



T² Center Moves Courses Online

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From the Desk of the Director

By Khaled Ksaibati

The past few months were challenging for us here at the Wyoming T2. The Covid-19 virus impacted our training schedule significantly and resulted in cancelling or postponing a significant number of our training sessions. Despite of that impact as you will see in the articles included in this issue, we were able to slowly move toward on-line classes for some of our important events. In addition, we will be presenting more face to face training sessions while following all health department's guidelines. Hopefully, you will all take advantage of these training/certification opportunities.



On a different note, the center mailed crash reports to all counties a month ago. Bart has already been in contact with most counties to identify low cost safety improvements on eligible roads. Remember that the deadline to submit applications to WYDOT for safety improvements is September, 15 so please let us know how we can help you to justify your safety enhancement requests.

Late in May, we sent copies of the pavement management system reports to all counties on the Western side of the state. These reports are also posted on our web site. This summer, we are collecting pavement condition data on the eastern side of the state and we are hoping that the data collection will be completed in the Fall sometime.

The T2 center continues to provide support for speed limit setting. We will be doing speed limit studies on several important roads on the Wind River Indian Reservation as well as other jurisdictions this summer. Please let us know if any of your roads would need such studies.

Despite of the initial impact of the Covid-19, we are fully functional and we are providing the services that we normally do on schedule. Please let us know if you need us to provide any virtual training to your employees. The ATSSA / Flagger certification is being fully presented on-line to minimize any potential risk. We are hoping that the impact of the virus will be soon completely behind us so that we are back into normal operation. Stay safe and enjoy your summer.

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Name That Sign:

1.



2.



3.

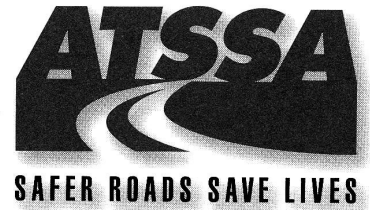


4.



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ATSSA Flagger Certification/ Work Zone Online



By: Austin Woody & Bart Evans

Adaptability has become a common theme for many while finding new ways to work amidst the Covid-19 pandemic. The T2 center has been no exception. With social distancing and group size limits placed on gatherings we were forced to cancel our Safety Congress event in Casper in April. We have usually offered our Work Zone Safety and Flagger Certification courses during this event as road shops and contractors gear up for a busy summer construction season. With construction projects moving forward and certified flaggers still needed we quickly developed a plan to provide these classes and certification testing to an online format.



In early June, the T2 center completed its first online offering of the Work Zone Safety and Flagger Certification courses via an online Zoom video meeting. 13 attendees tuned in from Fremont County, City of Worland and the City of Mills. The online format was well received, with all attendees successfully achieving passing grades on testing materials and becoming ATSSA certified Flaggers. Course materials were identical to our in-person offerings of these courses, utilizing the same PowerPoint presentations, videos and visual aids. Zoom video conferencing capabilities allow for students to interact and provide comments or anecdotes as they would in a live classroom setting. Using this live video capability, we were also able to observe and certify students as they completed the performance portion of their exam by demonstrating proper flagging technique with Stop/Slow paddles and emergency flags.

While the Covid-19 pandemic has created what many are referring to as a “new normal,” highway construction projects are proceeding undeterred. Appropriately trained, certified and knowledgeable flaggers are as vital as ever ensure that these projects can proceed safely. The ability to offer Work Zone Safety and Flagger Certification courses in on-line format is a critical tool for the T2 Center to ensure that this training remains available. Even as gathering size restrictions are eased in the future, offering these courses online will potentially save significant resources and time as it eliminates the need for attendees and instructors to travel hundreds of miles across the state to deliver these courses in-person. As future needs arise to certify additional flaggers, or to update the certifications of existing personnel, we hope that you will keep this capability in mind.

For more information or to schedule these classes please contact Austin Woody at awoody@uwyo.edu or Bart Evans at mevans2@uwyo.edu.



