

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.



Typical Gravel Road in the Fall in New Hampshire

Unpaved Roads: Best Management Practices

by Jonathan Coulp-Yu, UNH Technology Transfer Center

Unpaved roads are a timeless part of the New England landscape. Common in rural communities, they provide a scenic escape from their paved counterparts. Like paved roads, unpaved roads are subject to similar issues and require routine maintenance to keep them safe and passable.

With some thought and consideration, an unpaved road can provide lower construction costs, require less equipment and skilled operators, and generate lower speeds. Integrating Best Management Practices (BMP's) into the decision process can lengthen the lifetime of the road and improve the surrounding environment.

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EVERY DAY COUNTS INITIATIVES 2012

by Amy I. Terry, Kentucky LTAP

The Federal Highway Administration (FHWA) has rolled out a second wave of innovations for its Every Day Counts (EDC) initiative.

In the next two years, FHWA will promote the following 13 innovations to state, local and regional transportation agencies, as well as to the design and construction industries.

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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.



Road Business is a quarterly publication. Its editorial content does not necessarily reflect the views of our sponsors. To contact or subscribe, e-mail us at t2.center@unh.edu, call 603-862-1362, or visit our website, www.t2.unh.edu.

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NH Mosaic Parcel Map Awarded as “Bright Idea”

The New Hampshire Mosaic has been designated a “Bright Idea” by the Harvard Kennedy School, Ash Center for Democratic Governance and Innovation. The Bright Ideas program is designed to further recognize and promote creative government initiatives and partnerships in all levels of government including: state, federal, county, public-private partnerships, and schools. Each project creatively addresses issues ranging from urban sprawl, environmental protection, academic achievement, disaster preparedness, and public health.



The Bright Idea designation is part of the Kennedy School’s Innovations in American Government Awards program which recognizes and promotes excellence and creativity in the public sector.

“Government innovation does not require endless resources and generous budgets,” said Stephen Goldsmith, Director of the Innovations in Government Program at the Ash Center. “As exemplified by this year’s Bright Ideas, some of our country’s smartest innovations can in fact reduce government’s size while serving our citizens more efficiently and effectively.”

This award is a testament to overwhelming cooperation at municipal, county, and state levels of government; however, the greatest debt is owed to the New Hampshire municipalities who diligently maintain and update their tax map and assessing records making this project possible.



HARVARD Kennedy School

ASH CENTER
 for Democratic Governance
 and Innovation

For more information about the NH Mosaic Parcel Map, you can contact Patrick Santoso at the Technology Transfer Center at 603-862-4209 or by email at psantoso@unh.edu

Mosaic Parcel Map Update

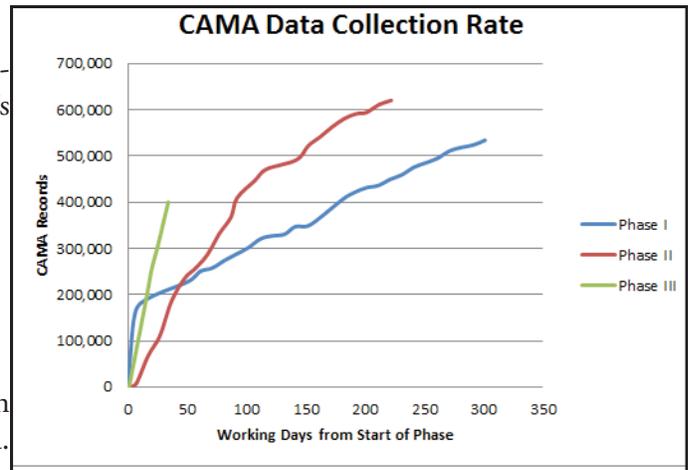
by David Salzer, UNH Technology Transfer Center

The Mosaic Parcel Map Project (Mosaic) recently began its third edition. On August 28, data solicitation letters were sent out to each of New Hampshire's 235 taxing jurisdictions. The project team was asking each jurisdiction to provide updated copies of their parcel maps and assessment (CAMA) data for inclusion in the project. The second edition of the system included over 98% of the parcel data in the state, a huge improvement over the 86% collected in the first edition.

One of the major goals of the third data solicitation was to decrease the time required to collect the data. In edition 1 it took approximately 101 working days to

collect 300,000 CAMA records, and in edition 2 it took 87 days to collect the same amount of data. This represents a 14% decrease in data collection time from edition 1 to edition 2. Edition 3 showed a major decrease in the time to collect 300,000 CAMA records. Within the first 25 working days of the project, the 300,000 CAMA record goal was met. The data collection status of all three phases is shown in the graph above.

