



“SAFETY – IT MATTERS TO EVERYONE” VDOT WORK ZONE SAFETY UPDATES

VDOT/VAA Asphalt Seminars

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VDOT Work Zone Safety Program

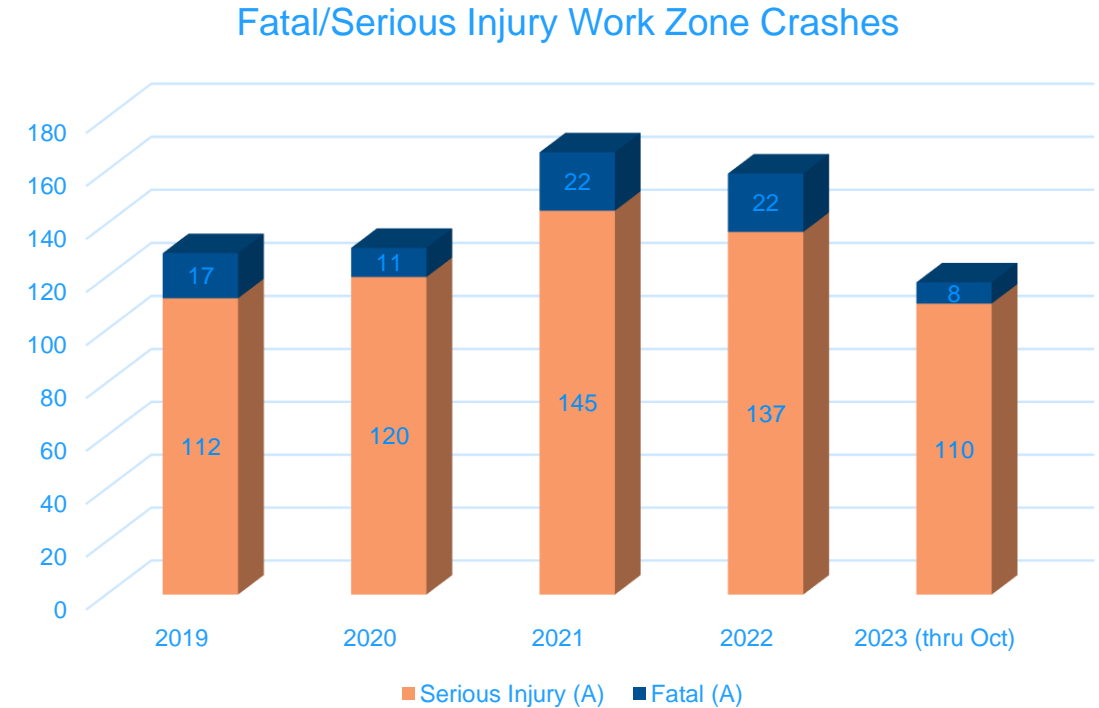
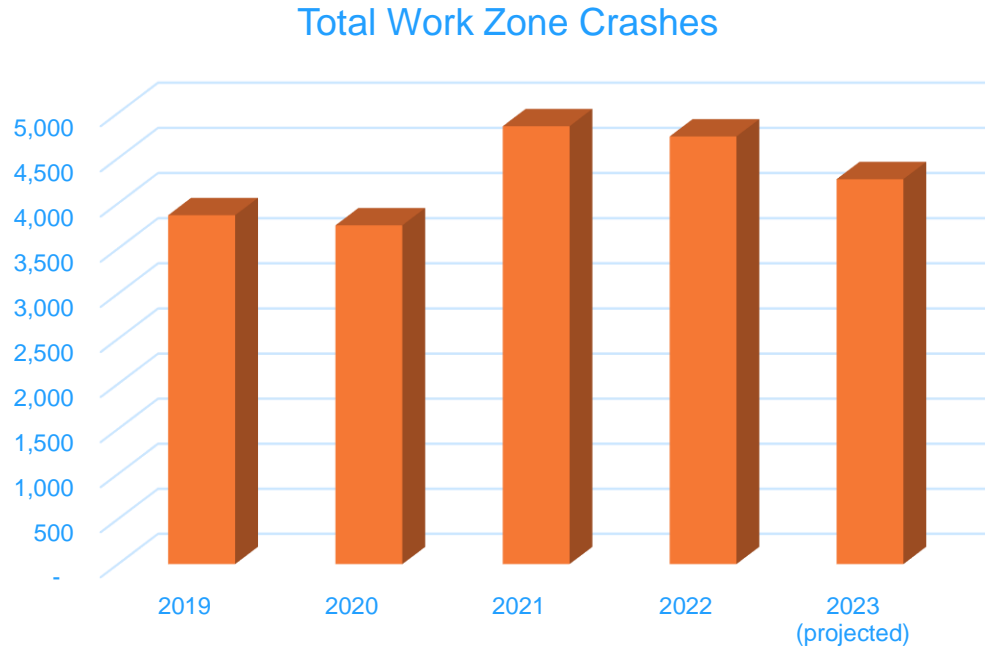
Feb. 22, 2024 – Radford
March 7, 2024 - Fredericksburg

Agenda

- **Work Zone Crash Trends**
- **Flagging Certification Changes**
- **Single Lane Closure Methods**
- **Other VDOT WZ Program Updates**

