

UNH T²

UNH TECHNOLOGY TRANSFER CENTER provides training and services to municipal employees, public and private road associations, and citizens regarding new technologies and the management of roads and bridges.



Bridging Functionality and History: The Memorial Bridge

by Rowen Prescott, UNH Technology Transfer Center

On August 17, 1923, just five years after the armistice was signed ending the First World War, five-year-old Eileen Dondero cut the ribbon opening the Memorial Bridge. The bridge was dedicated as a “Memorial to the Sailors and Soldiers of New Hampshire who participated in The World War of 1917-1919,” and was the first non-toll bridge to cross the Piscataqua River. For more than 85 years, the Memorial Bridge has carried US RTE-1 from Portsmouth, NH to Kittery, ME allowing pedestrians, bicyclists, and vehicles to pass freely between the two towns. With

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INCIDENT COMMAND SYSTEMS AND PUBLIC WORKS

by David Danielson, Foresee Advocacy

Public Works, to include road agents and departments, waterworks and wastewater operations are considered “first responders” in times of critical emergencies or disasters. Most men and women working in these professions know this yet many do not. Most also do not know where they would “fit” in an emergency or disaster.

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UNH T²

The UNH Technology Transfer Center (UNH T²) provides training and services to municipal employees, public and private road associations, and citizens, regarding new technologies and the management of roads and bridges. Established at UNH in 1986 by the Federal Local Technological Assistance Program (LTAP), the center is sponsored by the Federal Highway Administration, the N.H. Department of Transportation, the University of New Hampshire, and the national LTAP and TTAP Program.



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Staff

Charles Goodspeed, *Director*
David Salzer, *Project Manager*
Patrick Santoso, *Project Manager*
Beth Hamilton, *Training Program Manager*
Butch Leel, *Senior Training Instructor*
Amy Begnoche, *Training Program Assistant*

GIS Supervisor

Lori Mather

Graduate Student Project Engineers

Anabelle Allen, Tim Harmon, Justin Pelletier, Hannah Pierce, Rowen Prescott, and Olivia Von Den Benken

Student Project Assistants

Rachel Beaudry, Grigoriy Androsov

Advisory Board

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Christopher Tilley, *FHWA Area Engineer*

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NH Public Works Standards & Training Council

Dave Danielson, *Foresee Advocacy LLC*

New Hampshire Driving Toward Zero

New Hampshire is taking a new stand against road-related deaths with a new initiative called the New Hampshire Driving Toward Zero Deaths: One Death Is Too Many. The UNH Technology Transfer Center is helping to spread the word directly to the locals who work on the roads every day. The mission of this coalition is to decrease the number of road-related deaths steadily until there are none. The vision is safe travels for all who use New Hampshire roadways. The goal is to create a safety culture where it is no longer acceptable to have roadway deaths.

You can find more information on the Driving Toward Zero website at www.nhdrivingtowardzero.com where you can find information about the coalition, take a safety pledge, and find resources. The coalition also has a Facebook page, Twitter account, and several other social media outlets. Also, a leader of this coalition will be submitting a full article to the Fall edition of Road Business. Please take some time and familiarize yourself with this great cause.



For more information about the Driving Toward Zero initiative, you can contact Beth Hamilton at the Technology Transfer Center at 603-862-1362 or by email at e.hamilton@unh.edu