To date the project team has collected over 400,000 CAMA records, accounting for over 59% of the records in the state. The project team estimates that by December 1, 2012 over 95% of the CAMA data statewide will be submitted to the project team.



If you have any questions regarding your municipality's status in the project, contact David Salzer at the UNH Technology Transfer Center at 603-862-3114 or email at dsalzer@unh.edu

Master Roads Scholars Luncheon

by Beth Hamilton, UNH Technology Transfer Center

We'll be celebrating the graduation of our Master Roads Scholars this December. During the year of 2012, we've had more than 30 new people Achieve Master Roads Scholar! To all of you, congratulations! Your dedication to your job, continuing education, and our program is appreciated by the citizens driving on our roads, our staff, and the people of your community.

The Technology Transfer Center will be releasing a Roads Scholar Directory in early January to highlight all of our Roads Scholars level of achievement. We've had more than 90 people achieve new levels in our program in 2012. We are proud of all our students' achievements and hope to see even more in the future!

If you have a question about what level you are at, what the levels are or what is printed on your transcript, please do not hesitate to call Amy Begnoche at the office at 603-862-2826.



Unpaved Roads: Best Management Practices

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WHAT ARE BMP'S AND WHY USE THEM?

BMP's are structural, nonstructural and managerial techniques that are recognized to be the most effective and practical means to prevent and reduce nonpoint source pollutants. BMP's are intended to improve the surrounding water quality as well as improve the function and safety of unpaved roads. An unpaved roadway, if left unmanaged, will contribute significantly to the quality of the surrounding watersheds. Erosion and runoff pose as a nonpoint source of pollution that all could be mitigated using various BMP 's. As in many cases, a dirt roadway are found adjacent to rivers or streams or through major watersheds and it is important to preserve the quality of those watersheds for the organisms that use them. In addition, and perhaps more importantly, the implementation of BMP's provide a safer driving surface to the user. Addressed in more detail later on in this article, it is important to have a routine maintenance plan that ensures the roadway will provide safe passage for the vehicles using it. Lastly, with the proper BMP's in place, it will reduce the maintenance costs by doing preventative maintenance instead of major repairs as necessary.

CHOOSING A BMP

Typically the first thing that comes to mind when considering roadway BMP's are structural ones (culverts, surface and subsurface materials...). However the most cost effective means of unpaved roadway maintenance is through nonstructural BPM's such as frequent inspections, good site planning and routine maintenance.

Even with the best maintenance plans it may be necessary to implement structural BMP's to mitigate a situation. To start one must first identify the problem. Next a cause of the problem must be identified, then the appropriate BMP solution to fix it. It is common to use multiple BMP's along a stretch of roadway to achieve the desired results.

When selecting a BMP, it is important to understand the uses and limitations of each. While some can serve multiple purposes, often they only accomplish



Gravel Road

one task. It is because of this that it is important to use multiple BMP's to achieve that desired results.

When selecting the most appropriate BMP, it is important to ask the following questions:

- What are the physical site constraints such as ledge, property lines or steep slopes?
- Are there important natural resources such as drinking water wells, flood plains, wetlands, or endangered species habitat areas that would require a redesign?
- Is the future maintenance of the proposed BMP acceptable and can it be done within the current budget or resources and manpower?
- Will site planning or nonstructural BMP's satisfy the issue in the future?

FACTORS AFFECTING THE LIFE OF AN UNPAVED ROAD

Water- the majority of roadway problems are attributed to the presence of water. It softens the load carrying capacity of subgrade and shoulders. It carries away fines and deposits them in and other debris in roadside ditches and culverts. However it is necessary for proper compaction.

Traffic Loads- typically depends on number of heavy trucks, not lighter vehicles.

Maintenance- Unpaved roads require routine and preventative maintenance on a regular basis. This prevents having to do costly major repair work.

Subgrade Quality- Unpaved roads require good subgrade materials to support heavy traffic, while allowing for proper drainage.

NONSTRUCTURAL BMP'S

Proper planning and maintenance is often the best approach to managing an unpaved roadway. Nonstructural BMP's can typically come before structural approaches. They often are more cost effective in both capital cost and future cost, making them an ideal starting place when looking to manage an unpaved surface.

Careful Planning: A carefully thought out project is key to mitigating nonpoint source pollution. With proper planning the project will have less construction cost, require less material, and will shorten the duration of the project.