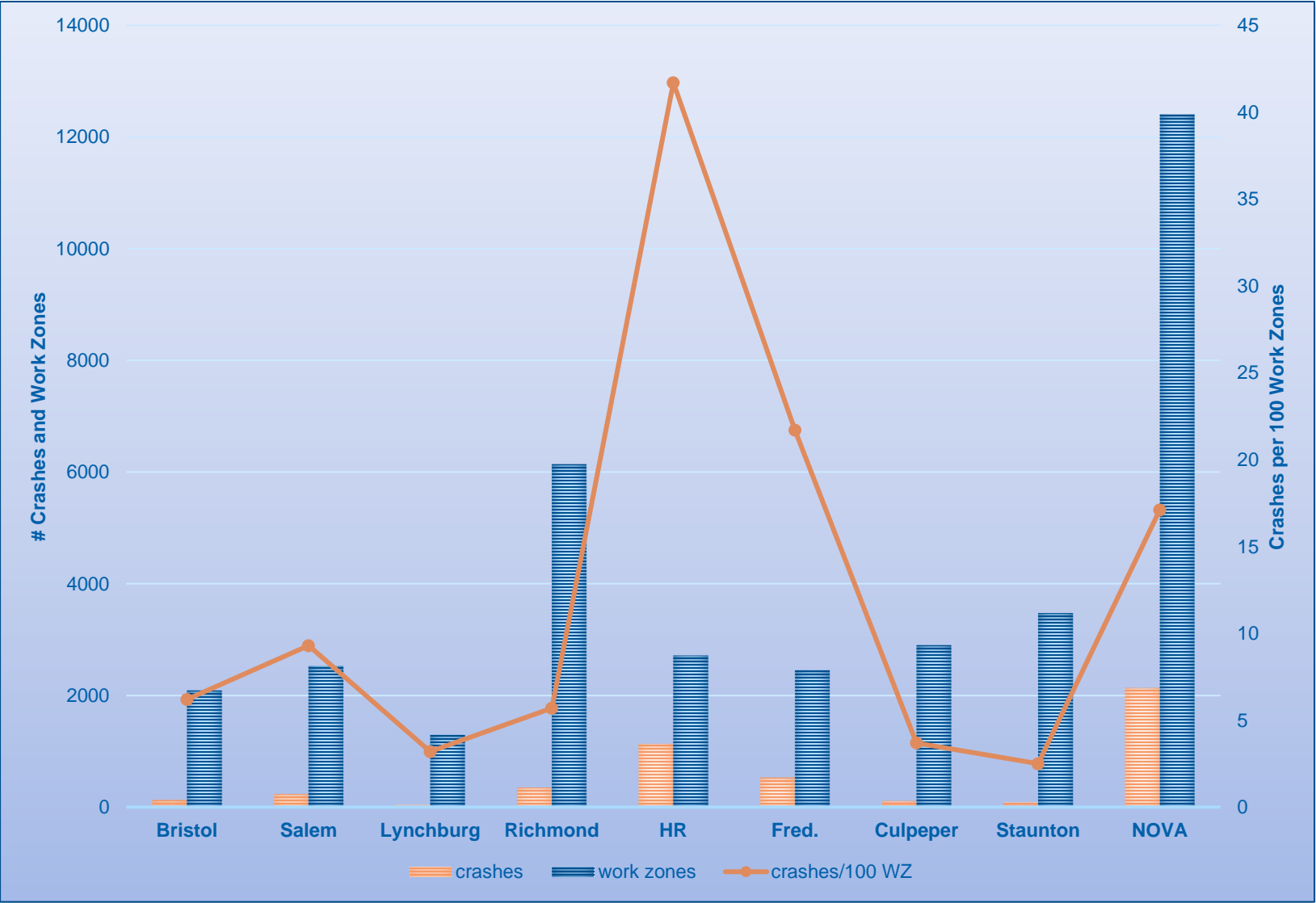


WZ Crash Trends | Overall Comparison



- 2023 data valid through Oct. 2023 (projected to December)
- Anticipate fewer crashes in 2023 as compared to '21-'22, but still higher than pre-Covid trends

WZ Crash Trends | 2022 Crashes and Work Zones



WZ Crash Trends | *Why This Matters*

Honor the
Faces of
Work Zone
Tragedy

To host the Memorial or
submit a name to be
included, contact
The ATSS Foundation:

✉ foundation@atssa.com

☎ 540-368-1701

🌐 Foundation.ATSSA.com/Memorial



Not pictured

 Kaitlyn Anderson Missouri	 Christopher Bloch Missouri	 Anna Gavin Bradshaw North Carolina	 James Brooks Missouri	 Christopher Carter Maryland		
 Lloyd Crawford Missouri	 Gustav Danielson Arizona	 Matthew Frazier Virginia	 William "Mack" Isom Michigan	 Trent Johnston Tennessee		
 Richard Hubert Kansas	 Dale Keith Jones Indiana	 Quanda McGadney California	 Zachery James Morisette Michigan	 Brady Michael Ortego Louisiana	 Darren Way Kansas	 Stephen Windler Kansas

Flagging | *Background - Current Certification Options*

- **VDOT Flagger Certification**
 - Instructor must be a certified flagger
 - 30-minute YouTube video followed by 35-question paper/pencil test
- **Key weaknesses of VDOT Flagger Certification**
 - Inadequate training
 - No VDOT database of flaggers
 - Paper cards filled out by hand can be photocopied or falsified

**Virginia Department of Transportation
Flagging Certification**

Employee No. _____

This is to certify that _____

has successfully completed a short course in flagging operations for construction and maintenance traffic control in accordance with the regulations of the Virginia Department of Transportation.

