

### **New WebEOC Board: DPW Exposure Board** A Unique Opportunity to Track Public Works and **Highway Crew Status and Impacts During COVID-19**

Compiled by Bettina Sietz, UNH T2

### What is the WebEOC?

The State of New Hampshire, Department of Safety, Division of Homeland Security and Emergency Management (HSEM) maintains a crisis-disaster management system, WebEOC, to manage large scale events, disasters and support or increase public safety information sharing – providing real-time situational awareness.

WebEOC is a web-based software program. To access WebEOC, users need a computer with an internet connection or you can utilize a mobile device.

With the potential impacts of COVID-19 to Public Works Departments and Highway Crew workforces, this year the new WebEOC board (DPW Exposure Board) will help to track Public Works and Highway Crews status during COVID-19.

### What will the DPW Exposure Board do for me?

The DPW Exposure Board includes rows for every NH City and Town plus the six DOT Highway Maintenance Districts and the DOT Bureau of Turnpikes.

The Board allows you to enter the total number of DPW/Highway Crew workers in your community, and helps to track employee numbers based on the following criteria: How many are COVID-19 positive, how many are in quarantine due to potential exposure, how many are out for other reasons and how many are available. The more communities participate in populating the board, the better or more precise will be the statewide overview of DPW staffing resources. This creates situational awareness of COVID-19 related personnel shortages when thinking about requesting resources from your neighbors for mutual aid, for example.

Continued on page 5









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### **About UNH T2 and NHLTAP**

The UNH Technology Transfer Center fosters a safe, efficient, and environmentally sound surface transportation system by improving skills and increasing knowledge of the transportation workforce and decision makers. As the site of the state's Local Technical Assistance Program, it works to enable local counties, cities and towns to improve their roads and bridges by supplying them with a variety of training programs, an information clearinghouse, new and existing technology updates, personalized technical assistance, training videos and materials, and newsletters. LTAP Centers nationally are able to provide local road departments with workforce development services; resources to enhance safety and security; solutions to environmental, congestion, capacity and other issues.

#### **Table of Contents**

The WebEOC Public Works Exposure Board

pg. 1 continued on pg. 5

**About UNH T2 & Road Business Table of Contents**, pg. 2

Hello from UNH T2, pg. 3,4

New Faces in the Office, pg. 6

**Snow Disposal Guidelines**, pg. 7, 8

**DPW Garage Fire Safety**, pg. 9, 10

**AVL Coming to a Fleet Near You**, pg. 11, 12, 13

Virtual Meetings in 2021: A Thing of the Past, The present & The Future

pg. 14, 15, 16, 17

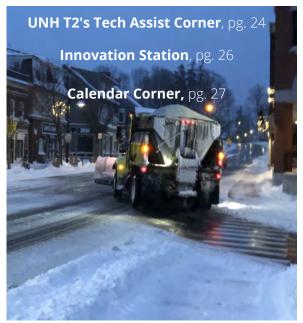
**LearnForLife Cheat Sheet & Online help,** pg. 18

Riddle & Plow Parade, pg. 19

NHMA's Hot Topics, pg. 20, 21

Congratulations Corner, pg. 21

EDC-5: Targeted Overlay Pavement Solutions (TOPS), pg. 22,23



Picture: Early morning storm cleanup in Durham, Bettina Sietz, UNH T2



One thing the pandemic did not take away is the excitement about a new year. I love opening a new chapter, a new calendar and plan for the months to come. Planning looks certainly different in 2021. More virtual events on the calendar, and again, a travel radius closer to our immediate surroundings. And hopefully, we all will have a day marked with a COVID-19 vaccine appointment. Here's to silver linings!

With more inward directed activities, there is also a noticeable rise in our creativity. Less distractions from the outside have us looking at processes differently. I find myself looking at the storage system in my garage, wondering "What could I do to make this better?" – The answers to this might come to me at the weirdest times of the day, but they do come with clarity.

Innovation grows in each of us, and it doesn't necessarily mean that you have to reinvent the wheel: Innovation is also tweaking a process or tinkering with a tool to make it better than before. Improvement is a form of innovation! (I am so glad I don't need to invent a storage system for my garage, I just need to make it better!)

We all look at things with a unique and different angle; every set of eyes will see things differently, everyone's brain might come up with a new, more simplistic and better solution to solve a problem or improve a process.

That's why teamwork and collaboration are so important. Pull in your co-worker, ask the question: "What do you think of this?" – "Is there a way to make this better?" – "Would you be my second set of eyes on this?" – "Can I have your honest feedback?" - Sometimes we brew and steep too long in our own thoughts and our vison becomes blurry. It certainly can help to step back and approach the process from a different angle or through the lens of a co-worker (or whoever you want to pull in). Think about the process or the tool that sparked your wish for improvement. In a quiet moment, a new idea might come your way. Or your co-worker asks you nonchalantly: "But have you tried this?"

We all have had them, these little strokes of genius: The lightbulb moments can come to you in a quiet hour, on a walk or while talking with your colleagues. The less formal the setting of collaboration, the more surprising the outcome. Many new ideas came together at water coolers or in the break room. You don't need a formal setting to stitch your thoughts together.

An idea is a network to begin with – electric impulses that are connecting in your brain. Cast your net wider and collaborate with your colleagues to bring your new ideas to life.

Show us your lightbulb moment! We'd love to see what you have thought up over the past year:

- Did you find an innovative way to keep your team safe during COVID-19?
- Did you change a process to make it smoother and less convoluted?
- Did you document spending money or time which helped your community to save resources?
- Did you make changes to an existing tool, your garage or vehicle that improved the overall safety or a workflow?

**Please step forward and share your idea with us!** – We would love to hear from the tinkerers, inventors, and improvers! The Build A Better Mousetrap Competition will be open for submissions soon and an attractive prize can be yours.

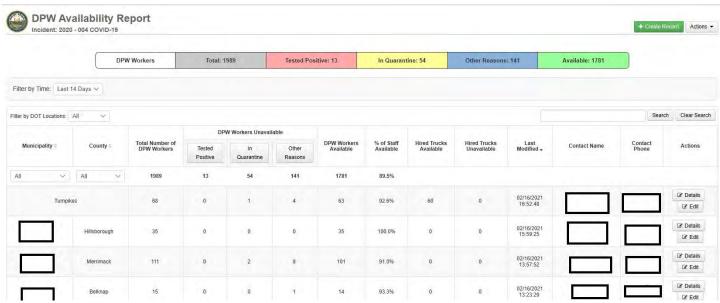


With you in innovative spirits -The UNH T2 Team





For more details, please review the Build a Better Mousetrap information on our website.



