Vol. 33, No. 3 – Winter 2020/2021

The Bridge

A quarterly newsletter from Michigan's Local Technical Assistance Program

Plow truck drivers often find themselves working long shifts and overtime hours. Small lifestyle changes can improve alertness during plowing season.

Plowing through Snow ...and Sleep Disruptions

Sarah Lindbeck, Technical Writing Intern
Center for Technology & Training

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Michigan's Local Technical Assistance Program

We spend one third of our lives sleeping, and it's still a mystery as to why," Jason Carter tells his students every semester. "But we do know this: sleep is an essential part of life for all creatures." Carter is the vice president for research economic development and graduate education at Montana State University where his research focuses on the impact of sleep on cardiovascular health and sports and human performance. Sleep, along with nutrition and exercise, is one of the most important factors that dictate the health and daily performance of a person.

During winter, plow truck drivers in particular may find it difficult to maintain a regular sleep schedule. The National Sleep Foundation recommends seven to nine hours of sleep every night for adults. Between overtime and long shifts during snow storms, plow truck drivers do not always have the option to sleep the recommended amount. For those who cannot get a full night's sleep, Carter says, "I am a huge proponent of napping." Using the lunch time or breaks to nap can have a substantial improvement on alertness and overall cardiovascular health, according to Carter. Slow wave and rapid eye movement (REM) are two important phases of sleep that individuals experience throughout the night. Taking a 30- to 90-minute nap allows individuals to cycle through parts of those phases, which is beneficial to cognitive health and increases alertness.

Additionally, John Durocher, Nils K. Nelson professor of health studies at Purdue University Northwest and adjunct associate professor of biological sciences at Michigan Technological University, stresses the importance of sleeping in a dark, quiet room. Durocher's research focus on proactive approaches to human health. He explains, "Low-light conditions increase melatonin, a sleep hormone, which promotes sleep." Looking at phone or television screens immediately before bed can make it more difficult to fall asleep because the bright lights can cause a decrease in melatonin as well as activate the reticular activating system in the brain, which keeps the body awake.

Regular exercise, as long as it is not done right before bedtime, can also improve sleep, increase alertness, and provide numerous health benefits. The US Department of Health and Human Services recommends adults get a minimum of 150 minutes of moderate-intensity exercise per week, but over 300 minutes of moderate-intensity exercise is even better. "I would much rather use the term physical activity," amended Carter. "Moderate-intensity" activity is defined as movement that is fast or strenuous enough to burn three to six times as much energy per minute compared to when one is at rest. "That could be the more traditional exercise we think of," Carter explained, "or it could be walking your dog or getting out with your family hiking, snowshoeing, or fishing." Regularity and consistency are as important for exercise as they are for sleep.

Nutrition is the third part of the health triad. Good nutrition supports the body during exercise and helps the body remain alert and energized throughout the day. If trying to stay awake during a long shift, Durocher advises against consuming sugary snacks. "A sugary snack would increase glucose for a short period of time, but it spikes insulin, which then causes low blood glucose shortly after which is detrimental to staying awake," he

▶ Plowing, page 11

Letter from the Editor

Lose weight. Exercise more. Quit smoking. Save more and pay off debt. Get a better job. Go back to school. Reduce stress. Take a trip. Do any of these sound familiar to you? Chances are you probably said, wrote, or thought one of these resolutions or a variant of them just a few short days ago on January 1st. What if we changed up that list a bit?

Get more/better sleep. Learn about or try out one new pavement or bridge innovation. Get a commercial driver's license. Improve motor grader skills. Collaborate better.

These resolutions are the focus of the 33.3 issue of *The Bridge*. Inside this issue, we have content that will inspire you to make 2021 a better year yet by getting more/better sleep, being more innovative, gaining education and refining skills, a being a better collaborator.

In these pages, we share insights from sleep researcher that can help plow drivers stay alert during long shifts or periods with frequent overtime. We also look at simple lifestyle changes that can improve the quality of sleep. Plus, we have tips inside this issue for preparing for snow and ice season.

This issue also looks at the Every Day Counts Virtual Summit's Innovation Showcase. We provide a sneak peek at some of the featured innovations submitted by state and local agencies including agencies right here in Michigan! Even though the virtual summit has concluded, there's still time to access the innovation showcase to learn about other innovative methods, tools, materials, and operations.

Also inside, we have valuable information on trainings for commercial driver's licenses (CDLs) and motor grader operation. We overview CDLs, requirements for truck operators, and where to find training and additional resources. We also give you an exclusive look at the newly-revised motor grader training offered by the Michigan Local Technical Assistance Program.

These pages also let you in on the secrets of highly-successful collaborators. You'll learn why video conferencing can make for better collaboration, and tricks and considerations to optimize video conferencing.

Finally, we introduce you to Dewayne Rogers, managing director of Clare County Road Commission. Rogers shares how he's applied innovative materials and techniques to roads in his hometown area.

Sure, New Year's Day is a few weeks behind us now. But, it's never to late to resolve to do something better! Resolve to improve your sleep and lifestyle habits, your use of innovations, your education and skiills, and your relationships today!

In the meantime, if there are training topics or newsletter article topics that would benefit you and your agency, please let us know. In our webinars or virtual events, please share your suggestions with us in our exit polls or event evaluations. Or, share your suggestions with us by e-mail at ctt@mtu.edu, by visiting our conference pages and completing the Present tab form, or by visiting http://michiganltap.org/TheBridge and completing the Topic Suggestions form.

Victoria

What's Going to Happen...

...to County Engineers' Workshop?
...to Michigan Bridge Week?
...to Highway Maintenance Conference?
...to the workshop I was planning to attend?

The Center for Technology & Training (CTT)—home of the Michigan Local Technical Assistance Program—is committed to providing attendees with a healthy, safe learning environment.

Therefore, the CTT is offering a selection of our current events online. So, you won't miss CEW, PASER Training, Bridge Week, or other events. We are bringing several of our regular events and trainings to you virtually or in a hybrid format. In addition, the CTT is offering new events and trainings online. Follow our events on ctt.mtu.edu/training.

Participants in some of our virtual events will have exclusive access to new contests. We ran an ugly snow plow competition during the virtual Winter Operations Conference, and the Michigan Transportation Asset Management Council held an extreme transportation makeover competition during their fall conference. Look for announcements about the contests at our virtual events when you receive your acknowledgement-of-registration receipt.

For on-site events, the CTT will adjust event capacities and food and beverage services. At any time, the CTT reserves the right to replace the on-site session with an equivalent online event on or around the same date(s). The CTT will make every effort to provide sufficient notice of event changes to attendees. All attendees at on-site events must adhere to the social-distancing and face-mask guidelines of the venue as well as any additional guidelines put forth by the CTT prior to the event. ■

Photo: Screenshot of EDC Virtual Summit Innovation Showase

Innovation Repository: EDC Summit's Showcase of State- and Local-agency Innovations

Thomas Page – Technical Writing Intern
Center for Technology & Training

Would a Grease Slinger benefit your agency? Have you ever heard of a Snow Fence Roller?

Participants of the Every Day Counts Virtual Summit in December 2020 had exclusive access to an innovation showcase that featured more than 200 innovations developed by state and local transportation agencies. These innovations included the Grease Slinger and the Snow Fence Roller.

