

TEO TTC Committee – Quarterly Meeting Minutes

August 7, 2012 - Arden Hills Training Center

CO Members:	Greater MN Members:	Metro Members:	Guests:
X - Ken Johnson	- Jim Miles D1	X - Tiffany Dagon	X – Mistiny Burdeinei
X - Ted Ulven	X - David Mavec D1	- Heather Gardner	X – Brett Paasch D7
X - Michelle Moser	- Todd Larson D2	X - Mike Eng	X – Peter Buchen
X - Craig Mittelstadt	- Jerilyn Swenson D3	X - Kevin Farraher	X – Alan Rindels
- Leigh Kriewall	X - Tom Dumont D3	X - Sheila Johnson	
- Bob Vasek	- Justin Knopf D4	X - Dave Tody	
X - Sue Lorentz	X - Jeff Rieder D6	- Jeff Gibbons	
X - Todd Haglin	- Tom Miles D6	- Ed Barrett	
	X - Scott Thompson D7	X - John McClellan	
	- Brad Bruegger D7		
	- Jeff Knofczynski D8		
	X - Mike Lownsbury D8		

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

Member List Update:

Justin Knopf of District 4, Detroit Lakes, replaces Oliver Kendall who has retired.

Action Item: Ted will update the member list and post it to the website.

Minutes from the May meeting:

The minutes and action items from the last meeting were reviewed and approved.

Brief report of the FHWA’s WZ Roundtable meeting:

Craig Mittelstadt and Ted Ulven attended the 2012 Midwest Work Zone Roundtable meeting sponsored by the FHWA. The main topics were summarized and presented to the group. The full report is attached at the end of these minutes.

New Products update:

Michelle brought us up to date on new product issues. Various items have met the criteria to be added to the lists and other items have been dropped due to poor performance or that the company or product no longer exists. Of particular note, PCI has an application active for a steel PPCB cover/sleeve that is used as a transition where two barrier runs come together at a dimension other than 12.5 feet. It is currently being used on a project with a section of tri-beam barrier to bridge the device. The contractor would like to use it without the tri-beam so the crashworthiness is being investigated.

Action item: Michelle will work with the FHWA to determine if the device meets crashworthy standards.

Dynamic Speed Display Signs Tech Memo:

Technical Memorandum No. 07-13-T-04, Dynamic Speed Display Signs, will expire September 10, 2012. It will not be incorporated into the TEM before that date so it needs to be updated with a new Tech Memo.

Action item: Michelle, Ken, and Ted, are working with Heather Lott of OTST Signing so that work zone issues are considered along with the signing concerns.

Maintenance’s plan to conduct a research project to evaluate the effectiveness of LED flashing lights on flexible (Roll-up type) WZ signs. (Sue Lorentz and Alan Rindels):

Alan Rindels presented some information about possible research projects to address the “inattentive driver”. There exist various devices and strategies for grabbing the attention of drivers approaching work zones. It is not known which items or combination of items is best at doing this. Alan suggests some human factors simulation research and proposes that a Project Champion from this group take the lead.

Action item: Of the districts and offices represented in this group, it was thought that this research was most valuable to the Office of Maintenance, so Bob Vasek was recommended to be the Project Champion. Alan will contact Bob to discuss this.

Current Status of Crashworthy WZ sign stands and sheeting compliance:

Craig Mittelstadt summarized some of the issues he is seeing as he conducts his project inspections. Most issues seem related to the large volume of work this season resulting in a very large number of signs and devices deployed. Some projects were found using old signs and devices with noncompliant sheeting. Old drums categorized as unacceptable under our quality specs were being used. Some detour sign stands were not utilizing the crashworthy supports. In all cases, the MnDOT inspectors were informed of the problem and took corrective action. It was thought maybe the 1404 specs should be strengthened to emphasize crashworthiness. Overall, Craig said things have improved since the deficiencies were noted.