Screenshot of the new WebEOC DPW Exposure Board, Picture: David Rodrigue, NHDOT

In short: When you see that the surrounding towns are short-staffed due to COVID-19, you can reach out to them with a helping hand, or, if you are in the same situation you know that you'll need to cast your net wider to request help for yourself.

You can also use awareness of the numbers to gage how close COVID-19 clusters are to your own town or department.

### Who is responsible for entering the numbers and when to make entries on the DPW Exposure Board?

The DPW director (or admin) will enter numbers on each Tuesday and Thursday going forward. Entries from past weeks and months are NOT necessary, and you don't need to make an entry when your status (numbers) hasn't changed.

### My remotely working office assistant is in quarantine, do I need to enter this?

No, as concerning as this is for the employee and the department, the number entries are tied to the "boots-on-the-ground": The snowplow driver that can't get out to clear the roads during the storm event, the wastewater treatment facility employee that can't take care of daily operations, the sanitation work crew that has to isolate after an exposure. In short: The DPW employees that provide an essential service, which, if not guaranteed, will affect the safety and health of the greater community.

### Importance of Participation:

The better the participation in populating this tool, the better the weekly snapshot of COVID-19 related personnel shortages. If you are in need of help from partner towns or departments, you know where to go to ask for aid. If you are doing well, and see other departments are struggling, check in with them. Your partnerships in your NH wide public works family will grow even stronger.

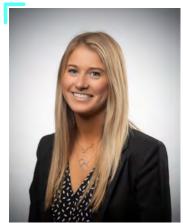
### Is the participation mandatory?

No, it is not, and there are no "big brother is watching you" concerns in providing these numbers. The motivation behind this is to create a situational awareness for all NH DPW and Highway Departments on COVID-19 related personnel outages. Only numbers, not names, will get entered into the database.

**Who do I contact for login access:** For login access to WebEOC please reach out to your local Emergency Management Director who will set up your account with Homeland Security and Emergency Management.

New Faces in the Office

We are so happy to welcome our three new student worker Office Assistants and also "officially" introduce Rachel, who has been with us since February of 2020.



Rachel Barbieri

I am a senior in the Peter T. Paul College of Business and Economics at the University of New Hampshire studying Information Systems & Business Analytics and Management. On campus I am involved in Women in Business, an organization to help female students connect with real world businesswomen, as well as Alpha Phi, one of the eight sororities at UNH. When I'm not spending time on my academics, T2 work, or club activities, I like to stay active by taking walks around our beautiful campus or you can find me with my seven roommates binge watching Netflix or grabbing dinner at Barrio in Portsmouth. When I saw the job opening at UNH T2 I knew it would be the perfect opportunity for me to gain experience working with data while also still being able to balance all of my other responsibilities. My favorite part about working at UNH T2 is definitely the freedom and trust that has been given to me by the rest of my coworkers as well as working with a small team and being able to form personal and professional relationships with everyone. Following my graduation and work at UNH T2 in May 2021, I will be working for Definitive Healthcare in Framingham, MA as an Associate Data Specialist.



My name is *Jenna Frasier*. I am currently a senior at UNH with a dual concentration in Finance and Information Systems and Business Analytics. I am also a member of Alpha Phi Omega, the community service fraternity, which helps me give back to the community. I was immediately drawn to this position at UNH T2 because of its efforts to improve the quality and knowledge of the transportation workforce. I am so excited to further develop my organizational skills and personal knowledge and work with such an amazing team! A "fun fact" about me is that I have two cats!





My name is *Lizzy Pateuk*, I am currently a Junior at UNH majoring in Business Administration with a concentration in Management. I'm excited to start my new role at UNH T2 because I am always looking to gain more experience and knowledge and I knew this would be a great place! In my free time, I like to spend time with friends and family along with adventuring to new places

Hi! My name is *Sydney Weisensee* and I'm one of the new office assistants here at UNH T2! I'm a sophomore marketing major and on track to major in tourism management. In addition to my studies, I am a member of the Phi Sigma Sigma sorority. I am also a member of the Women in Business Club which led me to the opportunity of working for T2! In my free time I enjoy hanging out with friends, snowboarding, listening to music, and exploring new places! So happy to be a part of this team!



### **Snow Disposal Guidelines**

NHDES Environmental Fact Sheet 2020, WMB-3

### Introduction

Each winter, the Department of Environmental Services (NHDES) receives numerous inquiries and complaints related to snow disposal into and/or near surface water. There are several different concerns regarding disposal of snow cleared from streets and parking lots ranging from aesthetic concerns, such as minimizing the visibility of debris and huge snow piles, to environmental concerns, such as protection of groundwater quality, drinking water supplies, surface water quality and aquatic life. The environmental impacts of disposed snow result from high levels of salt, sand, debris and trash, along with contaminants from automobiles including oil and exhaust. The debris and contaminants that inevitably end up in plowed snow make it illegal to dump snow directly into waterbodies. RSA 485- A:13,I(a) prohibits discharging wastes to surface waters without a permit. In addition to water quality impacts, snow disposed in open water can cause dangerous ice jams.

Groundwater is sensitive to snow dumping due to the high levels of chloride and automotive waste in plowed snow. RSA 485-C:12 prohibits the siting or operation of snow dumps within classified wellhead protection areas.



### **Recommended Guidelines for Snow Disposal**

These guidelines will assist in identifying snow disposal sites that minimize impact to the environment.

Please note that plowed and dumped snow is kept out of waterbodies due to containing waste materials, such as litter and debris. Waste does not belong on the land surface either; after the snow melts, all waste must be collected and disposed of properly.

 Disposed snow should be stored near flowing surface waters, but at least 25 feet from the high water mark of the surface water and/or top of stream bank. If a site cannot be found near a flowing surface water, then upland sites further from surface waters are acceptable, provided they do not impact water supply sources as described below.

A silt fence or equivalent barrier should be securely placed between the snow storage area and the high water mark and/or the top of stream bank with care taken not to exceed the barrier with overpiling.

