Bridging the Gap between Economics and Innovation

by Tina Grady Barbaccia

The Jesup Bridge in Buchanan County, Iowa, has been a vital market link for farmers, growers and the community as a whole since it was constructed in the late 1940s. According to the Iowa Department of Transportation, an average of 4,360 vehicles cross this bridge every single day between rural Jesup, Iowa and Highway 20, which leads to the city.

The lack of simple bridge maintenance in many Massachusetts municipalities is significantly affecting bridge structural capacity, personal safety, and overall condition. Under Federal law, MassDOT inspectss, or receives inspection reports on all bridges...
The leaves are changing, the days are shorter, and the temperatures are starting to drop, autumn is here in New Hampshire! The NH LTAP at the Technology Transfer Center is in the midst of one of its busiest training seasons offering courses like Pavement Preservation, Chloride Training, NH Road Law for Municipalities, Grant Writing for Public Works, Project Planning, and Road Management for Town Officials. We’ll be finishing up all of our training sessions for 2014 before the Thanksgiving holiday.

This fall we’ve had the pleasure to assist with several exciting events. The first was the 9th Annual Ken Ward Memorial Plow Rally on September 17, 2014 in New Boston. It was the first year at a new venue and a new course. Myself, Butch Leel, Amy Begnoche, and Alanna Gerton all volunteered to help with registration, run education stations, and judge the competition. It was a gorgeous day full of talented crews, incredible maneuvers with the backhoe, and six education stations where attendees could participate in exchange for Roads Scholar credits. We also volunteered at NH Construction Career Days on September 18-19 in New Boston. It was a great event where we reach out to hundreds of high school students to inform them of the many options of careers in construction. If you are interested in getting involved with either event for next year, please give me a call at 603-862-1362.

As the fall continues, we’ll be working hard to create a new program for our local public works crews to share their innovations through the “Build a Better Mousetrap” competition. The NH LTAP at the Technology Transfer Center will be mailing out information on December 1, 2014 on how to enter the competition in New Hampshire, with the winning entries to be entered in the national competition. We encourage you to start thinking and documenting the innovations or adjustments that you have made to make your jobs safer, quicker, or more efficient.

Have a wonderful autumn season!

Sincerely,
Beth Hamilton
NH LTAP Program Manager
Technology Transfer Center
Seasonal Safety Tips

by Raquel Kallas, Technology Transfer Center

New England fall is upon us. The temperature is cooling and leaves are turning; time to enjoy a hot apple cider and carve some pumpkins. At the Technology Transfer Center, we want to remind you of ways to stay safe while wielding sharp objects – like that carving knife, but more importantly, chainsaws! If you haven’t already, consider taking our Chainsaw Safety and Maintenance course.

<table>
<thead>
<tr>
<th><strong>Protective Gear</strong></th>
<th><strong>How It Helps</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Hat</td>
<td>“Widowmakers,” or branches that fall from surrounding trees, can be inevitable, no matter how carefully you plan the felling</td>
</tr>
<tr>
<td>Earmuffs</td>
<td>My forestry professor is hard of hearing - in his youth, they didn’t use ear protection!</td>
</tr>
<tr>
<td>Goggles</td>
<td>Sawdust in your eyes will make even the manliest of lumberjacks cry</td>
</tr>
<tr>
<td>Face Guard</td>
<td>Sawdust isn’t a good snack</td>
</tr>
<tr>
<td>Chaps</td>
<td>Protective nylon chaps can save your leg in case you lose balance</td>
</tr>
<tr>
<td>Steel-Toed Boots</td>
<td>Keep the little piggies safe</td>
</tr>
<tr>
<td>Gloves</td>
<td>Fingers don’t do well with splinters or chainsaw teeth in them</td>
</tr>
</tbody>
</table>

**Beware!**

- Again, of “widowmakers.” Listen carefully for any secondary creaking or snapping after the tree is down, and look up to the canopy to check that nothing is swaying dangerously.
- Kickbacks, or when the trunk shoots backwards. Walk backwards away from the tree at a 45 degree angle to your backcut.
- If you’re removing branch from a bucket truck, ALWAYS assume that power lines are live, even if unmarked! OSHA requires that workers stay at least 10 feet away from lines that are 50kV or below, and an additional 4 inches back for every additional 10kV.