2012 WZ Process Feedback Meetings Planning:

Dates have become firm and some focus points for the discussion will include crash reporting, training needs, TMP’s, and WZ reviews. Baxter, D3, will be September 10-11. Detroit Lakes, D4, will be September 26-27. Rochester, D6, will be October 4. Duluth, D1, will be October 10-11.

Action item: OTST will continue to work with OCIC, OM, FHWA, and the Districts to set the agenda and invite the functional group participants. A report will be given at the next TEO TTC meeting.

Request for TCP sheets for use in our TCP design class:

Please send examples of TCP projects to Ken or Ted for use in the upcoming TCP design class.

Action item: Ted will make an email request to the committee members.

Spacing requirement for TRPM’s on PPCB to simulate an edge line:

Mike Engh described a situation where the traveled lane is so close to the PPCB that a painted edge line is impossible to install. TRPM’s are then attached to the lower portion of the PPCB to simulate and substitute for a pavement marking. The spacing for the TRPM’s may be 10-12.5 feet to simulate a solid line according to the MN MUTCD. As the latest PPCB design is 12.5 feet long, it was thought that spacing was logical with one TRPM per barrier piece.

Action item: The template sheet for PPCB will be modified to show an optional TRPM on the lower portion of the barrier.

Information regarding the length of TPAR detour on TPAR signs:

A TCP designer suggested indicating the length of a TPAR detour on the project information signs. The committee discussed this and felt that seldom would the TPAR detour length be so long that excessive drawdown of batteries on electric wheelchairs or scooters would occur. If a very long detour is established, that information could be added to the information signs as we encourage project specific details to be included. The TPAR layout sheet drawings will not be modified.

Construction Sign Designs for the Standard Signs Manual, Standard Signs Summary, and MN MUTCD Appendix C:

OTST is updating the Standard Signs Manual, Standard Signs Summary, and MN MUTCD Appendix C. Our committee was asked to examine the Minnesota-specific work zone signs and determine if they should be continued. We went thru the “R” series and agreed to keep our versions for the most part while adopting the FHWA version when they were similar.

Action Item: Ken and Ted will continue to review the other sign series and bring any questionable or controversial ones to the committee.

Flagging Control Issues:

Ken presented some legislative changes that affect flagging operations and announced that he is part of a working group set up to establish training and qualification requirements for a “Motorcycle Road Guard”. The legislation permits this newly defined individual to control traffic and override traffic signals under certain conditions. The implications of this law on work zone flaggers are not clear at this time but it is possible the MN MUTCD will have to be updated. The 1404 specs will have to be modified if we wish to continue to limit flagger control as is done currently.

Action Item: Ken will learn more about this and report back to the committee.

Updates to the Work Zone Design Tools located on our website:

The last item on the agenda was to review the long and short term layout sheets that our student worker Misty was updating this summer. These are found on our website under “Template Sheets”, are in .dgn and .pdf formats, and may be used in the development of the Traffic Control Plan. Time ran out before completing this item, but as we discussed, Ken and Ted reviewed most of these and verified that they do follow the standards set in 6J and 6K of the MN MUTCD.

Action Item: Ted will work with MIS and the student worker we are keeping on part time thru the school year to get these updates posted to the website. The zipper merge, interim striping, and title sheet, are more complicated and require more input from the committee, so that will be an agenda item for the next meeting.

Round Robin:

- Dave Mavec described some traffic issues with a new J-turn installed in Cotton MN. Some residents were against this from the planning stage and preferred a signal instead. After installation there was a significant amount of misuse beyond what would be expected for the community to become familiar with it. This was attributable to defiance and some enforcement may have to be deployed. Regarding the IWZ project on TH 35 this summer, the static zipper merge and stopped traffic ahead is working well. The travel time for alternate routes, particularly on Sunday PM’s was disappointing and out of spec. It is thought that more sensors would increase accuracy.
- Todd Haglin is concerned about crews working in lifts or bucket trucks over traffic. He has searched for a standard, policy, guideline, or best practice and has found nothing. The committee discussed this and suggested that duration, the specifics of the operation, and common sense should all be considered when working over traffic. It was thought that perhaps a Technical Memorandum would be a way to establish guidelines or a best practice. It was further recommended that Todd present this discussion to the TEO executive committee or the Statewide Work Zone Safety Committee for additional consideration and action. **Action Item:** Ken Johnson will add this as an agenda item at the SWWZS meeting in October.
- Sue Lorentz is forming a Task Force to review and update the Maintenance Manual. Some committee members may be called on to join the effort. She described the “Plan the work, and

