

# Road Business

A quarterly newsletter from New Hampshire's Local Technical Assistance Program

Spring 2022 Newsletter – Volume 37, Number 2

## ABC to Durham - Rt. 4's Bunker Creek Bridge

By Matt Miloro, Special Projects Coordinator at UNH T2,  
Anticipated 2022 Graduate from UNH Civil Engineering program

***Replacing a bridge which carries thousands of vehicles daily alongside a scenic tidal river brings its own design & construction challenges. Doing it with just a four-day closure? That calls for some serious innovation...***

The Bunker Creek Bridge in Durham, New Hampshire is an essential tidal river crossing on U.S. Route 4. The bridge was built in 1933 as a 15-foot concrete slab, rehabilitated in 1970 and underwent a \$7.1 million replacement that finished in October of 2020. The Design-Build (DB) team of WSP USA Inc. and SPS New England Inc. were awarded the winning bid by the New Hampshire Department of Transportation (NHDOT). The new bridge is both impressive in design and by the use of Accelerated Bridge Construction (ABC).

There were several innovative aspects to the design of the bridge and to the project delivery method. The NHDOT put out a request for proposal (RFP) for a DB Team to produce a design for the bridge. Contrary to Design-Bid-Build (DBB), Design-Build project delivery has both the designer and builder working together from the very beginning of the project. This allows the contractor to provide input during the design phase, and for both parties to introduce innovative components to the design, construction, and construction scheduling. Bunker Creek Bridge benefitted from this method as WSP coordinated with SPS New England to bring a feasible design to combat marine soils, tide cycles, heavy traffic, and a tight construction window.

***"Bridges are perhaps the most invisible form of public architecture."***

***-Bruce Jackson***

Bunker Creek is a tidal river, which meant the existence of clayey marine soils. These soils are prone to significant settlement when loaded, so a material called foam glass aggregate (FGA) was used as a road sub-base. FGA is an extremely lightweight material made of 100% post-consumer recycled glass. The aggregate takes on a pumice like texture, has high friction between particles, great permeability and is 85% lighter than most quarried aggregates. This material was ideal as backfill as it caused much less soil settlement. When the roadway was widened 4-feet to accommodate 12' travel lanes and 5' shoulders, the extra weight was almost negligible due to the ultra-lightweight fill. The bridge foundation was constructed using micropiles, which were the appropriate solution to support the bridge structure through the weak soils. Micropiles were also used in lieu of other foundation alternatives, such as drilled shafts, due to the mobility of the drill rig required to install these smaller diameter piles.

Continued pg. 4

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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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*Spring is nature's way of saying,  
"Let's Party!"*  
- Robin Williams

As I write this, there is a dusting of fresh snow outside, our woodstove is cranking to try to keep up with the cold, and, at least for today, it seems winter is hanging in there. Despite that, we know that Spring is just around the corner. This past weekend we began some much needed Spring-cleaning around our home and yard... raking up leaves, gathering up some winter dust bunnies, and a fresh coat of paint throughout some rooms.

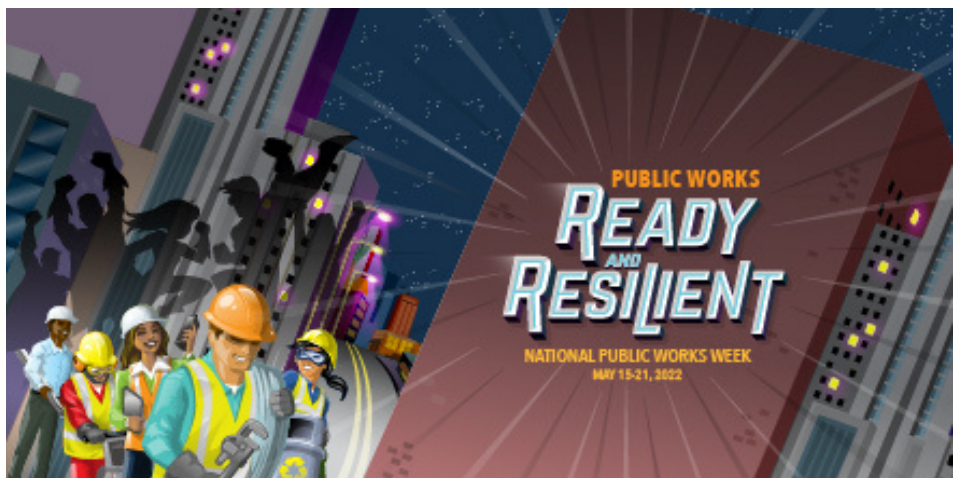
These annual practices act as a ritual transition of sorts... seeing the old season out and the new season in. All of you in public works go through a similar set of actions - fixing (and re-fixing) pesky potholes, raking gravel roads, cleaning up roadsides, addressing mud, mud, and more mud, and preparing to tuck in the winter equipment for its summer slumber. While I know there is no off-season in public works, I hope this transition season brings you a breathe of renewal, some time to reflect and celebrate the challenging winter you all tackled, and enthusiasm and fresh excitement for the summer projects ahead.

As you're planning that summer ahead, I hope you'll take a peek at the UNH T2 training calendar. We've got something for everyone, wherever you are in the state and wherever you are in your career journey. Check out the last page of this issue for a peek at just some of what's on the April calendar, and reach out if you have any questions on how to register.

Over the next few weeks, Butch, Scott, and I are hitting the road to deliver Roads Scholar awards, and also to gather innovations for our Build a Better Mousetrap innovation program! We're thrilled to have the opportunity to announce this year's 2022 winner at the NH Road Agent's Mountain of Demos on Thursday May 26th. We've moved up the deadline to submit your and your team's innovations to accommodate this opportunity- please have all submissions in by May 13th. Or even better, have your submissions in by April 15th to be included in our Pizza Party prize drawing for your highway team!!

There's a lot to share and talk about in the pages of this issue. I hope you'll pass this on to a team member or perhaps print it to share on your breakroom table. I also hope you'll keep in touch and let us know how we can support you and your team members in all that you do, day in and out, to keep our roadways maintained, water flowing, and our NH communities moving. As we enter Spring, there will be a whole new list of the many ways *#PublicWorksMakesItHappen*. I'm looking forward to celebrating and recognizing public works' resiliency, commitment, and dedication during National Public Works Week May 15-21. **We'd love to know how your team is recognizing #NPWW...** please reach out, and watch for more information on events and ideas.

Wishing you all a good start to Spring and a moment of well-earned celebration for the season past. We hope to see you all soon!  
Warmly,  
Marilee



### **Prefabricated Bridge Units (PBUs)**

For the bridge deck, the use of prefabricated bridge units (PBUs) was the optimal solution to replacing the superstructure with a durable system that minimized on-site work. Three PBUs were made for Bunker Creek, and their design allowed them to fit together like Lego pieces when constructed. At the joints, ultra-high-performance concrete (UHPC) was applied to seal the three PBUs together. UHPC has a strength 5 times larger than normal strength concrete and steel fibers in the mix contributed to increased tensile strength in the mix as well. The concrete sets very quickly and bonds well to the exposed aggregate interface of the PBUs. The new bridge, once placed and sealed becomes integral, meaning that the bridge moves as one unit during loading. The choice of an integral bridge worked well with the site and the projected design life of 75 to 100 years, as the absence of expansion joints ensures that no water infiltrates under the superstructure.