Mosaic Parcel Map Update

by David Salzer, UNH Technology Transfer Center

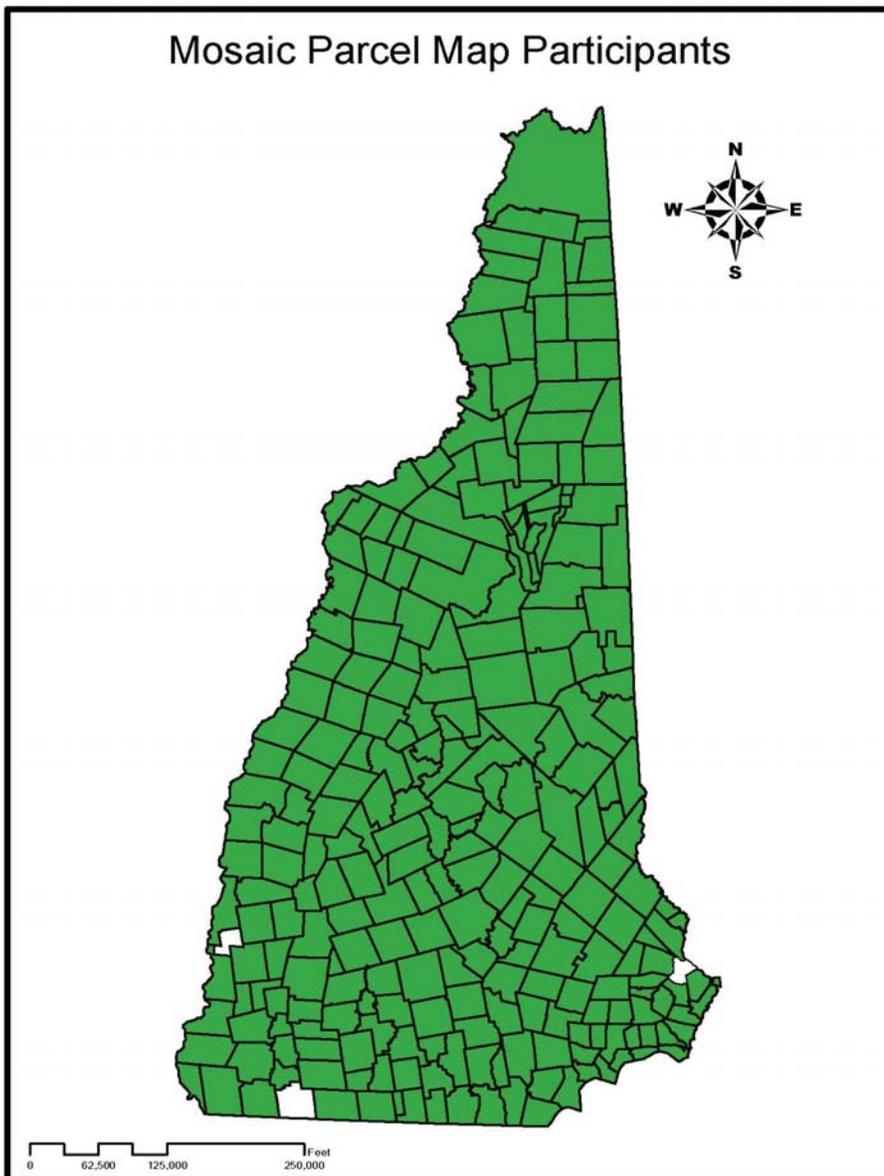
The second edition of the Mosaic Parcel Map (Mosaic) is currently being completed by the Technology Transfer Center. This edition of Mosaic contains over 98% of the parcel maps and assessing data statewide, a 13% increase from last year's edition. Over the past year the project team has made great strides in integrating non-GIS parcel based data to ensure a complete statewide coverage. The project is sponsored by the New Hampshire Department of Revenue Administration (DRA) and has become an invaluable tool for disaster assessment, planning and equalization. Data solicitation for the third edition of the Mosaic Parcel Map will begin mid-August of this year.

In addition to the parcel map, the Mosaic project has another major component, property tax equalization. Each October municipalities and DRA work cooperatively to review all real estate transactions in the state to determine whether or not they are reflective of a true market sale. These "validated" sales are used in

calculations that determine the total market value of all property in New Hampshire. To make a long story short, the market value assessments are used to calculate an overall ratio for each municipality. This ratio is a major component of the property tax rate setting process. For the past 12 years DRA has utilized a 3rd party contractor to provide software for themselves and the municipalities to conduct the equalization process. In 2010 DRA entered into a contract with T2 to develop a new equalization platform that they would own, eliminating the need for 3rd party contractors.

Beginning October 1, 2012 DRA will require all municipalities to perform the equalization process utilizing their new software platform. The software greatly reduces the time required to review sales and integrates new functions and processes that will make for a fantastic user experience.

For more information on the Mosaic Parcel Map Project, contact David Salzer at the UNH Technology Transfer Center at 603-862-3114 or email at dsalzer@unh.edu



Bridging Functionality and History: The Memorial Bridge

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a 302.5-foot vertical lift span, private and commercial vessels were also able to pass beneath the bridge. This vertical lift system was developed and patented by J.A.L. Waddell, the designer of the original bridge. This system allowed the center span of the through truss bridge to move up and down freely about four thousand times a year.

Unfortunately, with all of this use, the Memorial Bridge deteriorated quickly. On two separate occasions in both 2009 and 2010, the Memorial Bridge was closed to all motor vehicle traffic for emergency repairs, tending to the deterioration of the bridge's structural members. The bridge was re-opened both times with a three ton weight limit. But on July 27, 2011 an inspection deemed the bridge unsafe for all vehicles, requiring immediate closure.

Eighty-eight years after she cut the opening ribbon, Eileen Foley tied two ribbons on the bridge, signifying its final closing. The permanent closure of the Memorial Bridge took place on January 9, 2012, but the process of replacing it was already well under way.

The NHDOT (along with the MEDOT and FHWA) had already decided upon a design-build procurement process for the replacement of the Memorial Bridge. Design-build is a process in which both the design and construction phases of a project are completed by the same entity. This method was chosen in order to minimize project length by partially

overlapping the design and construction of the bridge. This method not only saves time on the overall construction of the bridge, it also reduces costs. The Memorial Bridge design-build contract was awarded to Archer Western Contractors/HNTB on December 14, 2011, before the bridge was even closed.

Theodore Zoli, National Bridge Chief Engineer of HNTB, has been responsible for the design of the new Memorial Bridge to be re-opened to traffic in July of 2013. Zoli's design combines Waddell's original vision with innovative features improving the functionality, safety, and aesthetics of the bridge.