This area should also be accessible for postmelt cleanup. Note: silt fence must be installed prior to the ground freezing.

 The snow storage area should be at least 75 feet from any private water supply wells, at least 200 feet from any community water supply wells, and at least 400 feet from any municipal wells.

(Note: Snow storage areas are prohibited in wellhead protection areas.)

- All debris in the snow storage area should be cleared from the site prior to snow storage.
- By May 15th of each year, all debris from active snow storage areas should be cleared and properly disposed of.

### **Snow Disposal Site Selection Procedures**

Municipal public works officials should consider consulting with the local health officer and conservation commission to identify sites. Securing sites prior to the winter season will help to alleviate capacity problems during winters with heavy snowfall. NHDES is available to help municipal officials identify appropriate snow disposal sites. The following are guidelines for site selection:

- Estimate how much snow disposal capacity is needed for the season so that an adequate number of sites can be selected and prepared.
- Sites lacking mature tree growth are preferred; trees make collection of debris more difficult after the winter season.
- Identify sites that could potentially be used for snow disposal such as municipal open space, parks, recreation fields and parking areas. If no additional municipal sites are available, consider securing permission from landowners of non-municipally owned sites.

For more information about snow storage contact the NHDES Watershed Management Bureau at (603) 271-339



THANK YOU!

To Ted Diers and Chris Avery from the NHDES Salt Reduction Program for giving us permission to share this Environmental Fact Sheet







Thank you to Primex for allowing us to share this valuable resource.

### **DPW Garage Fire Safety**

### PRIMEX<sup>3</sup> RISK MANAGEMENT BULLETIN

Fires in public works highway and maintenance facilities can be major losses both financially and operationally. In New Hampshire alone we have at least one large loss fire involving DPW facilities and equipment annually. Though low frequency, these events are high severity with loss of buildings and expensive rolling stock and related maintenance equipment. These losses have significant impact on risk pool performance, local rates and contributions and significant operational impacts particularly during the winter months with the loss of equipment needed for snow removal operations.



Several Highway Department plow vehicles, tools, records and one building were lost in a fire.

Public Works facilities contain flammable chemicals, fuels and tanks that could turn a small fire into a serious incident. Certain materials, such as paints, fuels, aerosols and other flammable or combustible materials can cause intense fires.

Fire prevention in the DPW facilities begins with preventive maintenance, good housekeeping, and proper storage of equipment and materials. Complete fire prevention and safety requires a more comprehensive approach such as fire alarm systems, fire suppression systems and a more thoughtful approach to building design and compartmentalization. Statistically, one of the biggest causes of fires in DPW facilities is a vehicle electrical fire that spreads to nearby equipment and buildings. Here are some identified areas of focus to limit fire loss in DPW facilities:

 Housekeeping: Limit the amount of combustible materials in work areas and keep them from accumulating. Store quick-burning, flammable materials in designated locations away from ignition



A plow truck fire can spread to the highway garage causing a total loss.

sources and store oily waste in covered metal containers. It is also important to maintain clear access to fire extinguishers and other emergency equipment.

• Building Compartmentalization: Provide for "fire compartments" within the building for limiting the spread of fire and smoke. Compartmentalizing takes a building and divides it into sections using building features like fire rated walls (sheetrock), self-closing fire doors, and effective fire-stopping between areas of the building that may be penetrated by electrical wiring, plumbing, and ventilation.



Page 1 of 2

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### **DPW Garage Fire Safety** (continued)

### PRIMEX<sup>3</sup> RISK MANAGEMENT BULLETIN

- Fire Detection and Monitoring: Monitored fire alarm systems can provide early identification of a fire where damage can by minimized. Many DPW facilities sit far from the road and are in many cases on limited travel highways where recognizing a fire is not all too likely. A fire alarm system will consist of several devices working together to detect and warn or a fire such as smoke detectors and heat detectors and also manual pull stations. Alarms should be monitored by a call center or tied into a municipal fire alarm system. On site warning horns and fire alarm strobes are also recommended.
- Battery Disconnect Switches: Vehicle electrical fires are the leading cause of DPW facility fires. Agencies should ensure that vehicles, particularly larger commercial vehicles, are equiped with battery disconnect switches that are used when trucks are parked, particularly during off hours (overnights and weekends). Many newer commercial vehicles are factory equipped with these devices and older vehicles can be retrofitted for less than \$100 (parts only).
- Fire Extinguishers: It's important to have the proper number and type of fire extinguishers in the facility and they should be clearly labeled so that their location can be easily identified in the event of an emergency. Your local fire department can provide guidance on the proper number and type to install.
- Fire Suppression Systems: While expensive, a fire suppression system (sprinkler system) in the facility can provide for significant life safety and property conservation should a fire occur. A fire in a NH DPW facility can easily justify a fire suppression (sprinkler) system in many NH DPW facilities.
- Fleet Parking Strategies: Dump trucks, utility vehicles and specialized heavy equipment should be parked in such a way to limit loss severity in the event of a fire. Where vehicles park adjacent to one



Though seemingly organized fleet parking, this type of parking promotes rapid, large loss fires as the fire can easily spread from truck to truck.

another consider larger gaps between vehicles or alternating cab forward arrangements on adjacent units to limit fire spread from unit to unit.

Preventing fires in DPW facilities and limiting loss if a fire were to occur requires a thoughtful, comprehensive approach. While measures can be expensive they are arguably far less than resulting fire loss which can easily push \$1 million and have dramatic DPW operational impacts to include loss of facilities and important rolling stock such as snow plows during the winter months.

For help in assessing and managing your DPW fire risk, please contact your Primex<sup>3</sup> Risk Management Consultant at 800-698-2364 or email *RiskManagement@nhprimex.org*.