### **Design Build to Create a Bridge for the Community**

Part of what made the Bunker Creek Bridge such a unique and admirable engineering feat was the community involvement incorporated by the NHDOT. The owner and DB Team prevailed in cooperating closely with the Durham, NH community during construction and the City of Dover during the 4-day road closure period. Route 4 carries thousands of vehicles per day, conveying traffic from Concord, NH to the NH Coast. There were many stakeholders in the project including law enforcement, emergency responders, commuters, and heavy seasonal traffic from the University of New Hampshire. The NHDOT and the DB Team, had great success in conveying information by means of press releases, email chains and social media. Any information regarding lane closures or the full road closure was relayed swiftly to the parties involved. When the full road closure began, there were few travelers who were surprised at the closing as they had been well informed of the detour route that would be available.

The NHDOT had a maximum road closure requirement of 14 days. The bridge deck was completely replaced and ready to operate in only 4 days, 10 days ahead of schedule. Many portions of the construction were carried out by closing one lane, leaving the other open for one-way alternating traffic. While the road was partially closed, SPS worked on drilling micropiles for the bridge foundation and roadway, excavating and grading the new roadway, and completing other efforts that left the replacement of the bridge deck the primary focus of construction during the road closure. Additionally, the use of PBUs and UHPC significantly sped up construction of the bridge deck. Once the road closure went into effect, the three PBUs were brought to the site, placed, and sealed in a quick and efficient manner.

The benefits of DB and public involvement were on full display during the Bunker Creek bridge replacement. The team was quick to incorporate sustainable materials into the new design and found ways to minimize work on-site and speed up construction. This efficiency and innovation are not seen as often in other project delivery methods, and the efforts of WSP, SPS New England and the NHDOT caused the new bridge to receive an ACEC Engineering Excellence award. The bridge has been fully operational since the fall of 2020 and will be providing a safe crossing across the beautiful views of the Great Bay for many decades.

#### *Special Thanks for their time and contribution*

to this article goes to Nickie Hunter, P.E. (District Construction Engineer with NHDOT) and Adam Stockin, P.E. (AVP and Supervising Structural Engineer with WSP).







# PUBLIC COMMUNICATION: RESOURCES AND BEST PRACTICES

*Adam Howell, Communications Specialist,  
Cornell Local Roads Program*

“I don’t have time for this!” might be a common mantra that local department heads recite when they have to deal with communicating with the public. With all of the duties and responsibilities highway superintendents and public works directors have to manage, it is easy to understand how spending time on public relations may not rise to the top of the “to do” list.

As it turns out, having a good public communications strategy can save departments time, effort and headaches. When you pay attention to the way you deliver information to the communities you serve, you create trust, understanding, and compliance. Safety for your workers on job sites often starts with drivers understanding and adhering to work zone safety rules. Legal threats diminish when people understand the laws, rules, and regulations that govern local department operations. Funding for capital expenditures can come down to permissive referendums and local support. In the end, working on how you relate to the public is like maintaining your equipment, better to invest a little common sense effort now than to have a costly breakdown in the future.

It may seem like no matter what you do, people are always difficult, abrasive, and hard to deal with. However, despite whatever bad experiences you have had, data shows that citizens are more inclined to have higher levels of trust and confidence in local government departments and officials. According to the most recent Annual Governance Poll conducted by Gallup, 72% of respondents indicated they had a great deal, or fair amount of confidence in local government.<sup>1</sup> Also, according to a Pew Research Center survey of major public views, two-thirds of those surveyed (67%) had a favorable opinion of their local government, compared with 35% for the federal government. In the same survey, nearly three-quarters (73%) said the quality of candidates running for local office in recent elections has been good while just 41% say the same about the quality of presidential candidates.<sup>3</sup> You don’t have to figure out the best ways to communicate to the public by yourself. CLRP has developed many tools and resources that you can use to improve the way you provide information to your local community.

**To better  
understand how  
AI can help us, we  
need to see how it  
fits into the  
bigger picture.**

## Personal Communication

One of the first things to remember is that communication starts with how you relate to others personally. Your leadership style and your relationship with the people you manage is an important form of communication that can have effects beyond your department. Learning how to maintain a positive working relationship with your employees and teaching your employees that their behavior reflects on the department is important.

Building productive relationships, managing conflict, listening skills, and many more topics are covered in a new CLRP Communications course titled "Tools for Practical Communication." This workshop will teach you and your employees methods and strategies for relating to others in a more positive, productive manner. If you can't make it to a workshop, you can always order the workshop manual for free or download it online at <https://www.clrp.cornell.edu/library/publications.html>.

### Here is a list of certain key principles you will want to follow when personally dealing with the public:



Maintain your composure. Be polite and instruct your employees to do the same. As a public official, the burden of maturity falls on you first.

The charge of a public official is first and foremost to serve the public. Be objective, honest, accessible, and transparent in all interactions.

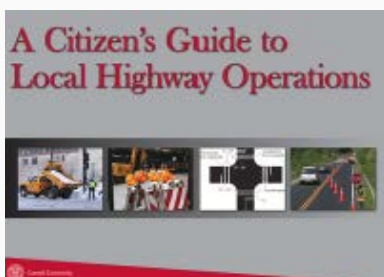
Follow up in a timely manner to requests for information. Responsiveness is a key metric that is commonly used, both formally and informally, when evaluating a public agency. Be a resource. The more you are inclined to use your knowledge and experience to help others, especially if you go out of your way to do so, the more the people you help will have a positive impression of your department. This of course does not extend to using department resources or labor to provide extra services to private citizens or companies.

## Local Media

Sometimes, the best way to reach a wider audience is to engage with your local media outlets. A relationship with the media is interdependent as elected officials need local media to help communicate with constituents while news organizations need local officials for authoritative sources of information. CLRP has a Tech Tip on "Local Media Relations" that you can use to better understand how to develop a great working relationship with local media. <https://cornell.app.box.com/s/hgdi2wkvsvwy2akrrqzyi5md95xaxnlp>

The importance of local media outlets for message delivery should not be underestimated. According to a 2018 survey by the Pew Research Center, the third most important local news topic for consumers was local traffic and transportation news which was just slightly behind local crime news (local weather was rated as the most important topic).<sup>3</sup>

Press releases are written news announcements you write and send to media outlets. To maximize the chances that the press releases you send will be printed, posted or read, they need to be properly written. The CLRP Tech Tip "Effective Press Releases" has great information about how to properly write press releases, what information to include and when to send them. Download it from the Tech Tip section of the CLRP website at [https://www.clrp.cornell.edu/tip\\_sheets/tip\\_sheets.html](https://www.clrp.cornell.edu/tip_sheets/tip_sheets.html).



### Bridging the Gap between Awareness and Understanding

Local Highway and Public Works departments provide some of the most highly visible services delivered by local governments. Unfortunately, just because the public is aware that your department is working, doesn't mean that the public understands how you do your job. This is why the Cornell Local Roads Program recently created a Citizen's Guide to Local Highway Operations. This publication was developed to provide the average citizen with some basic information about how local transportation agencies do their jobs. You can download the guide for free from our website or order hard copies using the publication request form included in this newsletter.



### Digital Communications Channels

A channel refers to any method or platform that allows you to communicate a message to an audience. Digital channels that you control often require a long-term commitment and regular updating in order to cultivate a large enough audience to be effective in delivering a message. An advantage of using digital communications channels is that you control the message which helps foster a deeper sense of personal connection between you and the public.

### Department Website

The primary digital channel you have is your department website. Depending on the level of control you have over your website, who can update it, or the level of technical resources your municipality has invested in, you may or may not be able to incorporate the most up to date standards or modern look. Despite whatever limitations you may have, there are some general best practices you should always attempt to incorporate into your department website or webpage. Always attempt to ensure that your department's webpage is accurate and up to date. As a government agency, your website is seen as a primary source of information about local transportation especially pertaining to road closures, work zones, emergency situations, and weather impacts. Organizations such as the local news may rely on your website for information. Have a plan for keeping your website updated in the case of inclement weather, after business hours, or when you are not available. Back-up plans are a must which means having someone else able to call-in or make updates if you cannot. Unless your server is housed locally and without backup power, updates should be able to be made even if your local internet connection is down.