Some of the major differences between Waddell and Zoli's designs are the location of the control room, vertical lift machinery, and the truss design. In Zoli's design, the control room is to be located behind the South tower above the roadway truss, rather than centered within the truss on the lift span. Zoli's design also moves much of the vertical lift machinery - which was originally above the roadway and in view - to the underside of the bridge. This was done to improve the bridge's overall look and cleanliness. The truss system of the new Memorial Bridge also differs slightly from Waddell's original design. The sidewalks have been moved to the inside of the truss and the roadway has been widened. Each side of the roadway will offer eleven feet for vehicle traffic, a five foot shoulder for bicycles, as well as a partitioned sidewalk



Old Memorial Bridge Open



New Memorial Bridge Aerial View



Lift Span Float Out

for pedestrians. Moving the trusses to the outside not only improves the appearance of the bridge, but it also protects the pedestrians and bicyclists by giving them more room on the interior of the bridge. The pedestrian walkway on both sides of the bridge also allows a second guardrail to be installed, further protecting the truss members from potential vehicle damage.

Along with visual alterations, the physical design of the bridge has also been slightly altered. The main safety concerns of the old Memorial Bridge – the ones which ultimately led to its closing – were the deterioration of the floor beams and the gusset plate connections at the joining locations of the beams and members. Zoli's design aims to end these concerns about oversized beams and the elimination of gusset plates. In the event that corrosion of the members becomes a concern in the future, each beam section is designed to be much larger and stronger. Corrosion will reduce the area of steel of the section, so by designing the structural members larger than needed, the bridge can still function as intended - even if minor corrosion occurs. The larger sections also allow for a uniform profile across the bridge without sacrificing overall

strength of the truss. These larger sections, along with fewer members within each truss, improve visibility through the trusses on each side. The gusset plates will be eliminated with the use of cold formed steel beams with an integral truss plate. With this truss plate, the member splices - instead of being located at the joints - will now be located along the truss members. This new design will allow for a clear, unobstructed view through the trusses.

Along with many changes to the Memorial Bridge in the design phase, innovative changes are also being made within the construction of the bridge. Some of these innovations involve corrosion resistance, construction of the foundations, and bridge deck materials. Instead of traditional bridge paint, which over time can flake off and expose the steel, the New Hampshire and Maine Departments of Transportation are considering the advantages of metalizing all of the steel on the new Memorial Bridge. Metalizing is a process in which a layer of zinc is applied, along with intense heat, to the steel members. The metalizing process creates a physical bond between the steel and the zinc, much greater than that of paint, and it can

be applied to any specified thickness. Once this layer of non-corrosive metal is applied to the entire structure it can either be covered by a urethane paint top coat or left to oxidize. Metalizing the structure would greatly reduce rusting and deterioration of its critical members due to weather or other corrosive materials. In turn, this would allow the bridge to retain its structural capacity throughout its design life.

The construction of the foundation for the new Memorial Bridge will utilize the existing piers. The use of the existing piers allows the drilling crews to avoid working from barges in the river. The piers of the old Memorial Bridge will essentially be used as cofferdams, while mini piles are driven for the new foundation. These mini piles offer a deep, stable foundation for the piers to be set for the new bridge.

The deck of the new Memorial Bridge is also an area of focus. The NHDOT is considering many alternatives, including a full or partial steel grate deck, cast-in-place reinforced concrete deck with standard

rebar and waterproof membrane, and a cast-in-place reinforced concrete deck with full stainless steel rebar and no membrane. The stainless steel rebar in the deck is a part of the non-corrosive mindset of the new Memorial Bridge. The NHDOT is interested in stainless steel rebar because typical mild steel is very susceptible to corrosion, potentially causing future problems, while stainless steel is not.

The design of the new Memorial Bridge and the demolition of the old Memorial Bridge have been set into motion. So far, crews have removed the vertical lift center span, now allowing unrestricted boat traffic on the Piscataqua River while they work on the New Hampshire and Maine approaches. The removal of the old Memorial Bridge will be completed in April of 2012, when the construction of the new Memorial Bridge will begin.

In July of 2013, a new ribbon will be cut, opening the Memorial Bridge to all pedestrian, bicycle, and vehicle traffic.