Page 2 of 2

### **AVL Coming To A Fleet Near You**

By: Marilee LaFond, UNH T2 Center Manager based on a discussion with David Gray, Winter Maintenance Program Specialist at NHDOT

The winter tech alphabet soup is heating up, with AVL (Automated Vehicle Location), GPS (Global Positioning System), and GIS (Geographic Information System) technologies appearing in garages throughout New Hampshire. Many of these systems come with a hefty price tag, so it's wise to have a good understanding of both how AVL works and how it is expected to fit into your operations strategy before making the leap. According to a June 2018 ClearRoads report, winter road maintenance accounts for roughly 20 percent of state DOT maintenance budgets, and that state and local agencies spend over \$2.3 billion on winter operations per year (\*1). That's a lot of money spent clearing snow and ice, and although winter's havoc may be mostly unpredictable, the costs, actions, and responses public works snow fighters take against winter storms are very much measurable. It makes sense then that Automated Vehicle Location (AVL) technologies would be a game-changer for winter maintenance operations - putting realtime data and information in our hands to make informed and educated decisions about budgets, resources, equipment, and more, over time based on historical response. It also makes sense why you're hearing about more local and state road agencies that have installed AVL in their maintenance vehicles. An AVL system typically includes a GPS-enabled module in the vehicle to track its location and other metrics, and software "back at the office" that receives a feed of the vehicle's location on a map and other information the unit gathers. The actual "hardware" in the truck utilizes GPS signal from cell signal or in some cases satellite and uses those signals to place the vehicle's current location. The AVL device then sends the data gathered about the vehicle's location, speed, and direction back to the main center through cell signals.

I caught up with David Gray from NHDOT late last year to ask him more about this emerging technology, and to find out how NHDOT's installation of 138 Skyhawk Telematics AVL units into the NHDOT fleet was taking shape, including the considerations that went into the decision-making for the program.

### Data, Date, Everywhere There's Data

David is New Hampshire Department of Transportation's Winter Maintenance Program Specialist and Program Manager for their AVL system. He shared with me that some of the AVL units in the NHDOT fleet are connected to plow sensors, and can therefore monitor when the plow is up or down, as well as others are connected to spreaders to gather valuable data on when the spreader is spreading, how much, and even through the use of geofencing can locate where it's been spread in a specific range. Additional sensors can be added to vehicles to push important metrics on pavement and air temperature to traffic control or the weather center to support forecasting, communication, and work planning. One AVL equipped-truck can gather more than 600 data points in just one hour; that's a lot of data, so consideration of how to store it is important in the planning and purchasing process. In addition to sending data back to a main office, records may also be stored "at" the vendor (including in the cloud), and some AVL units have a built-in SD card that stores up to a month of information. Scheduled automated reports can be run from this saved data and time-consuming paper logs can become a thing of the past.

<sup>\*1</sup> http://clearroads.org/wp-content/uploads/dlm\_uploads/FR\_CR.16-01 Final.pdf \_\_Utilization of AVL/GPS Technology: CaseStudies

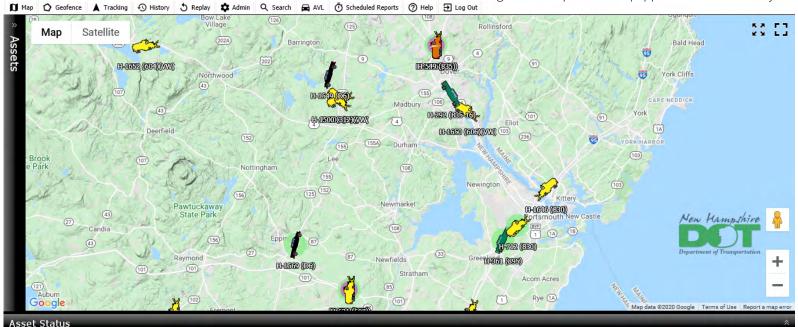
AVL technologies can also support data collection and reporting for Municipal Separate Storm Sewer System (MS4) requirements. Winter operators can monitor spreader speed and record salt consumption by land miles; geofencing takes the system further for precise use within specific chloride sensitive areas. By geofencing the salt shed, agencies can also track offloaded deicing material to separate figures of leftover materials from reports. In addition to monitoring and planning winter maintenance expenses and documenting salt and snow removal by routes, AVL technologies can benefit data collection and reporting for other aspects of public works, including monitoring street sweeping. Sensors on the sweeper dump body can track offloading activities to calculate pounds of sweeping waste, as well as where sweeping occurred. Even asset management and budgeting activities can be supported by a variety of fleet maintenance and fuel consumption reports.

### The Benefits Keep Piling Up

The benefits for AVL-integrated vehicles extend to the maintenance garage. Alerts can be set to monitor the fleet's routine mechanical services, blade and broom sweeper wear, spreader errors,

or other maintenance tasks. While it doesn't replace the need to maintain and calibrate equipment, it does support communication between the driver and maintenance facility. It can also facilitate effective post-incident reviews, including providing timely and important speed and braking data when crashes occur. Perhaps most importantly, AVL supports the quiet heroes in our communities that work tirelessly through harsh conditions keeping our roadways safe, the men and women "behind the wheel". Talk to people that have spent long nights in a plow truck, away from home (and their own snowcovered driveways) and you will hear that even after the truck is parked, the job is not done. Storm documentation is an important component to effective winter maintenance planning and conservation efforts. It can take several minutes or more at the end of each shift for drivers to complete logbooks documenting their routes, material use, and weather stats. The data stored and available through AVL systems can automate this process. AVL also allows teams to monitor live route completion data and prioritize their work in real-time; including to help one another complete the job as efficiently as possible. Bring in the AVL and send home the driver sooner!

Image below depicts AVL- equipped trucks out in the field.



### So many decisions...

David shared some considerations for agencies considering AVL technologies. Overall, AVL technology is becoming cheaper, with sensor costs varying from \$20 to \$500. It may be cost-effective to think about long term usage when making purchasing decisions, and include careful consideration to what type of data you will want to track, what equipment you want to install it on, and what future needs might be. It may potentially be more cost-effective to buy the device you'll need in the future now, and phase in additional devices and users onto the platform from there, than to purchase several units in a lower price range but have to add in other units or users, or replace technologies. Regardless of which features a system comes with, consider an implementation plan that phases in the bells and whistles, rather than launching with all functions and features enabled immediately, which can be overwhelming. Look to those in the company that enjoy using and learning the latest technologies and involve them as champions in piloting and sharing AVL within your team.

In recent years we've watched the options for streaming our favorite television shows expand, online shopping services remind us when our supply of dog food may be getting low, our cars send an alert to our phone when a window's left open, and the devices in our homes integrate with one another in many other new ways. It is hard to argue against the pace of change and adoption of technology throughout our lives.