Date _____ Instructor (Print Name) _____

This card expires 24 months from the above date

- **ATSSA Flagger Certification**
 - Effective Dec. 2023, VDOT accepts either in-person or online certification
 - Certification program is not VDOT-specific
- **VDOT Basic or Intermediate WZ Certification**
 - 8- or 16- hour course (for Basic and Intermediate respectively) that includes flagger training
 - VDOT maintains database of Instructors and trainees

Flagging | *Background - Key Employer Requirements*

- **Ensure all employees are trained, certified, and competent**
 - Physically capable of escaping errant vehicles if necessary
 - Can communicate to drivers in English
- **Provide employees with proper equipment (see next slide)**
- **Provide the required # of flaggers**
- **Provide them radios where required by VWAPM**
- **Give them 15-minute breaks every 2 hours**
 - Reminder: VDOT pays for flagger service; no extra payment for a “floater” flagger to provide those 15-minute breaks

Flagging | Background – Key Equipment Requirements

24" paddle (flags only allowed in emergencies)

Radio required in certain circumstances

Sleeved Class III vest or jacket – must be zipped up

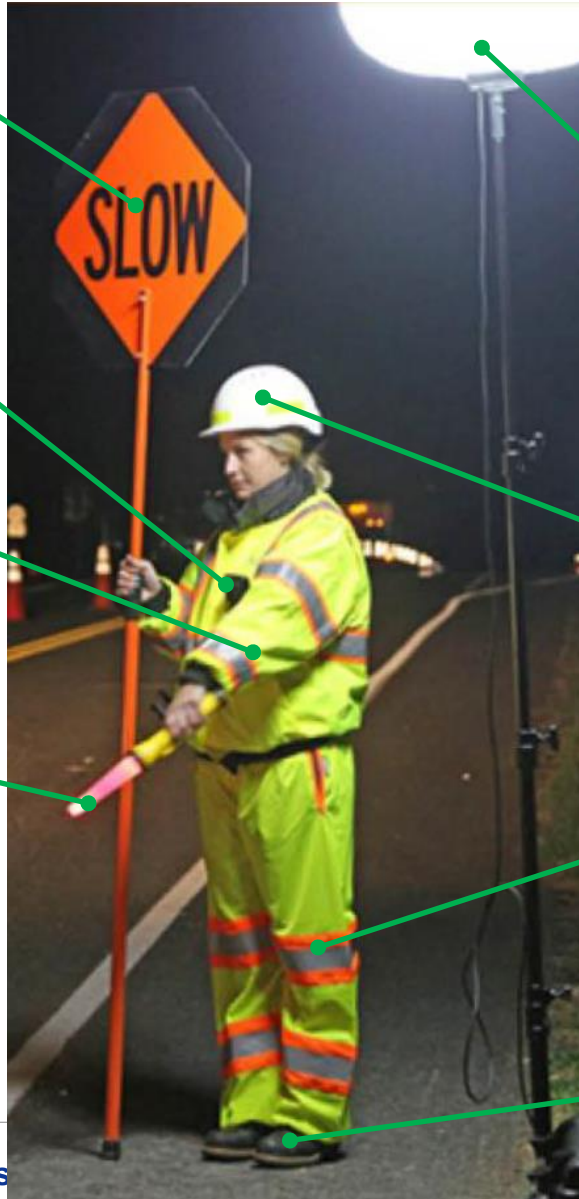
Red baton recommended at night (required for emergency flagging at night without a light stand)

Dedicated work zone lighting shall be provided at night (except in emergencies)

Hardhat with reflective mat'l required

Class III trousers or gaiters (gaiters only allowed during daytime)

