Be honest – when was the last time a week went by when you didn’t find yourself in a conversation where the workforce shortage came up? We’re all talking about it – the media, industry and professional associations, leadership teams, and peer crews. In response to a shrinking pool of skilled trade professionals, a rising “gig” economy, as well as looking ahead to a generation of workers scheduled to retire, new workforce development tools, resources, and strategic programs to create pathways to public works and infrastructure jobs started to take shape several years ago. Recent events increased the urgency to accelerate and expand these programs. Through my work with NH’s Local Technical Assistance Program (LTAP), I’ve had the opportunity to learn about many of these exciting workforce development programs; and while training and education cannot be overemphasized (it’s the backbone of what we do at UNH T2 every day!), I’m impressed with the ways our industry is going beyond the classroom to build public works awareness and engage with the future generation of our workforce. After all, nothing tells the public works story better than getting people involved in doing it.

This summer, our center had the opportunity to partner with the UNH Tech Camp Techventures Bridge Program and NH Good Roads to take campers in grades eight through ten on a bus tour to a local bridge project. Onsite, students learned about some of the unique and important aspects of the project, including its placement in an environmentally-sensitive area and its impact to the local neighborhood. Staff from NH Department of Transportation, ED Swett, and Pike Industries supported campers in using an auto-level, working with the real blueprints that had the foreman’s ongoing notes scribbled on them, and measuring rebar. They talked about how bridge engineers and the build team change course to respond to challenges that arise and encouraged campers to come back with their families when the bridge was completed in the fall, to feel a sense of pride in telling their families that they “had a hand” in this bridge.

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Road Business is a quarterly publication. The editorial content, opinions, findings, and recommendations expressed in this newsletter do not necessarily reflect the views of our sponsors. To contact or subscribe, email us at t2.center@unh.edu, call 603-862-0030, or visit our website, www.t2.unh.edu.

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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.

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Keep calm... And carry on

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Like it or not, winter is officially just around the corner. Living in a state as beautiful as New Hampshire allows us all to enjoy everything each season has to offer. I’ll admit for many years I struggled to find anything positive about winter; I could do without the cold, snow, and limited sunshine, but winter has grown on me over the years. Finding ways to enjoy the winter season such as snowshoeing, bird watching, or just enjoying some hot cocoa while watching the snow glisten outside has helped me fully embrace winter. Our public works partners are out in all seasons during rain, snow, ice, and any other weather event. I commend you all for your dedication to maintaining safe and effective roads in every season. Thank you!

The holiday season is busy for everyone, and UNH T2 is no different! We are busy this holiday season, finalizing our trainings and workshops for 2023. We have so much planned and hope you will continue to watch our calendar. Please reach out to us to let us know how we can help support your team, whether it is training, information or resources, or anything else that we can do to help your team thrive!

I have not met most of you just yet, however, I would like to take a quick moment to introduce myself. My name is Lee Cooper and I am the new program coordinator for UNH T2. I am so excited to be a part of an amazing team that supports our public works partners here in New Hampshire. I am in awe of all the incredible things public works in New Hampshire does. The ingenuity, hard work, and dedication is inspiring, and I look forward to working with you all!

I wish you all a safe and healthy winter season. Before you know it, we will be talking about spring but, until then, I hope that you are able to take some time to relax with family and friends. Happy holidays and we will see you in 2023!

Thank you for all you do! Best wishes, Lee
New Hampshire’s Construction Career Days takes a similar approach to raising awareness to the construction and transportation workforce through real-world, hands-on activities. At this annual event made possible by a vast team of partners and volunteers, almost 1,500 students a year actively participate in dozens of construction-related hands-on activities – from electrical wiring to welding, driving a backhoe to operating plow controls. Since its inception in 2009, NHCCD has introduced well over 12,000 students to the many options they have for a career in construction or transportation as they prepare to graduate. These students also return from their NHCCD experience to their families and communities with a deeper, broader appreciation for all the tools, tasks, jobs, and people that bring infrastructure to life, and support our quality of life in our communities.

