT—3,000, reduced from 6,000)

Lane-reduction transitions

- Example: Adds option to use speed limit plus 7 mph to compute taper length if 85th percentile speed is not available (and is expected to exceed speed limit)

Stop lines

- Example: Requires that stop lines shall be 24 inches wide (as opposed to guidance for 12 to 24 inches)

Part 3: Markings

Chapter 3B. Pavement and Curb Markings

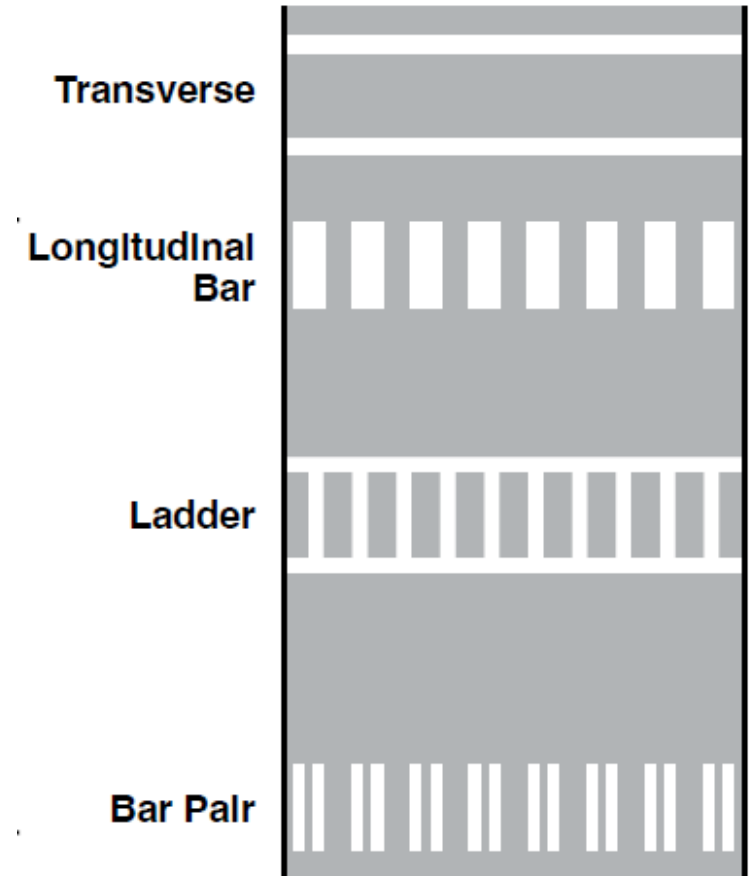
~~Raised Pavement Markers~~ > Plastic Inlaid Markers (PIMs)

Category	Example Changes
Standard	<ul style="list-style-type: none">• Required when AADT > 25,000 on limited access highways, roadways with posted speed limit \geq 45 mph, and in gore areas.• <i>Exceptions:</i> when roadway lighting or rumble strips are present.• Spaced \leq 80 ft when supplementing solid, broken, or double lines.
Guidance	<ul style="list-style-type: none">• <i>3-inch lateral spacing</i> between PIM and solid line.
Option	<ul style="list-style-type: none">• Higher-risk locations (based on engineering judgment)• AADT 5,000-25,000 (based on engineering judgment)

Part 3: Markings

Chapter 3C. Crosswalk Markings

- **IIM-TE-384.1 provides guidance for determining when to install marked crosswalks, and what type, at unsignalized intersection approaches and unsignalized mid-block crossings.**