*Figure 1: Accident location and frequency related to chainsaw use; 1996*
New Hampshire Roads Scholars

The first achievement level is Roads Scholar Level I. To achieve Level I, participants must complete 25 hours of training. Roads Scholar Level II requires 50 hours total, including 25 hours in technical training, 5 hours of supervisory training, 5 hours of tort/liability or safety, and 5 hours dedicated to environmental training. The third achievement level of the program is becoming a Senior Roads Scholar. Senior Roads Scholars have completed 75 hours of training including the requirements for Roads Scholar Level II. Master Roads Scholar is the fourth and highest achieving level of the UNH T² Center Roads Scholar Training Program. To be a Master Roads Scholar, the participant must have completed 100 training hours, including the requirements for Roads Scholar Level II. We congratulate all those who have reached new achievement levels and encourage further training in the future.

Roads Scholar I
25 training hours in the Roads Scholar Program
Michael Barnhart, Sunapee
Benjamin Berry, Wolfeboro
Sam Bodnar, NHDOT
Dan Davis, NHDOT
Richard Deblois, NHDOT
Roy Lee Hill, Rye
Phillip Keech, NHDOT
Douglas Lamos, Jr., Laconia
Richard Martel, Moultonborough
David McLam, NHDOT
Duncan O’Brien, Rye
Tim Ordway, Chichester
Frank Patterson, NHDOT
Kevin Rowell, Concord
Richard Smith, NHDOT

Roads Scholar II
50 training hours and Roads Scholar II requirements
Todd Bellefeuille, NHDOT
David Campbell, NHDOT
Kevin McKinnon, Colebrook

Senior Roads Scholar
75 training hours and Roads Scholar II requirements
David Hooley, Croyden
Chad Jaquith, Concord
Todd Mason, Greenfield
James M. Plourde, Antrim
Sharing the Road

by Alanna Gerton, Technology Transfer Center

Keeping your eyes on the road is one of the first things instilled in our heads upon getting our driver’s license. With all of today’s distractions, this lesson is even more important to recognize and abide. Being aware of where you’re driving is only step in the recipe, though. It’s just as vital to be aware of whom you are sharing the road with, as it is the road itself.

As the crisp fall air signals the end of yet another short summer, it introduces the start of deer season. Based on data from Maine, moose/deer-related crashes tend to peak in November and December. In order for these statistics to be reported, however, there needs to be a minimum of $1,000 in combined damages, making it very difficult to quantify exactly how many of these incidents occur each year. The best thing to do is simply be aware that the presence of these large animals (bears, moose, deer) is going to be more pronounced this time of year, and that sharing the road with local wildlife will help create a safer driving environment. Here are some helpful tips, compiled from the Insurance Information Institute, to get you started:

• Be especially attentive from sunset to midnight and during the hours shortly before and after sunrise. These are the highest risk times for deer-vehicle collisions.
• Drive with caution when moving through deer-crossing zones, in areas know to have a large deer population and in areas where roads divide agricultural fields from forestland. Deer seldom run alone. If you see one deer, others may be nearby.
• When driving at night, use high beam headlights when there is no oncoming traffic. The high beams will better illuminate the eyes of deer on or near the roadway.
• Slow down and blow your horn with one long blast to frighten the deer away.
• Brake firmly when you notice a deer in or near your path, but stay in your lane. Many serious crashes occur when drivers swerve to avoid a deer and hit another vehicle or lose control of their cars.
• Make sure you tires have sufficient treads; any little thing that will help a person adequately break is essential.
• Always wear your seat belt. Most people injured in car/deer crashes were not wearing their seat belt.
• Do not rely on devices such as deer whistles, deer fences and reflectors to deter deer. These devices have not been proven to reduce deer-vehicle collisions.

Figure 1: This graphic represents the number of reported animal collisions in New Hampshire, based on the time of day. The most prevalent time of day for animal-vehicle collisions to occur is highest at dawn and dusk.
Bridging the Gap between Economics and Innovation

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This might seem like small potatoes to a big city or municipality, but for this rural county bridge, this is considered heavy traffic. The loss of this bridge could effectively isolate the residents of this community and cause severe economic duress, and that’s exactly what happened.

The 22-foot-wide concrete bridge became functionally obsolete, too narrow to handle two-way traffic. Buchanan County Engineer Brian Keierleber said the bridge had a sufficiency rating of 49 out of 100. With increasing frequency, agricultural loads could not cross the structure because they were too wide. In fact, any large vehicle made this a single-lane bridge. For one of the most heavily traveled roads in the county, this was a major safety issue and an economic impediment.

Load capacity has also been an issue throughout time. Nearly 25 years ago, Buchanan County drove H pilings through the deck and braced the beams to increase the weight bearing capacity.