The Federal Highway Administration (FHWA) is wrapping up the sixth round of the Every Day Counts (EDC) initiative, a two-year, state-based effort to promote the use and adoption of unique innovations and new processes created by state and local agencies. As a capstone to the sixth round, the FHWA hosted the EDC Virtual Summit on December 8th, 9th, and 10th.

At the summit, the National State Transportation Innovation Council (STIC) Network hosted an innovation showcase. The more-than-200 innovations, ranging from mechanical devices and software tools to processes and procedures, were presented across eight categories: Asset Management and Finance, Operations, Maintenance and Emergency Response, Design and Construction, Technology and Materials, Safety, Planning and Environment, and Pavement and Structures.

The National STIC Network showcase presented innovations in a poster format. Some innovations had a video presentation either alongside or instead of the poster. Innovations ranged from equipment modified and adapted for new purposes to software tools that aid in asset management, to new processes that improve existing workflows.

The innovations included Build a Better Mousetrap (BABM) competition entries that were elevated to the National STIC showcase. Two examples were Iowa's Snow Fence Roller and Grease Slinger. The Snow Fence Roller (https://tinyurl.com/edc-snowfenceroller) is a device mounted on a skid steer that helps road crews in the time-consuming task of rolling up snowfencing by using rotating power from a hydraulic motor. This reduces the time and labor of rolling 2000 feet of snow fence from three days and four employees to one day and three employees.

The Grease Slinger (https://tinyurl.com/edc-greaseslinger) is a specialized nozzle and spray gun used by the City of Des Moines, Iowa, to clean the microsurfacing sled that's used in asphalt placement. Previously, it took up to 4 hours to re-grease the sled, which requires re-greasing every time it's used and cleaned. After adopting the Grease Slinger, it now only takes 1.5 hours to re-grease the sled.

The City of Canon presented their pipe puller device (https://tinyurl.com/edc-pipepuller1), designed to help prevent breaking drainage pipes during installation. These pipes, made of high-density polyethylene, cannot be sealed properly if the rubber gaskets are broken. Instead of the previous method of pushing the large, corrugated pipes together using a backhoe, the pipes are pulled together using chains and a physical handle made in-house of smaller, metal pipes. Not only does this remove the need for the backhoe to stop digging, the gaskets on the pipes are broken less often—saving time and money.

Other, less physical innovations include Delaware's pothole program (https://tinyurl.com/edc-potholeprogram), an effort that generates weekly crowdsourced reports of pothole locations based on public reports on the smartphone navigation app Waze. Using the app, the public can report the geographic location of potholes on roads. This data is collected and processed to eliminate duplicate pothole entries.

In addition, the Minnesota Local Roads Research Board (LRRB) presented helpful guidebooks in the National STIC showcase. The LRRB guidebook "Guide for Converting Low-Volume Paved Roads to Gravel" (https://tinyurl.com/edc-guidepavedgravel) helps local road managers determine if certain paved roads that are hard to maintain or have little traffic are suitable for conversion to gravel. Their guidebook "Guide for Stream Connectivity and Aquatic Organism Passage (AOP)" (https://tinyurl.com/edc-guideaop) provides culvert design guidelines and best practices for preserving connections between natural waterways and passages for aquatic life. Additionally, the LRRB guidebook "Addressing Citizen Requests for Traffic Safety Concerns" (https://tinyurl.com/edc-guidesafetyconcerns) can help state and local agencies find ways to interact with and engage with the traffic safety concerns of citizens.

Each day of the EDC Virtual Summit also had a one-hour session for submitters to give a six-minute pitch talking about their innovation, how and why they developed it, and why something like it could or should be adopted by other agencies. At the end of the session, participants had the opportunity to ask the presenters questions about their innovation.

Although the EDC-6 Virtual Summit is over, all live sessions were recorded and are now available for on-demand viewing. All on-demand presentations and posters are still available. Registration is free at https://www.labroots.com/ms/virtual-event/fhwa-everyday-counts-6-virtual-summit, and access will be available until December 2021. Check out the virtual summit today! ■

▸ continued on next page

Cold In-Place Recycling with Double Chip Seal

A New Solution to An Old Problem

OVERVIEW OF INNOVATION

Cold In-Place Recycling (CIR) utilizes existing, in-place materials to create stronger, more durable road bases capable of withstanding the harsh effects of winter while simultaneously saving time and money and reducing carbon emissions and the use of raw materials relative to traditional reconstruction methods.

Traditional roads, which are constructed with aggregate bases topped with hot mix asphalt (HMA), derive upwards of 60% of their strength from the HMA. Additionally, due to significant increases the cost of HMA over recent years, the bulk of the cost of constructing these roads involves placing the HMA. The result is a more expensive road that is still extremely susceptible to traditional failure methods due to the inability of aggregate base material to withstand moisture penetration and temperature fluctuations.

Due to inadequate funding for local roads in Michigan, there exists a disproportionate number of roads that require reconstruction. Road departments, even with township participation, are unable to fund reconstruction projects, in large part due to current HMA pricing.

The Jackson County Department of Transportation (JCDOT) recently completed a pilot project aimed at solving this problem. Town Road, a 1-mile, hard-surfaced road in rural Jackson County, was recycled by JCDOT crews utilizing a CIR process with foamed asphalt to create a new, robust road base. This new rec... itself, and greater resist... temperature when com... result, JCDOT was able ... 40% over traditional ... affordable alternative f... which may otherwise ha...

Image 1: Old Road to New Base

Image 2: Double Chip Seal Over Recycled Base

Source: Jackson County Department of Transportation

BENEFITS

In addition to significant reductions in time, cost, and environmental impacts associated with construction, cold recycled materials provide a structural rating that is 70-90% of that of asphalt, most of which is retained

FIND OUT MORE . . .

- JCDOT CIR In Action – MLive Feature https://www.youtube.com/watch?v=n97h99MqdT8
- Why Recycling and Reclamation? https://roadresource.org/recycling
- Cold In-Place Recycling https://roadresource.org/treatment_resources/cold_in_place_recycling

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Wexford County Pavement Underseal

OVERVIEW OF INNOVATION

An underseal is a pavement repair treatment which consists of a chip seal followed by an HMA overlay. The Wexford County Road Commission has been using underseals for 10 years and for the past 3 years has rarely performed an asphalt overlay without one. An underseal provides an interface that delays cracks from moving up into the pavement surface. It helps maintain base strength by preventing moisture intrusion. It delays underlying pavement layers from concentrating stresses at cracks that would reflect through the top course of the new asphalt overlay.

Types of distresses underseals help mitigate:

-Thermal cracking

-Wheel track cracking

-Alligator cracking on roads with good cross slope

-Significant edge cracking

-Swamp roads t...

-Old low volum... combination wi...

Two separate projects that are a mile apart with different results:

Ten years later with underseal

Six years later without underseal

BENEFITS

The underseal provides multiple benefits that increase the serviceable life of the pavement.

FIND OUT MORE . . .

Karl Hanson, PE
Wexford County Road Commission

Pre-cast Concrete Connections: Creating longer lasting connections with Ultra High Performance Concrete (UHPC)

OVERVIEW OF INNOVATION

Creating longer lasting connections with UHPC

Connections between pre-cast units have historically been the first failure point of superstructures. When not noticed and addressed quickly enough, the beams undergo undue stress and start to fail prematurely. Creating a more resilient joint helps the pre-cast components act as a unit as intended. UHPC is virtually waterproof by nature and reduces the potential for water and chemical intrusion into the superstructure. Intrusions lead to failure of the reinforcing steel and can go unnoticed for years.