While AVL may have seemed space-age several years ago, the equipment has evolved rapidly. For even a mid-size or smaller road agency, it is no longer such a stretch to say "AVL-coming soon to a truck near."

you."



AVL Unit in a truck.

# VIRTUAL MEETINGS IN 2021: A THING OF THE PAST, THE PRESENT AND THE FUTURE WHERE DO WE GO FROM HERE?



I still remember the first virtual event I attended and one we organized through our center in the early days of the Coronavirus Pandemic, when the ways how we interact with each other were suddenly changed: With tight neck muscles and fears of so-called Zoom bombings, technical challenges and internet outages began our adventure into the virtual world.

My head was spinning, but meeting after meeting, event after event, it became a familiar platform, and a general tech-savvy-ness gave room to initial nervousness.

With the hope for a widely available and effective vaccine on the horizon, we are starting 2021 considering yet again how we are going to provide training this year.

Are we scheduling strictly virtual meetings? If so, for how long? How about last year's hybrid training sessions where the theory part was provided through a webinar, and participants could sign-up for hands-on training in small groups and outdoor settings? Or are we taking a gamble, and dare to think about inperson training for the second half of 2021?

It is too early to make a prediction, and most likely virtual training will stay with us for months and probably years to come.

### <u>There are some undeniable advantages to virtual training and virtual meetings:</u> Time Requirements:

• There is literally no travel time involved to attend a virtual meeting or training. Your commute is the distance to a computer, laptop, tablet or phone near you.

- Because the one-hour meeting does not take away your entire morning given an hour travel to get to and from the in-person meeting you can focus more on your other workload and be more time-efficient.
- Virtual meetings stick (mostly) to a solid time frame.
- Because of missing travel time and delays that are connected to this, meetings can start on time.

### **Participation:**

- Participation is most likely higher than for an in-person meeting due to time requirements and availability
- Even if you can only "zoom in" for a part of the session, you are able to stay "in the know" and in the loop
- Reaching across New Hampshire by eliminating travel, every workshop became accessible, regardless where you're located- we "saw" participants from many different municipalities at the same workshops, even if they were miles and miles apart from one another.

### Access to Content and Knowledge Experts:

- Virtual training creates opportunities for us to engage with a broad network of content and knowledge experts across transportation topics. For instance, we were thrilled to have several presenters from FHWA for our "Safe and Sound: Safer Roads" series and expect many of them would not have been able to join us in an in-person capacity otherwise due to travel and other limitations. So, if there is a transportation topic of interest to your team, let us know! We'll cast the net far and wide to see who can join us to share some information on it!
- The volume of virtual content and events we were able to access and share grew exponentially last year- from low or no-cost conferences, NLTAPA partner trainings throughout the US, through FHWA, AASHTO TC3, and others, we shared hundreds of eLearning opportunities!

### Costs:

- No travel costs for participants
- Time saving means cost savings
- When possible, we set virtual training fees lower than in-person fees (and in some cases eliminate the fees)

### **Dynamics:**

- More participants will contribute more diverse viewpoints.
- Greater participation through different interaction avenues: Being able to choose between speaking, typing your answer or question into the chat pod, participating in word clouds, polls, and other activities will allow you to involve even the more introverted participants.

#### Content:

- A virtual presentation can be just as effective as an in-person presentation.
- Creative learning retention techniques make it easier to digest content, and review learning goals.

### **Disadvantages of Virtual Meetings/ Trainings:**

### **Networking:**

- Onsite networking and peer exchange tend to be more active and lasting than over a virtual meeting platform.
- Nonverbal cues and body language have shortcomings on a virtual platform.

### Zoom-Fatigue:

- Even the most interesting content will wear off if it is your third virtual meeting of the day. There's only so much screen time we all can handle before zoning out.
- No hands-on / tactile learning experience (but we're looking forward to trying out some other ways of engaging with virtual activities and "live" Zoom demos!)
- The soft skill part of the training, the small side conversations, the networking is reduced on a virtual platform (although we did see some active chat pod conversations in some virtual trainings!).

### **Technical Challenges:**

- The meeting/ training is only beneficial with a stable internet connection and a decent computer/ laptop/ tablet with audio and video functionality.
- Audio versus Visual: Many virtual events require for you to be logged on to the computer
  to see a presentation. In most cases though, you can access audio (sound and
  microphone) through either the internet/computer with mic and speakers or you can dial
  in for audio through the phone.

### How to get the best out of your virtual meeting/ training:

- Test your technology ahead of the training, make sure the camera and speakers work, and test your technology with a **Zoom Test meeting**.
- Familiarize yourself with the most common meeting controls. Zoom is offering a series of free online tutorials that are immensely helpful.
- Keep track of the Zoom meeting details that were emailed to you after registration. You'll
  need this information to sign on to the meeting at the meeting date/time. (The author
  created an email folder just for Zoom meeting details for quick access.)
- On the day of the meeting/ training, log on early, so you do not need to rush into the training. You can always grab another cup of coffee while your camera and microphone are turned off.



- Be present: By turning on your camera and treating the meeting as if you were in an onsite meeting, you will get most of the training. Your body is more ready to listen with intention than if you were to turn your camera off and try to multitask in the background or scroll down your social media feed. In short: Do not do in a virtual meeting what you wouldn't do in an onsite meeting.
- Eliminate distractions: Schedule the training on your calendar so that your boss and coworkers see that you are not available.
- Turn off your notifications on your email and cell phone.
- "Facetime" over Avatar: Keep your camera on and participate. One of the biggest keys to success in any online training environment is active participation. The training/ meeting will be so much more engaging and beneficial. Your trainer will appreciate the participation as well. It can be frustrating to talk to profile picture Zoom tiles, not knowing if you are reaching the participants or being met with radio silence.
- Take a few notes but in most cases, the training materials and a recording of the training will be provided to you.
- Bring your questions, and do not hesitate to ask them. Every question is a valid question. Often, the other participants might have the same question and will be so thankful that you've asked. So are your trainers: Your questions will help to finetune and review the training contents.
- It can be discouraging to the trainer and other participants to see someone preoccupied with another conversation (in-person, over the phone) or distracted by their phone (scrolling, texting). If you need to step away or take a call, turn off your camera but be sure to be right back once you are done. It's also good etiquette to notify the facilitator via a private Chat that you are stepping away (some meetings will also have icons to denote this status).
- If breaks are provided during the training, take advantage of them. Don't check your email or phone but stretch and move or walk around your building. Screen time can drain your ability to focus, so, moving is important.