And while students get a quick taste for all things construction at NHCCD, some agencies have adopted programs with deeper experiential learning for those considering a career in public works. MassDOT-UMTC On-the-Job Supportive Services program offers a select number of students that successfully complete a pre-apprenticeship training program additional employment support services to enter the transportation field, including 4-week co-op placements at local highway departments. David Smith, Head of Operations with the town of Sudbury, Massachusetts, shared with me his experience with the program. While working as the Highway Superintendent in Berlin, Massachusetts, Dave was introduced through the program to Aidan, a junior and high-achieving welding student from nearby Keefe Regional Technical School. Dave was candid with Aidan that the department didn’t have much work specific to welding, but Aidan was eager to participate in the core work of the team and to learn more about public works. Through Aidan’s initiative and a team member’s interest in providing him behind-the-wheel time with the trucks and heavy equipment, Aidan was able to obtain his CDL-B while at the DPW. When his co-op with Berlin was complete, Dave ensured Aidan had a placement in public works at a nearby town, and eventually was pleased to welcome Aidan back to his own team (although in Sudbury) a few years later.
One important thread in the examples above is that the public works awareness and outreach activities were not driven or owned by those at the top of the organization, they were not director-directed. Each involved crew team members, site supervisors, volunteer heavy equipment operators, or peers that took an interest in sharing what they were doing with someone else, to extending themselves to help someone learn more about their job, and to encourage someone towards a career in public works. I asked Dave if he had encountered any skepticism that investing time in someone who may not stay with the department would be a futile cause, and he replied “If I can help somebody’s career path, I’m all for it. If you can be a piece of the puzzle to help them improve, that’s a good reflection on you as a leader.” There is opportunity for all of us- in fact, a critical need for all of us- at all levels of the organization to become a piece of that puzzle, to do our part in raising awareness to public works and promoting the workforce.

I say often, “This is not your grandfather’s public works...” To be clear, the men and women of past generations who built our infrastructure and communities did so with the same commitment, skill, dedication, and service to others as today’s public works workforce. However, each generation undoubtedly accomplishes their work through different means – be it improvements in materials, safety protocol, or construction. We’re always working differently. The question I have for us is this: are we doing everything we can to tell the story of how we work today, and what we think tomorrow’s work will look like? Have we done an adequate job sharing and creating awareness of what a week in public works looks like? In sharing the tools, technologies, and practices public works employees use to build longer lasting streets that accommodate every user, to construct bridges in previously unimaginable time frames, to apply water monitoring to understand trends in disease and illness? By creating synergies between public works awareness efforts and workforce development strategies, we help the next generation envision themselves as part of the workforce making our towns and cities run smarter, more efficiently, sustainably, and effectively; to envision themselves as part of the Public Works teams that make it happen.

A high school student at New Hampshire’s construction career days (NHCCD) participating in heavy equipment operation, just one of the many hands-on construction-related activities available to them at NHCCD.
The Pavement Preservation Checklist Series App offers 23 checklists in a series created to guide State and local highway preservation/maintenance and inspection staff on the use of innovative pavement preservation techniques.

**Features Include**
- Create projects with any number of checklists
- Add notes and pictures to any checklist item as you complete it
- View reference videos and images
- Export checklists to share with your colleagues

[Get it on Google Play](#) [Download on the App Store](#)
Innovative virtual public involvement techniques provide State departments of transportation (DOTs), transit agencies, metropolitan planning organizations (MPOs), and rural transportation planning organizations (RTPOs) with a platform to inform the public and receive feedback. These strategies increase the number and variety of channels available to agencies for remotely disseminating information to the public and create efficiencies in how input is collected and considered, which can potentially accelerate planning and project development processes.