UHPC has high tensile and compressive strengths which allows for smaller joint design sizes and less work to be completed by field staff. A recent joint design was further modified to create a closed bottom and reduced the onsite joint forming time significantly.

BENEFITS

Smaller and more resilient connections reduce future maintenance costs, provide smaller area for failure, and provide motorists unobstructed use the bridge for future years.

FIND OUT MORE . . .

FHWA Video
https://youtu.be/xH0LTG5i5jw

University of Michigan Video
https://youtu.be/EfCaId0LzIE

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Products, Structures, Materials

Spotlight on Michigan Innovations

in the EDC Virtual Summit Innovation Showcase

Concrete Lining of Deteriorated Steel Culvert Inverts

Kent County Road Commission

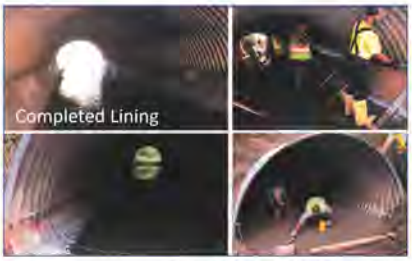
OVERVIEW OF INNOVATION

The Kent County Road Commission (KCRC) has developed a low-cost and low-impact repair technique for the organization's corrugated steel culverts with corrosion located in the lower portion of the culvert. The process involves placing reinforced concrete that is tied to the existing structure. The repair is expected to extend the life of the culvert at least another 25 years at a fraction of the cost of a more substantial upgrade.

To accomplish the repair, water flow is diverted from the barrel, which is then power washed to remove loose material like scale and algae. Where possible, anchor bolts are attached to existing splice bolts to tie the repair to the culvert. Reinforcement, such as galvanized or epoxy coated wire fabric, is added. Concrete is then is placed on the floor of the culvert. While concrete cures, vertical walls are formed along the barrel's haunches which then receive anchors, reinforcement and concrete. Upon completion, forms are removed and flow is reestablished.

Depending on site conditions, this repair process alone can impair hydraulic performance. To mitigate these factors, wingwalls are usually added to the upstream side of the culvert. Despite a slightly smaller cross section, the combination of a smoother invert and the benefits wingwalls provide usually improves hydraulic performance overall. This is an important factor when seeking regulatory approval.

In addition to its cost benefits, this type of repair has less impact to stream and traffic flow than a complete culvert replacement.



Source: Kent County Road Commission

BENEFITS

The repair is expected to extend the life of the culvert at least another 25 years until funds allow for a more substantial upgrade. The repair process has less impact on the stream and traffic flow than a total replacement and, given the repair's relative low-cost, KCRC can address more culverts per year with the same funds. This cost efficiency helps to keep the county network of structures in better condition.

FIND OUT MORE . . .

- www.kentcountyroads.net

Kent County Road Commission

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- Processes, Asset Management, Maintenance

Unmanned Surface Vessels for Bridge Scour Inspection

MDOT Michigan Department of Transportation

OVERVIEW OF INNOVATION

An unmanned surface vessel (USV) equipped with sonar allows inspectors to gather critical data on bridge scour without entering the water.

Monitoring bridges for scour is essential during flooding and other high-water-flow events, as these conditions can quickly impair a structure's stability. But high flow rates and fast-moving debris in the water can endanger workers using traditional under-bridge inspection tools like piloted boats and diving equipment.

After researching alternative approaches, the Michigan Department of Transportation (MDOT) selected a user-friendly USV called the Sonar EMILY (EMergency Integrated Lifesaving Lanyard). Originally designed for water rescues, the EMILY has been modified to suit MDOT's needs through a variety of technological adaptations.

The unit is equipped with sonar to measure water depths and can produce side-scan and down-scan images of bridge substructure and the streambed. The system also has a topside camera to view the underside of bridges and culverts.

The EMILY's accurate readings have made it useful for conducting safe and efficient inspections on a routine basis as well.

The price of the USV, laptop control unit and running gear is approximately $50,000.

Source: Michigan DOT

BENEFITS

A USV operated from shore can take the place of an inspector in a boat or a diver, identifying potential scour below the water's surface and in hard-to-reach locations.

It can be mobilized quickly in emergencies, and it is also well suited for routine bridge and culvert inspections, saving MDOT time and money.

FIND OUT MORE . . .

- Research Spotlight Brief https://www.Michigan.gov/documents/mdot/SPR-1682-Spotlight_666713_7.pdf
- Final Report https://www.Michigan.gov/documents/mdot/SPR-1682-Unmanned_Surface_Vessels_for_Bridge_Scour_Monitoring_661794_7.pdf
- Video Spotlight https://youtu.be/bJnrMVSzKqs

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- Products, Safety, Asset Management, Structures, Maintenance, Emergency Response/Relief

This page: Kent County Road Commission, "Concrete Lining of Deteriorated Steel Culvert Inserts", available https://tinyurl.com/edcinnovation-culvertlining. Michigan Department of Transportation, "Unmanned Surface Vessels for Bridge Scour Inspection", available: https://tinyurl.com/edcinnovation-usv.

Facing page: Jackson County Department of Transportation, "Cold-in-Place Recycling with Double Chip Seal: A New Solution to an Old Problem", available: https://tinyurl.com/edcinnovation-ciprecycling; Wexford County Road Commission, "Wexford County Pavement Underseal", available: https://tinyurl.com/edcinnovation-underseal; St. Clair County Road Commission, "Pre-cast Concrete Connections: Creating longer lasting connections with Ultra High Perfromance Concrete (UHPC)", available: https://tinyurl.com/edcinnovation-uhpc.

Everything You Need to Know About CDLs (and Where to Learn More)

Sarah Lindbeck – Technical Writing Intern
Center for Technology & Training

Prior to becoming a safety specialist for the Michigan Center for Truck Safety, Charlie Culton worked for 30 years in the Michigan State Police commercial vehicle enforcement division. He recounted, "When I was an officer on the road, you'd stop an interstate driver and they would sometimes forget what driver's license to give you!" Culton explained the drivers went "from state to state," and when they got too many violation points on their license in one state, they would simply go to another state, get another license, and continue driving recklessly until they got too many violation points on that license.

The federal government saw this problem and developed a commercial driver's license (CDL) that would apply to all commercial drivers across the nation with the passage of the Commercial Motor Vehicle Safety Act of 1986. This legislation created standard regulations for commercial drivers in the United States, and states have also added their own motor carrier requirements since then. Although the rules and regulations are important for the safety of all drivers, it can be difficult keeping up with all the changes over time on the federal and state levels.

Michigan established the Michigan Truck Safety Commission in 1988 because truck accident fatalities in the state were continually on the rise. The commission conducted research that led it to develop the Michigan Center for Truck Safety to provide educational training and resources for the industry to increase safety. Culton was proud to say, "We're the only organization of our kind in the United States. We use state funds so all our services are free." Roughly $15 from every commercial license plate goes to the Michigan Truck Safety fund, and a portion of that money is used to fund all the work done by the Michigan Center for Truck Safety.