 Most of all: Have fun, interact and enjoy the training from the comforts of your home or office.



Picture: Bettina Sietz

**UNH TECHNOLOGY TRANSFER CENTER** 

### Accessing Your Learning History & Transcript

A LEARNFORLIFE.UNH.EDU CHEAT SHEET

DID YOU KNOW THAT YOU HAVE ACCESS TO YOUR TRAINING HISTORY WITH UNH T2- ANYTIME, ANYWHERE?

Most of you have a "group administrator" that completes training registration on behalf of your organization. Even if you have never logged into the registration system, though, you have access to your transcript & history!

### Follow the steps below to access your student profile



#### LOG IN AT HTTPS://LEARNFORLIFE.UNH.EDU/

Select "Student Login" from drop down to the right of the shopping cart icon



#### DON'T KNOW YOUR USERNAME?

Email T2.Center@unh.edu your organization, email address, & last class you attended



#### FORGOT YOUR PASSWORD?

Click "Forgot Password", enter your username, and click "Continue"

Didn't receive a password reset?

Email us to confirm the email address on file.

### Accessing Your Learning History



#### SCROLL USING LEFT NAVIGATION BAR

Scroll down the left navigation bar

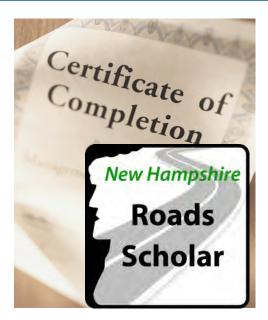
- My Certificates >
- · Special Programs

Click on any certificate for details

HAVE A QUESTION?
WONDERING ABOUT THE ROADS SCHOLAR PROGRAM?

Email us at t2.center@unh.edu

HTTPS://T2.UNH.EDU/



# Got "stuck" in LearnForLife? Check out our <u>self-help page</u> or reach out to us.

The training registration portal has a new look!
Group accounts are now "Family Portals"...allowing
easier access & improved administrative functionality!

## Curious "How to...?" in Learnforlife.unh.edu?

We have a collection of short videos to help administrators manage their group's account & registrations!



T2.UNH.EDU/FAMILYPORTAL



### Riddle me this...

After reading the articles, are you ready to solve our *virtual Road Trip riddle*? <u>Click here to play.</u>

Answer the questions, keep scrolling to the very end of the online questionnaire, and submit your answers for your chance of being drawn for a free UNH T2 workshop seat (total value of up to \$100).



...and you might win a free UNH T2 workshop seat!





Snow fighter Lucas Lamos from Laconia DPW plowing in Laconia after 36" of snow during the December storm.

Pictures: Craig Borgeson, Laconia

# (The <u>Plow Parade</u> is here!)

With this <u>video</u> we celebrate and recognize all the many public works professionals that keep our roadways clear all winter. We know winter is tough - on you, your equipment, and your families who you're away from overnights. THANK YOU - because #publicworksmakesithappen - from preparing and fixing trucks and equipment, calibrating, plowing, salting, and everything in between, we have safe and effective transportation through all New Hampshire's elements! Thank you to everyone who shared pictures and video footage for this video from the road, from the garage or along the road, showing your efforts day in and day out!

A special "Thank You" to our awesome student Office Assistant Rachel Barbieri, who produced this fantastic Plow





# Confronting Unwanted Water

# NHMA'S HOT TOPICS

### By Natch Greyes, Municipal Services Counsel, NHMA

Now that the spring thaw is (nearly) upon us, it's time to start planning for the upcoming season of roadwork. One of the often bitterly contested and lengthy processes involves addressing drainage issues with property owners whose property (and actions) have caused road damage or are causing road damage.

Unfortunately, because the properties are in private hands, it is often not possible (nor advisable) for the public works department to fix the problem. Instead, there is often a delicate negotiation between representatives of the department, administrative head of the town, and the (sometimes cantankerous) property owner. The difficulty of such negotiations often depends upon the cost of remediation.

### Water on the Road

Perhaps the easier to address issue is water on the road. It's a simple thing to prove – an unnatural ice patch forming in winter off of a specific driveway but no others on the same road; an unnatural flooding of the roadway in front of one particular property but no others on the same road; etc. And it's often easy to point out the cause – a new earthen berm, a drain line from a house (including a sump pump line), etc.

The solution to the problem is found in RSA 236:19 which prohibits a person from placing or causing to be placed or remain any substance upon land in the vicinity of a highway which causes water in a stream, pond, or ditch to cross the highway and injure it or render it unsuitable for travel. If the cause of the problem is a health hazard, RSA 147:10 provides the health officer the ability to order the abatement of the issue. And, finally, if the issue is merely a driveway, RSA 236:13, VI applies. That statute states that if a driveway creates a hazard to the traveling public due to flooding or frost action the planning board or the enforcing agent (i.e., select board) can issue an order to the property owner to repair the hazardous condition. From whatever authority the order is coming from, it should describe the hazardous condition, prescribe the necessary corrective action, and state a reasonable time when the correction action shall be completed.

### **Sump Pumps**

A harder problem arises with sump pumps draining into municipal sewer lines. Historically, the sewer lines were thought of as an inexpensive method to utilize for the disposal of basement seepage, foundation drains and roof leaders for a property owner. Now, we know that's not true. Sump pumps are designed to pump groundwater and rainwater. Sanitary sewer pipes, in contrast, are designed to carry sewage, not groundwater and rainwater, meaning that the additional water loads can easily overwhelm them, causing backflows into people's homes.

Hot Topics (continued from page 20)

More relevantly, in addition to a prohibition in the locally enacted Sewer Use Ordinance, Env-Wq 704.01 (b) prohibits discharge of sump pumps to sanitary sewers. In addition, EPA's Dewatering General Permit contains similar prohibitory language.