work the Plan” strategy being used in D1 and how this approach of increased participation and communication is an example of something that may be included in the revised manual. Sue is disappointed that she has not seen much use of the zipper merge signs in mobile closures.

- Craig discussed the popular extraordinary enforcement program and how it is being utilized on many construction projects this summer. Construction could do a better job at giving the State Patrol direction when they are on site and there is some room for improvement in scheduling, documentation, and billing. He is developing an information sheet to share with the inspectors that will help improve their use of the extraordinary enforcement program.
- Tom Dumont described a major project they plan for next year on TH 94 south of St. Cloud. He plans to utilize IWZ in several ways including travel time, a stopped traffic ahead warning, notice of an alternate route, and a zipper merge set up. D3 management has requested Traffic to do more WZ reviews which may be a result of an increased awareness of the Safety and Mobility Policy. Discussed other concerns with queue forecasting, reporting of backups, and using social media for notifying the public.
- Dave Tody mentioned they now have a Flag Person symbol conspicuity sign available.
- Ken Johnson presented the focus areas for this year’s District WZ Process Feedback meetings. The meetings are a chance for the Central Office to hear concerns about any part of our WZ Process, but this year we are especially interested in TMP’s, WZ Reviews, Training needs, and crash reporting. This committee already has a subgroup to study training issues and it was decided to form another subgroup for the Crash Reporting issue. Thanks to John McClellan, Todd Haglin, Tiffany Dagon, Ken, and Ted for volunteering.

Next Regular Meeting: October 30, 2012 at Arden Hill Training Center Rm 11, 9:00 AM

Report of the 2012 WZ roundtable

By Ted Ulven

Executive summary:

The FHWA sponsors this annual get together and discussion with central office work zone personnel from 9 or 10 state DOT's and agencies. It is usually held in the Quad Cities with either the Iowa or Illinois DOT's hosting the two day event. Questions are submitted in advance to Ken Wood of the FHWA who compiles them and organizes an agenda. I found the meeting to be very informative and helpful, noticing that other states are confronting some of the same work zone issues as we are. I was able to share our practices with TMP's and TPAR where we have taken things a little further than the other states. Craig Mittelstadt of OCIC also attended representing MnDOT and we both had a number of questions for the other DOT's. We learned some things that will help us with our ongoing issues but did not find any easy answers to our common concerns.

Discussion:

The format for discussion was to go state by state and bring up one question at a time. Since Iowa was the host, they began:

Iowa wants to know what other states are using for ITS in work zones? All states were using some form of 511 mostly web based. There was recognition that the needs of the weekend leisure traveler were different from weekday commuters as is different from over the road truckers. The effectiveness of WZ ITS was questioned and Tracy Scriba of the FHWA recommended checking the WZ Clearinghouse, a website message board for work zones issues.

Michigan suggested that this annual meeting include another day or half day for discussing Intelligent Work Zones since it is such a large topic and may involve others than the work zone people attending this meeting. There was a lot of positive discussion with most agreeing that this is an important area that could use more focused discussion and possibly some presentations. With most thinking a separate meeting for IWZ worthwhile, Ken Wood agreed to consider this when scheduling next year's meeting.

Michigan asked about the Late Merge System usage. I pointed out our typical layout and signs in our field manual for short term work but added that most of our use has been in long term work zones and a few permanent installations. I also mentioned our continued public information effort to increase awareness and use of the Zipper Merge. Craig added that it really doesn't add to the capacity and it is still difficult to get people to use it sometimes.