Artist rendition of new Memorial Bridge

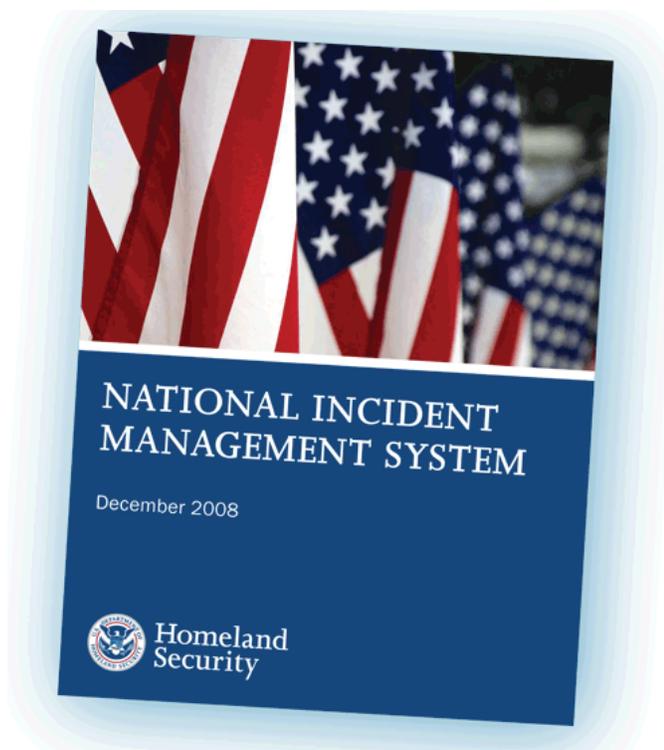
Public Works: Organized for Emergencies

by David Danielson, Foresee Advocacy
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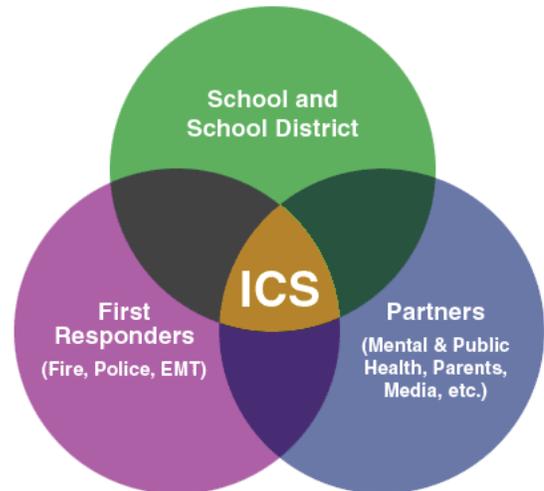
In 2002 The Department of Homeland Security officially acknowledged Public Works Departments within the United States as First Responders to emergency situations. On December 17, 2003, President George W. Bush also officially recognized Public Work as First Responders in Homeland Security Presidential Directive 8. As a result the National Incident Management System {NIMS} recommends Public Works personnel to be compliant with their training standards (minimum ICS 100 & ICS 200). Public Works departments carry a level of responsibility similar to law enforcement and fire department in that they are also responsible for the safety & health of the citizens they serve. Remember, NIMS compliance is required for Federal preparedness grant eligibility!

So, WHAT IS NIMS?

The National Incident Management System (NIMS) provides a consistent, flexible and adjustable management framework within which government and private entities at all levels can work together to



NIMS Booklet



manage local and/or regional incidents, regardless of their cause, size, location or complexity. This flexibility applies across all phases of incident management: prevention, preparedness, response, recovery and mitigation. This framework provides a set of standardized organizational structures as well as requirements for processes, procedures and systems to improve interoperability among jurisdictions and departments in various areas. An example of the “standardized organization structure” that increases the effectiveness and efficiency of different first responders to a local or regional emergency/disaster is the Incident Command System (ICS).

INCIDENT COMMAND SYSTEM: WHAT IS IT?

The Incident Command System (ICS) is an organizational management approach that coordinates on-scene first responders to all emergencies/disasters. So, this management format:

- Allows for the integration of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure.
- Enables a coordinated response among various jurisdictions (municipalities, towns, districts, commissions, etc) and functional agencies (water and wastewater agencies, road equipment operators) both public and private.

- Establishes common processes for planning and managing resources.

This flexible organization system can be used for incidents of any type, size, and complexity. Emergency Management Directors can adopt an integrated organizational structure to match the complexities and demands of single or multiple incidents. It is structured to facilitate coordination in five major functional areas: Command, Operations, Planning, Logistics, and Finance/Administration. The complexity of the emergency/disaster determines the depth to which each function is used.

ICS is designed to be an extremely useful tool because it is not only to be used “on scene” but can also be used for planning, building, and learning how to adapt the right management structure. Using ICS for every incident or planned event helps hone and maintain skills needed for the large-scale incidents.

Public Works personnel can take a basic on-line

course, IS100.pwb, which can be accessed at <http://training.fema.gov/EMIWeb/IS/IS100PWb.asp>. By finishing this course you’ll be at least familiar with the application of ICS for public works; the ICS principles and elements of organization; the responsibilities of public works in ICS; and the facilities, functions and planning for Public Works.

Additional training is also recommended for all public works personnel: administrative, supervisory, and operations staff. The Technology Transfer Center, T2, will be offering ICS 300 & ICS 400 to assure that all public works and road departments are compliant with the ICS recommendations. ICS 300 is recommended for all managers, team leaders, supervisors, crew chiefs and operations staff. ICS 400 is recommended for all staff level managers.

Watch the T2 Course offerings for the announcement of this required training!

MASTER ROADS SCHOLAR LUNCHEON

On July 19, 2012, the Technology Transfer Center celebrated the achievement of our recent Master Roads Scholars. These graduates completed over 100 hours of training through the UNH Technology Transfer Center and other sources to further their education in their field. We commend them on their dedication to Public Works and their communities. Our upcoming Fall issue of our newsletter will be highlighting these gentlemen.