“In 2013, the bridge was once again rated as obsolete for its intended purpose and was in clear need of replacement,” Keierleber says. “There existed an obvious detrimental impact to the community, and it needed to be addressed.”

Creative funding for quick action

Like any municipal project, funding a new bridge is a major undertaking. Estimated at nearly $250,000, finding the money would require some creativity. With a sufficiency rating below 50, something needed to be done quickly, and federal funding would take too long.

Fortunately for Buchanan County, Keierleber is South Central Vice President of the National Association of County Engineers (NACE) and sits on several other industry committees, which exposes him to the latest construction ideas and product developments. It was here he saw an opportunity to design and help fund an innovative Jesup Bridge.

New software, eSPAN140, is a free, web-based, design tool utilizing standard designs and details for short-span steel bridges and/or buried soil structures up to 140 feet long. It creates customized steel-bridge design solutions with results defined in less than five minutes, according to Mike Engestrom, chairman of SSSBA and technical marketing director for Nucor-Yamato Steel. The software was developed by two college professors and brought to market by the Short Span Steel Bridge Alliance (SSSBA).

Keierleber realized the SSSBA needed to have someone design and build a bridge using the software to showcase its capabilities and benefits. He also recognized the speed with which a galvanized steel bridge could be erected would serve his needs perfectly.

To design the bridge, Keierleber typed in the specifications for his project – including bridge span length, the
number of striped traffic lanes, roadway and width and skew angle – and received a steel bridge design solution in less than five minutes.

The new, state-of-the-art, galvanized, short-span, steel 40-foot-wide Jesup Bridge became a demonstration/research bridge project in cooperation with West Virginia University, the University of Wyoming and Iowa State University. (For more information about this partnership, visit betterroads.com/jesup-bridge.)

This cooperative research effort meant that the cost of the new bridge could be subsidized with grants and donations from SSSBA members. The steel, the fabrication and the hot-dip galvanizing corrosion protection were all donated. The new bridge would end up costing Buchanan County less than $100,000 for installation.

The original bridge was demolished on Aug. 20, 2013, and the new, modern, functional bridge was dedicated and opened to traffic on Nov. 11, 2013. With creativity, the problem was solved in two months.

The American Galvanizers Association and several individual galvanizer members are also involved with county engineering associations and the SSSBA, so they became involved in “100 Year Bridge” discussions and in the education of county engineers about the sustainability, durability and corrosion protection provided by hot-dip galvanizing. The donation of the galvanizing for the Jesup Bridge was an opportunity to demonstrate these attributes and provide a tool for continued research that will benefit taxpayers across the entire United States.

“Without a doubt, Buchanan County will certainly build more galvanized steel bridges,” Keierleber says. Galvanized steel fits in the 100-year design concept that has been adopted in Buchanan County, Iowa. Galvanized steel beams and rebar are key components in this design.

“It all goes back to economics,” Keierleber adds. “It will dictate everything we do. It goes back to cost comparisons and being worried about cost savings in the long run instead of the short term.”

**Local Labor, Local Jobs**

Beyond research, this project is an enhancement to the community because it removes a barrier to commerce and mobility for county residents. It also provided jobs and income for local county crews, which essentially handled the entire bridge replacement. Typically, contractors are hired for this job, but Keierleber wanted his crews to be intimately familiar with the construction of this bridge. To further involve the community and keep them informed of the bridge and its progress, a live webcam was used.

The use of the eSPAN140 software for bridge design was unique to this project. Using this tool meant the county didn’t have to wait for an engineering firm to produce various designs. After successfully erecting the Jesup Bridge using this tool, county engineers can now be confident in designing a bridge to their specific needs and then being able to share it with others, even though a rendering may not be complete. Additionally, based upon geographic location, the software is programmed to consider typical production and stocking patterns of local steel mills and service centers to ensure material availability.

“Since the bridge has been open, it has relatively uneventful, which is a good thing,” Keierleber says. “There are no more combines getting stuck. Reconstruction of the bridge has had a huge [positive] impact on the community.”

Testing out the software and knowing the county no longer has to be as reliant on federal funding has also made a significant impact, Keierleber says. “Now we can go online and preliminarily design our bridge.”

Reprinted with permission from Better Roads Magazine

www.BetterRoads.com
Take Care of Your Bridges Now Before It’s Too Late

continued from page 1

on public highways in the state every two years. These reports must be reviewed by MassDOT within 90 days of the field inspection. The reports are then sent to each municipality.