The Michigan Center for Truck Safety is designed to be a resource for any organization that uses commercial drivers in their operations. The center consists of six safety specialists located in either Lansing or the Upper Peninsula to assist agencies in both the lower and upper peninsulas. The specialists operate a hotline number where people can call and get their questions answered Monday through Friday, 8:30 a.m. to 5:00 p.m. The group also provides regular updates on their Facebook page, so the public can easily access the latest information. Culton says the Federal Motor Carrier Safety Administration website is a great resource for viewing requirements and regulations, but the Michigan Center for Truck Safety compiles all the regulations into the Michigan Truck Drivers Guidebook as well. "It's like the Reader's Digest version of the Federal Motor Carrier Safety regulations where we break down all [the regulations] into plain language," according to Culton. The guidebook provides an overview of the regulations including where to register a commercial vehicle, what taxes need to be paid to Michigan's weight and size laws, federal regulations, and drug testing information. Culton summarized, "Basically, it's all in our book, and anyone can request a copy."

In addition to the resources already mentioned, the Michigan Center for Truck Safety also provides a wide variety of training courses. One of the most popular courses offered involves a truck simulator that can be programmed to display different road, traffic, and weather conditions. The simulator can take the shape of different types of vehicles and loads. This course provides a safe way for a driver to learn controllability of the vehicle and various driving techniques. The center also offers courses that cover topics in load securement, keeping safety records, regulation updates, and even keeping the cab of a vehicle clean and safe during the COVID-19 pandemic. Instructors are available to drive in a vehicle on the road with drivers to assess their ability and provide them with personalized feedback. The center frequently develops custom programs tailored to the needs of a particular organization.

Culton says two major changes coming soon are standardized mandatory CDL training courses that future drivers must take at driving schools before becoming certified and checking a potential employee's driving record before hiring them. When it comes to local road-owning agencies, Culton finds that they sometimes "don't realize that they have to comply with parts of the federal motor carrier safety regulations." He recommends agencies "check with us at least once per season" so the Michigan Center for Truck Safety can provide them with updated information that is needed to have a safe and successful fleet of drivers. ■

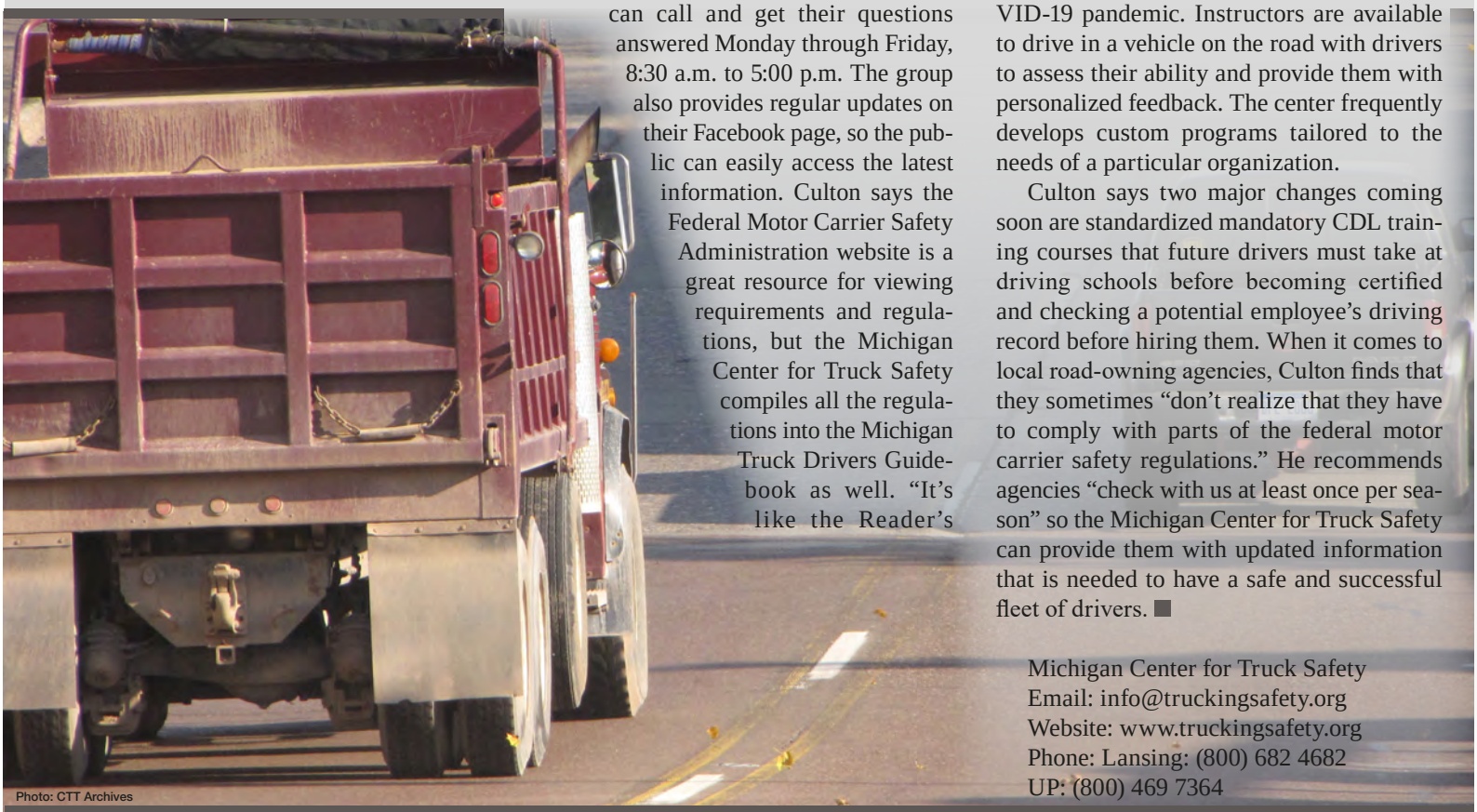

Photo: CTT Archives

Michigan Center for Truck Safety
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Phone: Lansing: (800) 682 4682
UP: (800) 469 7364

Photo: CTT Archives

Up-grade! Michigan LTAP Goes from Zero to New for Its Motor Grader Training

Thomas Page – Technical Writing Intern
Center for Technology & Training

For over a year now, the Michigan Local Technical Assistance Program (LTAP) has been without an instructor for its popular motor grader training and, consequently, unable to offer the training. But now, motor grader training has returned to the Michigan LTAP! Brian Jackson, of Jackson's Heavy Equipment Training, LLC, has partnered with the Michigan LTAP to provide on-site training for motor grader operation. Jackson has over 31 years of experience operating heavy equipment.

Brian Jackson, a native of Tobias, Nebraska, grew up in farm country and worked for a local farmer during his childhood. After graduating from high school, Jackson enlisted in the United States Naval Construction Battalions, better known as the Navy Seabees. While a Seabee, Jackson received training from the Navy's equipment operator school. He learned to operate everything from dump trucks and front end loaders to skid steers and motor graders. "That 31 years? That's from when I joined the service; but I have close to 40 years, I bet, of operating equipment." Jackson said. "When you grow up in rural America, you start learning to run equipment at an early age."

After leaving the service, Jackson returned to his home state and worked as a heavy equipment operator in Nebraska. For a time, he also offered equipment training through the Nebraska LTAP. Now, Jackson trains agencies nationwide in heavy equipment operation. He has already conducted training in states including Indiana, Iowa, Minnesota, and Nebraska. "Being right in the center of the United States really allows me to go in any direction," Jackson mused.