**ENCOURAGING PUBLIC ENGAGEMENT**

Public involvement is a critical component in the transportation decision-making process, allowing for meaningful consideration and input from interested individuals. As daily users of the transportation system, the public has useful opinions, insights, and observations to share with their State DOT and local agencies on the performance and needs of the transportation system or on specific projects. Early and strong public engagement has the potential to accelerate project delivery by helping identify and address public concerns early in the planning process, thereby reducing delays from previously unknown interests late in the project delivery process.

Nearly all State DOTs and most local agencies use websites to post information about their activities. With the increased use of social media tools and mobile applications, the public can access user-friendly features such as online videos, podcasts, crowdsourced maps, and other interactive forums to receive information and provide input.

These new opportunities for information sharing and public involvement in the transportation planning, programming, and project development process include, but are not limited to, telephone town halls, online meetings, pop-up outreach, social meetings/meeting-in-a-box kits, story maps, quick videos, crowdsourcing, survey tools, real-time polling tools, social media following, visualization, and working with bloggers.

**BENEFITS**

- Efficiency and Low Cost. Virtual tools and platforms can be made accessible to communities efficiently, many at a lower cost than traditional public engagement methods.
• **Accelerated Project Delivery.** Robust public engagement helps identify issues early in the project planning process, which reduces the need to revisit decisions.

• **Communication and Collaboration.** Virtual public involvement can aid in establishing a common vision for transportation and ensure the opinions and needs of the public are understood and considered during transportation planning and project development.

• **Expanded Engagement.** Virtual tools include stakeholders who do not participate in traditional approaches to public involvement. Greater engagement can improve project quality.

**STATE OF THE PRACTICE**

Virtual public involvement is providing State DOTs and local agencies throughout the country with a platform of innovative tools and strategies for making public involvement more accessible, thus providing a better understanding of the public’s concerns regarding transportation system performance and needs. The following are a few of many examples of successful techniques:

• Iowa DOT developed a web-based Public Involvement Management Application (PIMA) tool that documents and tracks public comment throughout all phases of project delivery.

• North Jersey Transportation Planning Authority is using targeted online advertisements to reach intended audiences strategically.

• The Broward MPO in Florida employs a robust social media strategy to engage and inform its stakeholders through eye-catching visualizations and social media campaigns.

**Resources**

*FHWA EDC-6 Virtual Public Involvement*
*FHWA Virtual Public Involvement Program*
*Subscribe to VPI e-News*
Wear appropriate protective clothing—Dress in layers

When working outside in the winter it is very important that you dress appropriately. When dressing for outside work, think of the THREE W's when building your layers, WICKING, WARMING and WEATHER.

- The first layer should be a WICKING Layer that will draw moisture away from your body. Use synthetic base layers with a wicking apparel to draw sweat away from your body.
- The second layer should be a WARMING Layer. This layer should be your insulation. Select wool, fleece or multiple flannel shirts to insulate yourself from the cold and trap air that will be warmed by your body heat. You can then remove pieces of the warming layer as needed.
- The third layer should be your WEATHER Layer. Select a garment that will provide additional warmth and protect you from the snow, rain and wind. The Weather Layer should not absorb moisture.
- Pay special attention to protecting your feet, hands, face and head. Up to 40 percent of your body heat can be lost when your head is not protected properly.

Eat high calorie foods and drink liquids that do not contain caffeine or alcohol when working outside in cold temperatures. Proper hydration is a must. Even though it is cold continue to hydrate and drink plenty of water.

Take frequent short breaks, avoid exhaustion or fatigue as energy is needed to keep your body warm as well.

When possible, work during the warmest part of the day

Work in pairs, when the weather is very cold and windy

Seek warmth when you first start to feel the early signs of your body getting cold.

Keep in mind that even at 10 degrees with a wind speed of twenty miles per hour—exposed skin can freeze in as little time as 1 minute.