Ensure your department website is prominently advertised on other department informational materials. Many municipalities and local departments offer a variety of services and information on their website but studies show that citizen awareness of this is often low. Remember, the more people know to visit your department website for information, the fewer calls you will receive!

Accessibility and connection speed are also important items to consider. Currently, there is a global effort to set and implement standards that ensure websites are accessible for all people, regardless of physical disability or availability of high-speed internet. You can learn more about these standards at <https://www.w3.org/WAI/standards-guidelines/>.

Today, users access internet websites on a variety of mobile devices and they do so more frequently than ever before. It is important that your website is readable on everything from cell phones to tablets. If you aren't sure whether your website is mobile friendly, you can test it using a handy tool provided by Google at <https://search.google.com/test/mobile-friendly>.



### Social Media

Social media is no longer only for entertainment and today, many government agencies have learned to utilize social media to their advantage. When trying to decide how to manage a department social media account, you need to make important decisions regarding three pillars:

- *Content Standards & Policies* - What you allow yourself or your employees to post as official department communications. Deciding on access and making decisions on what can be posted is your most important priority. Posts should be honest, objective, and accurate. As a public agency, posts need to conform to all the laws, regulations and rules on official government communications.

- **Community standards & Policies** – On social media pages, you always have to be concerned with what others post on your page. Comments need to be carefully monitored because, often times they require a response. If a comment is misleading or relating incorrect information, you may just need to respond. Comments that are insulting, incendiary, or otherwise violate your standards may need to be deleted.
- **Content Strategy** – What are the goals you want to accomplish with your social media accounts and how will you accomplish these goals with the content you post? Do you want to elevate the positive profile of your department or do you simply want to convey information to the public?

### **Tie It All Together**

When it is all said and done, your department communications should be consistent and the source should be recognizable. Creating some simple standards for the look of your messages ensures that they are quickly identified as coming from your department. Make sure logos, colors, fonts, email signatures, and other identifiers are all standardized. Sharing messages across multiple platforms or using multiple channels to drive citizens to a single source like your website will ensure maximum coverage.

### **Sources & Resources:**

<sup>1</sup> Gallup News Service. (October 8, 2018)

<https://news.gallup.com/poll/243563/americans-trusting-local-state-government.aspx>

<sup>2</sup> Pew Research Center. (April, 2018) <https://www.people-press.org/wp-content/uploads/sites/4/2018/04/4-26-2018-Democracy-release-1.pdf>

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your agency's social media page?*



Scan the QR code to connect with UNH T2 on Facebook, as well as look for us on LinkedIn and soon to be on TikTok!





## GIVE YOUR NEW CO- WORKER SUPPORT.

### SUPPORT A SAFE TEAM

FROM THE NLTAPA TAILGATE TALKS LIBRARY

Once the initial orientation to the work unit is over and the basic requirements of the job and the safety program have been covered, it's time to move the new employee into the work force and introduce the people he or she will be working with. Co-workers play an important role in getting the new person off to a good start. What is a veteran employee's role when it comes to orienting a new employee? Remember that new people are nervous to begin with-just starting a new job. They probably don't remember all the instructions they are given and aren't familiar with the new surroundings. This is often a time for information overload.

#### So how can an experienced hand help out?

- Introduce yourself to this person, explain your job and offer assistance.
- Encourage the new hire to ask questions if he or she is not quite sure. Remember how hard it was to admit you didn't know everything when you started a new job?
- Remember too, that the new person may be highly skilled and experienced in his or her trade, but not necessarily used to your company's ways of doing things.
- Point out locations of first aid kits, fire extinguishers, restrooms & break rooms.
- Be sure your new co-worker is wearing the right PPE, and is using it properly.
- Volunteer to serve as a mentor to the new employee, to assure that safe work procedures are understood and followed.
- If you spot this person doing something wrong, tactfully explain the proper procedures. It's easier to do this if a "coaching" role has been assigned or agreed-upon.
- During lunch and breaks include him/her in the group so everyone can get better acquainted.
- Resist any temptation to complain about aspects of your job that you don't like-get the new person started out on a positive note by passing on what's good about the work.

Perhaps most importantly, lead by example with correct work habits. Many times new employees will not think of questions until after they have worked a few days and begin to understand the job requirements more thoroughly. As a co-worker, if you make yourself available to answer questions, it shows your willingness to provide a safe workplace for everyone involved. Remember, getting new people started on the right path can help prevent an accident or injury to everyone on the crew. Don't think that helping to develop a productive co-worker is a burden. Think of it as an investment in the future of your work group and your company. Besides-it's the way you'd like to be treated yourself!

“

GETTING A NEW EMPLOYEE STARTED OFF ON THE RIGHT FOOT IS VERY IMPORTANT. STATISTICS INDICATE THAT UP TO 60% OF ALL JOB INJURIES OCCUR TO NEW EMPLOYEES WITH LESS THAN SIX MONTHS EXPERIENCE ON THE JOB.

REPEATED, FRIENDLY REMINDERS OF SAFETY PROCEDURES AND WORK RULES BY A MENTOR CAN GREATLY REDUCE THE CHANCE OF AN ACCIDENT WITH THE NEW EMPLOYEE.

*Have a new team member? Be sure they get registered for our new*

**VIRTUAL ORIENTATION - PW JUMPSTART!**

# Mailboxes & Right-Of-Ways

**BY JONATHAN E. COWAL, MUNICIPAL SERVICES COUNSEL  
AT NEW HAMPSHIRE MUNICIPAL ASSOCIATION**

Mailboxes can cause a lot of problems for municipalities, especially during the winter and spring months when road maintenance is necessary and public works departments can have some unfortunate run-ins with mailboxes. Postal workers sometimes mistakenly believe that their municipal public works department has a role in determining proper placement or maintenance, and public works department heads are forever fielding complaints about damage caused to mailboxes by public works employees.

To make matters more complicated, there are few other pieces of property that enjoy the benefits of being constitutionally protected. Article 1, Section 7 of the U.S. Constitution gives Congress the authority to “establish post offices and post roads.” The Clause has been construed to give Congress the enumerated power to designate mail routes and construct or designate post offices, with the implied authority to carry, deliver, and regulate the mail of the United States as a whole. The consequence, of course, of this authority is that the United States Postal Service (USPS) has full authority over design and placement of mailboxes, including those mailboxes along public rights-of-way.

The design and placement of mailboxes are controlled by USPS regulations. These regulations state that mailboxes must be placed 6 to 8 inches away from the curb and the incoming mail slot or door must be 41 to 45 inches from the ground. While the USPS occasionally engages in enforcement of these regulations along carrier routes, there are plenty of mailboxes which are closer or further away from the curb than USPS regulations allow and compliance with these regulations is not strictly enforced. Unfortunately, it is these improperly placed mailboxes which cause the most trouble.

## Rutting

Mailboxes which are further from the curb than allowed by USPS regulations may cause the mail carrier to leave the road surface to deliver mail. In time, this passage over the adjacent land can lead to the rutting of the property adjacent to the road surface, resulting in the mail carrier refusing to deliver mail unless the rutting is solved. The private owner often comes to the public works department to ask that they fix the issue, reasoning that the rutting is just off the road surface.