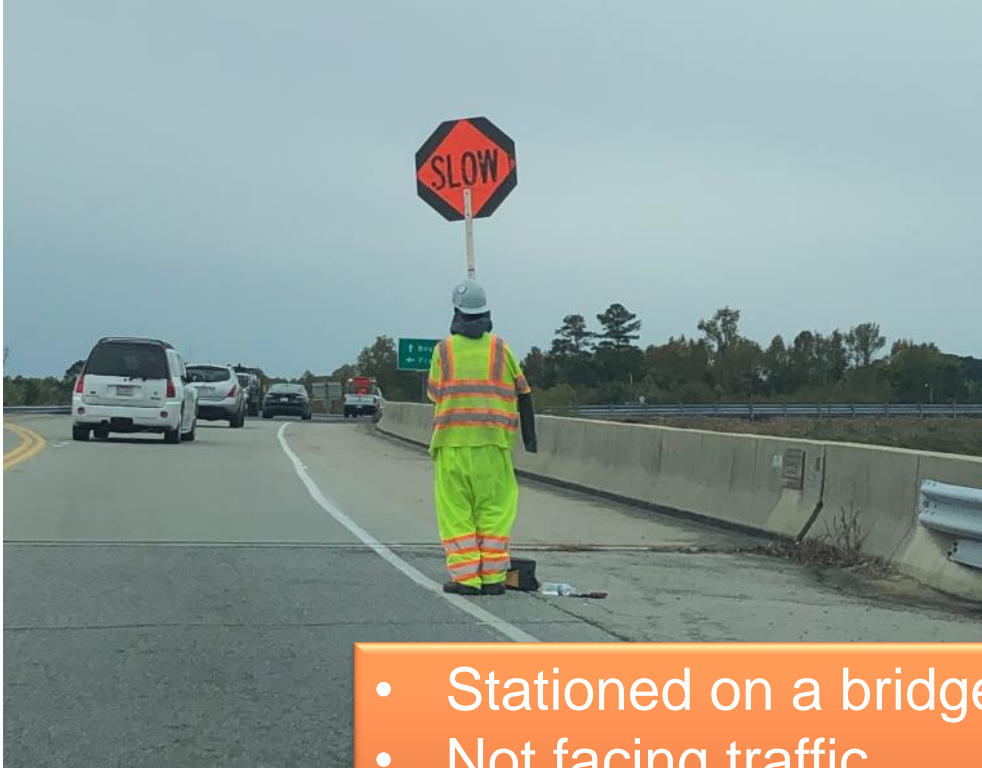
Steel-toe shoes



Flagging | *Background - Key Employee Requirements*

- **Keep vests zipped up and other PPE on**
- **Bring water for comfort**
- **Avoid distraction (no cell phones or earbuds/headphones)**
- **Always stand outside the travel lanes**
- **Always face traffic**
- **Properly operate the paddle – no leaning or laying**
- **Stand isolated from fellow employees or work vehicles**

Flagging | *Poor Flagging Examples*



- Stationed on a bridge with no escape route
- Not facing traffic
- Unzipped vest

Flagging | *Poor Flagging Examples (cont.)*



Standing in a ramp, using a phone



Standing too close to equipment,
in the middle of the road

Flagging | *Audit – Poor Flagging Examples (cont.)*



Leaving the flagger station, open vest, standing in the road



Improper footwear

Flagging | Poor Flagging Examples (cont.)