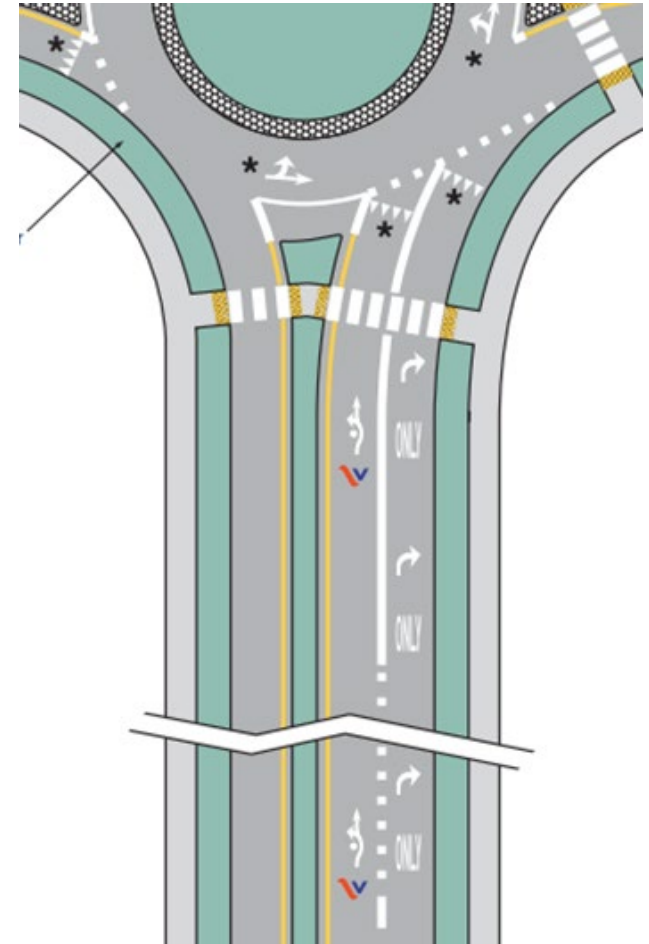
Part 3: Markings

Chapter 3D. Circular Intersection Markings

- Acknowledges **Virginia-specific terminology** including "mini-roundabouts" and "fish-hook arrows".



Standard **requires a curved-stem (fish-hook) arrow** and a roundabout circle on approaches, replacing the option to use normal or curved-stem lane-use arrows.



Part 3: Markings

Chapter 3H. Colored Pavement

- New Federal content for colored pavement (e.g., red for transit, green for bicycles).
- VDOT is in the process of developing guidance on when these should be used.

Chapter 3I. Channelizing Devices used for Emphasis of Pavement Marking Patterns

- VDOT is developing standards and specifications for tubular markers and delineators.

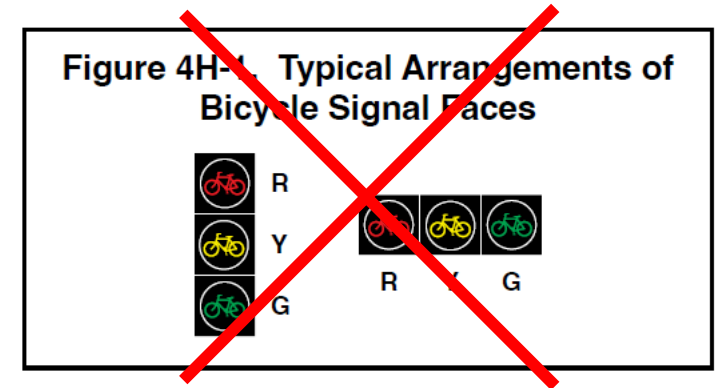
Chapter 3K. Rumble Strip Markings

- Limits color of transverse rumble strips to white (removing black)
- References 2016 Road and Bridge Standards for additional design guidance.

Part 4: Highway Traffic Signals

Chapter 4A. General

- **Modified Section 4A.05** Meaning of Bicycle Symbol Signal Indications to note that **bicycle symbol and their associated signs shall not be used on VDOT-maintained or funded roadways** due to lack of definition in the Code of Virginia.



Chapter 4B. Traffic Control Signals—General

- Adds references to **IIM-TOD-397** (iCAP Policy) and future **IIM-TOD-401** (Signal Justification) for evaluating alternative intersections.
- Adds standards that traffic control signals shall be warranted and justified by **IIM-TOD-397** and **IIM-TOD-401**.

Part 4: Highway Traffic Signals

Chapter 4C. Traffic Control Signal Needs Studies

- Adds standard that **signals shall be both warranted and justified**, meeting at least one of the nine warrants.
- Use of **IIM-TOD-397 (iCAP Policy)** is now required for evaluating intersection control type and alternative configurations.
- **ADT projections may be used to satisfy Warrant 1** when not reasonable or feasible to count actual volumes. Adds Table 4C-V1 for projecting ADT.
- Provision to **consider traffic signals based on an engineering study** is upgraded from guidance to a standard.

Part 4: Highway Traffic Signals

Chapter 4D. Design Features of Traffic Control Signals

- Upgrade guidance to standard prohibiting midblock crossings within 300 feet of a traffic signal with a pedestrian crossing (unless by engineering study).
- Adds maximum heights of 19 feet for signal faces not located over a roadway.