Maintain Structural BMP's: Maintaining structural BMP's is essential for them to function properly. Often they are forgotten about and left to deteriorate. The maintenance for a particular BMP should be considered in the decision process and include the future cost of maintenance and potentially the equipment and personnel to conduct said maintenance.

Maintain Natural Vegetation: Natural vegetation is an excellent way to stabilize soils. It provides natural absorption of water and adds to the rustic aesthetics of an unpaved roadway. Large trees provide extensive root systems that trap soil and should be maintained during any planned roadwork.

Maintain Natural Buffers: A natural buffer is an undisturbed distance between the roadway and a body of water or wetland. These are important because they provide an area for any sediment or pollutants to settle out before it reaches the body of water or wetland. It is essential to maintain the stability of these areas so as not to increase erosion. This is best mitigated through natural vegetation.

ROAD SURFACES

Unpaved roadways typically are used by locals and often have a lower traffic volume. Even with a lower usage rate it is important to maintain the road surface. An unpaved road surface should provide many of

the same characteristics of a paved surface. It should be smooth to provide riding surface, shaped, and compacted. It should also provide a way for any storm water to quickly be conveyed to established drainage ways.

Similar to a paved roadway, the surface of an unpaved roadway should be impervious and convey the water to the sides. It is essential for the surface to have no standing water. Standing water promotes deterioration of the surface, ice buildup and erosion problems.

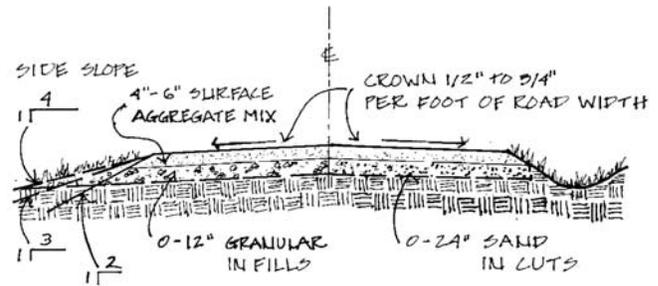


Diagram of Gravel Road BMP

SURFACE PROFILE AND GRADING

A good profile is essential to the conveyance of storm water off the road surface. Often times it is necessary to reestablish the roadway surface in the spring after the last frost or after a period of sustained heavy rains. This can be accomplished in one of two ways, blading or grading. Grading reshapes the road surface by cutting into the road surface crust and redistributes material across the surface. This method is often used in conjunction with major repairs such as heavy corrugations or potholes. Blading or dragging is another method where the material is pulled for the sides of the roads to fill in small irregularities. This method should only be used for minor repairs and avoided during dry periods to prevent the loss of fine aggregate. With either method, it is important to reestablish the crown and avoid disturbing the vegetation or rock stabilization on the sides.

SURFACE MATERIAL

As stated before, for an unpaved surface to shed water properly, it should be compact and impervious. This requires that the material contain a higher percentage of fines, far more than what is found in the subgrade of asphalt pavements. These "fines" act as a binder that locks the larger aggregate together. In time the fines wash away or are carried away by wind

or traffic and the surface is left with larger aggregate creating potholes and corrugation.

Light applications can be added periodically to maintain the smoothness and fill in small pot holes and corrugations; this can often be spread out by blading. Larger applications of an inch or more should be spread using a grader and compacted with a steel roller.

A good mix consists of a uniformly graded mix with approximate sizes of: Fines (<.074 mm), Sand

GRADING BMP'S

- Grade road as soon as last frost while ground is still moist
- Minimize the work area to what can be stabilized by the end of a work day.
- Grade when gravel is moist and heavy rain is not in the forecast
- When possible compact entire roadway with a steel roller
- Regravel every 4 to 5 years, with all expenses of the operation incorporated into the roadway budget.
- Be sure not to leave a gravel or sod berm between the road and ditch slope.
- Add approximately 2 to 3 inches of material to correct faults.

(.074-2.0 mm) and aggregate (2-25.4 mm)

DRAINAGE

Drainage is important to the health of a roadway. The largest contributor to roadway degradation is the presence of water. Water can be conveyed in a number of ways. It can either be moved via vegetated swale or under the roadway through a culvert. All have methods have their own design and maintenance considerations, however a common factor among all of them is to prevent further erosion and maintain the health of the road. If too much water is present, the load carrying capacity is reduced.

With the proper BMP's in place, the number of costly repairs can be reduced and in some cases prevented.

