2014 VDOT Asphalt Seminars
Feb. 20 – Fredericksburg | Feb. 25 – Richmond | Mar. 11 – Blacksburg
Pavement Marking Issues & Answers

Vanloan Nguyen, P.E. & Harry Campbell, P.E., PTOE
Traffic Engineering Division
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Agenda

- Traffic Engineering Division (TED) Overview
- 2013 Pavement Markings – Year In Review
- MOT & Signal Issues
- 2013 Paving Schedule – Pavement Marking Changes for 2014
- Looking Ahead to 2015 (2014 Schedule)
- Questions & Answers

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TED Overview | Stakeholders Engagement for Policy Development

- **Stakeholders & Partners:**
  - **VDOT**
  - **Industry**
    - Contractors, Manufacturers, Consultants, Industry Associations
  - **Partner Agencies**
    - FHWA, Localities
Division Overview | Traffic Engineering Specifications Oversight Areas

Division VII
- Section 700 – General
- Section 701 – Traffic Signs
- Section 702 – Delineators
- Section 703 – Traffic Signals
- Section 704 – Pavement Markings & Markers
- Section 705 – Lighting Systems

Other Divisions
- Section 238 – Electrical & Signal Components
- Section 246 – Pavement Markings Materials (jointly w/ Materials Division)
- Section 247 – Reflective Materials (jointly w/ Materials Division)
- Section 512 – Maintaining Traffic
2013 Markings – Year in Review | *Issues Encountered*

- Late installation of temporary markings
- Late installation of permanent markings
- Permanent markings not matching existing markings layout
- Scheduling and coordination issues
- Permanent markings not adhering to the pavement (especially Class B Type VI Tape)
- Snowplowable Raised Pavement Markers (SRPMs) not properly protected
2013 Markings – Year in Review | Issues Encountered
2013 Markings – Year in Review | Issues

- 2013 was an unusually wet year for much of VA
- 14-day window for installation of permanent markings
- Coordination - asphalt prime and marking sub:
  - Prime includes pavement marking work in the Two-Week Look Ahead
  - Prime keeps the sub informed of his schedule
  - Coordination essential with B-VI Tape which must be installed with the last pass of the asphalt roller
- Inspector availability
- Sub showing up unprepared or not scheduled
- The language in special provision needs to be clearer and implemented uniformly
Cover the entire SRPM by an approved method:
- Recommend 24" x 5" piece of thick cardboard or other approved material covering the entire SRPM, including 12" in front of and behind the SRPM center
- Covering held in place with tape from all sides
- Lens visible from both sides and not damaged during completion

Prevent any adhesive or asphalt from contacting the lens (no duct tape on the lens)
2013 Markings – Year in Review | What Went Right

- Areas reported their projects had no major issues:
  - Markings went in on time
  - Quality workmanship occurred
  - Permanent markings OK so far
- Having Temporary Markings as a separate pay item may have resolved some of the issues from previous years
- VDOT/VAA Co-op
- Industry came to VDOT openly admitting the issues.
Ensure that “Rough Road” and/or “Loose Gravel” and “Uneven Lanes” signs are placed far enough back so that motorcyclists can react.

Conditions where shoulder is gravel and trucks veering onto the shoulder kick the gravel into the road.
MOT & Signal Issues | Improving Credibility of Temporary Signs

- Install and remove signs based on conditions
- Retroreflectivity of signs
- Extend the legs of the stand
- Add sandbag to each leg of sign stand for the following signs:
  - Rough Road
  - Grooved Pavement Ahead
  - Bump
  - Unmarked Pavement Ahead
  - Stay in Lane
  - Do Not Pass
2011 Special Provision for loop installation – Flexibilities

Ensure loops are placed back in the correct position

- Critical for safe and efficient signal operations
- Correct placement relative to stop lines

Loop wires & lead-in cables in Junction Box – make the right connection
2013 Paving Schedule – Pavement Marking

| Summary of Changes & Plans for 2014 |

- **VAA/VDOT Pavement Marking Meeting on Dec. 19, 2013**
- **Addendum issued Jan. 14th**
- **Upcoming outreach to Inspectors**
- **Upcoming outreach to Districts**
- **Hope for a dry season!**