Jackson's experience has given him the knowledge and skills to operate and teach others how to operate many diverse makes and models of equipment, and he's constantly keeping up to date on new developments. "One of the good things about my background is that I've got a lot of time in the field. I've learned to run all of the different types of equipment." Jackson said. "The way I work is that I like to learn, and if there's a new piece of equipment that comes out I like to learn the functions of it and how to operate it."

Jackson will be offering two levels of motor grader training with the Michigan LTAP. Jackson recommends that agencies taking his motor grader training start with level one. "[With] level one, there's a misconception that it's a beginner-level training," he noted. "But, my level one training is actually very technical and it is a difficult training." Each training will be a two-day session with up to 10 participants and a minimum of two motor graders.

His motor grader training is conducted on site using the local agency's equipment. "We'll spend about three to four hours in the classroom instruction, and then we spend a day and a half doing hands-on training out in the field," he shared. The motor grader training is also flexible and can be extended or expanded to meet a local agency's needs. "I can do multiple trainings or, if they want to extend it or want more operators to have more hands-on training, then I can stay longer and do more hands-on training."

Jackson's unique approach to training allows him to train multiple operators at one time. "There's a concept suggesting that when you train with live equipment, you can only train one-on-one; but I've developed my techniques so that I can work with multiple machines," Jackson explained. "I've had up to sixteen motor graders in one training before and kept everyone busy [with] the machines out there and actually even rebuilt a whole one-mile road out there in one day."

He encourages agencies to train during all seasons of the year, even when weather conditions may not be ideal, because "you can never predict the weather [or] if there's [going to be] a wet or dry spring or...summer". Jackson shared. "I've heard [an agency say] 'oh, well we don't want to do [the training] in the spring, the spring could be wet.'... Well, we ended up having a dry spring and then...the summer months...[were] a wetter season." Weather conditions occur year round, he argues, so training should also occur throughout the year in order to have a level of preparation for those conditions.

Jackson's experience in the motor grader seat, willingness to travel, and unique approach to training make him a valuable asset to any agency looking to train their employees to use motor graders properly and safely.

For more information, visit http://ctt.mtu.edu/training-request. ■

Seven Habits of Highly Successful Collaborators

Victoria Sage – Technical Wrier
Center for Technology & Training

Photo: By Tumisu from Pixabay

"Every bad situation will have something positive," begins an anonymous witticism. It continues, "Even a dead clock shows the correct time twice a day." There has been plenty of tumult facing workplaces in 2020 to make one wonder what could be gained from the year's experience. One positive stroke might be an improvement to workflow for those working and collaborating across different physical locations: video conferencing.

Up until recently, audio conferencing has been widely accessible and used as the conference mode of choice in many workplaces when trying to connect colleagues and clients in different physical locations. However, a survey by the global conference-call company InterCall, published in a Harvard Business Review article, found that conference-call participants not only participated in the audio conference but simultaneously engaged in[1]:

- Doing other work (65%)
- Sending an e-mail (63%)
- Eating or making food (55%)
- Going to the restroom (47%)
- Texting (44%)
- Checking social media (43%)
- Playing video games (25%)
- Online shopping (21%)
- Exercising (9%)
- Taking another phone call (6%)

This low-level engagement in the call is primarily due to participants perceiving a lack of "immediacy" and "productivity" with the audio conference, suggests Rob Bellmar, executive vice president of Intercall's Conferencing and Collaboration, in the Harvard Business Review article.[2] This perceived lack of immediacy and productivity while audio conferencing is pronounced when passive listening is stacked up next to something like the need to respond to an e-mail.[2] Thus, audio-conferencing participants risk becoming disengaged with the audio conference.

Lack of engagement is surprisingly not determined by factors like the location of a participant while on the audio conference, according to Paul Argenti, professor at the Tuck Business School, also in the Harvard Business Review article.[3] Rather, Argenti argues that engagement or lack thereof is due to the mode or "channel choice" of the conference itself, the reasons for participation, and the presenter's skill at managing the conference.[3]

If it is assumed that participants have a real need to be on the conference call, then elements like enabling video and exercising good presentation skills can significantly increase a sense of engagement and productivity in the conference. Here are seven habits related to enabling video and exercising good presentation skills that highly successful collaborators use:

1. Set video as an expectation for conference calls

Have you ever participated in an online meeting or video conference call only to see a bunch of participant names staring back at you on the monitor? While there's a temptation to hide behind a name card or even a still photo, participants will be more engaged by the simple act of everyone turning on their video cameras.

When comparing audio and video communication modes, video heightens a sense of engagement. A study at the University College of London by Richardson et al. (preprint) investigated the effects of audio versus video modes of storytelling.[4] The study found that participants self-reported experiencing more engagement with a video mode of storytelling than an audio mode.[4] Furthermore, participants claimed that they experienced "greater narrative understanding and...greater narrative presence" with the video-based storytelling, from which the researchers concluded that participants "found video narratives easier to comprehend, but also immersed themselves more fully in the world created by the video narratives".[4]

> While there's a temptation to hide behind a name car or even a still photo, participants will be more engaged by the simple act of everyone turning on their video cameras.

Aside from a video's ability to increase perceived engagement, video conferencing can address other perceived challenges faced by those working or collaborating from different physical locations. A research study on remote work by Greer & Payne found that the perceived challenges for work occurring in different locations were communication and coordination, assessing performance and professionalism, and managing distractions.[5]

Since a video mode of conferencing incorporates more of the senses than just hearing, author and co-founder of LEADx Kevin Kruse argues for a "video-first culture" in a Forbes article.[6] A video-first culture is one where the expectation is to default to video conferencing as the mode of choice. According to Kruse, establishing a video-first culture can increase engagement and overcome the challenges related to working in different locations.[6] The Forbes Insights Team contends that, with video, participants see and are seen, increasing engagement and a feeling of closeness with one another.[7]

Participants in a video-first culture enable their video cameras when video conferencing. However, in some instances, participants may need to disable their video camera temporarily. More on that later.

2. Be aware of facial expressions, gestures, and other non-verbal cues

You're on a phone call, and the person on the other end of the line pauses for a moment. You think to yourself, *I think they're done*, and so you dive right in to sharing your point only to realize the other person hadn't finished what they were saying. By a simple glance of the eyes or closing of the mouth, it can be understood that speaker's point has been made and is waiting for a response.

Communicating and collaborating can be clearer and more effective with the added layer of non-verbal communication that video conferencing provides. Non-verbal cues can decrease communication barriers for those communicating and collaborating across different physical locations, according to Kruse,[6] and can allow conversations to ebb and flow more naturally. With non-verbal communication in video conferencing, participants can rely not only on the words and intonations of the verbal delivery to understand what is being communicated but also can rely on facial expressions, gestures, and non-verbal reactions. These non-verbal elements can make it easier to discern when one is speaking in seriousness or levity, for example.

In video conferencing, normal facial expressions convey emotions while gestures can be used to express agreement or disagreement or the desire to provide input and can be used to clarify difficult concepts. Cues like a change of facial expression at the appropriate time or nodding or shaking one's head in assent or dissent will indicate—whether intentionally or unintentionally—one's engagement in the conference. Gestures like a thumbs up or thumbs down let others on the conference call know that there is agreement or disagreement. A raised hand indicates the desire to talk. And, motions can be used when trying to describe objects or situations to clarify how something was or how something occurred.