Chapter 4F. Traffic Control Signal Indications

- Permissive dual right-turn movements should not be used.
- Clearance intervals should be calculated per **IIM-TE-306**.

Chapter 4H. Use of Bicycle Signal Faces

- Bicycle signal content was retained for consistency in potential future application.

Part 4: Highway Traffic Signals

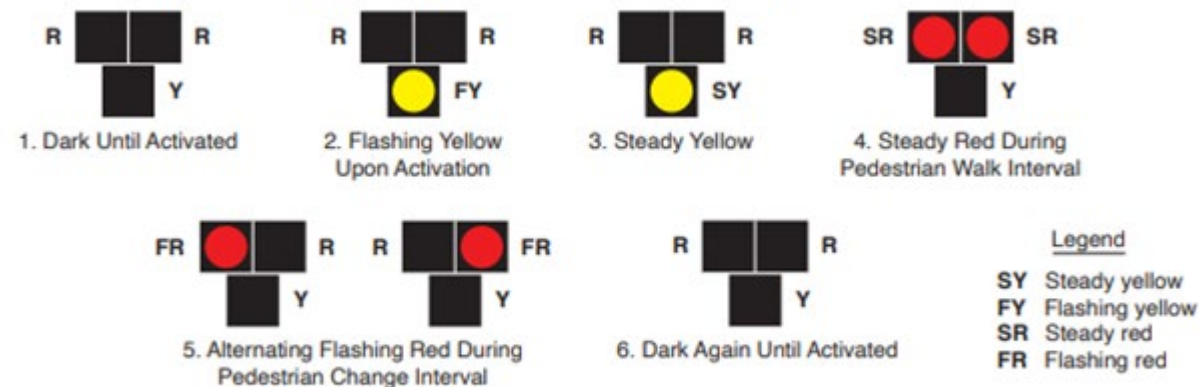
Chapter 4I. Pedestrian Control Features

- Changes the guidance for the minimum time for the **WALKING PERSON** indication at locations where a leading pedestrian interval is used to be for locations **without accessible pedestrian signals**.

Chapter 4J. Pedestrian Hybrid Beacons

- PHBs should be installed at least 100 ft from side streets or driveways controlled by STOP or YIELD signs.**
- Alternating flashing CIRCULAR RED indications must continue to flash for at least 2 seconds after the pedestrian change interval.**

Figure 4J-3(VA). Sequence for a Pedestrian Hybrid Beacon



Note: An optional steady red clearance interval may be added after Interval 3, and a 2 second ~~and an optional short~~ buffer interval (alternating flashing red while the pedestrian signal heads are displaying a steady UPRAISED HAND) ~~may~~ shall be added after Interval 5.