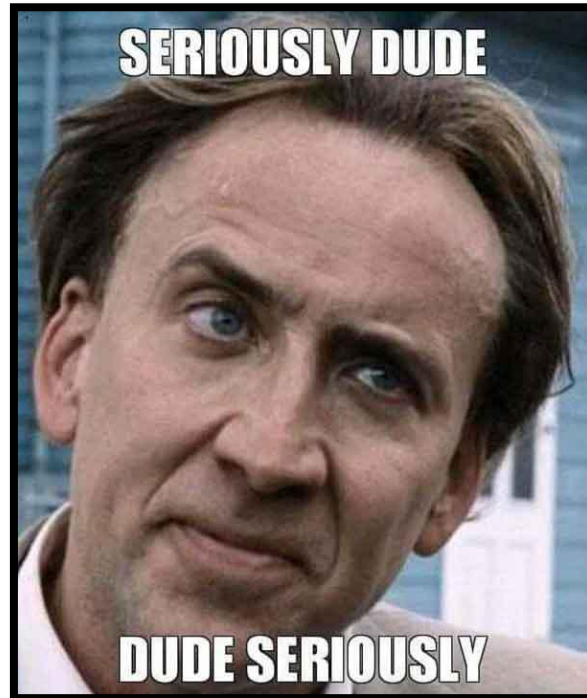


- Circa 2007 card format
- Illegible handwriting



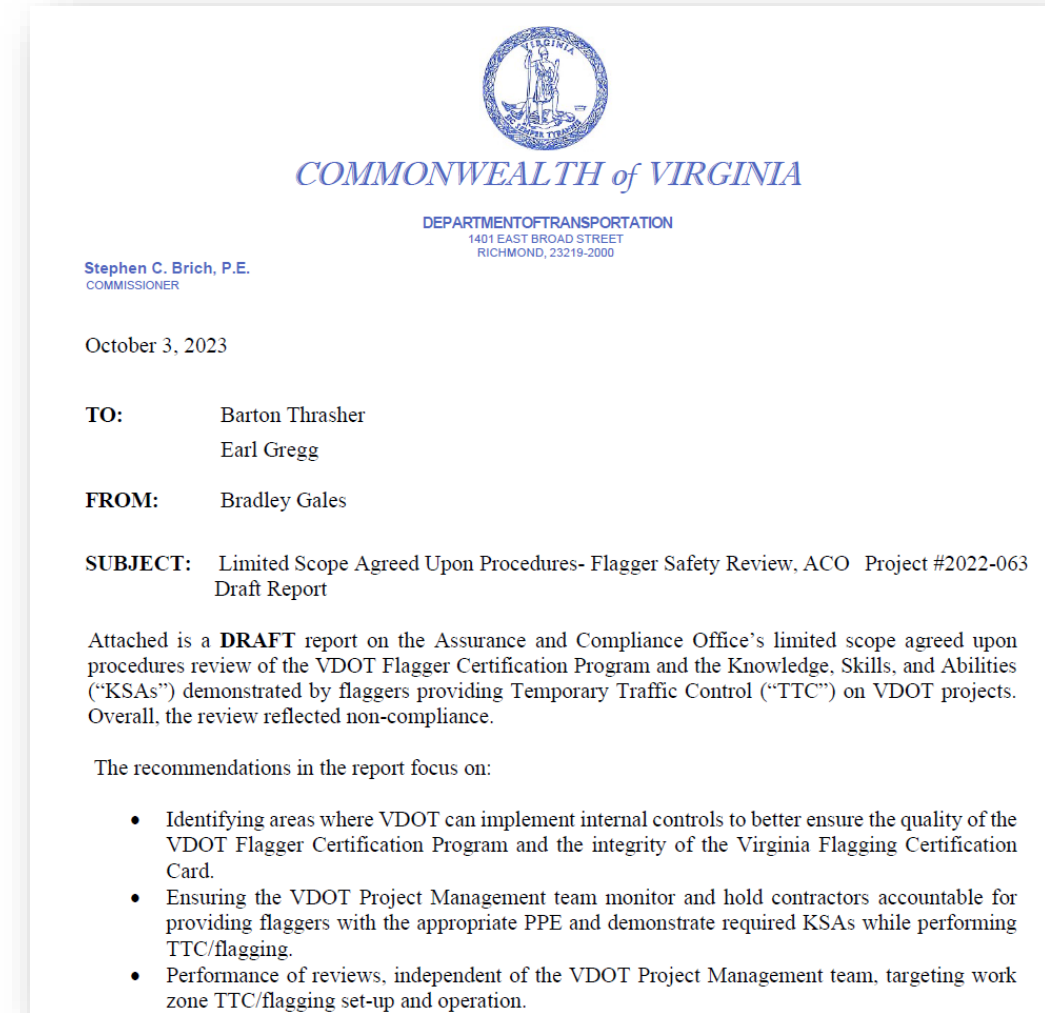
Paddle leaning against mailbox

Flagging | *Poor Flagging Examples (cont.)*



Flagging | Audit Findings - Summary

- VDOT's internal auditing arm (Assurance & Compliance Office or ACO) completed their Draft audit in October 2023
- Key findings:
 - Item #1: lack of controls over the flagger certification program
 - Item #2: flaggers demonstrating unsafe behavior



Flagging | *Audit – Key Corrective Action Commitments*

- **Item 1: End VDOT's current flagger certification program**
- **Item 2A: Emphasize to Inspectors and Industry:**
 - The need to inspect flagger work zones, and confirm validity of flagger cards
 - VDOT's rights and duties to shut down unsafe work zones or assess nonpayment for deficient flagging
- **Item 2B: Traffic Ops Division will increase frequency of its independent WZ Field Reviews, and implement other key process improvements to the Field Review program**

Flagging | Overview of Certification Changes

- **VDOT's 12/1/23 letter to Industry:**
 - Effective immediately, VDOT allows both online and in-person ATSSA certification
 - Starting Jan. 2025, VDOT will end its current VDOT Flagger certification for both in-house and external employees
 - Existing certifications won't prematurely expire
 - Convene task force with Industry to work out the details
- **Basic and Intermediate – no change**



Flagging | *Why Make This Change?*

- **Safety benefits for flaggers, other workers, and the public**
 - More standardized and rigorous training
 - Utilizes ATSSA's well-established national certification program already used by several other state DOTs
 - Better vetting of Instructors (just because you can flag, doesn't mean you are a good flagging teacher)
- **Better Controls**
 - VDOT staff and contractors can easily verify ATSSA flagger certification at www.flagger.com

Flagging | *Mitigating Impacts to Industry*

- **Delayed implementation**
 - Delayed Jan. 2025 “go live” date gives VDOT and Industry time to cooperatively work out the kinks
 - Flaggers certified in ‘23 or ‘24 only need to be recertified when their current cards expire
- **Reciprocity**
 - VDOT will use the national (not a VDOT-specific) ATSSA certification to facilitate easier reciprocity across state lines
- **Facilitating alternatives to flagging (see later slides)**

Flagging | *Operación de Banderilleros en Español*

- **VDOT will accept flaggers certified using ATSSA's Spanish-language training**
- **We are considering Spanish-language versions of the Basic WZ course and the Pocket Guide**
- **Flaggers must be able to communicate to the traveling public in English (as per the Road & Bridge Standards and the VWAPM)**
 - Proficiency required but not fluency

Flagging | *Ramifications for Improper Flagging*

- **105.03 - the Engineer and Inspector have the authority to reject defective work, and partially or fully stop work if there is an immediate safety concern**
- **105.05(a) – The Contractor shall immediately remove any workers who, in the Engineer’s opinion, do not satisfactorily perform their work**
- **109.03 – VDOT only pays for work done as per the Contract**
 - **VDOT can and will withhold payment for improper flagging**
- **[Note: everything above is paraphrased]**