Moving Certification Courses Online



By: Jessica Andersen & Garrett Hartigan

Introduction:

As the COVID-19 virus made its way to Wyoming, the Wyoming Technology Transfer Center and the Wyoming Materials Technician Certification Board (WMTG) made the decision to hold the certification courses for Aggregate and Asphalt in an online format. We understood that these certifications are required for working on WYDOT projects and made the necessary accommodations for the course to be provided online.

The T2 Center offered two online courses: the Aggregate Certification and the Asphalt Certification. The materials covered in both courses were the same as the in-person courses. For the performance sections, videos created by WYDOT employees were provided for demonstrations on how to perform certain tasks and analyses. All instruction was given through Zoom, and instructors were available for questions and assistance, just like the in-person courses.

Zoom Instruction:

To provide instruction for the online Aggregate and Asphalt courses, we used the online video conferencing platform Zoom. Each participant logged in from the comfort of their own homes and offices in order to take the course, and all the class materials were available to them through our website. This was the first time the Wyoming Technology Transfer Center provided online instruction for a WMTG course, and besides a few technical problems, this delivery method turned out to be a success. All participants were able to log into Zoom, there were no issues with the online materials, and the instruction was given in the same amount of time as the in-person course.



<https://zoom.us/download>

Online Exams:

The T2 Center took some time to find the best way to provide the written exam and performance exams. After

some research and trying out different platforms for tests, we found the website ClassMarker. The website is secure and doesn't require the test taker to download any software or create a login. We created a sample test to show the participants how to use the link.

On the day of the tests, we emailed the link to each participant. The website we used required them to complete a test before beginning the next, allowing everyone to take the tests in order. ClassMarker automatically graded the tests, which allowed us to promptly share who needed a retest and to send them the new link. With ClassMarker, the tests were easy to create and participants were able to take them without any issues. After passing the online exams, participants scheduled a time to meet with the WYDT Materials Office for their hands-on performance exams.

ClassMarker 

<https://www.classmarker.com/>

Survey Results:

Following the completion of each online course, we asked the participants to take an online survey through the platform SurveyMonkey. While the Wyoming Technology Transfer Center typically asks participants to take a survey after each course, this one also included some questions to evaluate the success of the online platform. Overall, the responses we received were positive. 88% of all respondents said they would take another online, 92% of all respondents said logging into Zoom was either easy or very easy, and 92% of all respondents said it was easy to take the exams online. Based on the feedback we received, we hope to continue providing online courses.

Conclusions:

Transitioning certifications online was a large success. As always, technology can have issues, but we were able to talk the participants through resolving them. It took a team to prepare everything, but we were glad to hold these courses for all the women and men who need it for their jobs. Our online platform allowed everyone to learn safely in the comfort of their own homes and we hope to provide more online instruction in the future.

Applying the Systemic Safety Approach on Local Roads

Introduction:

Local and rural road owners rely upon crash data to identify and treat safety problems.

The traditional “spot location” approach is focused on treating a specific location based on crash history. The “systemic approach” acknowledges that crash frequency or rates at specific locations alone are not always sufficient to determine which countermeasures to implement and where to implement them. This is often true on low-volume local and rural roadways where crash frequencies are lower and crash data are sometimes sparse or incomplete. Systemic implementation of safety countermeasures helps to address the most serious crash types on the entire road system, not just at specific high-crash spot locations.

The systemic safety approach is a two-pronged effort to reduce crashes and serious injuries on the roadways. This approach offers a means to: (1) identify crash types (e.g. intersection, roadway departure, pedestrians) and the location-related factors that contribute to the highest number of fatal and serious injury crashes of each type, and (2) widely implement low-cost countermeasures over several locations with similar crash characteristics and/or similar roadway features. Typically, systemic safety improvements are low-cost, require little maintenance, have documented crash reductions, and address specific crash types or crash risk factors (e.g., narrow shoulders).