I asked the other states how they determine when to use PPCB to separate opposing directions of traffic when on a bypass. Michigan and Illinois have as a policy to use PPCB whenever divided highway traffic is bypassed. Iowa and Missouri use PPCB in urban areas and not in rural areas. Nebraska would not use barrier to separate traffic. In addition to the commonly used surface mounted tube type delineators, some other items were used such as temporary curbing, Quick Curb, or "bricks". "Sticks and

Bricks” was a new term for me and it was explained that this was tube delineators and large TRPMs. Astro optics was the name of the company and it apparently is much larger than our typical TRPM, several inches high. Some believed this kept truckers from intentionally running over the flexible tube delineators. Craig expressed concern for the danger to motorcyclists.

Kansas asked about a policy for use of positive protection. It seems they had an incident involving a motorcycle, a drop-off, and a lawsuit. Tracy Scriba mentioned that the new federal transportation bill has a requirement for positive protection for worker safety. The Senate version requires PPCB for long duration, high speed, and “no escape” projects. The House version requires it for speeds of 45mph and greater and 2 weeks and longer in duration.

Missouri asked about TMP work in other states. Michigan mentioned using a red, yellow, and green classification. Modeling programs seem to be used by several states. Several were mentioned including CO3, congestion operations software which uses lane capacity and diversion rates. For defining significant projects discussed were exceeding lane closure manual guidelines, interstate projects, major corridors, and exceeding a 30 minute delay. Michigan said they consider a corridor delay which might be 40 minutes on 94 through the state.

Nebraska inquired about how other states were complying with ADA requirements for TPAR’s and added that they have a new pay item for an ADA barricade. I pointed out our layouts and device specs in our field manual but mentioned that pay items are a challenge as we only have a lump sum item approved.

Tracy Scriba of the FHWA asked about work zone issues on design-build jobs. She has had comments that TC is noticeably worse on D/B jobs. Her perspective is from projects in the Northeast and those of us in the Midwest haven’t really seen problems. Craig pointed out that the same state specs for traffic control cover the D/B jobs so we haven’t seen problems.

Ken Wood had a few training items. The NHI Work Zone Course for law enforcement officials is being converted to a web based platform. It will be available at no charge for anyone to complete and may be found on the NHI website. Another web based course on Strategies for developing highway analysis will be available for no fee in 2012. This may be found on their homepage in the news items.

Michigan asked about Value Engineering Proposals and the related TMP changes made during construction. Discussion was in particular about proposed changes due to value engineering initiatives. There was a consensus that the TMP should be checked, the designer consulted, and additional impacts considered, before approving any such changes.

I asked what other states are doing when Cable Median Barrier is down due to construction projects. Iowa began commenting that many winter hits and out of service CMB may stay that way until spring. At best, it can take 2 weeks to schedule a crew and replacement parts to repair winter hits. For construction purposes such as building a crossover, Missouri said they would just leave it down and most other states agreed. For crossovers going in the season before, it was discussed that maybe temporary sleeves could be used to maintain the CMB over the winter. For our proposed guidelines, it

was suggested we consider the season or time of year it would be down, the duration of the project, and the distance or shy distance to traffic.

Kansas asked if other states were using a signal or pilot car operation without flaggers. Ken Wood explained that this operation is not yet approved for experimentation but may be soon.

There was some discussion of the Process Feedback reviews required by the Safety and Mobility rule. Ken Wood suggested that we look at some different areas of the process and focus on some of the weak areas. For example we could follow a project through, compare to the TMP, and follow up with a feedback meeting. Compare observed queues and backups verse the predictions of the TMP. An example was given of Maine focusing on training since they were weak in training for the contractor's responsible person. Another tip was to use the Work Zone Self-Assessment score sheet to identify weak areas that could be targeted.