SEASONAL CONSIDERATIONS

The focus on maintaining an unpaved road changes seasonally. In the spring and summer it is important to remove any brush, leaves or other debris for the ditches

DRAINAGE BMP'S

- Ensure that ditches and swales are properly lined to prevent erosion. Ditches work by controlling, slowing, and filtering road runoff through vegetation or rock lining.
- Perform regular maintenance to keep ditches clear.
- Inspect culverts on a regular basis. Properly sized and installed culverts can reduce erosion by controlling the volume and velocity of discharges.
- Protect inlets and outlets by marking their location, stabilizing entry and exit zones, and maintaining ditch linings to prevent erosion.
- Water should outlet to areas with moderate slopes and vegetative buffers before entering surface waters. This type of outlet, often referred to as daylighting, allows most sediments and other pollutants to be removed before runoff enters surface waters.
- Avoid slopes steeper than 2H:1V unless stabilization methods are employed. A stable ditch or swale will not become an erosion problem.
- Preserve and maintain a proper road crown for good drainage. Free water cannot be allowed to stand in ruts or potholes or it will soak into the surface.
- Keep the road surface tight with regular grading.
- The natural buffer between the road and waterway or wetland helps reduce the velocity of runoff and removes some of its sediments.

and ensure they can properly drain. The road surface should be maintained and inspected on a regular basis. It is important to check the culverts for any damage sustained during the winter.

In the winter, critical sections should be free from snow and ice. Culverts should be marked and flow maintained with any ice dams removed. When possible, culverts should be thawed during periods of warmer weather. A courser aggregate material may be

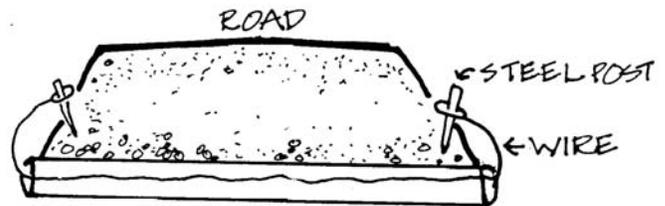


Diagram of Gravel Road BMP

added to maintain traction, however proper surface gradation should be reestablished in the spring.

A method of thawing out a culvert is described in the Maine road drainage manual. "John's Welder" method is intended for culverts that experience repeat blockage from ice. A 1/4" wire is suspended through



Sample soil and gravel mixture

the culvert. In the event of a blockage, a welder is attached to the wire and melts the surrounding ice. This is done enough to reestablish flow. The flowing water will continue to melt the ice and prevent more build up.

CONSIDERING MAKING A PAVED ROAD INTO AN UNPAVED ROAD?

As discussed before there are a few advantages to unpaved roads. However, the advantages all depend on the situation and condition the road is in. Listed below are some advantages and disadvantages of converting a paved road to an unpaved road.

Pros:

With proper planning it is possible to reduce the

maintenance cost. The amount of specialized equipment needed and experienced workers to maintain an unpaved road is most likely already owned by a municipality.

Cons: While a paved road still has the same issues associated with an impermeable surface, eg. Drainage and erosion, a paved surface will not experience the same loss of binder that an unpaved surface. An unpaved surface relies on the presence of “fines” to hold together the coarser aggregate. While this does not mean that asphalt pavement will not degrade, it just means that it will take longer to reach the same level of disrepair.

If considering turning a paved road into an unpaved road, it is important to know that the base material for a paved road is not adequate for an unpaved surface. As discussed before, the material under a paved road contains a greater amount of large aggregate. If the asphalt were simply removed, the remaining material would be too porous and quickly form pot holes and corrugation.

One possible solution is to reclaim the asphalt in place. Reclaimed asphalt is asphalt pavement that is ground up to a specified gradation. Since the resulting mixture still contains the asphalt binder, when compacted, still provides some binding characteristics. It may be necessary to blend the mix to attain the desired gradation. Using the in place material will reduce the amount of material that is needed to be



Grader Training with UNH Technology Transfer Center

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

Skip Ambrose, Town of Meredith
 Kevin Barrett, Safe Road Services
 Kevin Burns, Town of Hudson
 Roy Clark, Town of Sanbornton
 Phil Curtis, Maine
 Michael Dugas, NHDOT
 Alfred Elliott,
 Jim Graham,
 Garrett Greeley, City of Keene
 Charlie Hampson, Town of Lisbon
 James Hawthorne,
 Mike Hughes, NHDOT
 Leif Jackson, Town of Walpole
 Maureen Kestler,
 Bruce Knox,
 Jon Lebrun, City of Nashua
 Mark Louzier, City of Lebanon
 Arthur Luhtala,
 Robert Mack, City of Concord
 Dan McCoy, City of Nashua
 Harry McKelvey, City of Keene
 Tim Murray, Town of Greenfield
 Joe Pelchant, Town of Exeter