At the local level, it is advisable to enact a Sewer Use Ordinance which specifically prohibits such (already prohibited) conduct in order to ensure that effective local enforcement can occur. New Hampshire Department of Environmental Services (NHDES) has promulgated a model Sewer Use Ordinance through the industrial pretreatment program which contains prohibitory language. NHDES suggests that all municipal Sewer Use Ordinances contain the following language:

### Use Of Sanitary Sewers.

Except as specifically provided with reference to some particular sewer, sanitary sewers shall be used only for the conveyance and disposal of domestic wastewater, and for industrial wastes that are not objectionable as hereinafter provided. No sanitary sewer shall be used to receive and convey or dispose of any storm or surface water, subsoil drainage, or unpolluted water.

Municipalities operating sewer systems which do not have such language in place would be wise to review their regulations, especially as they look to prevent future headaches associated with overflowing

sewers and other sources of unwanted water.

We want to thank Natch Greyes for his continuing support and important contributions of "Hot Topics" to our newsletter!

We re outsto

We recently received notice on the following outstanding achievements:

### Retirement:

*Mike Yergeau* is retiring after 43 years of public service as an Engineering Technician from the *Town of Goffstown*. - Best Wishes for an enjoyable and relaxing retiree life!

#### Awards:

**Tony Cavaliere** from the **Towns of Jaffrey and Marlborough** received the **NHDES 2020 Asset Management Award** (for an individual). The awards were established to promote and encourage communities to implement Asset Management Programs, holistic plans to manage total infrastructure systems over the life cycle of assets in the most cost effective way.

**Town of Salem:** The 2020 NHDES Asset Management Award has also been presented to the **Town of Salem Asset Management Team** as a municipality.



Got something to share? - A special professional recognition or an award? An employee with many years of public service? A happy addition to a PW family? - Please email or call us to share the news with your PW network. We are happy to help!

## **Targeted Overlay Pavement Solutions** (TOPS)



Solutions for integrating innovative overlay procedures into practices that can improve performance, lessen traffic impacts, and reduce the cost of pavement ownership.





Approximately half of all infrastructure dollars are invested in pavements, and more than half of that investment is in overlays. By enhancing overlay performance, State and local highway agencies can maximize this investment and help ensure safer, longer-lasting roadways for the traveling public.

### **IMPROVED PAVEMENTS THAT LAST LONGER**

Many of the pavements in the Nation's highway system have reached or are approaching the end of their design life. These roadways still carry daily traffic that often far

This quarters can be designed englificably to improve

Thin overlays can be designed specifically to improve rutting and cracking resistance, increase structural capacity, improve friction or reduce splash and spray. Source: NAPA

exceeds their initial design criteria. Overlays are now available for both asphalt and concrete pavements that enable agencies to provide long-life performance under a wide range of traffic, environmental, and existing pavement conditions.

Concrete overlays now benefit from performance-engineered mixtures, including thinner-bonded and unbonded overlays with fiber reinforcement, interlayer materials, and new design procedures that improve durability and performance. Curing of a fiber-reinforced concrete overlay should follow the same practices as implemented for conventional concrete pavement. Asphalt overlay mixtures have also advanced significantly with the use of stone-matrix asphalt (SMA), polymer-modified asphalt (PMA), and other materials, designs, and agents that can increase rutting and/or cracking resistance, increase structural capacity, preserve the underlying structure, improve friction, and extend pavement life.

#### **BENEFITS**

- ▶ Safety. Thousands of miles of rural and urban pavements need structural enhancement and improved surface characteristics, such as smoothness, friction, and noise. Targeted overlay pavement solutions can improve the condition of highways significantly in a relatively short time.
- Cost Savings. Timely and well-designed overlay applications are consistently cost-effective because less subsurface work is required. In urban areas, impacts to utilities and pedestrian facilities are minimized.



### Targeted Overlay Pavement Solutions (TOPS)

Performance. Targeting overlay solutions to highpriority highways and high-maintenance areas (which could include limited locations such as intersections, bus lanes, ramps, and curved alignments) can pay immediate dividends in terms of reduced maintenance needs, fewer work zones, and improved safety as well as longer service lives.

### STATE OF THE PRACTICE

Recent improvements to design methods, interlayer technology, slab geometry, and concrete mixtures have broadened concrete overlay surface treatment applicability, reliability, sustainability, and costeffectiveness. A joint effort by eight States (Georgia, Iowa, Kansas, Michigan, Minnesota, Missouri, North Carolina, and Oklahoma) resulted in the development of an improved design procedure for jointed unbonded concrete overlays on either concrete or composite pavements.

For asphalt overlays, several State departments of transportation (DOTs) have adopted SMA due to increased service life and performance. The Maryland, Alabama, and Utah DOTs each used over 1 million tons of SMA during a 5-year period. DOTs in Florida, Georgia, New Jersey, New York City, Tennessee, and Virginia found highly modified asphalt in thin overlays is more resistant to reflective cracking and rutting. It has increased pavement life by two to four times for DOTs in Alabama and Oklahoma. New Jersey and Texas DOTs have successfully implemented alternative mixture design procedures for high-performance thin overlays and overlay mixtures to minimize reflective cracking.

Open-graded friction course is being used successfully by Florida, Georgia, and Massachusetts to reduce noise and stormwater spray while increasing friction. Ultra-thin bonded wearing course (UTBWC) is used by several agencies in the northeast to restore ride quality while sealing and protecting the underlying pavement. Associated tools include improvements and focus on mixture design, thickness design, project selection, and advanced scoping / forensics.



Fiber-reinforced concrete overlay with 4 lb/yd³ of synthetic macrofiber and 4-in depth showing excellent finishability.

Source: Iowa Concrete Paving Association (ICPA)

### **RESOURCES**

FHWA EDC-6 Targeted Overlay Pavement Solutions (TOPS)

FHWA Tech Brief: The Use of Thin Asphalt Overlays for Pavement Preservation

National Asphalt Pavement Association (NAPA): Stone-Matrix Asphalt

National Center for Asphalt Technology: Highly Modified Asphalt

Rutgers University: High Performance Thin Overlays

Texas A&M Transportation Institute: Thin Overlay Guidelines

National Concrete Pavement Technology Center: Guide to Concrete Overlays

American Concrete Pavement Association (ACPA): National Concrete Overlay Explorer

<u>Technology Transfer Concrete Consortium Pooled Fund TPF-5(313): Fiber-Reinforced Concrete for Pavement Overlays:</u>
Technical Overview



U.S. Department of Transportation

Federal Highway Administration

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Tim Aschenbrener
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Construction, and Pavements
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Timothy.Aschenbrener@dot.gov

Concrete Materials

Sam Tyson

FHWA Office of Preconstruction,
Construction, and Pavements
(202) 366-1326

Sam.Tyson@dot.gov

### **UNH T2's Tech Assist Corner**

UNH T2 provides Technical Assistance on a variety of topics, including equipment training, pavement management questions, drainage considerations, policies and best practices, understanding maintenance regulations, and more.

