

## TEO TTC Committee – Quarterly Meeting Minutes

### May 6, 2014 - Arden Hills Training Center

CO Members:	Greater MN Members:	Metro Members:	Guests:
X - Ken Johnson X - Ted Ulven - Michelle Moser X - Craig Mittelstadt X - Leigh Kriewall - Bob Vasek X - Sue Lorentz X - Kathy Schaefer X - Todd Haglin	X - David Mavec D1 - Todd Larson D2 - Jerilyn Swenson D3 X - Tim Janski D3 X - Les Bjerketvedt D4 X - Jeff Rieder D6 X - Scott Thompson D7 - Brad Bruegger D7 - Ryan Barney D8 X - Jeff Knofczynski D8 - Rachel Guan D8	X - Tiffany Dagon - Jonathan Re X - Scott Meier X - Kevin Farraher X - Sheila Johnson X - Dave Tody - Jeff Gibbons - Rod Clark - John McClellan	X - Adam Wellner X - Andrew Deming

#### **DISCUSSION TOPICS (Updates, new business, and questions for the committee):**

##### **Minutes from the January meeting:**

The minutes and action items from the January 28th meeting were reviewed and approved. The membership list will be updated.

##### **The MN MUTCD allows several operating modes for the Flashing Arrow Board. Most Districts seem to use the Sequential Chevron; should this be a MnDOT standard, guidance, or best practice?**

A “flashing arrow” mode is often used on pavement marking vehicles and for FIRST operations. Other than those exceptions, most district members said they typically use the “sequential chevron” mode. This is the preference in Maintenance and Construction and has been so since the Flashing Arrow Boards have been in use. Since three modes are now available, the committee was reluctant to select one as a standard and asked for more information regarding research on the subject.

**Action item:** Craig, Sue, and Ted will discuss this topic with other states at the Midwest Work Zone Roundtable meeting in May and seek additional research on arrow board modes.

##### **Is the labeling requirement for DG3, IX, and HP sign sheeting still needed on construction signs?**

From the Approved Products List for sign sheeting for construction signs, there is a link to a document showing labeling requirements. A small black decal on the sign face is supposed to identify it as having DG3, type IX, or HP sheeting. This is an aid for the construction inspectors to readily identify the signs as in compliance with the standard.

Apparently not all signs are being labeled in the fabrication process and when notified of the labeling requirement, the stickers are added to the signs in the field. This is not really the intent of the requirement and some miss-identification may be occurring. The committee discussed if this labeling requirement should be retained or eliminated. They felt it should be retained.

##### **Action item:**

The labeling requirement will be retained and the contact information will be updated.

**Modification of the WZ SL utilizing a DSD system for movable work areas:**

D1 has a project that will use a Workers Present Speed Limit (WPSL) on a Cable Median Barrier Installation project. The project is approximately 30 miles long and will typically have a daily lane closure of 3 miles in length. To improve the impact of the temporary WPSL, the contractor offered to place a DSD with the WPSL at the beginning of the work but not repeat the signs every mile as is typical. Construction has accepted this substitution and Traffic will monitor and review its effectiveness. When using either setup layout, the committee thought it important to assure that in place, higher SL signs are covered. Also mentioned was that this would be a type of project in which an Electronic Speed Limit (ESL) would be ideal. Also noted: Current legislation under consideration at the Capital may require a WPSL on many projects and not allow this type of substitution.

**Action Item:** Dave Mavec will report back to the committee at the August meeting on results.

**Best Practices for TC during CMB repair work. Layout 2, Work on Shoulder, has been used for Cable Median Guardrail repair on interstate highways. Is this adequate TC for high speed and high volume? Some other questions from the district were addressed.**

As CMB installations increase, District maintenance staff spends more time maintaining this product. D1 Maintenance Crews are experiencing this and Dave Mavec asked the committee how other districts were completing these tasks. Repair efforts can vary greatly with minor damage easily and quickly repaired from the median side or with a short duration lane closure on the traffic side. More serious repairs are typically accomplished with a static lane closure and in the Metro District this is often done at night. Often a protection vehicle shields the repair crew even in a static lane closure due to the close proximity of traffic and little escape room.

The D1 Soils Engineer modified layouts 1 and 7 for some of their coring work. The mods appear to be minor but Dave asked for comments so send them to him, Ted, or Ken as soon as possible. The discussion in this meeting determined they seem to be a normal application of engineering judgment to adapt a standard layout to a particular operation or location.

Kathy Schaefer recently taught some Field Manual Training classes and received some TC questions as well. On TH 53 and 169 in Virginia storms often knock out power to the traffic signals. Temporary Stops are placed on the left and right sides of the roadway but are sometimes ignored by motorists. Some suggestions from the committee include:

- Placing a reduced size stop sign on the centerline of the roadway would increase visibility.
- Deploy “Stop Ahead” signs in advance of the intersection.
- Consider a battery backup signal system if outages are frequent.