2012 Master Roads Scholars

NEW HAMPSHIRE ROADS SCHOLARS

The Technology Transfer Center's Fall 2012 Training Season has just begun and already we have achievements to celebrate! Since we have only had one full week of workshops, our list is small this time. Please be sure to check in winter edition of Road Business to see more achievements in the middle of our training season. We expect to have quite a few!

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. 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. 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 first achievement level is Roads Scholar Level I. To achieve Level I, participants must complete 25 hours of training. We congratulate all those who have reached new achievement levels and encourage further training in the future.



Have a question about what level you have achieved or what workshops you have taken? Contact Beth Hamilton at 603-862-1362 or e-mail t2.center@unh.edu to request information regarding your Roads Scholar transcript.

Roads Scholar I

25 training hours in the Roads Scholar Program

Dave Bennett, Town of New Durham
Wallace Daigneau, Town of Moultonborough
Calvin Dupuis, NHDOT - District 1
Jay Hopkins, Town of New Ipswich
Donnie Lashua, Town of Enfield
James MacDonald, Town of Freedom
Gary Marshall, Town of Whitefield
Eric Pelletier, Town of Wolfeboro
Norman Ruel, Town of Enfield
Dennis Shaw, Town of Moultonborough
Tim Slager, Town of Stratham

Roads Scholar II

50 training hours and Roads Scholar II requirements

Derrick Corbin, Town of Enfield
Donald Corliss, Town of Winchester
Dan Miller, City of Claremont
Larry Miller, City of Claremont
George Morgan, Jr., Town of Franconia
Carl Peare, Town of Conway
Keith Salisbury, Town of Milford
John Sartorelli, NHDOT - District 5

Senior Roads Scholar

75 training hours and Roads Scholar II requirements

Neal Beauregard, Town of Greenfield
Dave Bogannan, City of Laconia
Jere Calef, Town of Barrington
Kevin Coakley, City of Dover
Charles Morrill, Town of Freedom
Steve Paul, Town of Barrington
William Shoemaker, Town of Enfield
Jason St. Cyr, Town of Franconia

Master Roads Scholar

100 training hours and Roads Scholar II requirements

Gavin Bell, City of Laconia
James Culpon, City of Laconia
Scott Davison, Town of Henniker
Hank Denison, City of Laconia
Donald Foss, Town of Pelham
Glen Hansen, Town of Groton
Todd Hartshorn, Town of Franconia
Randall MacDonald, Town of Hanover
Paul Moynihan, City of Laconia
Richard Nunziato, Town of Raymond
Steve Smith, City of Laconia

NHDES Culvert Certification

by Patrick Santoso, UNH Technology Transfer Center

On August 2, 2011 there was a special road managers meeting held at the Meredith Community Center to discuss challenges related to permitting of routine culvert maintenance. The meeting was hosted by Senator Jennie Forrester and Michael Faller, PWD town of Meredith. The group quickly identified room for improvement with respect to routine maintenance of culverts less than 48" in diameter. The meeting adjourned with the goal of developing a training and certification program that would give certified NH Public Works Departments to repair or replace culverts using best practices without completing permit paperwork first.



Culvert Repair

A follow up meeting was scheduled with T2, Senator Forrester, Mr. Faller, Rene Pelletier, and Collis Adams of NHDES to discuss the certification program and determine if the idea was possible. It was quickly realized that the proposed program would be beneficial to all parties, and at the end of the meeting Senator began work on crafting legislation to allow the certification process while T2, NHDES and NHDOT began developing the certification program.

Thanks to the hard work of everyone involved Senate Bill 247 was signed by the Governor in May 2012 making the new culvert certification program a reality. The first courses will be offered by T2 in the fall 2012 and spring 2013. After taking the course and passing the written exam individuals will be eligible to apply for an installer's permit from NHDES (very much like successfully completing the motorcycle safety course allows you to get a motorcycle endorsement on your license from the Department of Motor Vehicles).

WHO SHOULD TAKE THE COURSE

Individuals who will be supervising and be responsible for culvert repair and maintenance must be certified in order for a town or state agency to take advantage of the new program. Professional Engineers are exempt from taking the course prior to applying for the installers permit.

WHAT ARE THE BENEFITS?:

Certified individuals may repair or replace culverts up to 48" in diameter which are not in a class I wetland, or near a designated river, or prime wetland without first filing a permit with NHDES. It is important to recognize that this only applies to culverts which do not have a history of overtopping. Certified individuals must simply complete quarterly work summary reports to submit to NHDES for review. It should be noted that certification is not mandatory and all existing permit processes will remain in effect for those who choose not to participate in this new program.

T2 is very excited to be a part of this excellent new program and looks forward to the benefits for New Hampshire municipal and state public works officials. Many thanks to NHDES, NHDOT, Senator Forrester, Michael Faller, for bringing this idea to reality in less than a year.