> Non-verbal cues enrich video conferencing but can also become a distraction, so being self-aware is important.

Non-verbal cues enrich video conferencing but can also become a distraction, so being self-aware is important.

3. Pay attention to your appearance, camera angle, and background setting

While on a video conference, have you had the pleasure of seeing almost entirely up someone's nostrils? What about seeing someone chewing their lunch? Or playing with their dog? Or working from a dungeon-like basement? Or an array of books with distracting or odd titles on the shelf behind the participant?

Video conferencing communicates the professionalism and distractedness of the participants. In this mode, one can readily see the care and attention participants have given to their selves and surroundings. Appearing professional on screen—both in one's own physical appearance and the appearance of one's background—can indicate professionalism in other realms of work, contends David Rock, executive director of the NeuroLeadership Institute, in an article on Psychology Today.[8] Regardless of the physical location, professionalism is communicated through the effort the participant puts into ensuring his or her appearance, camera angle, and background setting is professional in the video-cast.[8]

To achieve a more professional appearance when video conferencing, consider these tips: Find a brightly-lit location, and face the light source. If the light source in the background, it creates a shadowy effect similar to that used for anonymous sources on video-news programs. Adjust the height and position of the camera so it is at eye level and front facing. This may mean finding a tall table or stack of books to increase the height of a laptop camera or buying a USB camera to position it at the front of the work area in order to avoid camera angles that peer up one's nose, at one's bald spot, or at their side profile. A chest- or waist-up view is best. People who use frequent gestures want to ensure the camera captures a wider view that includes their hands.

In some situations, one's professional appearance may be compromised. A compromised professional appearance can happen with what one's video camera is capturing as well as what it is omitting. One's self and one's surroundings or backaground can be distracting when one appears blatantly unprofessional or has activity going on around them, like eating indiscreetly or the dog coming around begging to play.

When distractions occur, deactivate the

▶ continued on next page

Seven Habits (continued from Page 9)

▶video camera temporarily so as not to be disruptive to others on the call.

Also, if one's attention is focused somewhere other than on or near the camera, that person may appear distracted or inattentive. Taking notes during an in-person meeting provides all the contextual clues that the person is taking notes—the note pad itself, glimpsing words that are being jotted down, for example. But, in a video conference, the inability to see those contextual cues can make the act of note-taking appear the same as playing games on a cell phone, or something similar.

To avoid the appearance of being distracted or inattentive, focus attention on the camera itself and position the video conferencing window as close to the camera as possible.

Some simple strategies that ensure your video and audio feed are functioning well can improve the effectiveness of your communication when video conferencing. The CTT has a virtual presenter handout filled with guidance as well as tips, and tricks for using Adobe Connect and Zoom. View the handout here: https://ctt.mtu.edu/sites/default/files/resources/presenters/virtualpresenter-handout.pdf

4. Leverage features like built-in chat and file sharing for efficient meetings

Looking at the clock, you think, *will this meeting ever end?* And then, someone cuts in to add ancillary details to a point that was discussed 30 minutes ago, which starts another tangent.

The array of tools built into many video-conferencing platforms, like chat and file sharing, can make video conferencing potentially more productive than traditional in-person conferencing. Studies about productivity of remote workers have suggested that their increased productivity could be related in part to the tools they are using. With video-conferencing tools, built-in chat and file-sharing features allow for discussion points and issues to be brought up by participants and addressed during the video conference without disrupting the flow of the conference itself (source). Making use of the built-in chat and file-sharing features when video conferencing can make for more productive meetings.

If the appropriate time to add a point to the discussion has passed, type the discussion point into the chat in order to shared the point without disrupting the flow of the meeting.

5. Best practices for delivering oral presentations are important

Whether you are in person or virtual, whether you are in front of one other person or many people, presentation skills go a long way for having your message heard.

The skill of meeting facilitators and presenters is key to solidifying engagement in a video-first culture where proper video-sharing etiquette is being followed. While meeting management skills are a part of creating engagement, presentation skills also play a role.

Photo: By Tumisu from Pixabay

A surprising find in the University College of London study was that, while participants perceived more engagement with video-based storytelling, their biometrics—heart rate, body temperature, and skin conductance—increased more with audio-based storytelling, suggesting a stronger emotional response.[4] It is important to note that the audio-based storytelling in the study was delivered by professional dramatic narrators.[4] Nonetheless, one can conclude that, when presenting, oral delivery itself may have a profound effect.

The Center for Technology & Training (CTT) offers a writing and presentation skills workshop series that includes a component on oral delivery.

When presenting, oral delivery itself may have a profound effect. Learn more about the CTT's writing and presentation skills workshop series at http://ctt.mtu.edu/sites/default/files/flyers/2021wps.pdf

6. Know yourself and know your audience to communicate your message effectively

Aside from the advantages of video-conferencing technology, it is important to remember the communication dynamic itself. Communication consists of three things: the presenter, his or her message, and the audience receiving and responding to that message. Two of the elements in communication—the presenter and the audience—are affected by the uniqueness of each person involved.

In professional communication work, communicators will go as far as developing personas for the people in their audience. The CTT's writing and presentation skills workshop series provides some tricks for quickly sketching out who the audience is.

At a minimum, ask yourself *who is my audience?* before making a point or delivering a message.

7. Validate the social interaction needs of your audience and yourself

Raise your hand if you found yourself really struggling with the reduced amount of social interaction in the workplace in 2020? Now, raise your hand if it didn't bother you? Raise your hand if you participated in a virtual social in the past year? Did you find the virtual social helpful especially if you struggled with the reduced amount of social interaction?

Social interaction, says Kruse, is an important factor determining how an individual works and responds in contexts where communication is occurring with colleagues or clients in different locations.[6] Kruse notes that there is a strong correlation between people's response to increases or decreases in in-person social interaction and their personality traits, their emotional response, and their strengths and weaknesses (learn more in this handout about the assessment systems for personality traits, emotional intelligence, and strengths that Kruse references).[6] In other words, some people by their personality traits, emotional response, or strengths and weaknesses need more or less social interaction.

Effective communication considers the social interaction needs of one's self and the others involved. It then determines and/or confirms the choice of technological tools that address the situation, like being in different physical locations. Incorporating video when conferencing captures both the verbal and non-verbal elements of communication, better simulating in-person interaction and better satisfying those who need more social interaction.

Kruse and Jennifer Robison, senior editor at Gallup, contend that intentionally including time for socializing in video conferences can help meet an individual's social interaction needs.[6,9] To borrow from the body of knowledge in remote work—a field concerned with connecting colleagues and clients in different physical locations, one needs to be intentional about video conferencing and integrating socialization when working and collaborating across different physical spaces.[10]

Validating your audience's as well as one's own social interaction needs can increase happiness and reduce stress[11]; increase engagement and loyalty[12]; and reduce significant health problems[13]. That validation can hinge upon the choice of communication mode, which can enhance or diminish social interaction regardless of one's physical location.

How do you validate those social needs in a video conference? Spend the few minutes before the meeting is scheduled to begin by greeting other participants and finding out how they are doing. Linger on the conference after the meeting has concluded for small talk. If possible, intentionally set up short social video-conference calls with colleagues and clients.