We provide personalized technical assistance to NH munic

We provide personalized technical assistance to NH municipal highway departments via phone, email, or special site visits. Technical assistance may include the following:

- Maintenance of gravel roads
- Setting up a road budget
- Maintenance of culverts
- Maintenance of roadside ditches
- Pavement preservation
- Safety Audits,

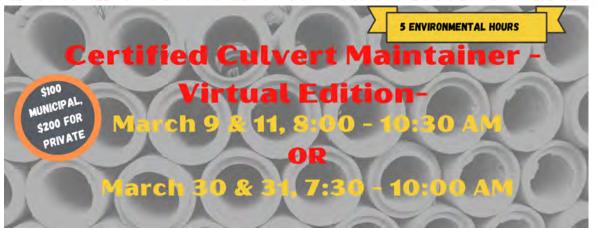
# A FREE SERVICE FOR NH MUNICIPALITIES!

or proactive investigation of your road network or specific location, of your roads may involve:

- Examining roads for consistency from the user's perspective
- Audit of roadwork projects through various stages of completion
- Identifying road user capabilities and limitations
- Identifying opportunities for improvement in safety for all road users
- Devising a low cost plan to address safety issues

If you would like to speak to someone about receiving technical assistance or a safety audit on any matter, please contact the UNH T2 Center at (603) 862-0030, T2.Center@unh.edu, or fill out the form on our website.

### IMPORTANT UPCOMING CERTIFICATION TRAINING:



To register, visit our training calendar.

### **Innovation Station**



ready for the <u>Build-A-Better-Mousetrap competition of 2021!</u>



### **New Hampshire, The Beautiful!**

Local pictures are the best! We are so happy and thankful to have received some outstanding pictures! We are still looking for more submissions from the road (safety first, please), and encourage you to show us your (hobby) photographer talent! - Thank you! - Send your pictures to bettina.sietz@unh.edu for the next Road Business edition!



December Winter Storm Clean-up in Laconia



UNH T2's furry co-worker, Amber, on a morning patrol. She likes to #besafebeseen, Picture: Bettina Sietz



Laconia DPW after the December storm (36" of snow) Picture: Craig Borgeson



### Pioneer

Development of new tools and equipment by agency inventors. The tools should provide a better way to do the job and advance road maintenance and construction.



## Persistance Pays Off for LaMoure County

The Spring Load Arm Enhancement is an attachment to the Gravel Saver Disc, which clears away debris and vegetation from roadside to keep them from being a hazard to drivers. The problem with the Gravel Saver Disc is that it would often crack or break from getting hit with rocks or other solid objects and sometimes the vegetation would cause clogging on the machine. LaMoure County, North Dakota spent time and money replacing the disc.

The Spring Load Arm Enhancement gives the gravel saver disc flexibility due to its angled positioning. The rocks and vegetation can flow more freely with less clogging and breaking to the Gravel Saver Disc. This innovative idea cost LaMoure County an estimated \$300 and only took the work of 2 people to develop the idea.

Tim Geiner, LaMoure County Assistant Road Superintendent says he first got the idea for the Spring Load Arm Enhancement back in 2011 during a conversation with a friend. He thought it was such a great idea that he spent the next several years pondering over how it could work. "I had 3 or 4 different cardboard cutouts of the concept trying to visualize how this could work. Finally, I took my idea to a machinist and he helped me with the measurements to ensure proper angles and clearance," says Tim.



Photo credit: LaMoure County, ND



Tim says he was speechless when he was notified about winning Build a Better Mousetrap. "I get myself into trouble all the time because my mind is constantly trying new things before I do it myself," Tim laughs. His best advice to other agencies is you have to just go for it. "If you see something and wish it could be different, don't stop there. Think about it, figure it out and ponder it. If you think it should be better, there's probably something you can do to make it better."

Congratulations to the LaMoure County Highway Department in North Dakota as the recipient of the 2020 Build a Better Mousetrap Pioneer Award.

For more information: Tim Geinert, Josh Loegering LaMoure County Highway Department (701)320-6120 or (701)883-5131 tim.geinert@co.lamoure.nd.us



Works Partnership
The LRSP Lunch Table

CHIT-CHAT & CHEW

WITH T2

Trenching & Excavation

Joint Purchasing & Contracts 3/24

### LEADING WITH INSPIRATION DURING TIMES OF UNCERTAINTY



Kenya is the Chief Enthusiasm Officer at KJR Consulting and a passionate and trustworthy consultant who increases the confidence, motivation, and performance of others

Kenya Rutland, guest speaker

- The secrets of managing and leading during times of crises and uncertainty.
- Assessing the qualities of yourself and your staff in order to develop into a resilient team, capable of adapting to change and to succeed in crisis.
- Using the COVID-19 pandemic as a case study, we will dive into how your existing team has navigated the pandemic, what qualities and resources you need to develop within your team to be successful in the future, and how to hold yourself and your team accountable on the way.
- Eligible for 1 Supervisory NH Roads
   Scholar hour (subject to program terms)

March 3, 2021 8:30-9:30 am

TRENCHING &
EXCAVATION
PROTECTION



Preventing the main hazards in trenching and excavations - cave-ins, falls, roll-overs, confined spaces, traffic, underground utilities, soil identification, & other related hazards.

Offered by ARTBA, who created this course with the support of the OSHA Harwood grant

MARCH 16-17
REGISTRATION DETAILS
LEARNFORLIFE.UNH.EDU

May be eligible for 4 Safety NH RS hours

AND BEYOND- SO FAR!

Butch

Social Media Jump Start 4/6
The LRSP Lunch Table 4/14

Hollywood's Calling - Using 4/14

Video for Engagement

3/9 & 3/11

OR

3/30 & 3/31

Social Media- Policy & 4/20

Process of Good Presence

The LRSP Lunch Table 5/12
Special Highway Topics 5/20

Register for events

at https://t2.unh.edu



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3/10

3/16.

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Building

Maintenance