T² NH State Legislative Updates

by Beth Hamilton, UNH T² - updates by Amy Begnoche, UNH Technology Transfer Center

The Technology Transfer Center has been more involved than ever in tracking NH State Legislation on behalf of the Public Works community. T² has been heavily involved in bills pertaining to culvert and winter maintenance certifications. These certifications would expand on existing T² courses and provide numerous benefits to certified individuals. Below, in italics, are updates on legislation that was highlighted in the Winter 2012 edition.



- **Senate Bill 247** would authorize the Department of Environmental Services (DES) to develop a voluntary certification for municipal and state culvert maintainers in partnership with the UNH Technology Transfer Center. Individuals who attend the course and pass the written exam will be qualified for certification from DES. Certified municipal and state employees would then be allowed to perform routine maintenance in accordance with best practices on culverts up to 48” in diameter without prior notification to DES. A quarterly work summary must be filed in place of the notification.

Senate Bill 247 has been passed by the State Senate with amendments made to the original draft of the document. It would authorize the Department of Environmental Services to develop the certification program in conjunction with the Technology Transfer Center. the House passed it on May 29, 2012.

- **House Bill 1716** is relative to the State’s 10-year Transportation Improvement Program. The bill would authorize continuation of a number of highway projects including: deleting the Salem to Manchester project of the I-93 widening from the deferred list and adding it to the ten year improvement plan, makes New Hampshire’s portion of the funding for the Sarah Mildred Long Bridge contingent on the center span being long enough to accommodate new larger cargo ships, and clarifies the management and disbursement of donations for the public works memorial.

House Bill 1716 was signed by Governor Lynch on June 11, 2012, effective on that date.

- **Senate Bill 386** is relative to authorizing the State Treasurer to issue bonds for highway construction.

Senate Bill 386, which would authorize the State Treasurer to issue bonds for highway construction, was referred by the Senate for Interim Study.

- **Senate Bill 265** is relative to the definition of stormwater to change to “water from precipitation that results in runoff, snowmelt runoff, and surface runoff and drainage, together with debris, chemicals, sediment, or other substances that may be carried along with the water.”

Senate Bill 265 was signed by Governor Lynch on June 5, 2012 and was effective as of August 4, 2012.

- **Senate Bill 315** will legally require motorists to give wide berth to both stationary and moving highway maintenance vehicles that are displaying amber warning lights. The Governor signed on June 5, 2012.

- **Senate Bill 378** allows municipalities to remove snow from private roads and driveways, as well as class VI highways. The Senate has passed this bill, and the House was non-concurred with amendment.

- **House Bill 108** was signed by Governor Lynch on May 2, 2012, effective on that date, and will give municipalities jurisdiction over trees situated within the limits of town public ways, village commons, parks, cemeteries, and other public grounds.

Automotive Maintenance

by Grigoriy Androsov, UNH Technology Transfer Center

Summer is the season! In addition to cleaning out the household clutter, why not also give your vehicle some attention? Proper maintenance is essential to having a comfortable driving experience in warm weather. With a few “Do-It-Yourself” tips, you can ensure that your car is not left in the dust when beach season rolls around. Tuning up the car will save gas, improve its looks, and prevent deteriorating from negatively affecting your ride. Investing time now means a carefree future - in addition to big savings in both the fuel economy and depreciation of your automobile.

TIRE CHECKS

Winter can be tough on tires. Cold weather and ice wear away rubber on the tread, temperature changes decrease tire pressure, and the uneven distribution of car weight contributes to tire deterioration. Replacing winter tires with summer ones are a good way to get maximum mileage out of your car. If you are using all-season tires, rotating them is important to prolong the life of the set. Front tires are usually carrying a heavier load due to their proximity to the engine and driver, wearing away quicker than their rear counterparts.

An easy way to shift the burden and get all tires on the same level of wear is to swap the front and back tires. Tires can be either directional or non-directional. Non-directional tires are interchangeable between sides. Directional tires have arrows indicating

the direction they rotate on the car and are designed specifically for either the left or right side of the vehicle. If they are directional, switch the left front tire with the left rear tire (and do the same with the right side). Non-directional tires require a cross pattern, where one tire goes from the rear to the front then to the rear on the opposite side. This rotation assures equal wear and tear on all tires. With a car jack, jack stands (cinder blocks with a two-by-four work in a pinch), and a lug wrench, rotating the tires can be a DIY project; there are many online tutorials available to demonstrate the process.

Checking tire pressure is equally important to rotating the tires. Low pressure in tires can reduce gas mileage, and high pressure can lead to irregular tire wear. Tire pressure should be around 32 psi for most vehicles, but check your owner’s manual to verify the correct pressure. By keeping tires at optimal pressure, you can improve gas mileage as much as 3.3 percent (fueleconomy.gov).

Treading on a tire should also be checked. A rule of thumb is that if tire tread is less than 2/32 inches, or the distance on a penny from the edge to the top of Lincoln’s head, the tire needs to be replaced. Bald tires are more susceptible to hydroplaning and increase the chance of an accident. Replacing the rubber improves car handling, safety, and longevity.