In a situation like this, there is not black and white statute that will assist the public works department in determining their responsibility. Instead, the public works department will need to know and understand some important caselaw, specifically *Clapp v. Jaffrey*, 97 N.H. 456 (1952). In *Clapp*, the Town of Jaffrey was plowing private driveways. Mr. Clapp had an issue with this and he decided to sue the town. As a consequence, the N.H. Supreme Court answered the question of whether it is lawful for the town to rent equipment or perform services for private individuals on their property. Ultimately, the Court concluded that a municipality may not perform these services for a private individual, unless that service is “subordinate and incidental” to town needs and the prices charged are sufficient to cover the cost so that no burden falls on taxpayers. Unless those conditions are met, use of public funds to maintain or repair private property is unlawful.

In the case of rutting, municipalities should apply the *Clapp* test to determine what responsibility, if any the city or town has in repairing damage to private property caused by the USPS. If it is clear that the



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**IN A SITUATION LIKE THIS,  
THERE IS NOT BLACK AND  
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THE PUBLIC WORKS  
DEPARTMENT WILL NEED TO  
KNOW AND UNDERSTAND  
SOME IMPORTANT  
CASELAW...**





only members of the public which travel over that property are the mail carrier and the owner and USPS regulations prohibit the placement of the mailbox as it currently exists, the municipality has no obligation to assist the property owner in either filling in the ruts or properly siting the mailbox. Any public works department which did so would be acting unlawfully under the rule created in Clapp.

### Damaged Mailboxes

While damage to private land caused by an improperly placed mailbox may not be the municipalities responsibility to repair, the same argument does not always apply to damage to the mailbox itself, even if it is improperly placed. Both properly and improperly placed mailboxes that are damaged by a municipal agent can subject the town to financial liability. The fact that mailboxes are subject to USPS regulations on design and placement has created the myth that they are not subject to the usual liability law, however this is not the case. Many municipalities incorrectly believe that if a mailbox is damaged by a snowplow or other road maintenance vehicle, the town will not be held liable for the damage.

There are two incorrect arguments that are generally used to support this opinion. The first argument is that municipalities may not spend public money for private purposes – an idea which comes from Clapp – and because mailboxes are privately owned, the municipality may not replace one even if it damages it. This, however, is an improper application of the standard set forth in Clapp. If an operator of a municipal vehicle hits another vehicle or house or fence, etc., the liability carrier for the municipality will act as any private insurance company, and pay the amount owed to repair the damage. The fact that mailboxes might be of so little value that they can be handled outside of insurance does not negate the liability, it just changes who deals with it.

The second argument pertains to RSA 231:92, which states, in relevant part, that municipalities are not liable for “property damage arising out of its construction, maintenance, or repair of public highways and sidewalks constructed thereupon unless such injury or damage was caused by an insufficiency.” This broad protection is an exception to the ordinary rules of liability. See *Schoff v. City of Somersworth*, 137 N.H. 583 (1993) (discussing the exception). However, a municipality may be subject to liability when “workers negligently follow or fail to follow an established plan or standards, and injuries result.” *Gardner v. City of Concord*, 137 N.H. 253, 258 (1993). It would be hard to argue that a mailbox, which the local postmaster can attest was properly placed, could be struck by another vehicle unless the driver was acting recklessly or negligently.

While improperly placed mailboxes may not be subject to such protections, and there may be a better argument against liability, an improperly placed mailbox is not per-se completely exempt from potential liability by the municipality. There is still a possibility that an improperly placed mailbox, which has been in the same location for a number of years, would not ordinarily be struck except through some intentional or negligent act of a driver. Situations like this would be evaluated on a case by case basis, but the standard is not whether or not placement of the mailbox complies with USPS regulations. Instead, the law looks to determine if a driver, using an ordinary level of care and caution, would have struck the mailbox. Considering the low cost of a mailbox, it is often more cost-efficient for a municipality to self-insure and replace damaged mailboxes than fight postal patrons over proper placement of mailboxes, unless the mailbox was obviously improperly placed.



Thank you to  for contributing to this newsletter!

# Tree & Brush Trimming Safety

AN NLTAPA TAILGATE TALK

When cutting out brush and tree branches which have created sight and clearance problems, there are several hazards to deal with. They include moving traffic, hidden objects, unstable footing, poison ivy and oak, thorns, tools with sharp edges, chain saws, chippers, and difficult access to the work area.

If they are going to be used, review the safe operating procedures for chippers, chain saws, and stump grinders. Personal protective equipment is necessary when using chippers and chain saws on the work site including gloves, goggles, face shield, chaps, hard hat, and hearing protection. Hard hats are available for tree trimming crews which have both the face shield and hearing protection/ear muffs attached. Keep shirt sleeves rolled down and use barrier creams to control exposure to poison ivy and oak.

Always attempt to park vehicles and equipment in an area that's suitable for safe entering and exiting the work site. Park so that there are no hazards in the way of workers who must relay materials to a truck and/or chipper. Allow enough space for each employee to work safely. Injuries have been reported when workers have been struck by tools, falling branches, and tree trunks.

Let everyone know when you're about to cut off a large branch or tree trunk. Safety when cutting brush or trees has a lot to do with simply warning your fellow workers when something is about to happen that may hurt them!

Two persons should work as a team to cut down a tree. Check to see the direction of its lean, the direction of the wind, how close it is to other trees, nearby buildings, fences, and wires. Make sure you have a path of safe retreat before you cut down the tree so when it starts over, all you have to do is shut off the saw and move to a safe place, well out of the way. While one person cuts, the other should look for any movement and warn the saw operator if the tree begins to rock. A pull rope of good size should be used whenever possible to eliminate the use of wedges. This will enable the saw to be removed quickly.

Always leave enough wood on the felling cut to hinge the tree in the fall direction. If there is any possibility that the tree might go in the wrong direction or rock back and bind the saw, stop cutting and use a wedge to open up the cut and tilt the tree in the direction of the fall.

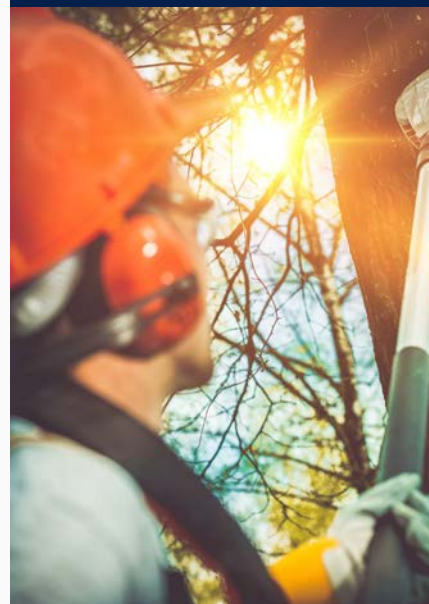
If you use a hand saw, make sure it is sharp. Otherwise it will tend to grab and create a hazard. Keep it at right angles to the work surface. The piece to be cut must be held firmly. Keep fingers clear of the work area and use slow easy strokes, remembering that the saw cuts only on the forward stroke. A little oil on both sides of the saw will make the work easier.

Keep tree pruners sharp at all times. Don't try to cut too large of a branch with hand pruners; usually nothing larger than one inch in diameter. Cutting branches too large for the pruners will cause a strain on the tool and may also cause you to strain a muscle trying to force the tool to do a job that it's not designed for. Get a firm footing and don't attempt to prune something from an awkward position.

When using a chipper, always feed limbs and brush butt end first. Don't attempt to hold onto brush and limbs after they start to feed and turn away from the machine to avoid injuries from whipping material. Don't force materials or attempt to hand feed small pieces. If it doesn't feed, push it with another limb. Wear gloves with tight fitting cuffs, such as mechanics gloves. Avoid wearing gauntlet style gloves. A branch can get caught in the loose cuff and pull you toward the chipper.