Benefits of Systemic Safety Approach:

The application of the systemic safety approach offers the following benefits:

- Systemic safety improvements can reduce overall fatal and severe crashes of certain types within a jurisdiction more effectively than applying safety improvements at a small number of spot locations.
- The approach allows an agency to adapt for all levels of data availability and can help prioritize data collection needs.
- Countermeasures implemented systemically are typically low-cost improvements.
- Systemic safety improvements can be incorporated

into planning, design, and maintenance policies, defended in tort liability cases, and used to develop a multi-year program of projects.

- The approach can bolster public confidence because it allows the agency to implement a proactive safety program.

Systemic safety improvements can be promoted for future use in written policy, implemented through explicit roadway safety improvement projects, and included in capital projects and ongoing maintenance activities.



Case study-Thurston County (Washington) Public Works Applies the Systemic Safety Model:

Thurston County Public Works selected roadway departures in horizontal curves as their focus crash type based on a review of severe crash data, with 81 percent of the severe curve crashes occurring on arterial and collector roadways. Thurston County identified run-off-road type crashes on horizontal curves for systemic improvement and selected signing improvements on currently signed curves as the most effective countermeasure.

After reviewing crash data linked with roadway characteristics, the county identified the following risk factors to screen and prioritize candidate locations for systemic improvements:

1. Roadway class of major rural collector
2. Presence of an intersection
3. Traffic volume of 3,000 to 7,500 annual average daily traffic
4. Edge clearance rating of 3 (on a scale of 1 to 3)

Continued on next page:

Applying the Systemic Safety Approach on Local Roads–Continued

5. Paved shoulders equal to or greater than 4 feet in width
6. Presence of a vertical curve
7. Consecutive horizontal curves (windy roads)
8. Speed differential between posted approach speed and curve advisory speed of 0, 5, and 10 miles per hour
9. Presence of a visual trap (a minor road on the tangent extended)

Using a weighted scoring process, the county prioritized 270 signed curves for potential low-cost, low-maintenance safety investments with documented crash reductions, including: chevron and large arrow signs, larger signs, rumble strips, barrier delineation, and extension lines.

Upon conclusion of the systemic analysis, Thurston County applied for Highway Safety Improvement Program (HSIP) grant funding using the results as documentation for the request. The Washington State DOT approved the grant and the County is moving forward with implementing the countermeasures identified through this systemic analysis.



Resources

The Systemic Approach to Safety website

(<http://safety.fhwa.dot.gov/systemic/>) provides a variety of resources to support implementation of the systemic approach to safety, including but not limited to:

- The Systemic Safety Project Selection Tool – this tool presents a step-by-step process to conduct systemic safety analysis, considerations for balancing safety investments between spot and systemic safety improvements, and techniques for evaluating the success of systemic safety projects and programs.
- Case Studies – several case studies highlight how other agencies have successfully improved safety through systemic implementations.
- Fact Sheet - this fact sheet provides a brief overview of the systemic safety approach along with the benefits and how it can be used.
- Narrated Presentation – this presentation covers the same materials as the overview flyer and can be presented at public meetings or in meetings with DOT and MPO officials as well as elected officials.

For systemic training and technical assistance, submit a request through the safety peer-to-peer program at http://rspcb.safety.fhwa.dot.gov/p2p/p2p_app.aspx.

This article was originally posted on the FHWA website.

For more information, please visit:

<http://safety.fhwa.dot.gov>

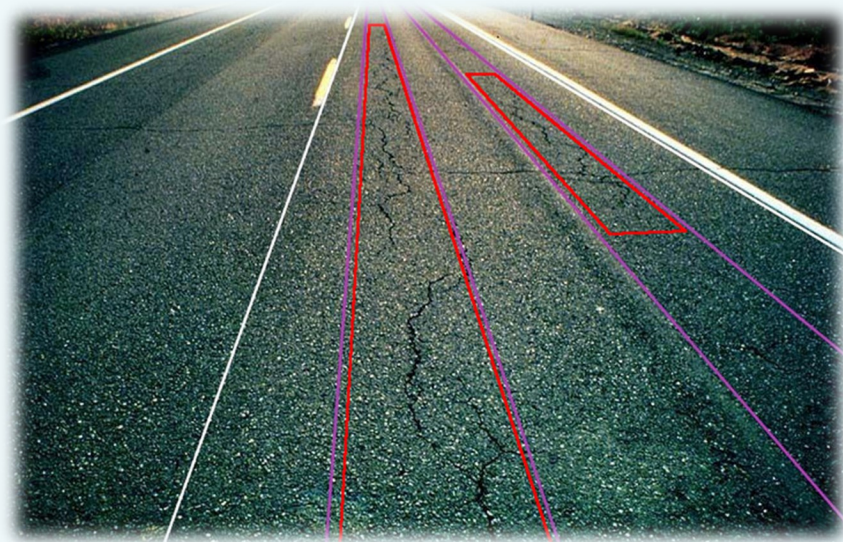


Pavement Management Systems

By: Austin Woody

One aspect of business at the T2 center that has proceeded as planned in 2020 has been Pavement Management System (PMS) county road system reporting. As many of you may know, these reports are compiled annually, on an alternating basis between Eastern and Western Wyoming Counties. The 2019 PMS report focused on data collected in 2019 in Western Wyoming Counties, including Big Horn, Hot Springs, Fremont, Park, Teton, Sublette, Sweetwater, Lincoln, Uinta and Washakie.

The T2 center began producing PMS reports for Wyoming's county roads in 2014. These reports describe pavement condition in terms of rut depth, international roughness index, pavement condition index and pavement serviceability index. Beginning last year with the 2018 Eastern Wyoming PMS report, new data parameters were added to also describe road conditions in terms of average roadway width and with a detailed distress report which defines location and extent of specific types of pavement distress. In the 2019 PMS report we have extended these features to Western Wyoming's county road networks as well. This variety of data parameters allow county road managers to identify areas of concern, predict future maintenance needs and track performance of paved roads between biennial reporting cycles.



Pathways Services Inc.

<http://www.pathwayservices.com/>

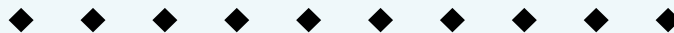
The 2019 PMS reports were mailed to the above-mentioned counties in Western Wyoming in late May, 2020. These mailings include each county's report in printed form, along with a USB thumb drive containing each respective county's video data logs, distress data and digital copies of the report. All data from the 2019 PMS report is also available on the Wyoming T2 Center's website in a comprehensive report for all western counties, as well as in an interactive GIS map displaying the data visually.

<http://www.uwyo.edu/wyt2/>

2020/2021 Safety Congress

Updates:

- ♦ Unfortunately the 2020 Safety Congress was cancelled due to the spread of the COVID-19 Virus. Thankfully, we were able to reschedule the LPA for July 15, 2020 and will have ATSSA/ Work Zone Certifications online.
- ♦ Please email us if you would like to attend an online ATSSA/ Work Zone Certifications and we will set up a suitable date.
- ♦ The 2021 Safety Congress is scheduled for April 14, 2021. We hope to see you there!



Name That Sign - Answers:

1. **Roundabout Ahead**, (prepare to yield)
2. **Steep Descent Ahead**, (drivers may need slow down or shift to a lower gear)
3. **Road Flagger Ahead** (be alert and follow their directions)
4. **Slippery Conditions Ahead** (slow down and look at road conditions)

Upcoming Workshops

July Workshops

- **Unmanned Aerial Systems for Wyoming's Roads-July 8, 2020**
 - **Local Project Administration (LPA)- July 15, 2020**
- **ATSSA/Work Zone *Email us to set up an online certification date***

September Workshops

- **OSHA Training—September 23 & 24, 2020**
- **Preventing Backovers & Runovers—September 24, 2020**

October Workshops

- **Asphalt Paving and Patching for Local Agencies– October 27 & 29, 2020**

<https://www.destinationyellowstone.com/>

For more information and to register for upcoming workshops, please follow the link below.

<http://www.uwyo.edu/wyt2/workshops/index.html>

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