- **ATSSA flagger certification details**
 - Initial certification is 4 hours for training + test (online or virtual)
 - 4-year recertification requires 1~1.5 hour test only
- **ATSSA Flagger Instructor Training (F-I-T)**
 - Initial certification is 2 day in-person training
 - 4-year recertification – test only
 - Contractors can get in-house safety manager(s) F-I-T certified
- **ATSSA trains to national standards, however flaggers must still follow VDOT-specific requirements**

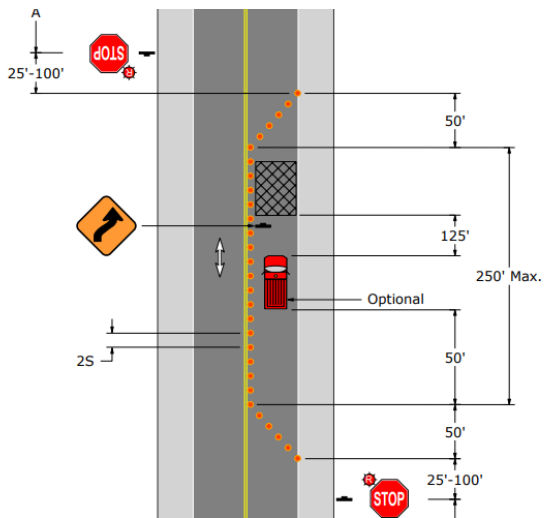
Flagging | *Details Not Yet Finalized*

- **Central Office will review non-ATSSA certification programs on case-by-case basis**
- **Coordinating with ATSSA to make F-I-T classes available during 2024**
- **Tracking of improper flagging**
 - Process for revoking flagger certifications
 - VDOT may in the future “flag” (pun intended) instructors or firms that are repeatedly found to provide improper flagging

Flagging | *Next Steps*

- **Spring 2024**
 - Industry Forum (virtual)
- **Summer/Fall 2024**
 - Publish additional details & FAQ document on VDOT website
- **December 31, 2024**
 - VDOT flagger certification program ends. Someone who is just a flagger (not Basic/Intermediate) must take the ATSSA flagger training before their current flagger card expires
 - ATSSA will stop selling the VDOT flagger kits

Single-Lane Closures | Allowable Methods



Single-Lane Closures | *Issues With Traditional Flagging*

- **Safety**
 - Flagger standing in inherently vulnerable position
 - Flaggers can and do give improper direction to motorists
 - Potential interactions with rude or aggressive drivers
 - Flaggers must be located where there is viable escape route
- **Cost and Reliability**
 - Difficulties finding and retaining qualified/competent flaggers
 - Liability costs

Single-Lane Closures | *Flagging and AFAD Bid Tabs*

- How many hours of flagger service did VDOT advertise in 2023?
- How many contracts?



Single-Lane Closures | *Flagging and AFAD Bid Tabs*

2023 Bid Tabs (Flagger Service):

- 384,000 hours (44 years)
- 690 bids (200~250 contracts)
- \$41.99/hr average bid
- ~ \$16,100,000

2023 Bid Tabs (AFADs):

- 285 hours (0.03 years)
- 1 contract
- \$39.05/hr average
- ~ \$11,000

Single-Lane Closures | *Benefits of AFADs*

- **Operator can stand completely off road**
 - **Reminder: AFADs cannot be used in automatic mode**
- **Gate arm deters wrong-way entry**
- **One on-site operator can operate both AFADs if:**
 - **He/she has unobstructed view of both AFADs, or**
 - **AFADs have forward-facing fisheye camera system**
- **“Cart” AFADs can be quickly deployed, even on roads with narrow shoulders**
- **VDOT does not require PTRS for AFAD operations**