<sup>1</sup>Source: Occupational Safety and Health Administration <https://www.osha.gov/pls/imis/AccidentSearch>

According to  
OSHA,  
306 workers  
died while  
engaging in  
tree-trimming  
and clearing  
activities since  
2013.<sup>1</sup>



*Don't forget to*  
*Enter to* **WIN!**

ONCE YOUR TEAM REVIEWS THIS TAILGATE TALK, SUBMIT THE SIGN-IN SHEET ON THE NEXT PAGE (PG. 13) TO UNH T2 BY 4/28 FOR A CHANCE TO WIN A SNACK BUCKET FOR THE TEAM, FROM UNH T2!



# TREE & BRUSH TRIMMING SAFETY



**Sign In Sheet:**

**Signature:**

[illegible]

**One lucky team that completes this issue's Tailgate Talk with their highway crew & submits the sign-in roster to T2 by 4/28/2022 will win a team bucket-of-snacks & APWA First Responder stickers!**

# **BUILD A BETTER MOUSETRAP**

**Then share it - like these teams did - to help others!**

Crawford County, Iowa

**Innovative Project Nomination**

## **Excavator Extension Prevents Bridge Erosion**

Riprap is material placed beneath bridges near abutments or piers to protect against scour and erosion. It can greatly improve structural safety, but can be very difficult to install due to clearance and slope issues. Benching a slope can be both time-consuming and disturbing to stable vegetated areas.

Crawford County's bridge crew developed a highly effective device for placing riprap under a bridge using equipment situated on the top or deck portion of the structure. For less than \$500, they were able to repurpose a used section of heavy boilerplate pipe to fabricate an extension that fit the bucket of an excavator. The extension has become a particularly useful tool after flood events



© 2021 Crawford County, Iowa



© 2021 NIU, Illinois

DeKalb, Illinois

**Pioneer Award Nomination**

## **Automobile Engine Removal Device Drives Savings and Safety**

When one of Northern Illinois University's 39 minivans overheated and required an engine replacement, the transportation department discovered that a \$950 fixture was needed for removal. Unable to justify a large expense for such an infrequent repair, but unwilling to compromise safety, team members made a removal device for undermount engines that could be modified for other applications.

Their creation, which used parts from a folding chair dolly, a soccer goal, a ladder rack from a decommissioned vehicle, and scrap steel, took only four hours to construct. The team's invention mounts to the exhaust flange on the engine's cylinder head and features swivel casters on all four corners, allowing for the easy repositioning of the engine as needed. Once the device is secured to the engine and a suitable jack is placed under the transmission, the vehicle is raised. From here, the old engine and transmission can be removed and separated, and the tool can be used to install new equipment.



# "Earn & Learn" Pathway to PW

## NHDOE LAUNCHES PIONEERING INTERNSHIP PROGRAM

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Leveraging up to \$2.5 million in federal Elementary and Secondary School Emergency Relief funds, the New Hampshire Department of Education has launched an initiative to provide secondary students with paid, work-based learning opportunities by matching learner wages.

Work! As Learning will support up to 1,000 secondary students in earning academic credit while gaining valuable work experience before they graduate from high school. To incent these opportunities, NHDOE will reimburse New Hampshire-certified employers for 50 percent of learner wages paid up to \$15 an hour.

To administer its program, NHDOE is partnering with Awato, LLC, which also supports NHDOE's career and work-based learning software program.

"We are proud to help celebrate Career and Technical Education Month by announcing our Work! As Learning initiative to support New Hampshire learners in developing 21st Century employability skills," said McKenzie Snow, director of NHDOE's Division of Learner Support. "Alongside educators and employers, we continue to build the vital connection between school and work so that all learners are excited and prepared for what comes next."

This initiative is financed by both ESSER II and ARP ESSER funds, and will aid meaningful work-based learning opportunities through Sept. 30, 2024.

For more information contact Nicole Levesque at 603-271-3397 or [Nicole.m.levesque@doe.nh.gov](mailto:Nicole.m.levesque@doe.nh.gov). Sign up today at Awato to become an employer partner. See pages 21, 22, and 23 for additional information.

*How can UNHFD help?*  
**Training? Info? Let us know!**



”

This program serves as an **incentive for both students and employers** to participate in work-based learning. Internships are a great tool to provide employers with a **future workforce pipeline**, while also providing students with career exploration and credit towards their diploma.

*Frank Edelblut. NHDOE  
Commission*



Build a Better  
**MOUSETRAP**  
National Recognition Program  
for Transportation Innovation

**NEW DEADLINE FOR 2022!  
SUBMISSIONS DUE BY MAY 13TH!**

***New this year!*** Winner to be announced at  
NH Road Agents' Mountain of Demos  
on Thursday, May 26, 2022  
at the Mount Sunapee Resort in beautiful Newbury, NH.  
*Winner need not be present to win.*



Check out the below video on our **PW JUMPSTART**

TWO DAY VIRTUAL ORIENTATION

Help new hires get started on a safe, impactful career in public works!



For NH's local & state  
highway teams &  
municipal DPWs!