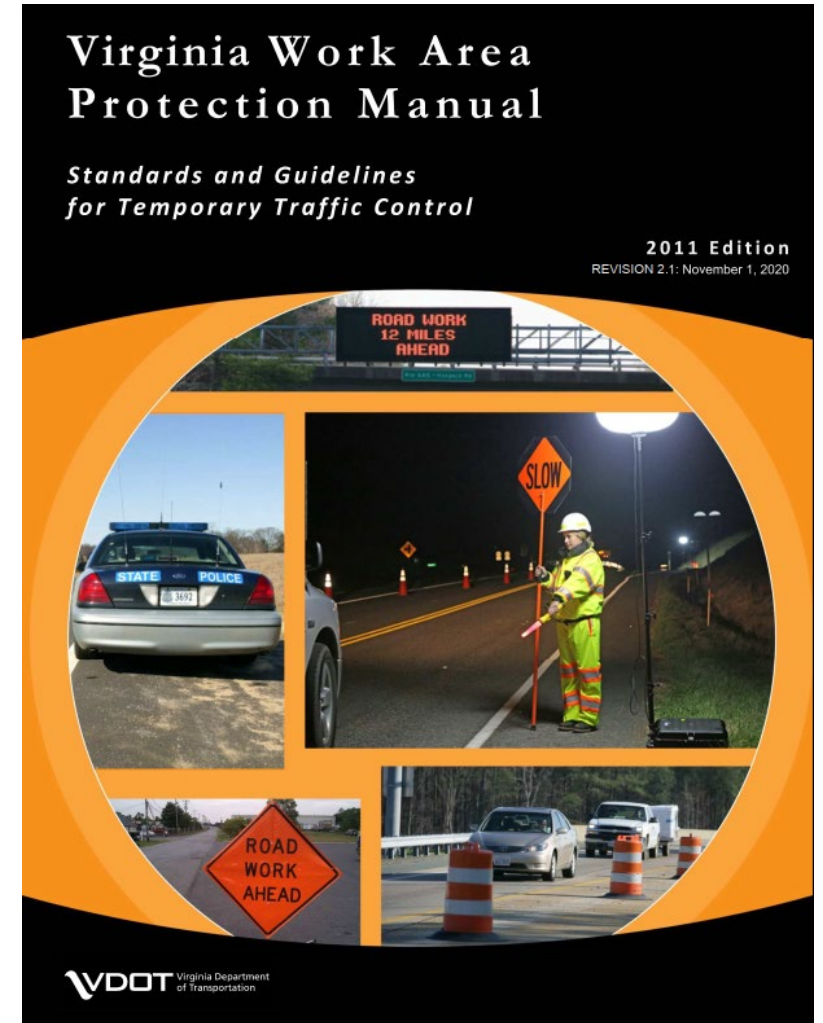


Part 5: TCD Considerations for Automated Vehicles

- Part 5 is an entirely new Part in the Federal MUTCD.
- Virginia is adopting Part 5 with no changes.

Part 6: Temporary Traffic Control

- Part 6 is in the Virginia **Work Area Protection Manual** document and will have a separate review effort.



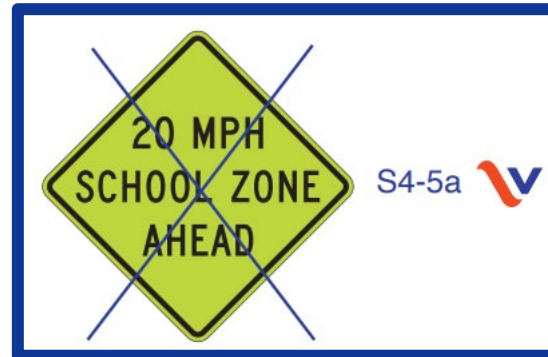
Part 7: Traffic Control for School Areas

Chapter 7B. Signs

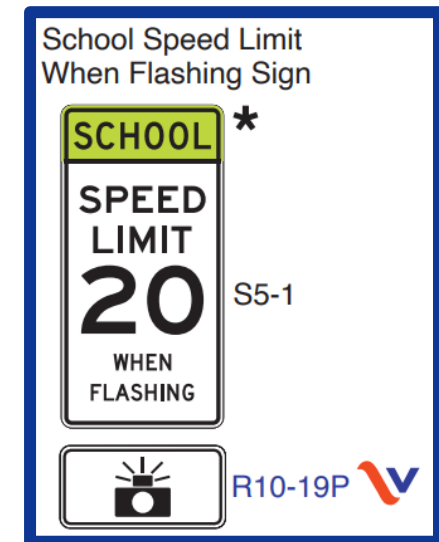
- Adds several Virginia-specific provisions and signs for school areas and school crossings; removes some signs and plaques.



LIMITS THE USE OF STATIC SCHOOL SPEED LIMIT ASSEMBLY TO PORTABLE OR TILT-ABLE APPLICATIONS, PER VA LAW.



REMOVES THE REDUCED SCHOOL SPEED LIMIT AHEAD (S4-5A) SIGN.



ADDS PROVISIONS FOR SIGNS IN SCHOOL ZONES WHERE AUTOMATED ENFORCEMENT IS PRESENT AND REQUIRES THAT THEY ARE INSTALLED IN ACCORDANCE WITH IIM-TE-183.

Part 7: Traffic Control for School Areas

Chapter 7B. Signs

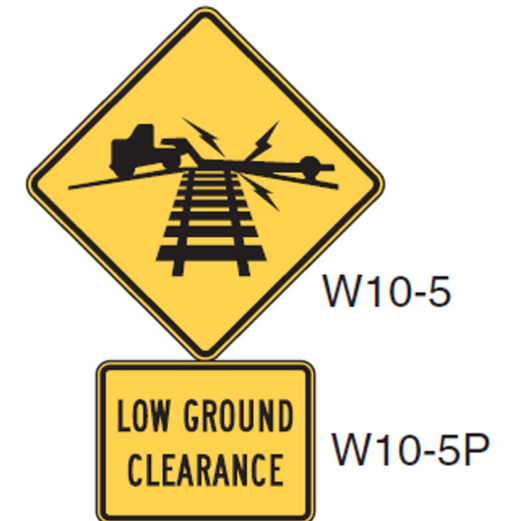
- The **STATE LAW STOP FOR SCHOOL BUS LOADING OR UNLOADING CHILDREN (S0-V1)** signs are installed in accordance with the Code of Virginia § 46.2-859
- Recommends S0-V1 be installed on **undivided highways and at state boundaries, city/town limits, and other locations** when engineering judgement determines they are necessary to remind motorists of the law.