WINDSHIELD CARE

Ice and snow can wreak havoc on windshields. The cold can cause the otherwise flexible wipers to become brittle, increasing the chance of them breaking and scratching the glass. Every spring, windshield wipers should be replaced to prepare for summer rains.

While in the vicinity, replace windshield wiper fluid, transmission fluid, coolant, power steering fluids, and brake fluids. Winter driving conditions deplete these fluids rapidly. Now would also be a good time to patch any small window cracks; any crack smaller than a quarter can be fixed at most auto garages. Fixing a small crack can prevent you from having to spend hundreds on replacing the entire windshield later.



Check Tires

EXTERIOR FACE-LIFT

De-icing agents, snow, and sandy slush eat away at the bottom of your vehicle. The resulting rust damage can seriously affect the resale value of the car. Spring is the perfect time to go outside and give your car a thorough wash. Make sure to use soap designated for cars, since dish-washing soap can deteriorate paint. Start from the top of the car and work your way downwards; a separate sponge should be used for the wheels since they contain more grit than the body. After washing, do not let the car air-dry. Instead, go over it with a clean cotton towel.

Pay special attention to any scratches in the paint. These areas, especially around the wheel base, are prone to rust. Go over any dings with touch up paint. Intense sunlight can soften paint and make it easier to scratch off, and waxing your car provides protection to the paint from the elements. A fresh coat of wax goes a long way in reducing the deterioration of paint from sunlight and dust, not to mention giving your car a sleek shine.

REFRESHING THE INTERIOR

Garbage tends to accumulate in a car throughout winter. Start by taking out any unnecessary winter items and trash. Those ski and skate bags can take a toll on your wallet: an extra 100 pounds in the trunk can reduce gas mileage by up to 2 percent (ftc.gov). Then, vacuum the vehicle to remove the layers of dirt from various crevices. Clean the center console with a spray cleaner and a microfiber cloth. If you have leather seats, make sure they are cleaned with leather cleaner. Doing so ensures the seats do not lose moisture and crack in sunlight, which would lessen the cars value.

UNDER THE HOOD

Cold startups can negatively affect an engine's health. Replacing oil, checking air filters, and flushing the radiator are just some of the few DIY tune-ups that increase the performance of a vehicle. Winter weather also corrodes the battery, a white encrustation may be growing on the battery terminals. Clean off



Change Oil

the gunk with a toothbrush and a sodium bicarbonate solution, but be sure to wear gloves and goggles during this process. While down there, look for any rubber hoses that exhibit wear and tear; replacing these early will prevent problems later on. Headlights and brakes should be inspected as well. Keeping the engine properly tuned can improve gas mileage by up to 4 percent (fueleconomy.gov).

ENVIRONMENT

Automotive maintenance goes a long way to help the environment. A maintained car emits 20 percent less volatile organic compounds and 10 percent less nitrogen oxides than an unmaintained car (epa.gov). Increased car mileage from maintenance can also amount to substantial gas savings over the course of the year. With gas prices up 11 percent from December, the savings are significant. Why not spend some time improving your ride? A little elbow grease can go a long way.



New Hampshire Public Works Mutual Aid

With record storms, flooding, and most recently Hurricane Irene and the October Noreaster, 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.



Retroreflectometer Loan Program

NH LTAP has three retroreflectometers available to rent to NH municipalities. The retroreflectometers are able to accurately measure the retroreflectivity of road signs from a distance. Use one to meet the MUTCD Retroreflectivity Standards by loaning one today!

The fee for the equipment loan is \$25, and municipalities may keep the retroreflectometer for up to six weeks (*additional time may be requested*).

For more information

www.t2.unh.edu/retroreflectometer
t2.center@unh.edu
 603-862-2826



DATES

8/24 **Road Managers Meeting**, Concord
 9/20 **Ken Ward Plow Rally**, Hopkinton
 9/21 **Construction Career Days**, Hopkinton
 9/21 **Construction Career Days**, Hopkinton
 11/14 **LGC Conference**, Manchester
 11/15 **LGC Conference**, Manchester

MILESTONES

Robert Southworth is the new Road Agent in Northfield.
Leo Lessard is the DPW Director in Hooksett.
Timothy Murray is the new DPW Superintendent of Greenfield.

Visit the UNH T² website today!

www.t2.unh.edu

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- Access to NH Road Salt Database
- See important announcements
- Access to the UNH T² Facebook page

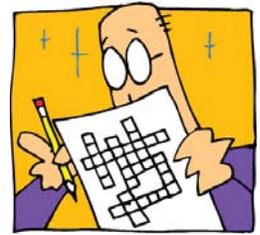
NH LTAP is on Facebook & Twitter!

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
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facebook twitter

Crossword Puzzle



Be the first to complete this crossword and fax it (603-862-0620) to win a FREE T² workshop!