Single-Lane Closures | *Portable Signal Benefits/Drawbacks*

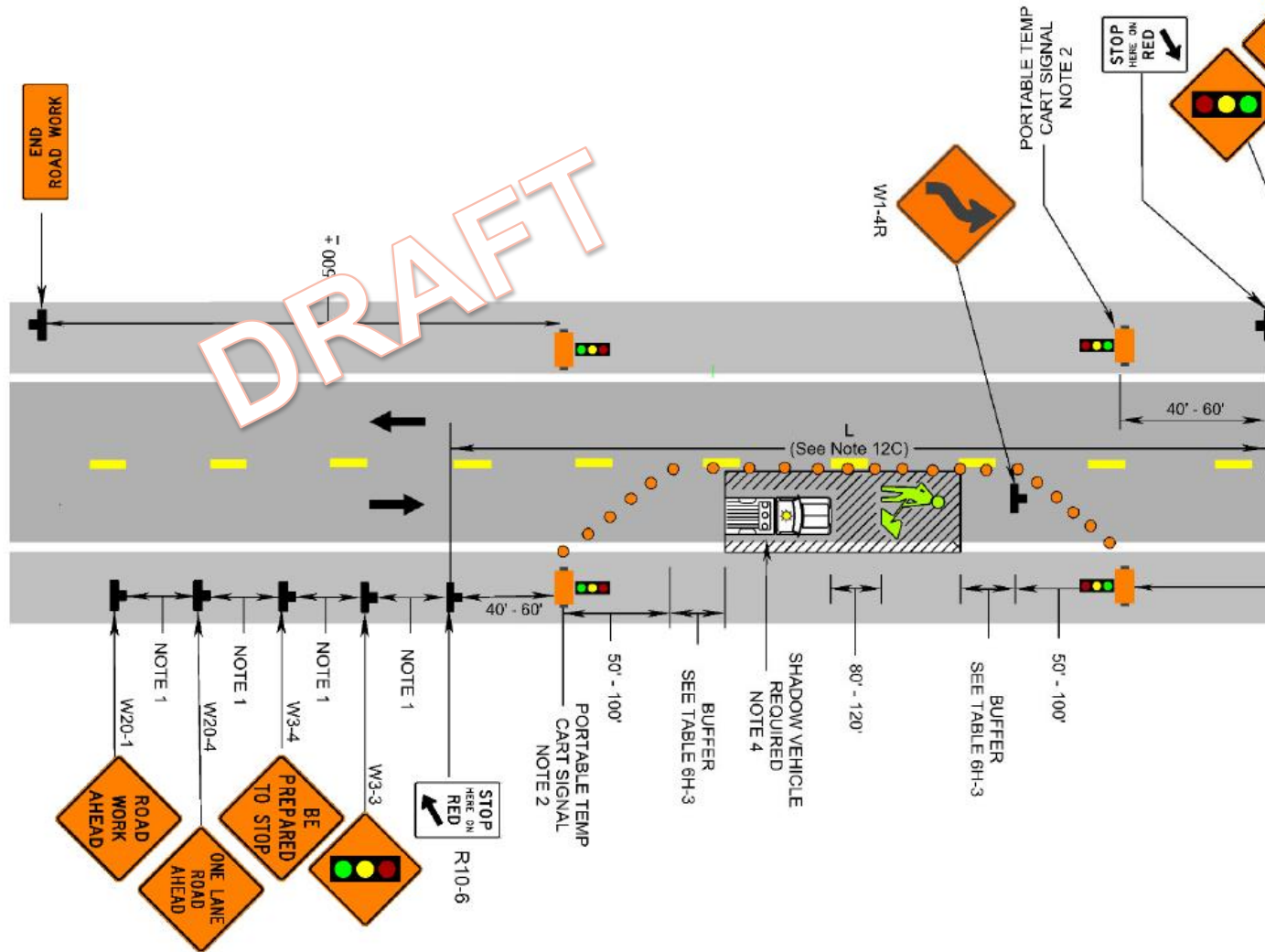
Benefits:

- Quick deployment – “Cart” portable signals can be quickly deployed, even on narrow shoulders
- Operated autonomously without on-site operator
 - Trained operator must drive both directions to assess operations immediately after
- Less room for human error than traditional flagging
- VDOT does not require PTRS for portable signals



Drawback: human being not present to raise alarm when an errant driver approaches

Single-Lane Closures | Draft Signals TTC

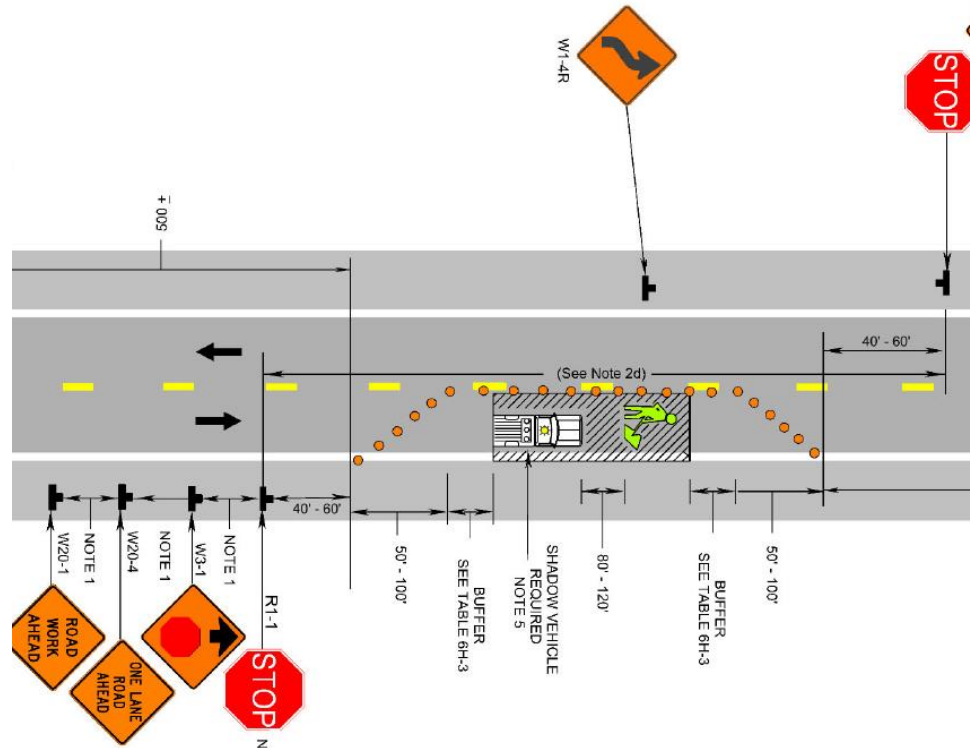


Single-Lane Closures | *Potential 2025 Pilots*

- **Proposing to pilot “Alternating Lane Closure Service” Special Provision on select 2025 paving schedules**
 - SP would only apply to short-term work zones (a single manned shift)
 - Single pay item gives greater flexibility to choose either AFADs or traditional flaggers
- **Separately considering options for piloting “cart” signals**
 - Portable cart signals allowed under current policy under certain circumstances, if approved by District Traffic