Users of this tailgate talk are advised to determine the suitability of the information as it applies to local situations and work practices and its conformance with applicable laws and regulations.
SECOND CHANCE & FINAL CALL!
TAKE IT FOR THE ROAD(S) SCHOLARS

Missed one of the six Take it for the Road(s) Scholars 2022 eLearning opportunities to earn NH Roads Scholar hours?
As a special Thank You for being part of our program, we're extending a grace period to take the courses anytime before 12/31/2022 for credit!
The University of New Hampshire Technology Transfer Center (UNH T2) proudly recognized the latest NH Master Roads Scholars at a luncheon held in their honor on Thursday, November 3rd, 2022 in Manchester, NH. The prestigious Master Roads Scholar award level recognizes transportation, public works, and highway maintenance professionals that complete at least 100 hours of classroom training with UNH T2 across content disciplines including safety, environmental, supervisory, and technical topics.

Master Roads Scholars contribute their knowledge, expertise, and awareness of new technologies and techniques in road management to road agencies across New Hampshire, both through their practical application of their learning, as well as through mentorship and collaboration with public works colleagues. Their dedication to professional development supports safe, effective roadways for NH residents and visitors.

The following individuals were recognized at the luncheon for their achievements as Master Roads Scholars:
Brad Hatfield – Town of Bedford
Brian Landry - City of Dover
Christopher Theriault – Town of Moultonborough
Courtney Mitchell - Town of Alton
Don Vachon - (Retired) Town of New Durham
Erin Paradis – Town of Barrington
Jamie Stevens – City of Dover
John Vatalaro – Town of Alton
Meghan Theriault - Town of Gilford
Tobias Shea – City of Portsmouth
William Lowney – Town of Hampton

The following individuals were recognized for their achievements as Master Roads Scholars:
Ed Thayer  - Town of Washington
Kenneth Hamilton
Leon Smith
Marc Moore - City of Concord
Asa Knowles IV - Town of Seabrook
Jason Brown - Town of Seabrook
Reagan Clarke - NHDOT
Rob Coates - Town of Hampton
Ron DeDucca
Wayne Husband - City of Nashua
John Starkey - Town of Seabrook

UNH T2 New Hampshire Roads Scholar Program

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Environmental: 5 Safety: 10 Supervisory: 20 Technical: 10 additional

Advanced Master Roads Scholars - 200 hours & Capstone Project
Congratulations 2020, 2021, 2022 Master Roads Scholars!
BUILD A BETTER MOUSETRAP

Transforming Transportation Through Innovation

The Build a Better Mousetrap (BABM) national recognition program highlights locally relevant innovative solutions and provides a platform to share innovations to everyday challenges that local and tribal transportation professionals encounter on local roads. These local road solutions range from the development of new project delivery or design processes to the invention of new tools, equipment, or modifications that increase efficiency, enhance safety, reduce cost, and/or improve the quality of transportation on local roads.

Share your innovative idea, because it could help another public works team work safer, more efficiently, or to save time or money!

5/9/2023 - Last date to submit a Build a Better Mousetrap 2023 innovation!

12/19/22 - Drawing for December Build a Better Mousetrap prize
1/27/23 - Drawing for January Build a Better Mousetrap prize
2/24/23 - Drawing for February Build a Better Mousetrap prize
3/31/23 - Drawing for March Build a Better Mousetrap prize
4/28/23 - Drawing for April Build a Better Mousetrap prize

Prizes include: Two free workshop seats or PW First Responder hoodie
NEW this winter! UNH T² POP-UP Classes

PRIVATE OR SEMI-PRIVATE WORKSHOPS SCHEDULED FOR YOUR TEAM & NEIGHBORS
SAME GREAT CONTENT & INSTRUCTORS

Culvert Maintainer Certification
Flagger Certification
Snowfighters Seminar
Chainsaw Safety & Maintenance

And other titles!

Up to 5 Pop-Up Classes will be scheduled for January through March 2023.
HTTPS://T².UNH.EDU/POPUPCLASSES
Do you like free stuff? Up for grabs is a PW First Responder hoodie!