NAME _____

AFFILIATION _____

E-MAIL _____

PHONE _____

ACROSS

1. NHDES and T² have been working together to create a culvert ____ certification program.

6. Don't forget to check your tire ____.

7. What types of meetings did our staff participate in with the government?

8. Wash your car to get rid of snow, ____, slush and other de-icing agents that can rust your vehicle.

10. Mutual Aid is available for only \$25 per year and the benefits are ____.

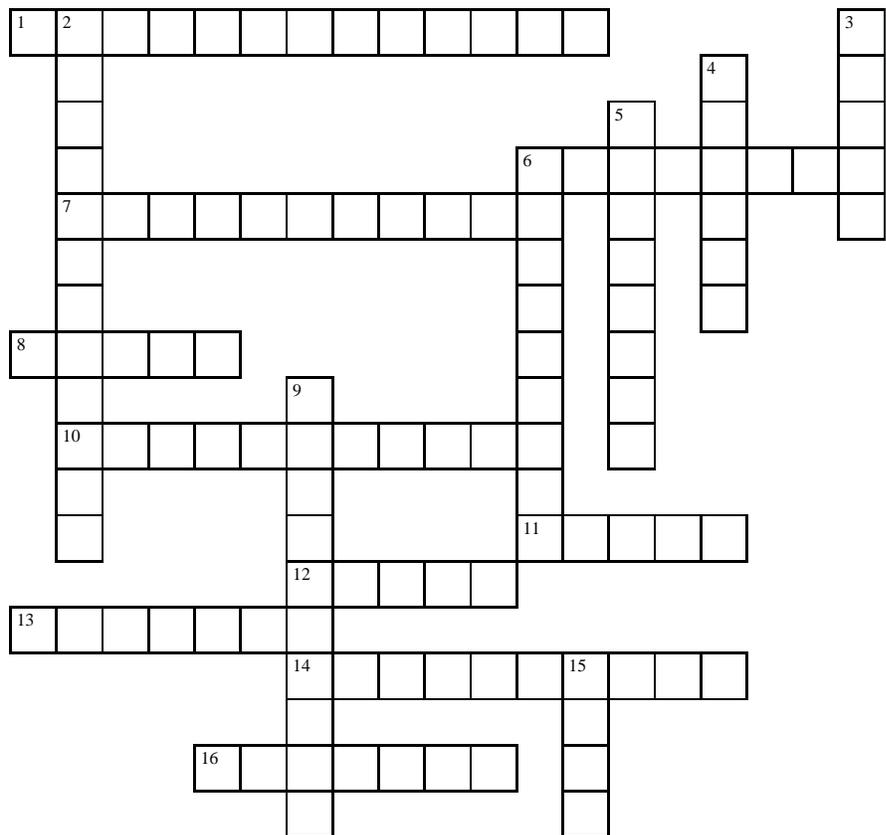
11. The sidewalks have been moved to the inside of the ____.

12. The new ____ Scholars have been announced!

13. T² has been heavily involved in bills pertaining to ____ and winter maintenance certifications.

14. ____ is a process in which a layer of zinc is applied, along with intense heat, to the steel members.

16. The major differences between Waddell and Zoli's designs are the location of the ____ room, vertical lift machinery, and the truss design.



DOWN

2. DRA entered into a contract with T² to develop a new ____ platform, which is the Mosaic Parcel Map.

3. Winter can be rough on your ____.

4. The ____ Parcel Map has been updated.

5. This type of lift system was developed by J.A.L. Waddell, the original designer of the Memorial Bridge.

6. The ____ closure of the Memorial Bridge took place on January 9, 2012.

9. ____ of Environmental Services

15. New Hampshire Driving Toward ____ Deaths



UNH Technology Transfer Center

33 Academic Way
Durham, NH 03824

603-862-2826 or
800-423-0060 (NH)
Fax: 603-862-0620
t2.center@unh.edu
www.t2.unh.edu

FALL 2012 TRAINING CALENDAR

More dates to be announced soon!

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

www.t2.unh.edu/training-calendar

Date	Topic	Roads Scholar Hours	Location	Cost(Town/Private)
8/24/2012	Road Managers Meeting	N/A	Concord	free
8/29/2012	Flagger Certification	5 Safety	Weare	\$75/\$150
8/30/2012	Green SnowPro	2 Environmental	Derry	\$60
9/12/2012	Introduction to Erosion Control	5	Concord	\$60/\$120
9/13/2012	First Aid, CPR & AED	5 Safety		\$100/\$200
9/25/2012	Bucket Truck Operation & Safety	5 Technical	Derry	\$100/\$200
9/25/2012	Chainsaw Safety & Maintenance	5 Safety	Walpole	\$60/\$120
9/26/2012	Ethics & Communication for Public Works	5 Supervisory	Concord	\$60/\$120
9/27/2012	Flagger Certification	5 Safety	Enfield	\$75/\$150
10/3/2012	MUTCD	5	Keene	\$60/\$120
10/10/2012	Lines, Levels, & Layouts	5 Technical	Concord	\$60/\$120
10/15/2012	Grader Operation & Maintenance	5 Technical	Canaan	\$150/\$300
10/22/2012	Backhoe Operation & Safety	5 Technical	Rumney	\$150/\$300