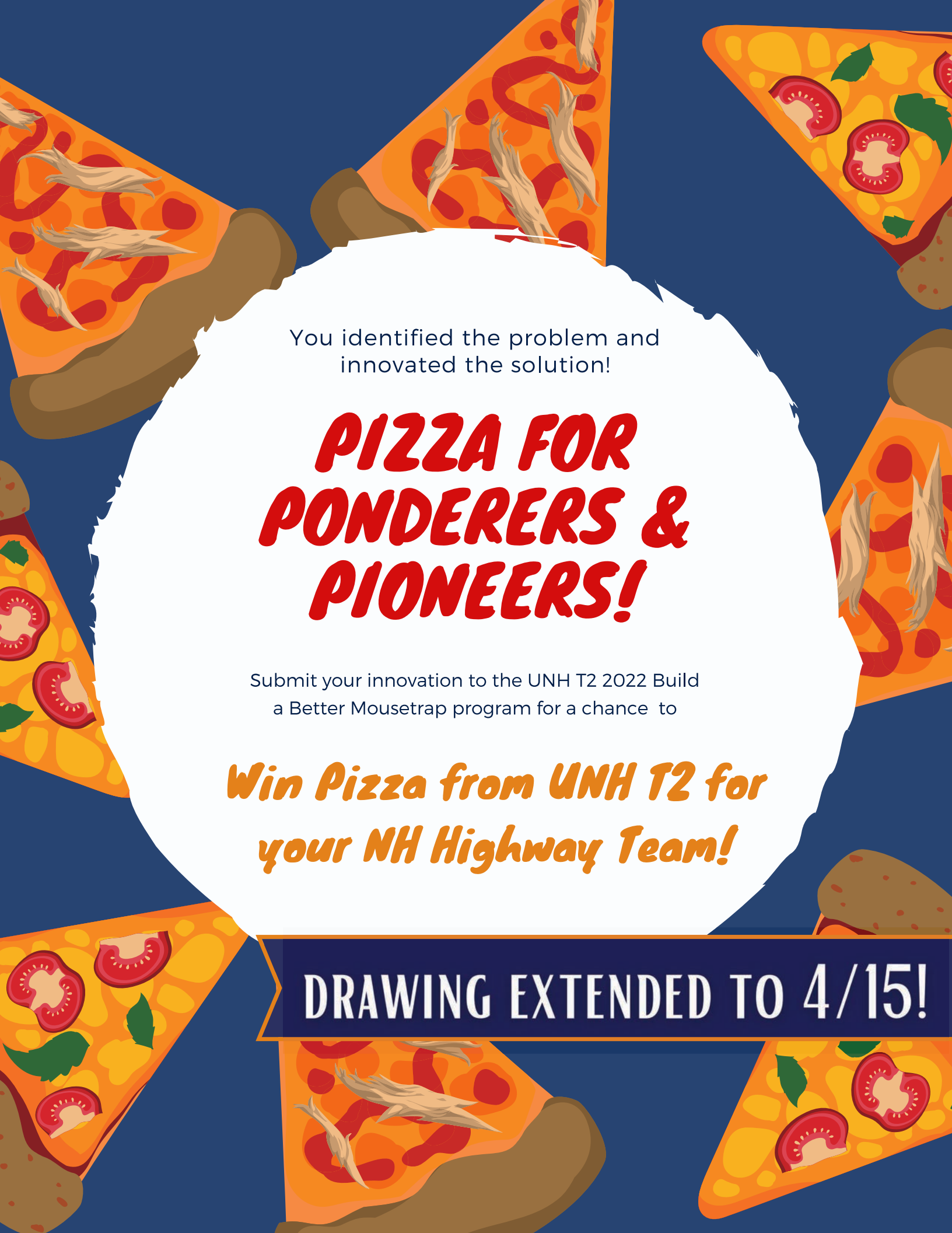
**PW  
JUMPSTART**

Orientation for Public  
Works Team Members

DEVELOPED AND HOSTED FOR NH  
MUNICIPAL PUBLIC WORKS TEAMS BY

**UNH TECHNOLOGY  
TRANSFER CETNER**





You identified the problem and  
innovated the solution!

# ***PIZZA FOR PONDERERS & PIONEERS!***

Submit your innovation to the UNH T2 2022 Build  
a Better Mousetrap program for a chance to

***Win Pizza from UNH T2 for  
your NH Highway Team!***

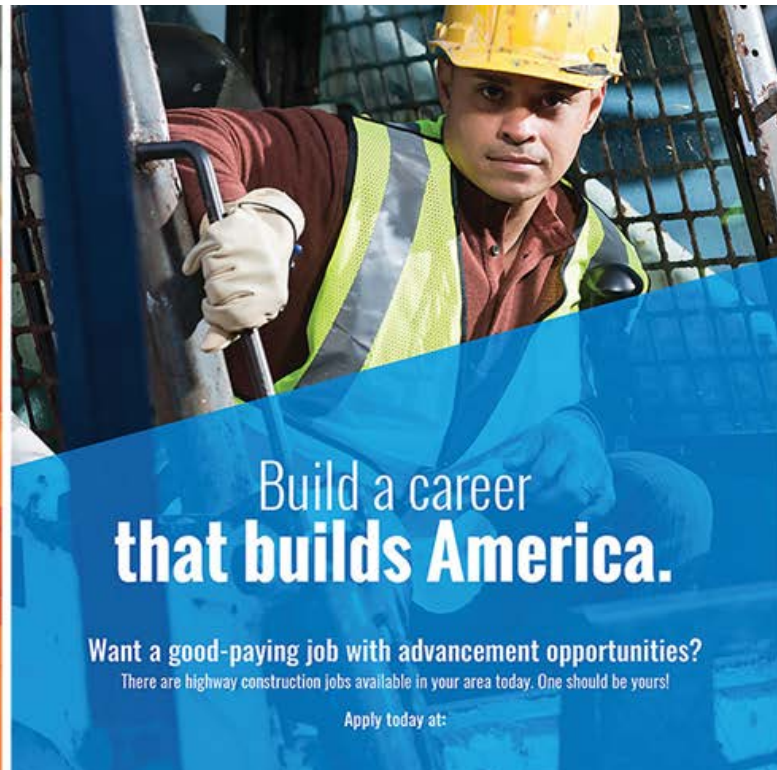
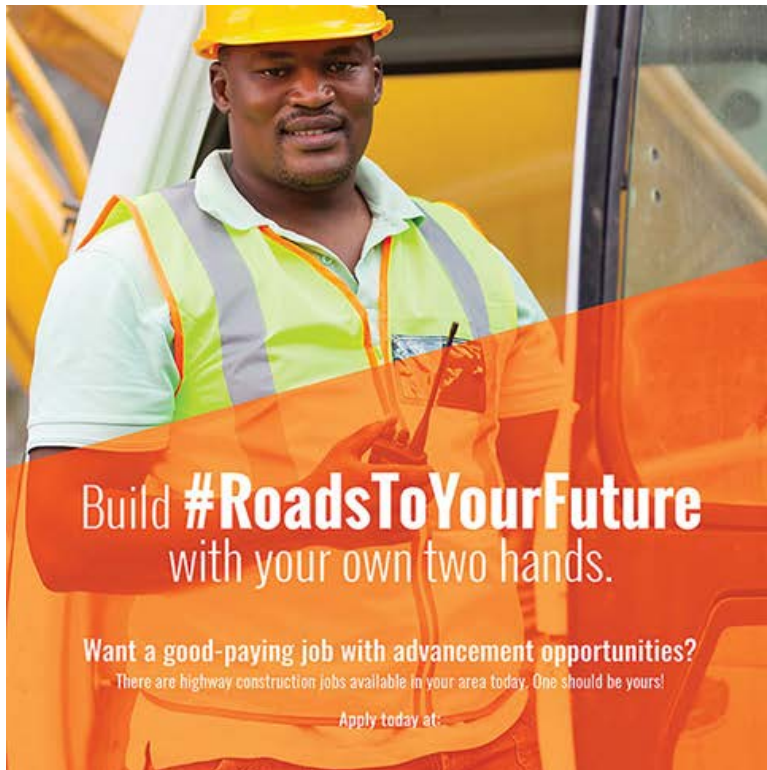
**DRAWING EXTENDED TO 4/15!**



# Workforce Development

## FHWA SHARES FREE WORKFORCE DEVELOPMENT MARKETING TOOLKIT

Summarized from an article originally published in the FHWA January/February 2022 Innovator



Credit: FHWA, Fotosearch

"There is no 'one thing' people can do to solve the highway construction workforce shortage. It will take an integrated, holistic approach to identify, train, and place the next generation of skilled builders. We are honored to play our part."

KAREN BOBO- Director of FHWA's  
Center for Transportation  
Workforce Development

Identifying and attracting workers to address the critical workforce shortage felt by many local highway teams must include effectively marketing the highway construction industry. To help agencies, particularly those without dedicated marketing resources or budgets, FHWA developed a toolkit that includes posters, flyers, postcard mailers, exhibit banners, and talking points for public meetings and presentations. It provides a complete, consistent package of materials agencies can use, and in many cases customize with their contact information.

The toolkit also has case studies from around the country highlighting how other cities and states are working to solve their workforce shortages, including through participation in what FHWA calls Highway Construction Workforce Partnerships (HCWPs) to bring interested parties together to find solutions.