Steve Russell, City of Keene
 Douglas Sargent, Town of Ossipee
 John Trottier, Town of Londonderry
 Steve Tucker, Town of Exeter
 Brad Williamson, Town of Brookfield

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
 Frankestown
 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 Frankestown

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

JAMES BEAN

James has been the Road Agent for the town of Tuftonboro for the past four and half years has achieved the Master Roads Scholar Level. James enjoy working for the public works department of Tuftonboro because he loves making improvements that people are able to notice, and he loves hearing the positive feedback from his town. James' favorite part of the Roads Scholar program has been networking and meeting other people in the area. He has loved sharing and hearing about different experiences. He will continue with Road Scholar Training in the future, because he is always inspired to learn more.

DON FOSS

Don, the Highway Agent of Pelham has been working there for 23 years. His dedication to the town started when he was working construction in his early teens and got offered a part time job on the town crew. Don's favorite part of the Roads Scholar Program has been learning different methods of construction. He will continue his Roads Scholar Education because he loves to learn new things. Don has a wife, a son and daughter, along with 5 grandchildren.

TODD HARTSHORN

Todd has been an Operator for the Franconia Highway Department for the past two years. His favorite part of the Roads Scholar program has been meeting new people. His advice for new Public Works employees is to take advantage of T2 classes; you always learn something new. Todd will continue his T2 education because he loves to learn. Todd enjoys hunting and golfing with his wife, 3 children and his friends.

JACK MEANEY

Jack worked for the NH Department of Safety for the past 26 years, he recently retired, he also has been the foremen selectman for 3 years for the town of Bradford. Jack is also the owner of Ibbey Co. Drilling and Blasting. Jack's favorite part of his job has been his hours and his ability to work. His work with public works started through his own company and the work they did. Jack's favorite part of the Roads Scholar workshops has been meeting new people and networking. He would tell anyone joining the public works department to take

every class and training offered. Jack has 3 daughters and a new grandson, who was born this year. He enjoys hunting, fishing and riding his motorcycle.

RICHARD NUNZIATO

Richard has been a jack of all trades for the Town of Raymond, he has worked has a truck driver, operator and laborer in the past 8 years. He started out part-time in 1980s working in the fire department and making things safer around town. Richard likes being able to make the town safer for everyone who lives in and for people who are just passing by. Right now Richard's department is working on rehabilitating the water treatment plant. His favorite part about the Roads Scholar Program has been that the classes offer a wide range of new trainings to take and things to learn, he will continue to take classes too. Richard suggests that anyone new to Public Works take Technology Transfer classes because they will be very helpful to you.

TIM REDMOND

Tim has been the Public Works Director in the town of Weare for the past 18 months. His involvement with public works began when he was hired as the assistant for the Superintendent of Highways for Bedford. Tim's favorite part of his job is when residents call and take the time to thank the department and the employees for a job well done. Right now his department is working on annual road reconstruction projects around Weare. Tim's favorite part of the Roads Scholar Program is how hands-on it has been for him. He would tell anyone entering Public Works to keep an open mind and be aware that they can always learn something new on the job. He will continue his Roads Scholar Training because education is a very valuable thing. Tim likes to spend his spare time with his wife, son and daughter. He also hopes to collect and restore old Mack trucks in his retirement.

New Hampshire Driving Toward Zero: One Death is Too Many

by Beth Hamilton, UNH Technology Transfer Center

This message has been ringing out loud and clear throughout the State of New Hampshire since the program was rolled out earlier this year. From updated signs on the highway to public service announcements on the television and radio to a strong presence in social media, New Hampshire Driving Toward Zero Coalition is working to “create a safety culture where even one death is too many”. The Coalition is an effort of public and private entities, all with the same goal in mind: safety.



Driving Toward Zero has launched an effective website where it explains the mission, vision and goals of the Program. “Eliminating deaths on New Hampshire roadways is an important vision and the driving force behind the work of the New Hampshire Driving Toward Zero Deaths (NHDTZD) Coalition. It is also an important vision for all who travel on New Hampshire’s roadways-by car, motorcycle, truck, bicycle, or even on foot-day and night under all types of weather conditions.”

The NHDTZD’s mission is to create a safety culture where even one roadway fatality is one too many. Zero fatalities is the only acceptable number and of course, the only number we can ALL LIVE with. The New Hampshire Driving Toward Zero Deaths Programs aligns with the Toward Zero Deaths: A National Strategy on Highway Safety program that began in 2009 as a data-driven effort focusing on identifying and creating opportunities for changing American culture as it relates to highway safety.