2013 Paving Schedule – Pavement Marking Changes | Addendum to Pavement Marking Special Provision

- 30 calendar-day (not 14-day) for permanent markings
- Changes to moisture test requirements for temporary (but not permanent) markings
- VDOT may direct contractor to install temporary markings on moderately wet surface (VDOT to pay for subsequent re-application – if needed)
- Temporary or Permanent Markings required on Interstates before opening to traffic
- Type F temporary paint shall be 100% width, minimum 15-mils thickness on non-final surface

Make sure you read the Notes specific to each route on the schedule!
Looking Ahead to 2015 (2014 Schedule)

- **2015 Pavement Marking Special Provision**
  - Consistent with the improved Section 704
  - Incorporate language of draft 2014-15 Specifications (draft previously reviewed by the Industry, edited and sent to Construction Div)
  - Improve organization & clarity – maintain content
  - Draft submittal to VDOT staff for comment ASAP
  - Make Revisions and send to Industry for comment
  - Meet with Industry and finalize

- **Other potential initiatives:**
  - Guidance for assembling quantities
  - Improvements in pavement marking certification course materials
Looking Ahead to 2015 | Potential Changes to Special Provision & Policy

- Improved B-VI marking guidance
- Basic requirement for documentation of existing markings before starting resurfacing
- Eliminate 24-hours-after-rain rule (as long as surface still meets VTM-94 moisture test)
- Immediate marking of Interstates and 55 MPH or greater Freeways (limited access segments)
- Critical markings such as at high speed multi-lane signalized intersections and segments must be specified in PMSS with temporary & permanent marking time frames.
Looking Ahead to 2015 | Potential Changes to Special Provision & Policy (cont.)

- Specify method to eliminate impacts on existing SRPM reflectors
- Incorporate changes to draft 2014-15 specifications related to permanent marking materials
- Additional clarification on when other temporary markings are required:
  - Edge lines
  - Stop lines at major signalized intersections
  - Other markings – RR Xings, etc.
## Looking Ahead | Comparison to Other States

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<th>State</th>
<th>Deadline for installation of temporary or permanent marking</th>
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| Virginia      | • *Old* special provision: within 24 hours (roads with ADT > 10,000)  
• *New* special provision: *before opening to traffic* on interstates                                                |                                                   |
| Maryland      | Lane lines and centerlines must be down *before opening to traffic* (all roads)                                            | SHA Pavement Marking Manual (June 2012)           |
| North Carolina| All markings by *end of day* (for freeways and interstates)                                                                | Standard specifications – Section 1205            |
| West Virginia | • *“Interim”* markings (removable tape) must be in place *before opening to traffic* (item is incidental to MOT pay item)  
• Temp markings must replace interim markings within *3 days* of completion of the final surface                      | Standard Specifications Section 401.11 & 663      |
| Tennessee     | Lane lines and centerlines must be down *“before dark hours”*. Short unmarked segments are not allowed.                     | Standard specification 712.06                     |
| Kentucky      | Lane lines, centerlines, and (on interstates/freeways) edgelines shall be installed *before sunset*                         | Standard specification 713.03.03 & 112.03.11      |
| Wisconsin     | Temporary or permanent markings must be down *by end of day* on all projects.                                             | Standard Specification 649.3.1 and 646.3.1.2      |
| Delaware      | Temp markings must be down *before opening to traffic*                                                                     | Temporary Marking Policy                          |
The paving job isn’t done until the pavement markings are done!
QUESTIONS???

TED Info & Contacts:

- TED Assistant Division Administrator (TCD):
  - Vanloan.Nguyen@VDOT.Virginia.gov
- Pavement Markings, Signs, and coordination of TCD Specs/Standards:
  - Harry.Campbell@VDOT.Virginia.gov
- Temporary Traffic Control:
  - David.Rush@VDOT.Virginia.gov
- Temporary and Permanent Traffic Signals:
  - Don.Robbins@VDOT.Virginia.gov