To learn more, visit FHWA - Roads To Your Future:  
<https://bit.ly/workforcemarketing>

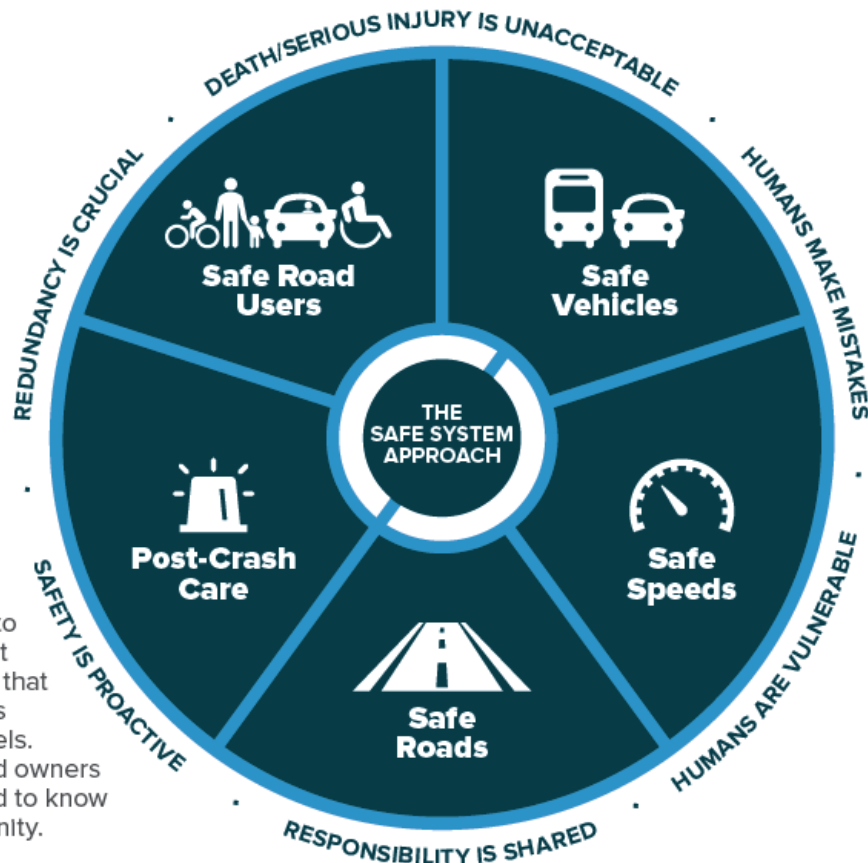


# SAFE SYSTEM

## APPROACH

**Zero is our goal. A Safe System is how we will get there.**

**Imagine a world where nobody has to die from vehicle crashes.** The Safe System approach aims to eliminate fatal & serious injuries for all road users. It does so through a holistic view of the road system that first anticipates human mistakes and second keeps impact energy on the human body at tolerable levels. Safety is an ethical imperative of the designers and owners of the transportation system. Here's what you need to know to bring the Safe System approach to your community.



## SAFE SYSTEM PRINCIPLES



### Death/Serious Injury is Unacceptable

While no crashes are desirable, the Safe System approach prioritizes crashes that result in death and serious injuries, since no one should experience either when using the transportation system.



### Humans Make Mistakes

People will inevitably make mistakes that can lead to crashes, but the transportation system can be designed and operated to accommodate human mistakes and injury tolerances and avoid death and serious injuries.



### Humans Are Vulnerable

People have limits for tolerating crash forces before death and serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates human vulnerabilities.



### Responsibility is Shared

All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must ensure that crashes don't lead to fatal or serious injuries.



### Safety is Proactive

Proactive tools should be used to identify and mitigate latent risks in the transportation system, rather than waiting for crashes to occur and reacting afterwards.



### Redundancy is Crucial

Reducing risks requires that all parts of the transportation system are strengthened, so that if one part fails, the other parts still protect people.

## SAFE SYSTEM ELEMENTS

**Making a commitment to zero deaths means addressing every aspect of crash risks through the five elements of a Safe System, shown below.** These layers of protection and shared responsibility promote a holistic approach to safety across the entire transportation system. The key focus of the Safe System approach is to reduce death and serious injuries through design that accommodates human mistakes and injury tolerances.



### Safe Road Users

The Safe System approach addresses the safety of all road users, including those who walk, bike, drive, ride transit, and travel by other modes.



### Safe Vehicles

Vehicles are designed and regulated to minimize the occurrence and severity of collisions using safety measures that incorporate the latest technology.



### Safe Speeds

Humans are unlikely to survive high-speed crashes. Reducing speeds can accommodate human injury tolerances in three ways: reducing impact forces, providing additional time for drivers to stop, and improving visibility.



### Safe Roads

Designing to accommodate human mistakes and injury tolerances can greatly reduce the severity of crashes that do occur. Examples include physically separating people traveling at different speeds, providing dedicated times for different users to move through a space, and alerting users to hazards and other road users.



### Post-Crash Care

When a person is injured in a collision, they rely on emergency first responders to quickly locate them, stabilize their injury, and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site, traffic incident management, and other activities.

## THE SAFE SYSTEM APPROACH VS. TRADITIONAL ROAD SAFETY PRACTICES

### Traditional

Prevent crashes

Improve human behavior

Control speeding

Individuals are responsible

React based on crash history

### Safe System

Prevent deaths and serious injuries

Design for human mistakes/limitations

Reduce system kinetic energy

Share responsibility

Proactively identify and address risks

Whereas traditional road safety strives to modify human behavior and prevent all crashes, the Safe System approach also refocuses transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives.

WHERE ARE  
**YOU** ON THE  
**SAFE SYSTEM**  
**JOURNEY?**

Implementing the Safe System approach is our shared responsibility, and we all have a role. It requires shifting how we think about transportation safety and how we prioritize our transportation investments.

Consider applying a Safe System lens to upcoming projects and plans in your community: put safety at the forefront and design to accommodate human mistakes and injury tolerances.

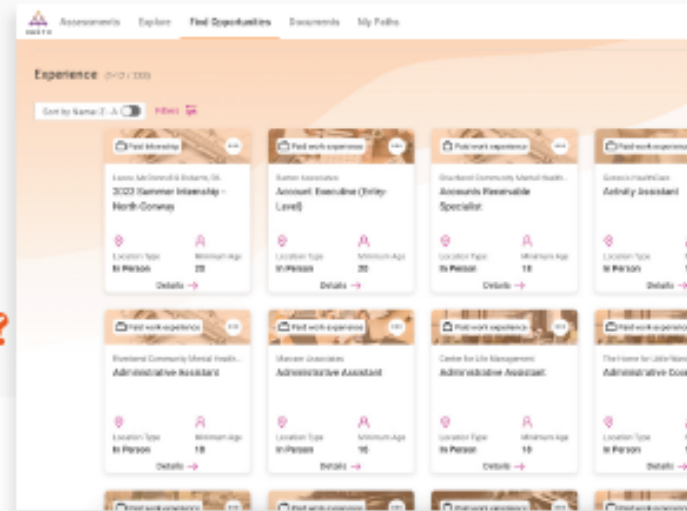
Visit [safety.fhwa.dot.gov/zerodeaths](https://safety.fhwa.dot.gov/zerodeaths) to learn more.



**NH Public Works Agencies- have you heard about**

**Work! As Learning yet?**

Awato is working with local employers and the New Hampshire Department of Education to connect secondary students with local, subsidized paid internships.



## How it works

1. An eligible student connects with *The Company* (could this be your local public works or road agency?) a qualified employer, on the Awato platform.
2. The student applies for the approved employment opportunity and is hired at a wage of \$15/hr, paid by *The Company*.
3. *The Company* is reimbursed up to \$7.50/hr, up to 480 hours, through a wage-match by the NH Department of Education.

## Awato makes the process easy

Awato will work with employers to:

- Get employers through DOL certification
- Find students for open positions and build future workforce pipeline
- Make setting up and launching internships affordable

## Definitions

**Qualified Employer:** An entity or organization registered with the NH Secretary of State's office to do business in NH.

**Approved Employment Opportunity:** A student placement with a qualified employer that has been approved by the NH Department of Labor, as required, including hazard occupations, where needed.

**Eligible Students:** Any NH resident student eligible to attend a NH public school. That includes students who may be participating in educational programs, including NH traditional and public charter schools, non-public schools, home education programs and Education Freedom Account Students.