Another question was about using a base to hold the flagger staff in place while holding and rotating the staff. The committee did not see an advantage to this and it may be a detriment to the operation of the flagger staff.

A Maintenance sweeping crew asked if they could use a striping layout for their mobile work zone. The committee did not feel the sweeping operation was similar enough to a striping operation. For the sweeping crews, layout 45 was decided to be more appropriate than a striping layout.

**Present “Stopped or Slow Traffic when flashing” sign for IWZ system. Discuss other possible messages.**

A picture of the proposed sign design was displayed and the committee discussed its MN MUTCD compliance. This is much improved from a past attempt by a vendor and now meets MnDOT standards. The legend better fits the panel field and the 8 inch letters for “Stopped or Slow Traffic” are much more visible. “When Flashing” is in 6 inch letters since it is not the primary message and this is similar to the size on permanent signs. The flashing beacons are now 12 inches away from the sign panel as per the MN MUTCD standards.

The committee was favorable to the sign panel design and further discussed the merits of this type of warning system. Last construction season, 5 of the 7 fatalities were rear end crashes in traffic back-ups. This warning system has the potential to save lives. When used for contract work, it will have to be specified that signs and sensors may have to be moved, adjusted, or altered in other ways for best performance. It is always best to have these systems in the plan and ready to use when required, but vendors have stated that they now carry these items in stock and could deploy on short notice.

**Discuss TTC topics for MnDOT to take to the National MUTCD Committee.**

The committee discussed the prohibition of using a FAB on the shoulder of multilane roadways. Some feel that since we have a move over law for Construction and Maintenance vehicles, the arrow is the correct message to the motorist.

**Action Item:** Ken will inform Sue Groth, who is on the national committee, about this concern.

**Overview of research regarding Flagger station changes and enhancements.**

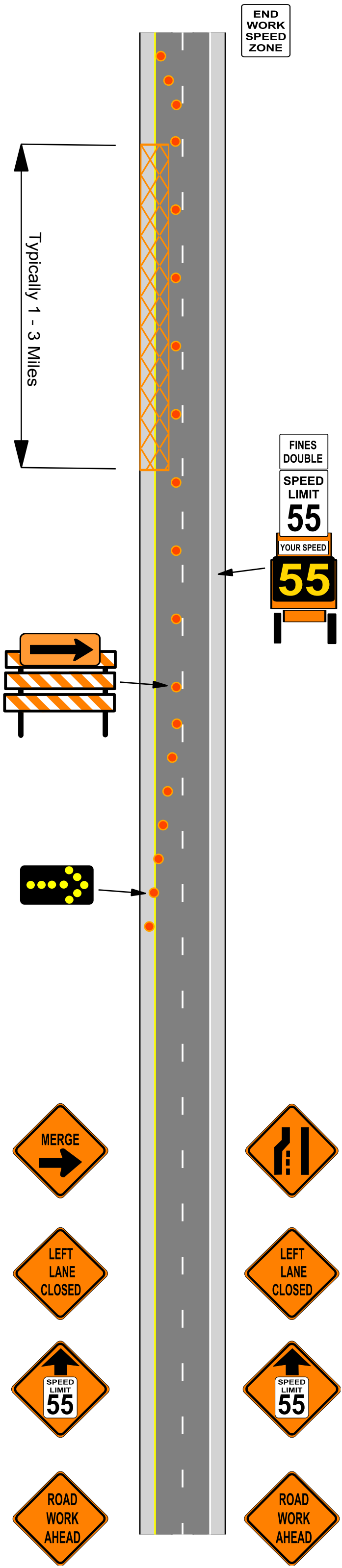
Ken informed the committee of a current research project to analyze and determine what changes in Flagger station devices and signing are effective. Among the questions they seek to answer:

- Is a sign to be used with portable rumble strips to prevent drivers from thinking they are debris and going around them?
- Should cones and a keep right sign be used on centerline to channel and calm traffic?
- Has RWA been used too much and lost its effective message? What other signing could be beneficial?