Help represent New Hampshire in FHWA's Innovation Summit at the 2023 EDC Kickoff! We can highlight SIX innovations that have helped NH's transportation teams work safe, more efficiently, and more effectively. So we're kicking off 2023 Build a Better Mousetrap season early! We'll have monthly prize drawings again this year through April, starting with a SPECIAL DRAWING ON DECEMBER 19TH!

Submit your team's innovation now to be entered in this month's chance to win your choice of a PW First Responder hoodie or two free workshop seats - and the subsequent months' - drawing!

Learn more by visiting our website or contact us for assistance with your submission!
HELP US PREPARE FOR 2023!

MANY YEARS OF DEDICATION

WE'RE RETIRING SOME PHOTOS IN OUR WORKSHOP LIBRARY AND NEED YOUR PHOTOS TO REPLACE THEM!

But not the scary, not ideal, needs-some-help pretty stuff...

give us the scary, not ideal, needs-some-help stuff we can all learn from.

EMAIL OR TAG US!
What to do while you eat your salad at lunch time?

How about a little pavement preservation mind exercise? Get your geek on and see if you can fill it all out — in pen. Look, it’s not the New York Times puzzle, but why do they have to be so smug with their big words anyway?

And some of that stuff sounds just made up anyway and how are you supposed to know all that stuff...but we digress. With our puzzle, you’ll just have to rely on what you’ve learned reading all our past e-newsletter articles about pavement preservation. And if you get stuck, go to https://roadresource.org, a great source of information on all things pavement preservation.

Now, smother those nutritious greens in ranch dressing, print out the puzzle, grab a pen, and have at it.

Submit your completed entry to T2.Center@UNH.EDU by 2/1/2023 for a chance to win a free workshop seat!
Snowfall in New Hampshire and the necessity to travel on roads require winter snow and ice management by the state, municipalities and the private sector. Deicing materials are often used in order to keep the public safe during these winter weather events. The most commonly used de-icing chemical is sodium chloride (NaCl), commonly known as road salt. Road salt is readily available, and it is easy to handle, store and spread. Its purpose is to reduce the adherence of snow and ice to the pavement, preventing the formation of hardpack. Once hard pack forms, it is difficult to remove by plowing alone.

In the United States from 2005-2009 an average of 23 million tons of salt were applied to our roads, parking lots, sidewalks and driveways each year. Studies have shown that, in urbanized areas, about 95% of the chloride inputs to a watershed are from road and parking lot deicing. In four chloride impaired watersheds in the southern I-93 corridor of New Hampshire, road salt sources were 10% to 15% from state roads, 30% to 35% from municipal roads, and 45% to 50% from private roads and parking lots.

To continue reading this fact sheet, please visit https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/wmb-4.pdf

For more road salt and water quality information, visit the NHDES New Hampshire Road Salt Reduction website or contact the NHDES Watershed Assistance Section at (603) 271-7889 or salt@des.nh.gov.

1 U.S. Geological Survey, Mineral Commodity Summaries, January 2010
FHWA LAUNCHES GEOSYNTHETIC INSTALLATION NOTES TRACKER MOBILE APPLICATION

The Mobile App is a collaborative effort between the FHWA and the Geosynthetics Materials Association to provide handheld, quick and easy access to information on the various types and functions of geosynthetic materials for use in road construction and maintenance projects.

The Mobile App features include specification requirements and site inspection guidance for walls, slopes, pavement, erosion control and drainage.

It also features quick searches, key terms, notes tracker, bookmarks, checklists, share documents, and informational videos. The mobile application is available now in the Apple Store and Google Play Store.

For more information:
Website: https://www.fhwa.dot.gov/clas/geosynthetics/
YouTube: https://www.youtube.com/watch?v=sVQ2UhX-WnA
For any questions contact CLAS@dot.gov