Video-first Culture

Using video conferencing can more easily convey competence and warmth—two key elements of trust—than other forms of electronic communication and can thereby foster good collaboration, Rock suggests.[8] A video-first culture—one that defaults to a video-conferencing mode of communication for colleagues and clients in different physical locations—provides a fuller, richer communication experience that increases engagement, allows for more efficient and effective communication and collaboration, expresses one's professionalism, and can validate social interaction needs. That the standard now being adopted by colleagues and clients working across different physical locations is a video-first culture could be the moment in time when the dead clock reads correctly. ■

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Plowing (continued from Page 1)

said. Snacks high in sugar typically leave the consumer feeling more tired than they were before eating the snack.

Consuming alcohol in the evenings on a regular basis can also leave one feeling tired. A study by Durocher and Carter shows that evening alcohol consumption can lead to a disruption in the REM sleep cycle. For participants in the study, time spent in REM sleep decreased from the normal 20 percent down to only 15 percent of the night. The study also found evening alcohol consumption had negative effects on the autonomic function of the body. Participants in the study showed a disruption of blood pressure and heart rate regulation the morning after consuming alcohol. Carter summarized, "Repeatedly [binge drinking alcohol] can have a substantial impact the next day." Durocher and Carter both stress everything in moderation when it comes to alcohol as well as nutrition in general.

The two also emphasize that a little is better than nothing in regards to following the sleep, exercise, nutrition triad guidelines. Doing things such as parking farther away from work to increase activity levels or taking naps to reach the recommended amount of sleep can both be helpful in increasing productivity and improving overall health. ■

Preparing for the Snow and Ice Season

The Technology Transfer Program, ***University of Kentucky –Kentucky Transportation Center***
Reprinted with permission from ***The Link***, Kentucky Technology Transfer Newsletter, Winter 2020

Winter storms create a higher risk of car accidents, hypothermia, frostbite, carbon monoxide poisoning, and heart attacks from overexertion. Winter storms and blizzards can bring extreme cold, freezing rain, snow, ice, and high winds.

Photo: CTT Archives

Today's motorists expect roads to be open and reasonably safe in almost any type of weather. A road department's ability to remove snow efficiently and open roads quickly is of key importance in the eye of the public.

Snow and ice control operators have two goals: make roadways passable, and provide adequate pavement friction to allow vehicles to brake, turn and accelerate safely.

Preparation for snow and ice removal begins long before the first flake falls. Agencies should have a snow and ice preseason procedure in place that includes training, preparing and inspecting equipment, and following a checklist that covers a variety of topics.

Daniel Branham, Pike County Road Supervisor, said they start preparing for the first snowfall in October. "We put all spreaders and spinners on trucks and make sure everything is in working order," he said.

In addition, they drive all the routes before the first snow to make sure the operators are familiar with their specific route and have ample room to turn around.

Training

Proper training for maintenance personnel is vital. Many organizations conduct training courses in the fall to ensure that equipment operators understand how to operate and maintain plows, spreaders, loaders and other equipment used for winter maintenance. This also gives employees the opportunity to be familiar with their responsibilities and have a full review of snow removal schedules and routes.

Equipment

Discuss each type of equipment that employees will operate. Describe performance capabilities, load and weight limits, safety considerations, attachments and modifications. In Pike County, operators are responsible for their own truck. This policy provides a feeling that the equipment belongs to the employee which will compel an operator to show more responsibility for its upkeep.

Inspect equipment in early fall so repairs can be made ahead of the first snowfall. Pumps, hoses, and fittings should be inspected on spreaders. Snow plow blades should be carefully inspected. Snow plows do not wear evenly and should be replaced when they are worn at any point. Inspect and service all lighting and electrical equipment including wiring and sockets. Operators should carry ample stocks of parts for rotating flasher units including lenses and lamps. Finally, make sure there are flashlights, flares, flags, safety vests and a first aid kit in the truck.

Snow & Ice Removal Pre-trip Checklist

When snow is predicted, it is good to go through a list of items prior to departure. The last thing an operator wants is to be out in a storm and have an issue with their equipment. Under the hood, the oil, coolant, and washer fluid levels should be checked. In addition, check that there are no lose or damaged belts or hoses. The operator should take a walk around the truck and inspect the mirrors, lights, reflectors, tires, wipers, and any attached equipment. Inside the cab, check that there is necessary safety equipment such as a flashlight and first aid kit.

To help maintain the equipment, a post-storm review is also recommended. This would include washing the trucks and equipment, and checking the blades. Look over all equipment and check for cracks or damage and address the repair immediately. Lastly, do another walk around the truck and check tires, lights and wipers.

A little planning before the first snowfall will help prevent equipment failure and resulting accidents, injuries and deaths. ■

Winter Checklist

Example of checklist items

Pre-season Checklist

- Tire tread and pressure
- Leaking fluid
- Fluid levels
- Interior lights and gauges
- Windshield and wiper blades
- First-aid kit
- Condition of plow blade
- Warning lights, reflectors
- Address mechanical issues before first snow

Pre-storm Checklist

- Tires
- Fuel level
- Wiper blades
- Plow mount
- Safety equipment inside cab
- Plow blade

Post-storm Checklist

- Empty bed and wash thoroughly
- Check fluid levels and re-fill
- Check plow, cutting edge, and spreader
- Report any maintenance issues that need to be addressed before next snowfall

RESOURCES

1. **National Weather Service, weather.gov/safety/winter-after**
2. **Local Roads Maintenance Workers' Manual, Iowa State University, Institute for Transportation, http://www.ctre.iastate.edu/pubs/maint_worker**

The University of Kentucky – Kentucky Transportation Center offers online snow and ice removal training as well as on-demand trainings. Visit www.kyt2.com or call 800-432-0719 for more information.

Reprinted from "Preparing for the Snow and Ice Season". In: The Link, *University of Kentucky – Kentucky Transportation Center, Winter 2020, p 12. Available: https://www.kyt2.com/publications.*

Batting for a Home Run: Dewayne Rogers and His Innovative Endeavors on the Clare CRC Network

Hannah Bershing – Technical Writing Intern
Center for Technology & Training

Photo: Courtesy of Dewayne Rogers

There is a hidden gem at Michigan's Clare County Road Commission (CRC): Dewayne Rogers. Now the managing director of Clare CRC, Rogers started his career with Michigan Department of Transportation (MDOT) as an intern. Along the way, he found ways to make innovation shine and integrate principles he's learned in baseball, a sport he has always loved.

Growing up in Bridgeport, Michigan, right outside of Saginaw, Rogers wanted to be a baseball player when he was a kid. Baseball was a hobby that he has carried with him through both his work and family life. In high school, he became interested in engineering but was unsure on what aspect of engineering he wanted to focus. As a freshman at Michigan State University, Rogers got a summer internship at MDOT's Saginaw field office doing construction staking. There, he became intrigued by civil engineering with a focus in construction management. Over the course of four summer internships with MDOT, he had the opportunity to try and really enjoyed construction inspection. Rogers said, "The internship tied together everything [and] allow[ed] me to [try] what I wanted to do in the future after graduation."

Upon graduation, Rogers spent three years working with the Spicer Group. From there he worked for 13 years as a construction technician with MDOT in the Bay City office and then took a job with Surveying Solutions in Standish, Michigan. Subsequently, Rogers accepted a position at St. Clair County Road Commission. "It was an opportunity to work for a county road commission, which I had never done, and they had a vision of me being a project manager and starting a bridge maintenance division," he said. "I liked working there."