In these biennial inspections, the MassDOT inspection crews typically find that municipal bridges and minor spans are not well maintained and very little attention is generally paid to them. If a major concern is evident, then MassDOT will immediately contact that municipality. In some cases, bridges have been closed or severe restrictions have been recommended to the local municipal officials.

It should be noted that MassDOT simply performs the inspection and makes recommendations on weight posting, repairs, or other limitations. In some cases, MassDOT may provided limited engineering services and other assistance through the District Bridge Engineers. However, the maintenance of minor spans on town ways and low-use bridges is the full responsibility of municipalities.

It is recommended that all towns budget for basic maintenance, deck repair, paint, and other minor repairs. Otherwise, it is likely that more expensive repairs or full replacement will face decision-makers in the future. Here is a checklist of basic maintenance which municipalities should perform on their bridge(s) and/or minor spans:

**Annual Cleaning**

Remove all sand and debris from the deck and around beams at least once a year (preferably spring). Use fire trucks to wash down and remove salt, because salt readily deteriorates concrete and corrodes steel. This activity provides you with the most benefit—at the least cost—and provides an opportunity to check the condition of the structure for needed repairs.

**Erosion**

Check under and around abutments to spot eroded areas (the best time to do this is when water is at its lowest in late summer). Add stone protection (rip rap) to stabilize eroded areas and provide bridge support. Remove excess winter sand from approaches to allow runoff to flow into the ditches instead of onto the bridge.

**Wood Decks**

Check planks for breaks, rotting, excessive wear and looseness. Replace damaged planks (“piecing in” is not recommended), re-nail planks to beams, add a waterproofing layer (tarpaper) between the beams and planks and treat with a preservative when dry.

**Concrete Decks**

Look for signs of leakage, cracks and rust stains from underneath. Don’t pave over concrete decks (this accelerates concrete deterioration). Every two years coat exposed concrete decks with a sealer. Sealing should be done yearly for the first two years for new concrete.

**Steel Beams**

Remove all dirt and/or debris yearly and paint beams, as needed, to prevent corrosion. Complete painting is usually needed every 10-20 years with occasional touch-up painting in between. Touch-up painting mainly involves the beam ends and bearings.

**Timber Beams**

Check for deterioration. Test with a hammer and/or occasionally drill holes to sample the interior condition. Holes must be filled in after drilling to prevent further decay.
ABUTMENTS AND PIERS

Check for movement and stability. Look for cracks, movement of rocks, leaning or bulging, scour and undermining. Cut and remove all brush and trees growing close to the abutments to improve air flow and limit potential damage. Repair any damaged or missing stones or concrete. Remove debris that can potentially plug bridge openings from the upstream channel.

GUARDRAILS

If none exist, install something sturdy. If wood or steel rails (or wire cables) are bent, broken, or in poor condition, replace or reinforce deteriorated parts.

BRIDGE APPROACHES

Trim all trees and bushes to create adequate sight distance, especially around signs. Fill all ruts and eroded areas. Check for a smooth transition from the road onto the bridge. Vehicles ramping and landing on a bridge deck can cause a force equal to double their weight.

SIGNS

Inspect, straighten and clean warning signs. If necessary, erect new signs (both at and in advance of the structure). Two conditions require additional signage—weight posting and overpass clearances of less than 14’6”. All signs must meet MUTCD standards. Remove any brush that is obstructing warning signs.

BEARING DEVICES

Identify all fixed and moveable bearing devices. Clear any obstructions that would prevent a moveable support from functioning.

CRACKS

Measure and keep a record of any cracks in—or movement of—the abutment main wall and wing walls.

Remember to take care of your bridges now, before it’s too late!

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www.baystateroads.eot.state.ma.us

NH MUNICIPAL ASSOCIATION
ANNUAL CONFERENCE

DATE: NOVEMBER 12 & 13, 2014
LOCATION: RADISSON HOTEL
700 ELM STREET
MANCHESTER, NH 03101

SAVE THE DATE!