The NHDTZD Coalition hopes that through “education, enforcement, engineering, and emergency management solutions” they can implement a culture of safety that will reduce roadway fatalities by fifty percent by the year 2030. The first goal, to bring roadway fatalities down to under 100, was reached in 2011. There are several members of the NHDTZD Coalition including, but not limited to; 3M, AAA, Federal Highway Administration, Manchester Community College, NH Department of Safety, NH Department of Transportation, planning commissions, hospitals, and Victims Inc.

There are nine emphasis areas that this program is designed to address; impaired driving, distracted driving, speeding, vehicle occupant protection, adolescent drivers, older drivers, crash locations, motorcycles and vulnerable roadway users, and comprehensive safety data. The emphasis, in New Hampshire, is to really bring safety to a user level. The focus is on educating and enforcing safe practices by all users of the road, addressing some groups specifically. According to the New Hampshire Strategic Highway Safety Plan (SHSP), “new drivers, aged 16-19, represent the highest number of crashes among the different age groups of licensed drivers in NH. Many reasons account for this, but distracted driving, in addition to driver inexperience, are the two most important prevalent.”



Smart Phone Apps for Public Works

by Amy Begnoche, UNH T²

In today's culture, cell phones have become commonplace, and are considered an essential item for everyone. Many people have also taken the next step and have a "Smart Phone" which allows them to go beyond the simple phone calls and text messages common to older cell phones.

There are many Apps available for the different types of Smart Phones, including Apps that can be useful for Public Works. These range from simple Apps like a flashlight to complicated surveying systems.

Below is a list of some of the Apps we have found that might be useful to you, including web pages where they can be bought and/or downloaded. Please note that this list is far from comprehensive and the UNH T² Center is not specifically endorsing any of the Apps listed below.



Flashlight App: <http://itunes.apple.com/us/app/flashlight/id285281827?mt=8>



Google Maps App: <http://www.google.com/mobile/>



MUTCD App: This is an unofficial version of the 2009 Federal Manual Uniform on Traffic Control Devices (MUTCD), created from electronic files directly obtained from the Federal MUTCD team. <http://itunes.apple.com/us/app/mutcd-app/id473553101?mt=8>



TurnCount App: This works similarly to the traditional turning movement counter board. The user can count traffic with one of two interfaces: the Hyper Interface; or the Classic Interface. <http://itunes.apple.com/us/app/turncount/id378720650?mt=8>



Theodolite App: Based on a centuries-old navigation instrument, Theodolite HD is a cool multi-function augmented reality app for the iPad that serves as a compass, GPS, map, zoom camera (photo & movie), rangefinder, and two-axis inclinometer. <http://itunes.apple.com/us/app/theodolite/id339393884?mt=8>



Snow Plow Preparation List App: Time is money, so use this handy check list to inspect your plow and truck before the storm to help avoid a breakdown. <http://www.gocanvas.com/mobile-forms-apps/797-Snow-Plow-Preparation-List>



Love Clean Streets App: enables people anywhere in the world to report environmental issues to their local authority. <http://lovecleanstreets.org/help/about>



AndSnow App: Guides users through predefined and often complex route assignments. Using this App, the driver follows a heads up map display of the route ahead, and views the location of each customer pickup or drop off location. <http://www.andsnow.com/>

Every Day Counts Initiatives 2012

by Amy I. Terry, Kentucky LTAP

The Federal Highway Administration (FHWA) has rolled out a second wave of innovations for its Every Day Counts (EDC) initiative.

In the next two years, FHWA will promote the following 13 innovations to state, local and regional transportation agencies, as well as to the design and construction industries.

PROGRAMMATIC AGREEMENTS II

Programmatic agreement is a concept of establishing a streamlined approach for handling routine environmental requirements. Programmatic Agreements II builds upon the initial programmatic approaches initiative of EDC by applying some of the recently developed agreements to new states or expanding them to include regions.

LOCALLY ADMINISTERED FEDERAL-AID PROJECTS

To aid Local Public Agencies (LPAs) through the complexities of the Federal-aid Highway Program's requirements and processes, a three-pronged strategy has been developed to assist these local agencies. These three strategies include: Certification/qualification-type programs, Indefinite-Delivery/Indefinite Quantity (IDIQ) Consultant Contracts, and Stakeholder Committees. Implementation of these strategies can reduce the amount of oversight the states need to provide and make local agencies more capable to follow federal regulations and guidelines.