**Round Robin:**

- Jeff Rieder noted the current Bridge Snooper layouts are requiring TC devices considered optional. The Districts usually set up TC for CO Bridge to do inspections but they cannot provide everything requested. Comment: maybe CO Bridge should acquire these items to bring with them on their inspections.
- Todd Haglin noted that MN OSHA is inspecting work sites and may focus on safety harnesses as well as TC. They have inspected TC on MnDOT projects but are using the wrong standards. Old FHWA MUTCD standards are referenced instead of the current MN MUTCD.
- Tim Janski is inquiring if there is a class regarding standards for inspecting a Work Zone. The committee discussed the merits of a class and referred further action to the Training subcommittee which is meeting May 30<sup>th</sup>.
- Sue Lorentz noted that when the “Bump” sign is used the MN MUTCD shows a “Bump Ahead” sign too. Should there be some guidance on the use of these signs? Brief discussion did not resolve this question; this may be a topic at a future meeting.
- Kathy Schaefer noted that note 3 on layout 4 includes AFAD’s and portable signals among devices that should be marked when stored on the shoulder. These devices should not be stored on the shoulder when not in use, so they may be deleted from the note.
- Dave Tody still sees work zones with poor cone spacing and inactive WZ’s with RWA signs displayed.
- Tiffany Dagan suggested a 24/7 speed limit could be initiated before the work zone to prepare the drivers speed before they encounter the TC devices. The committee questioned if the driver will see the need to slow down at that point. This strategy would be best considered on a project specific basis.

**Next Regular Meeting:** August 5, 2014 at Arden Hill Training Center Rm 11, 9:00 AM



END  
WORK  
SPEED  
ZONE

Typically 1 - 3 Miles

FINES  
DOUBLE

SPEED  
LIMIT

55

YOUR SPEED

55

MERGE

LEFT  
LANE  
CLOSED

SPEED  
LIMIT  
55

ROAD  
WORK  
AHEAD

LEFT  
LANE  
CLOSED

SPEED  
LIMIT  
55

ROAD  
WORK  
AHEAD



# Mn/DOT District 1 Soil Crew Approved Variations

- Approved: \_\_\_\_\_

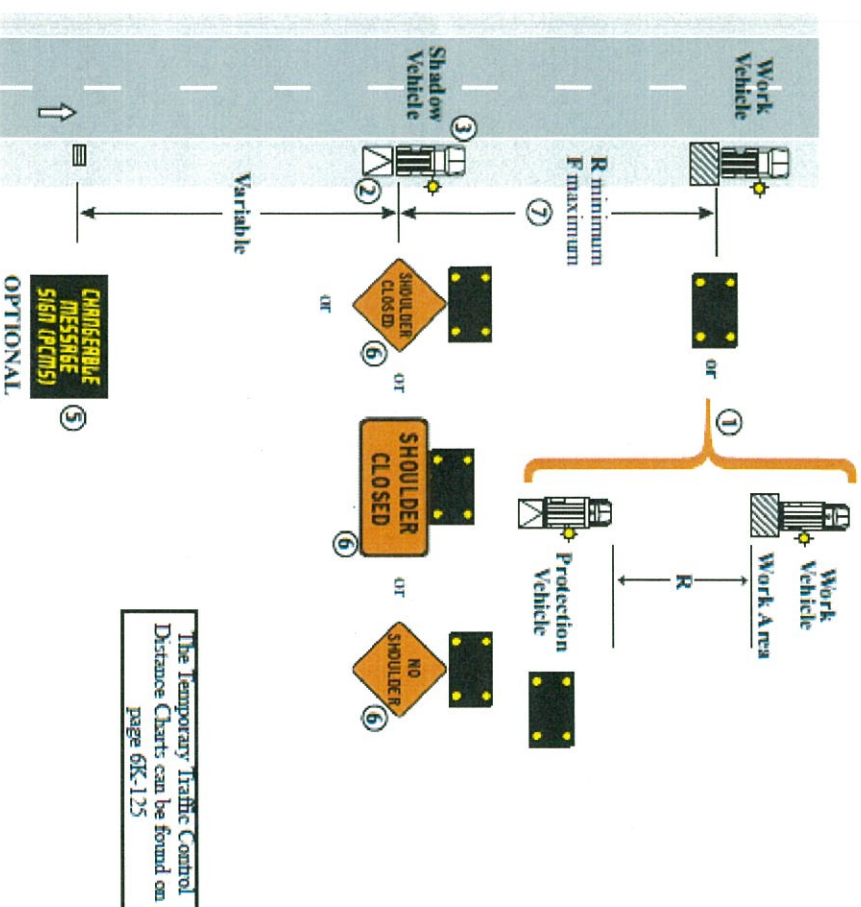
Date:

## Modified 6K-7



# NOTES:

1. A work vehicle without a flashing arrow board shall be followed by a protection vehicle at a distance of **R**. The protection vehicle shall be equipped with a flashing arrow panel and should have a truck mounted attenuator.
2. Any shadow vehicle or protection vehicle operating totally or partially in a traffic lane should be equipped with a truck mounted attenuator.
3. The shadow vehicle or protection vehicle may encroach into the traffic lane when the shoulder is too narrow to drive on.
4. Any vehicle not displaying a flashing arrow board shall display high-intensity rotating, flashing, oscillating, or strobe lights.
5. The PCMS shall be used for nighttime operations.
6. When the PCMS is used, the **SHOULDER CLOSED** or **NO SHOULDER** sign becomes optional.
7. The distance between the work area and the shadow vehicle should be adjusted between **R** and **F** based on traffic volume and sight distance.