Single-Lane Closures | *Stop/Yield Control*

- In limited situations, VWAPM allows for control of traffic using just stop/yield signs



Misc WZ Updates | *New Work Zone Safety Checklist*

- **Reminder: VWAPM Sec 6B.01 and Sec. 512.03 govern when Contractors must fill out the WZ Safety Checklist**
- **VDOT is piloting migration to tablet-friendly format**
 - Facilitate easier data collection
 - Dashboard-style analysis
- **Implementation details for Contractors TBD**

Form #TE-97001
TRAFFIC ENGINEERING
CONSTRUCTION / MAINTENANCE / UTILITY / PERMIT

WORK ZONE SAFETY CHECKLIST

URGENT CORRECT IMMEDIATELY (I)
5 = WORKING DAYS TO CORRECT (I)

WHEN URGENT IS MARKED
DENOTE ITEM

RESIDENCY: _____ CONTRACTOR / AREA HEADQUARTERS: _____
CITY / COUNTY: _____ PROJ. NO. / PERMIT NO. / LOCATION: _____
TYPE OF OPERATION: _____ DAY / DATE: _____ TIME: _____
PERSON IN CHARGE: _____ POSTED SPEED: _____ MPH
WEATHER CONDITION: _____ DAY OR NIGHT WORK ☐ IN ☐ NOT IN PROGRESS

A. DRIVE THRU:
ARE MANEUVERS DIFFICULT OR UNEXPECTED? ☐ YES ☐ NO
ADEQUATE WARNING OF HAZARDS? ☐ YES ☐ NO
IS SIGNING CLEAR / UNCLUTTERED AND PROPERLY SPACED? ☐ YES ☐ NO
ARE TRAFFIC CONTROL DEVICES SUFFICIENTLY VISIBLE? ☐ YES ☐ NO

B. SIGNS:
☐ ADEQUATE ☐ INADEQUATE
NEED TO BE (REMOVED / REPOSITIONED / COVERED) ☐
NEED (CLEANING / REPLACEMENT) ☐
CONFLICTING (PERMANENT / TEMPORARY SIGNING) ☐
NON-APPROVED SIGN SUPPORT BLOCKED BY VEGETATION ☐

C. COMMENTS:

D. ARROW BOARD:
☐ ADEQUATE ☐ INADEQUATE
MALFUNCTION (BULB OUT, ETC.) ☐
INCORRECT PLACEMENT ☐
MISALIGNED BULBS ☐
NOT DIMMED AT NIGHT ☐

E. COMMENTS:

E. DRUMS = D / OTHER = O: **D** **O**
☐ ADEQUATE ☐ INADEQUATE
INAPPROPRIATE TAPER LENGTH
SPACING INADEQUATE (TO LONG / TOO SHORT
(REPAIR / CLEAN / REPLACEMENT)
REFLECTIVE BANDS (DAMAGED / MISSING)
ON DRUMS / OTHER DEVICES
ADDITIONAL DEVICES NEEDED
MISALIGNED

F. COMMENTS:

Misc WZ Updates | *Training Program Improvements*

- **VDOT is considering the following process improvements for its Basic/Intermediate/Advanced Work Zone Certification programs:**
 - DocuSign portal for Instructors to upload class results
 - Migrate away from current paper/pencil “fill in bubble” test
 - Simplifying Intermediate WZ Instructor requirements
- **To be discussed further at upcoming Industry forum**

The image shows a form titled "2019 Intermediate Work Zone Traffic Control Training Exam Participant's Answer Key". It includes a VDOT logo, a yellow confirmation statement, and fields for Participant Printed Name & Signature, Test Date, Score, and Instructor's Printed Name & Signature. Below these is a "VDOT Intermediate Work Zone Traffic Control Training Exam and Make-up Exam Participant's Grading Key" table with columns for A, B, C, D, E, T, and F, and rows for test questions 1 through 40.

VDOT		VDOT	
A	B	A	B
1. 0 0 0 0	14. 0 0 0 0	27. 0 0 0 0	39. 0 0
2. 0 0 0 0	15. 0 0 0 0	28. 0 0 0 0	40. 0 0

Misc WZ Updates | *Speed Safety Cameras (SSCs)*

- VSP is still finalizing their SSC vendor selection
- SSCs will be piloted at 5 long-term Interstate work zones as soon as contract is finalized (hopefully Spring 2024)
- Reminders:
 - Only VSP's vendor will operate SSCs on Interstates
 - Local law enforcement may operate SSCs on non-limited access work zones if VDOT grants a Land Use Permit



Misc WZ Updates | *National WZ Awareness Week*

- Mon April 15: WZ Safety Training Day
- Wed April 17:
 - VDOT Worker Vigil @ Afton Mtn Memorial (4-6 pm)
 - Go Orange Day
- Thurs April 18: Social media storm
- Fri April 19: Moment of Silence





THANKS!