3D MODELING FOR CONSTRUCTION MEANS AND METHODS

3D modeling technology has been widely used by contractor on non-highway projects, and the potential for highway applications is just now being realized. An overall benefit of the technology is an increase in productivity and efficiency of construction operations.

INTELLIGENT COMPACTION

Intelligent Compaction (IC) delivers a modern approach to compaction with the use of special vibratory rollers equipped with accelerometers, an integrated



measurement system, a map based Global Positioning System (GPS), an onboard display and a computer reporting system. By integrating all components, the use of IC rollers can accelerate project delivery as well as improve quality.

ACCELERATED BRIDGE CONSTRUCTION

Accelerated Bridge Construction (ABC) technologies allow transportation agencies to replace bridges faster by only delaying traffic during construction for hours rather than months or years. ABC is also safer since construction workers are not working above active traffic for days on end with traditional approaches.

Three particular ABC technologies being promoted under EDC are Prefabricated Bridge Elements and Systems (PBES), Slide-In Bridge Construction, and Geosynthetic Reinforced Soil—Integrated Bridge System (GRS-IBS).



Example of accelerated bridge technology

DESIGN BUILD

An alternative method to the conventional

design-bid-build (DBB), called Design Build (DB) allows the process to be accelerated dramatically. In the DB process, a State DOT identifies what it wants constructed, accepts bids and selects a contractor to assume the risk and responsibility for both the design and construction phases. With DB, agencies generally have the option of selecting a contractor based on a best-value basis; allowing DOTs to consider other factors beyond lowest price.

CONSTRUCTION MANAGER/GENERAL CONTRACTOR

Another method used to accelerate project delivery is the Construction Manager/General Contractor (CMGC) process. In this process, the project owner hires a contractor to provide feedback during the design phase, before the start of construction.

ALTERNATIVE TECHNICAL CONCEPTS

An Alternative Technical Concept (ATC) is a suggested change by the contractor to the contracting agency's basic configuration design, scope, or construction criteria. The proposed concept provides a solution that is equal to or better than the requirements in the Request for Proposal document.

HIGH FRICTION SURFACES

High friction surface (HFS) treatment is an emerging technology that dramatically and immediately reduces crashes and the related injuries and fatalities. With friction values far exceeding conventional pavement friction, high-quality aggregate is applied to existing or potential high-crash areas to help motorists maintain better control in dry and wet driving conditions.



INTERSECTION AND INTERCHANGE GEOMETRICS

Several innovative alternative geometric intersection and interchange designs are now available which reduce crossover or conflict points, or move the conflict points away from a main intersection; allowing for safer, more continuous travel for motorists, pedestrians and bicyclists.

GEOSPATIAL DATA COLLABORATION

A Geographic Information System (GIS) is a tool that builds maps. Currently, most GISs and web-mapping applications at federal, state, and local agencies are housed internally. Building on current organizational and technical capabilities, this initiative will use innovative cloud-based GIS services to improve data sharing both within transportation and among project delivery stakeholders.

IMPLEMENTING QUALITY ENVIRONMENTAL DOCUMENTATION

This initiative seeks to implement existing recommendations and recent experience to improve the quality and, at the same time, reduce the size of National Environmental Policy Act (NEPA) documents. The initiative improves the quality of NEPA documents by making them more effective in disclosing the information used as a basis for making project decisions to the public and participating agencies. By improving NEPA Documents, project proponents will accelerate project delivery and achieve better environmental outcomes.

FIRST RESPONDER TRAINING

This initiative offers the first national, multi-disciplinary traffic incident management (TIM) process and training program. The unique training training for first responders promotes a shared understanding of the requirements for safe, quick clearance at traffic incident scenes; prompt, reliable and open communications; and motorist and responder safeguards.

For more information visit the Federal Highway Administration Every Day Counts Website <http://www.fhwa.dot.gov/everydaycounts/>

Source: Federal Highway Administration, *Every Day Counts*, <http://www.fhwa.dot.gov/everydaycounts/>

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

- 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
- 12/5 **Master Roads Scholar Luncheon**, Manchester
- 12/10 **Traffic Signals Workshop**, Concord

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

- 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

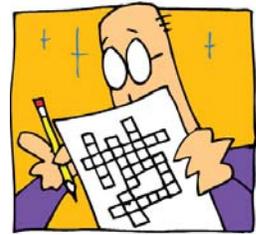
NH LTAP is on Facebook & Twitter!