Rogers was brought onto the team at St. Clair CRC as a project manager with a mission to develop and maintain a bridge maintenance division, a much needed task given that St. Clair CRC has approximately 230 local agency bridges. Rogers immediately began addressing everything from general maintenance to superstructure replacements. "Every bridge is different," he noted. "Each one is unique in its own way and requires different fixes."

In November 2019, Rogers decided to transfer to Clare CRC as its managing director. "[My transition to Clare CRC] was a really tough decision," Rogers shared. "What I was doing in St. Clair, I really enjoyed…[but being a managing director] was something that I wanted to explore...so I took the opportunity." He says he was also drawn by the impact he could have on Clare County roads, which were closer to home.

Shortly after Rogers came to Clare CRC, two dam failures occurred in late May 2020 after a heavy rainfall that caused severe flooding in Midland County. "[The flooding] washed out a couple culverts and caused us to close about 10 roads in [Clare County]", he shared. Despite the number of road closures and washed-away culverts, Rogers immediately applied his experience to develop plans for replacements and repairs, noting that they've "recovered quite quickly". One of the culverts that washed away was an older double-pipe culvert; Rogers is developing plans to replace it with an aluminum arch culvert. He hopes to avoid another replacement for it for a long time. Another culvert that failed was an old concrete box culvert which, in turn, led to a road collapse. Rogers already had plans to replace it with another box culvert and was able to order one immediately.

In addition to addressing the flood damage, Rogers has also managed to start a bridge maintenance program at Clare CRC. The program includes guidelines and procedures for maintaining bridges and reducing the risk of problems. In addition, he has trained employees who are now specifically dedicated to bridge maintenance. "It's not really something new," he said, "but it hasn't been done in a long time." Rogers is also hopeful about being able to use ultra-high-performance concrete (UHPC) on Clare County bridges.

UHPC Innovation

Rogers initially used UHPC on projects in St. Clair County. Rogers began exploring the use of UHPC as an innovative approach to maintaining bridges. Rogers attended a one-day class hosted by the Federal Highway Administration (FHWA) that overviewed UHPC. "It intrigued me, so I kept trying to figure out where it was used and how people use it," he shared. "I kept digging through my contacts at MDOT and that led me to the University of Michigan and their studies and what they've been doing."

The University of Michigan has a non-proprietary lab formula for UHPC that had not been previously used in the field. Working in collaboration with the university, MDOT, and FHWA, Rogers helped to bring

▸ continued on next page

Dewayne Rogers (continued from Page 13)

▶ UHPC into the field in St. Clair County, saying "[We came] up with uses for UHPC in the field: we used it on joints and bridges, and we tied beams together with UHPC", which were innovative applications for UHPC at the time. He explains that they made UHPC joint closure pours for regular concrete that was precast into deck panels. They targeted joints because joints typically are the first point of failure.

"The goal [of UHPC joint closures] was to protect the reinforcing steel in the bridges from any water or salt infiltration to prevent corrosion," Rogers continued. "We did field testing on this and found that the strength was six times greater than what had been typically used in the past." He says that testing monitored water leakage and concrete saturation and found neither occurrences after a few years.

Rogers' goal is to produce a bridge with a superstructure entirely composed of UHPC. He explained, "It's more expensive than traditional concrete and harder to produce, but [it only requires] half the amount quantity wise…so the bridge [would be] lighter." A more durable, lightweight bridge constructed with less concrete overall would realize cost savings and maintenance benefits over the lifespan of the bridge, says Rogers.

In order to promote innovation and technologies like UHPC, Rogers along with 12 other members across the country formed a "deployment team" with the FHWA. Being only one of two representatives who have a UHPC focus, Rogers has been strategizing how to make UHPC more applicable to road agencies. Being part of the deployment team has also given Rogers a chance to share his knowledge of UHPC with others and the opportunity to network with others who have been working with UHPC.

Problem Solving

Aside from his keen eye for innovation, another one of Rogers' strengths is problem-solving, saying that he "enjoy[s] being able to assess a problem and come up with solution[s]" that anticipate future needs. Rogers' was involved in a recent soil stabilization project on a gravel road. He is hoping the soil stabilizer will reduce dust-related problem and maintenance needs. He'll revisit the project the following year to look at the results.

Unifying a Team

Outside of work, Rogers coaches his sons' basketball and baseball teams. He related, "I've had teams that I've put together with no experience at all and with groups of kids that may not normally have opportunities." Rogers says he's taken these teams to in-state and out-of-state games. One of the rewards in coaching, he says, is seeing these kids learn about and get better at basketball, giving the kids "an experience that they may not have otherwise had in their life". Rogers has been able to carry coaching and team-building principles into his projects and team-building efforts at Clare CRC.

"One of the best parts in building a team of our employees is the ability to unify and set goals," he said. "When you complete goals, you get to see the before and the after—the final product." The improvements on Clare CRC roads is an achievement that Rogers shares credit with his team. He believes his employees will feel a sense of pride in their work when they are driving on roads on which they've worked.

"Having the teamwork along the way to achieve that final product is satisfying,...from identifying a problem, creating a plan, coming up with a strategy to complete the task, having it all play out, and achieving a final goal," said Rogers. "It's really good." ■

Various bridge projects overseen by Rogers; from left: Jeddo Road before and after, Wales Ridge Road before and after, and Indian Trail before and after (Photos: Courtesy of Clare CRC)

The Bridge

The Bridge is published quarterly by the Center for Technology & Training (CTT) through Michigan's Local Technical Assistance Program at Michigan Technological University. Subscriptions are free of charge. To request a subscription, contact the CTT.

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The Bridge is printed with soy-based ink on recycled, acid-free paper (50% recycled, 10% post-consumer waste). 4,000 copies mailed this edition.

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The Local Technical Assistance Program (LTAP) is a nationwide effort funded by the Federal Highway Administration and individual state departments of transportation. The goal of the LTAP effort is to foster a safe, efficient, and environmentally sound surface transportation system by improving skills and increasing knowledge of the transportation workforce and decision makers.

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Vol. 33, No. 3 – Winter 2020/2021

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Upcoming Events

REGISTER & MORE INFORMATION AT ctt.mtu.edu/training

** See page 2 for more information about on-site and online events*

2021 County Engineers' Workshop
February 9-11 – virtual event (see What's Going to Happen, *p. 2)*

2021 TAMC PASER Training
Webinar series #1: February 23-25 – webinars
Webinar series #2: April 13-15 – webinars
Webinar series #3: June 15-17 – webinars

2021 IBR System™ Training Webinar
March 2 – webinar; April 22 – webinar; June 22 – webinar

Mark Your Calendar: 2021 Michigan Bridge Week
March 16-18 – virtual event (see What's Going to Happen, *p. 2)*

Mark Your Calendar: 2021 Highway Maintenance Conference
Workshop: April 27 | Conference: April 28 – Bellaire (see p. 2)

2021 Writing & Presentation Skills Workshop
April 13, 15, 20, & 22 – webinars

More training opportunities!

Visit ctt.mtu.edu/webinars-and-workshops to learn about webinars and workshops offered by the Michigan LTAP/Center for Technology & Training