S0-V1 

Part 8: Traffic Control for Railroad and Light Rail Transit Grade Crossings

- Revised to incorporate IIM-TE-315 standards and guidelines for use and placement of the Low Ground Clearance Highway Rail Grade Crossing (W10-5) sign & supplemental W10-5P “Low Ground Clearance” plaque.



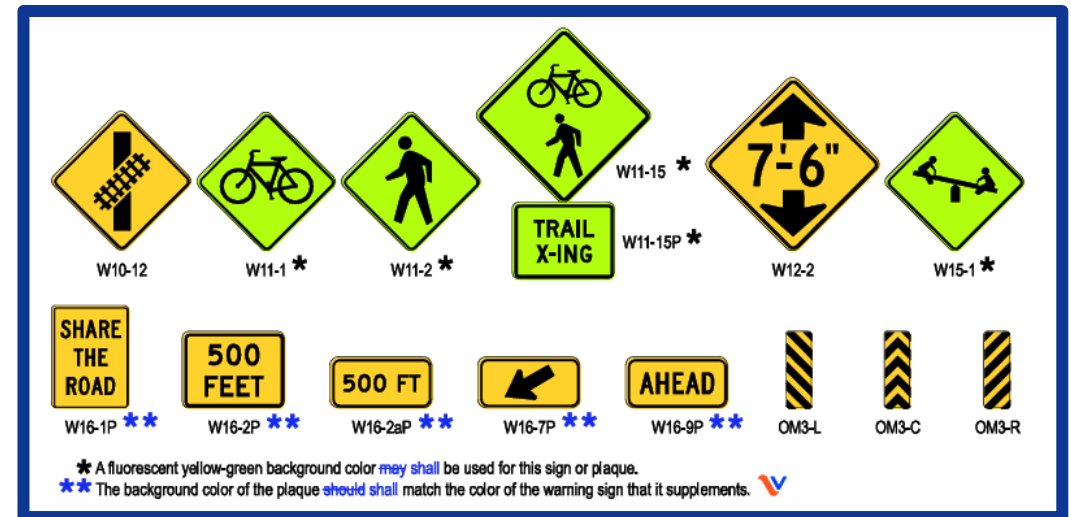
Part 9: Traffic Control for Bicycle Facilities

Chapter 9B: Regulatory Signs

- References Code of Virginia, § 46.2-904 that a person riding a bicycle on a shared use path shall have the same rights and duties as pedestrians.
- Specifies the use of **Bicycles Allowed Use of Full Lane (R9-20)** sign (for occupation of the center of the travel lane) and of **Bicycle Passing Clearance (R4-19)** sign (for areas where bicycle lanes or shoulders do not provide sufficient clearance).

Chapter 9C. Warning Signs and Object Markers

- Clarifies the use of **Bicycle Warning (W11-1)** and **Trail Crossing (W11-15)** signs.



REITERATES THE REQUIREMENT FOR FLUORESCENT YELLOW-GREEN BACKGROUNDS ON SPECIFIC SIGNS (UPGRADE FROM OPTION TO STANDARD).

Part 9: Traffic Control for Bicycle Facilities

Chapter 9E. Markings

- Adds language from § 46.2-100 in the **Code of Virginia** defining “**Bicycle lane**” as “that portion of a roadway designated by signs and/or pavement markings for the preferential use of bicycles, electric power-assisted bicycles, motorized skateboards or scooters, and mopeds.”
- Specifies marking widths throughout figures.
- Identifies additional locations where shared-lane markings **shall not** be used.
- Guidance that two-stage turn boxes **should** use green-colored pavement.
- IIM under development for use of green markings.



Thank you!

If anyone has additional input after this meeting and questions about reviews of the Virginia MUTCD, please contact

Robert Cochrane & Rashmi Patel

VirginiaMUTCD@vdot.virginia.gov