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

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

3. Accelerated Bridge Construction technologies allow ___ agencies to replace bridges faster.

5. Richard's department is working on ___ the water treatment plant.

7. Tim's favorite part of his job is when residents call and take the time to thank the ___ and the employees for a job well done.

8. The Bright Idea designation recognizes and promotes excellence and creativity in the ___ sector.

9. ___ ___ allows DOT's to have the option of selecting a contractor based on best-value.

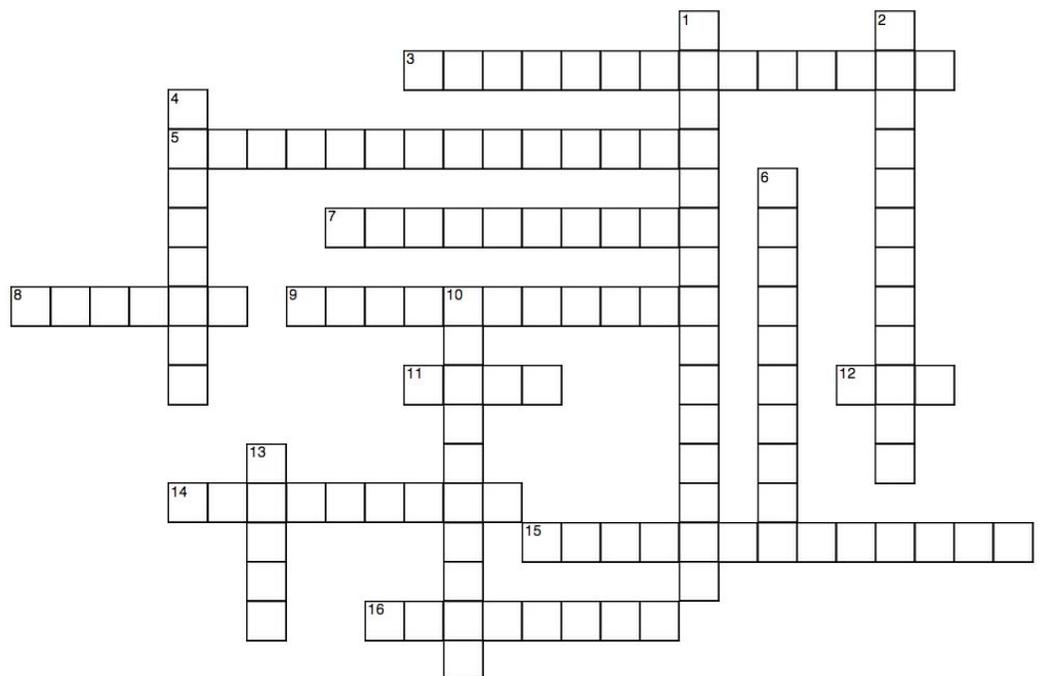
11. ___ Clean Streets App

12. There are ___ new Master Roads Scholars.

14. ___ ___ will continue with Road Scholar Training in the future, because he is always inspired to learn more.

15. Implementing Quality ___ Documentation.

16. FHWA will promote the following ___ innovations to state, local and regional transportation agencies.



DOWN

1. Harvard JFK School of Government recognizes the NH Mosaic Parcel Map with ___.

2. Don's favorite part of the Roads Scholar Program has been learning different methods of ___.

4. Jack is also the owner of Ibby Co. ___ and Blasting.

6. Based on centuries-old ___ instrument, Theodolite HD is a cool multi-function augmented reality app for the iPad that serves as a compass, etc.

10. A ___ Information System (GIS) is a tool that builds maps. 913 Apps are for ___ phones.



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FALL 2012 TRAINING CALENDAR

Spring dates to be announced in early February!

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)
10/25/2012	Public Relations for Public Works	5 Supervisory	Concord	\$60/\$120
10/25/2012	Bucket Truck Operation & Safety	5 Safety	Derry	\$75/\$150
10/30/2012	Traffic Sign Retroreflectivity	5 Safety	Concord	\$60/\$120
11/1/2012	All About Roadway Materials	5 Technical	Grantham	\$60/\$120
11/1/2012	Green SnowPro Certification	5 Environmental	Portsmouth	free
11/2/2012	Maintenance of Local Roads	5 Technical	Grantham	\$60/\$120
11/7/2012	First Aid, CPR, and AED Training	5 Safety	Manchester	\$100/\$200
11/8/2012	Green SnowPro Certification	5 Environmental	Derry	\$60/\$120
11/29/2012	A Hard Road to Travel	5 Supervisory	Keene	\$60/\$120
12/10/2012	Traffic Signal Workshop	5 Safety	Concord	\$60/\$120