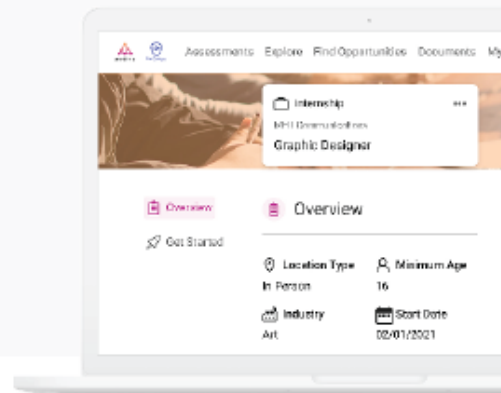
**Wage-Match:** Student employment wages paid to eligible students for placement in approved employment opportunities are eligible for match up to 50% up to \$7.50 per hour. Wage-match eligibility may be used at more than one qualified employer.

## WANT TO GET IN TOUCH TO LEARN MORE?

CONTACT COLTON BRIGGS AT COLTON@AWATO.CO | 603.783.1341

Interested in learning more, or discussing other ways UNH T2 might help support workforce development in your agency and across NH's highway and public works teams? Reach out to marilee.enus@unh.edu.

## CONNECT WITH MORE local, qualified student candidates



Thousands of NH students are looking to take the skills that they have learned in high school and bring them straight into the workforce.

As the NH DOE's preferred college and career readiness platform, Awato is your exclusive connection to these qualified New Hampshire K-12 students.

### NH Implementation and usage

**181**  
Implementations at eligible  
schools in New Hampshire

**70%**  
of implemented schools  
are actively using Awato

**2400+**  
active number of students  
using the Awato platform

Since June of 2020, Awato has quickly implemented into every eligible middle school, high school, and career and technical education center in New Hampshire.

### More qualified K-12 candidates, faster

Finding the right candidate for an open position can cost a lot of money and take up valuable company time. Awato's no-cost platform makes finding the right candidates easier than ever.

#### Post work-based learning opportunities

Awato offers one location to post work-based learning opportunities, connect with candidates, and manage the paperwork and time tracking for each student.

#### Connect with the right candidates

Get qualified candidates through the use of Awato's unique and engaging assessments. Once the student has completed their assessments, we match candidates to local work-based learning and career opportunities that best suit their interests and goals.

#### Build relationship with local counselors

Communicate with local school counselors to understand the level of student interest in work-based learning opportunities that your company offers.

### Everything you need to connect with K-12 candidates



**Actionable Analytics**  
View individual candidate reports  
and create the reports you need



**Adaptive Career Assessments**  
Fun assessments that learn from students' inputs engage students and provide more accurate results



**Employer Built Pathways**  
Employers can provide the exact pathways that they would like students to pursue



**Recommended Pathways**  
Awato recommends how students can compile resources into pathways that lead to local careers



**Regional Content Mapping**  
Awato will make your opportunities available to students in your area



**WBL Management**  
Manage student interest and student-employee time tracking

# Awato Partners with the NH DOE to meet the needs of the Drive to 65 Act



The State of New Hampshire has provided a no-cost platform to all middle and high school students to create local pathways to credentials and careers.

## The Awato platform includes



### Adaptive Career Assessments

- Personalized Interest Assessment
- Theory of Multiple Intelligences
- Workplace Values
- Myers Briggs
- Emotional Intelligence
- Goals and Aspirations



### Career and Education Matching

- Matching to over 800 careers
- Matching to all state CTE programs
- Matching to all state community college and university system programs



### Actionable Analytics

- View individual student reports
- Create the reports you need



### Work-based Learning Management

- Statewide opportunities board for employers to post and connect with students
- Local control for schools
- Resume builder
- ELO management and time tracking



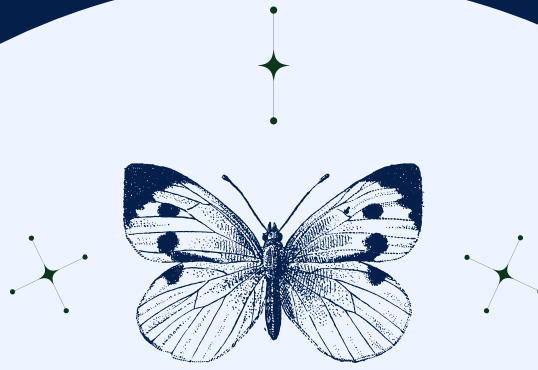
### Career pathway comparison

- Showcase how local resources can be stacked to reach specific career goals
- Compare different options like NH Career Academy and other dual-enrollment programs
- Showcase local pathways based on student's career goal

## The Benefits of using Awato

1. Meet SB 276 Requirements
2. Showcase local pathways and opportunities to students
3. Increase career engagement
4. Increase Outcomes





# April UNH T2 Events

Visit [t2.unh.edu](https://t2.unh.edu) for dates & registration details!

Road Maintenance 101 for RPCs	Concord, Lebanon
Road Maintenance 101 for DPWs	Concord, Lebanon
Leadership Exchange Group	Gilford
PW Jumpstarts	Virtual
ATSSA Flagger Certification	Hampton, Haverhill
Reading Construction Plans	Virtual
Pavement Project Selection & Prep	Virtual
Certified Culvert Maintainer	Northfield, Conway
Updates to the AASHTO Guide	Virtual
Specifications for Highway Construction: Pavement & Quality Control	
Safety Countermeasures for Gravel Roads	Virtual
Roadside Mowing & Safety	Portsmouth

*And lots more!*  
**CHECK OUT**

[T2.UNH.EDU](https://t2.unh.edu)



SUSTAINABLE, SMART & SUCCESSFUL WINTER OPERATIONS

## *Bringing Brine to Madison, NH*

How Madison reduced salt use and realized cost savings through implementation of Brine in winter operations

**APRIL 19TH FROM 11A-12P**  
**MADISON NH DEPARTMENT OF PUBLIC WORKS**

Space is limited and reservations are required to [education@gmcg.org](mailto:education@gmcg.org)  
Attendees will receive 1.0 Environmental NH Roads Scholar hour from UNH T2

*Thank you to the Madison DPM!*

Hosted by:





Check out these events from our friends & partners!



NRRA will host its annual conference in Manchester, NH, with sessions including *Landfill 101: An Introduction to Burying Trash*, *Solar Panel Recycling and a Circular Economy*, *Curbside Food Scrap Collection and Composting*, *Federal Funding Programs for Recycling Operations*, and *Affecting Recycling and Reuse Change in Your Town*



Administrative Assistant  
Professional Workshop

Wednesday, April 27, 2022 from 9 a.m. – 3 p.m.

Grandview Farm  
55 Center Street, Burlington, MA



#### AGENDA

8-9:00 a.m.	Registration/Continental Breakfast
9:15 a.m.	Session 1 - Create a Story Activity
10:30 a.m.	Break
10:45 a.m.	Session 2 – Managing Self: Cultivate Self Awareness
11:45 p.m.	Lunch will be provided
12:30 p.m.	Session 3 - Respectful Workplace, Conflict, Inappropriate Behavior & Public Discord
2:45 p.m.	Wrap-up/Adjourn

## The Language of Leadership: Employee Readiness and Leadership Style



#### EVENT DETAILS

##### DATES

April 15, 2022

##### TIME

This free webinar will begin at 12:00 p.m.  
(Central Time)

Although these sessions are not affiliated with UNH T2 and do not offer NH Roads Scholar hours, we think our public works friends may find them of interest so are sharing them as a courtesy. Registration links are available on our website at [t2.unh.edu](https://t2.unh.edu).