SESSIONS TO KEEP IN MIND

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
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<tr>
<td>11/13/2014</td>
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<td>Culvert Maintainer Certification Program Overview</td>
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<td>How to Get Off the “303(d) List</td>
</tr>
<tr>
<td>11/13/2014</td>
<td>3:15 pm - 4:30 pm</td>
<td>The Qualification Based Selection (QBS) Process</td>
</tr>
</tbody>
</table>
Statewide Asset Date Exchange System (SADES); Past, Present and Future

by Beth Kinney, Technology Transfer Center

BACKGROUND
State DOT and municipal highway department staffs know where their primary transportation assets are located and their most recent rehabilitation and maintenance records. Typically historical asset information and condition assessments are dependent on staff longevity. Thus budget preparation is only responsive to current conditions and political needs versus any long term optimization considerations. Coupling this with the downward trend in vehicle miles driven and the upward trend in vehicle miles per gallon consumption the ability to sustain highway networks at an acceptable level of performance is becoming more difficult. FHWA’s MAP21 program in the two year highway bill passed last year stipulates inventory assets be documented to facilitate a progressive rather than a responsive approach to highway rehabilitation, and maintenance. Our DOT in partnership with the Technology Transfer Center and the Regional Planning Commissions is piloting a Statewide Asset Data Exchange System (SADES) to establish an inventory including a sustainable condition assessment process for many state and local transportation assets. The pilot initially focused on culvert and sidewalk assets. Standard definitions were established and training started in May, and RPCs are collecting data.

DETERMINING STAKEHOLDER NEEDS
To initiate SADES the partners focused on determining the software and hardware. Partners set the goal to have all asset data displayed as a layer on a road map with the option to overlay other layers including aerial photography. Discussions with all interested RPC’s, the DOT and the DES have set standards for the two pilot assets. The database containing all the agreed upon asset inventory and condition data is also linked to pictures with an easy user interface to facilitate searching on any set of SADES variables. In addition, all parties using a password have easy viewing and editing access to all data.

CHOOSING THE RIGHT TECHNOLOGY
The pilot program committee initially considered using a Trimble unit. The Technology Transfer Center had two Trimble GeoExplorer 6000 units as well as some RPC’s. Trimble units are one of the most accurate GPS recorders. The GeoExplorer 6000 has accuracy with the internal antenna of 2.5 cm horizontally and 4 cm vertically. In addition, this particular Trimble unit has the ability to take pictures and embed them at their GIS location. The one negative is cost; $6,000 per unit is cumbersome in comparison to current cell phone and tablet technologies. The iPad mini 16GB without Retina display, retails at $299.99, and with a waterproof/shockproof cover, the total unit cost is less than $400. The iCMTGIS II App for the Apple iPad uses a GPS in the iPad to collect data and store data in a GIS compatible format. The difficulty with the app is it is not designed for multi users or for sharing data. In addition, data cannot be synced via wifi.

The final option that the committee explored was the ESRI Collector App. This app operates on any iOS or android device with easy access. This software integrated seamlessly into ESRI ArcDesktop and ArcOnline products and can be exported into most GIS files. Finally, the ability to host and sync the data with ArcOnline meant that all users have easy and quick access as needed to make the program successful. Although the iPad does not have the pinpoint accuracy as does the Trimble, it does allow the user to visually adjust the location of the points’ position on the screen. Based on the needs desired by SADES, this package seemed to be the best fit.

PROGRAM PROGRESS
Starting in May 2014, training was offered for collecting culvert data. Ten iPad Mini’s were purchased by the Technology Transfer Center for use by the RPC’s and the NH DOT. The pilot group had created a collection guide for culverts, which consisted of 150 unique attributes. These attributes were then used to
create a feature service in ArcDesktop which could be accessed, updated and edited through the Collector App. A screenshot from an iPad is shown below in Figure 1. Three months later, with eight different entities collecting data, we now have over 1900 culverts in the database (Figure 2). Plans now are to move forward to create a protocol for the $T^2$ Center to perform a basic QA/QC on the collected data for culverts.

Looking to the Future

Draft Collection guides covering sidewalks, curb ramps and crosswalks are completed, and a draft feature service for the iPad is being made and tested. Once that is complete, most likely an RPC will work closely with $T^2$ Center to test the feature service in the field. Once that is done, the asset collection will then be made available for all parties to use.

Currently, $T^2$ is working closely with RPC’s and NH DOT to expand this program. Municipalities and other state agencies are welcome to participate. If you are interested in working with us, please contact the SADES program coordinator, Greg Jones, at 603-397-7745 or nht2gis@icloud.com

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**Figure 1: Example of iPad Collector App**

**Figure 2: Current map showing collected culverts**
We could not have asked for a more perfect day to hold the 9th Annual Ken Ward Memorial Plow Rally, which took place on September 17, 2014. The event was held at a new location this year at the Hillsborough County 4-H Youth Center in New Boston, which served as quite the backdrop to this friendly competition. Attendees hailed from all over New Hampshire, reaching about 200 strong for the day.