## SHOULDER CLOSURE MOBILE AND SHORT DURATION

1 HOUR OR LESS

6K-1

LAYOUT 1

January, 2014

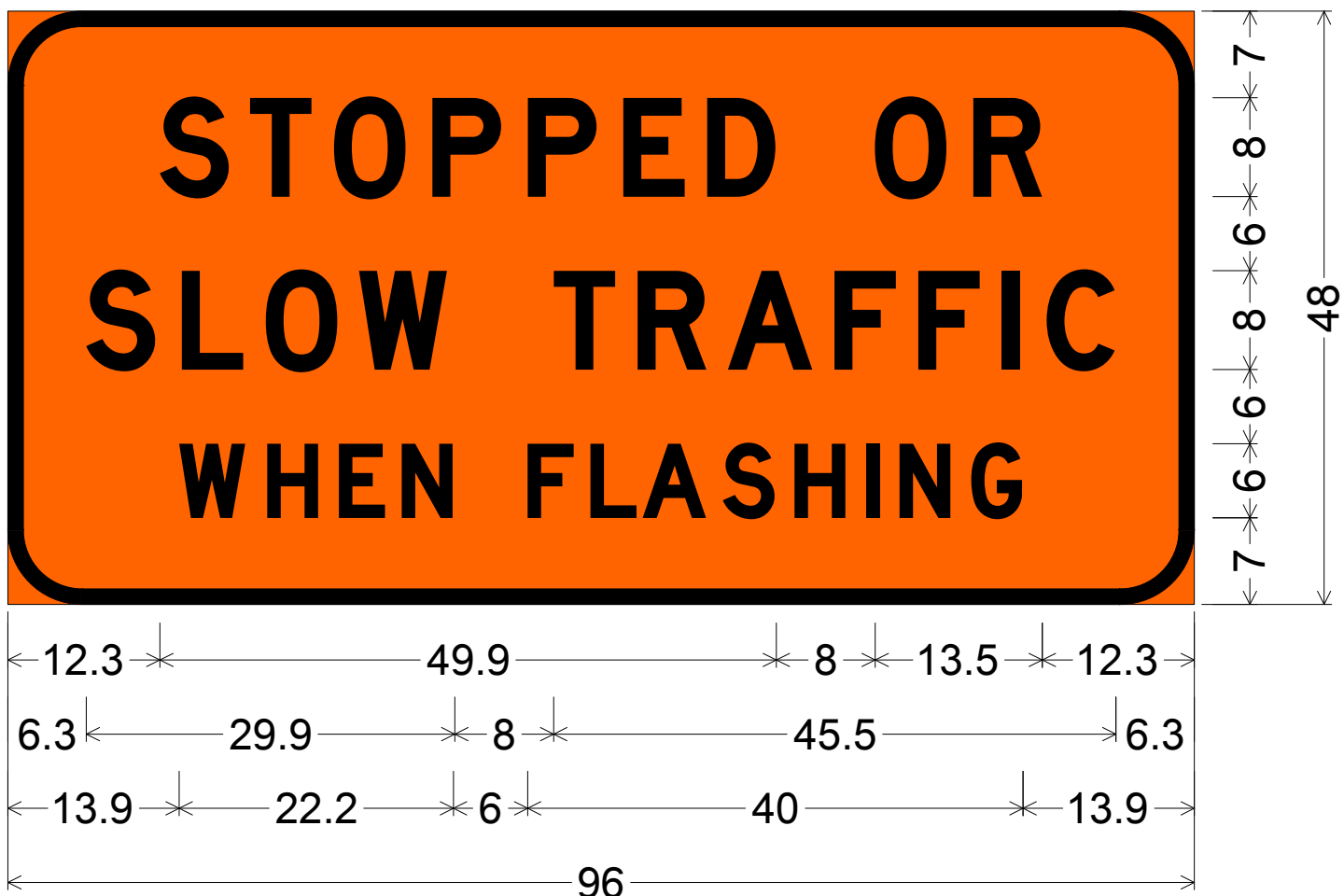
# Work Zone 100% on Shoulders

## Mn/DOT District 1 Soil Crew Approved Variations

- 1) Replace "Shoulder Closed" sign with "Road Work Ahead" sign
- 2) Shadow Vehicle may not encroach into traffic lane.
- 3) Shadow Vehicle may not have a truck mounted attenuator
- 4) No night time work.

Approved: \_\_\_\_\_

Date: \_\_\_\_\_



6.0" Radius, 1.3" Border, Black on Orange;

"STOPPED OR" D Mod; "SLOW TRAFFIC" D Mod;

"WHEN FLASHING" D Mod;