A discussion of the use of Work Zone Speed Limits: Missouri will, in their plans, reduce interstate speed limits 20 mph on most projects but not for maintenance operations. Payment for construction projects was included or incidental to other work. Illinois would reduce the SL by 10 mph during any work and by 20 mph when workers were present. Compliance in rural areas is good but less so in Chicago metro area. Michigan used a double reduction on the interstates from 75 to 60 to 45. Iowa has had a problem with credibility as signs are being left up after crews leave for the day. Nebraska reduces SL by 10 or 20 mph depending on the project. Some use a "when workers Present" sign of flasher lights to indicate the WZ SL is in effect.

Missouri asked about the use of steel plates on the roadway when utility cuts are temporarily covered. Nobody really thought this applied much to state highways other than in a central business district. Ken/ Tracy suggested they check Maryland for some guidance on this subject.

Illinois asked about using flagger/spotters, specifically for trucks entering and exiting work zones. Most states do allow or encourage this, but like Craig mentioned, do not specifically pay for it. Generally it is allowed but not required and there is an issue with spotters slowing down traffic.

Tracy wanted to know about 2L2W operations during the winter season and if centerline tube delineators are used. Minnesota and all other states avoided this due to snow removal operations and used PPCB to separate traffic over the winter.

Michigan wanted to know how others do partial ramp closures specifically when the acceleration area is shortened. I explained our practice of installing a yield sign if there is not adequate acceleration area. Iowa does the same and some states use yields on all ramp entrances.

I asked about crash reports or data and how others acquire this information. Missouri said they receive such information about a month after the incident and review all fatal crashes in work zones. They are able to share a data base with their state patrol but do not get the information quick enough to make real time decisions. Iowa uses a "TraCS" system and has instant access to crash data. It is limited somewhat with the DOB and SS#'s redacted but is searchable. It is even converted into a public

document but without its search capability. They have built a close relationship with their patrol and have trust that has been built over years. They thought the "TraCS" system was used by some 30 other states. Nebraska gets a separate report of WZ crashes from their State Patrol. Kansas has a data base and their State Patrol cooperates. It can be displayed on a map but work zones do not plot since many are short term maintenance operations. They would like to improve this shortcoming.

Missouri has had 6 protective trucks hit the past year in striping train operations and wants to know if they can do things better. Michigan and Illinois use CMS's for advance warning and I referred to our field manual layouts to show that we also use a CMS. Ken Wood suggested they use more durable markings so they would have to stripe less often.

The training requirement of the Federal Safety and Mobility rule were discussed. Iowa requires a trained traffic technician on the Prime Contractors staff. Nebraska has a traffic control manager on its projects. It was thought that there is a shortcoming in not having a process to decertify someone if they are not performing satisfactorily.

For Minnesota, Craig brought up the issue of contractors using to old "H" stands for detour markers. These may not be crashworthy and is causing some concern in construction and traffic. Kansas mentioned NCHRP report 553 would be a good resource for temporary sign designs passing crash tests.

Illinois asked about APL's for WZ devices. Michigan seemed to be going away from that and said they have lists for fewer items than in the past. Missouri doesn't use an APL for WZ devices relying instead on performance based specifications.

Michigan had an issue with sun glare on some east/west routes where lanes were shifted off the pavement joints. It seems the hot tar used to fill the longitudinal joints reflected the sun the same as the solid line lane markings. I suggested painting the lines either wider or using a skip pattern instead of the solid line. Turns out they widened the lines and that seemed to help.

Michigan had concerns with contractors failing to fully remove signs and devices before the winter plowing season began. Craig said we had the same problem until the specs included monetary deductions and that has improved the process.

Missouri has a problem with contractors moving type III barricades and not putting them back. Most states agreed this is a problem. Iowa supplements the "close tight" requirement with the installation of orange plastic snow/construction fencing from side to side. I saw this practice on a ramp on the return trip and it looked very effective.

Michigan asked about warning lights on signs and drums. They were looking for some backing for removing them but the TC contractors want them. Ken Wood mentioned that the newest sheeting materials are far superior except possibly in foggy conditions where the warning lights may outperform the retro reflective behavior of sheeting.