In addition to the annual competition, the day featured multiple equipment exhibitors, vendors, and demonstrations. Attendees were also encouraged to visit the education stations, which emphasized the Driving Toward Zero initiative, work zone safety and set up, healthy eating, salt usage for plowing, tree limbing, and watershed management. Door prizes were raffled off, and the mood was just as positive as the weather!

This year, 14 municipal teams competed in the plow rally, all vying for a chance to go against the NH DOT champions. The turnout in teams was more than has competed in recent years, which just goes to show the enthusiasm and support for this great event. We would like to give a special thank you to the Town of Goffstown, City of Franklin, Town of New Boston, and the Town of Merrimack, who all provided trucks for the event - we greatly appreciate it! Another big thank you to our judges this year, and especially to Carl Quiram, Catherine Schoenenberger, and the Plow Rally Committee for organizing the event - this day would not be possible without all your hard work and dedication!

And now, the moment you’ve all been waiting for. The winners from the 9th Annual Ken Ward Memorial Plow Rally are...
New Hampshire State Competition Champions!

Robert Lambert & Kellen Jordan
NH DOT

Dana Wright Backhoe Competition

1st Place: Benji Knapp
Town of Weare

2nd Place: Eric Allen
Town of New London

All participating teams in the Plow Rally Competition
**New Hampshire Public Works Mutual Aid**

With record storms, flooding, and most recently Hurricane Irene and the October Nor’easter, the need for mutual aid is ever increasing. In times of crisis, a mutual aid agreement allows neighboring communities to provide assistance in the form of labor and equipment to help each other through the disaster. Mutual aid is a FEMA-approved contract and will make the assisting municipality eligible for federal reimbursement.

Mutual Aid is available for only $25 per year and the benefits are innumerable. For more information, visit the T² website at www.t2.unh.edu/ma or contact Beth Hamilton at 603-862-1362.

**Minimum Retroreflectivity Compliance Kit**

The Technology Transfer Center is now offering one Avery Dennison Minimum Retroreflectivity Compliance Kit on loan for New Hampshire Public Works Departments.

There is no fee for the equipment loan, and municipalities may keep the Retroreflectivity Compliance Kit for up to four weeks (*additional time may be requested*).

For more information

www.t2.unh.edu/avery-dennison-minimum-retroreflectivity-compliance-kit

t2.center@unh.edu

**Other Events**

<table>
<thead>
<tr>
<th>Date</th>
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<tr>
<td>10/9/2014</td>
<td>The NH Joint Engineering Societies 8th Annual Conference</td>
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<tr>
<td>10/15/2014</td>
<td>New England Chapter APWA Fall Conference</td>
<td>Chelmsford, MA</td>
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<td>10/22/2014</td>
<td>1st Annual Salt Symposium</td>
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<tr>
<td>11/12-13/2014</td>
<td>NH Municipal Association Annual Conference</td>
<td>Manchester, NH</td>
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**Employment Opportunities**

Please see the NH Municipal Association’s website for recent postings for employment opportunities in municipalities across the state.

http://www.nhmunicipal.org/Resources/ClassifiedAds/Employment

**Visit the UNH T² website today!**

www.t2.unh.edu

• Access to the most up-to-date calendar
• Register for workshops online
• Access to NH Road Salt Database
• See important announcements
• Access to the UNH T² Facebook page

**NH LTAP is on Facebook & Twitter!**

Want to stay informed of our activities? Want to connect with other professionals who attend our training? Want to look at pictures from our training classes and other events? Then “like” us on Facebook or “follow” us on Twitter to stay connected! We are posting information daily on our activities, new programs, training, local news, and services.

www.facebook.com/nhltap

www.twitter.com/nhltap
Word Search

Be the first to complete this word search and send it to T² any of the following ways to win a FREE T² workshop!
Fax: 603-862-0620
Email: e.hamilton@unh.edu
Mail: Beth Hamilton
33 Academic Way
Durham, NH 03824

Words can be circled either upward, downward, backward, or diagonally. Good luck!

Abutment
Asset
Bridges
Champion
Community
Cracks
Creativity
Economics
Erosion
Guardrails
Innovation
Integration
Plow
SADES
Technology
# Fall 2014 Training Calendar

Check out our website for the most up-to-date calendar

[www.t2.unh.edu/training-calendar](http://www.t2.unh.edu/training-calendar)

<table>
<thead>
<tr>
<th>Date</th>
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