



# Road Business

A University of New Hampshire Technology Transfer Center publication

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Spring 2005



## On the Road in New Hampshire

### *The City of Berlin uses student intern to complete important work.*

The Berlin City Council asked Jim Wheeler, the Director of Public Works, for a list of signs that required replacement. Jim realized this was an opportunity to inventory all of the city's signs. He decided to use Sign Inventory Management Systems (SIMS) and have Mike Blanchette, a Civil Engineering student at UNH, do the inventory.

Mike worked for the city for the past two summers and the most recent winter break. His work has ranged from updating city retaining wall and guard rail conditions to updating city plow-routes and other projects with using AutoCAD.

Mike took 5 weeks to inventory the 2,170 signs on Berlin's 60 miles of road. In the field he also determined which signs need to be replaced and repaired. SIMS reports showed that 50 signs needed replacement. The city approved all of them.

Mike believes that having a "sign inventory is a good for a municipality. The most important thing after inputting all the signs is keeping the data up to

date. A sign rated as replace needs the condition changed after the sign is replaced." He adds that, "the city is putting forward its best efforts to stay ahead of the game."

A unique feature of SIMS allows users to indicate when obstructions block the sign. Mike says, "we had quite a few circumstances where brush or tree branches were overgrowing signs or where a sign wasn't covered but would be in the near future. This is a handy because most obstructions are easy to fix. The city can query all the obstructed signs, print a list, and send it to a road crew. They can take a day to focus on just those signs and improve a great number of them rather quickly. Before SIMS, a sign may have only been cleared up if a foreman noticed it was obstructed or if it were reported by the public."

Jim said that it is "valuable to have an inventory of the city's signs." His goal is to link it to it GIS and he can do a graphical query on signs that need replacement. After the signs are replaced he will run a SIMS report of signs to be repaired. In time he envisions having the signs at a higher service level.

### ALSO IN THIS ISSUE

Typical Problems in Highway Work Zones .....	2
Highway Block Grants .....	3
Master Roads Scholars.....	4
Sign Management and Maintenance.....	6
Pothole Patching .....	7
Four Year Index .....	8
Publications .....	9
Videos .....	10
Milestones & Websites .....	11
Tips to Save Time .....	11
Calendar.....	12

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## Typical Problems in Highway Work Zones, and Their Solutions

The following common problems in work zones can increase the danger to motorists and workers.

- Signs left up when no work is going on. When drivers see work zone signs but no work activity, they lose respect for such signs. Before leaving the work zone, crews should keep up only those signs necessary to warn motorists of the road conditions. Especially important is the removal of the “Flagger Ahead” sign.
- Improper signs and sign stands. Wooden and heavy metal signs and sign supports can cause considerable harm in minor accidents. They should be “crashworthy,” which means that they conform to NCHRP Report 350. Suppliers can provide certification that signs and supports meet “350” requirements.
- Too few cones and barrels. There must be enough cones or barrels to define the transition area tapers clearly. The minimum number depends on taper length and traffic speed. They should be evenly spaced along the taper length.
- Devices too small. In greater than 35 mph work zones, and in all work zones at night, cones must be 28 inches high. They must have two retroreflective stripes or lights. In 35 mph and less work zones, cones can be 18 inches high with one retroreflective stripe. Barrels must be at least 36 inches high and 18 inches wide. They must be orange with at least two white, 4 to 6 inch wide, retroreflective stripes. Barrels can have weight in the bottom, but not be filled.
- Non-reflective devices. All signs and other devices must be retroreflective and visible at night.
- Flaggers using flags. Flags should be used for emergency use only. Flaggers should use STOP/SLOW paddles, and hand signals when necessary. Paddles must be 8-sided (not round), retroreflective, at least 18 high and wide, and on a rigid handle.
- Complacent Flaggers. Flagging can be boring and tiring, but flaggers must stay alert and pay attention at all times. One moment of complacency can result in injury to motorists, passengers, workers, and/or the flagger.
- Poor Flagger location. Flaggers should be on the outer edge of the travel lane they are directing. They should stand alone, away from equipment and other workers. They should stay out of shadows and be visible to drivers well in advance of their location.
- Lack of termination signs. As a courtesy to drivers, all lane closures should end with an “End Road Work” sign.

Reference:

MUTCD, <http://mutcd.fhwa.dot.gov>

*Ten problems in highway work zones*, Oklahoma LTAP News, October 2004, p. 8  
Slides from Workzone Traffic Control, UNH T<sup>2</sup> Workshop

# Highway Block Grant Funds

## *How Grant Aid Amounts Are Calculated and Records Updated*

Highway Block Grant Aid has two "Apportionments." Apportionment A is 12% of the State's highway revenues. In 2003 it was \$10.56 per resident and approximately \$1,182.75 per mile of Class IV and V highway. The smaller portion, Apportionment B, is a set amount of \$400,000. It is intended to assist municipalities with high roadway mileage but very low property value relative to other municipalities. Not all municipalities receive Apportionment B funding. This article focuses on Apportionment A.

### **Calculation of Grant Aid Amounts**

The NHDOT distributes Apportionment A quarterly to municipalities based on relative population and miles of town maintained roads.

**Population.** The NH Office of State Planning (OSP) estimates the population of each municipality annually. The NHDOT distributes one-half of Apportionment A to each municipality based on its proportion of the total state population.

**Road Mileage.** A municipality's share of the other half of Apportionment A is based on its proportion of the total Class IV and Class V road miles in the state.

Class IV highways are state highway routes within the "compact sections" of 27 cities and towns. The NHDOT Commissioner designates the specific highway sections by procedures described in RSA 229:5, IV. Class V highways are all other roads, paved or unpaved, that the town or city has the duty to maintain year around.

By definition, municipalities do not maintain Class VI roads. Therefore, they do not receive Block Grant Aid for Class VI roads. When a municipality accepts maintenance responsibility for a new or Class VI road, it must notify the NHDOT to receive Grant Aid for it.

### **Updating Mileage Records and Population**

Each March the NHDOT Bureau of Municipal Highways sends an "Information Report" to each municipal office. In Section 2 it requests information about highway reclassifications or discontinuance, or any other action regarding highways or bridges. The municipality must provide three information items:

- Road Name
- Classification
- Length

They should also provide, if known, the Road Inventory Number (RIN). The NHDOT database ties roadway information to the RIN because since road names often change.

If the total mileage appears in error, municipal officials can also request the four items for each road. To correct any inaccuracy, municipal officials must provide a map and all four items for each needed correction. For certain mileage changes, the NHDOT will survey municipal roads to verify road lengths.

Each April the OSP informs municipal offices of the data it will use to calculate population estimates. Municipalities have 30 days to comment on this data. (Agencies use OSP population estimates for other state-municipality fund transfers unrelated to roads.)

Obviously, the state population and mileage records are important to the amount of Block Grant Aid received by each New Hampshire municipality. The typical municipality has a small staff to review this information. Yet, inaccurate records could result in a municipality receiving less than its appropriate Block Grant Aid.

# Master Roads Scholars



## Master Roads Scholar David Blanchard

David Blanchard is an engineering technician for the Town of Derry. He has been in Derry for nine years and worked in public works for the most of his career. David began working in the private sector with various consulting engineering firms, and in civil, environmental, and mechanical fields.

David believes he is speaking for his department when he says that the status of Master Roads Scholar is very important. Many Derry employees have taken UNH T<sup>2</sup> classes. He is the second Master Roads Scholar and another member has reached the Senior Roads Scholar status. He says that the UNH T<sup>2</sup> programs are a great opportunity to learn more about your job. Even if you take one new piece of information from a workshop, it benefits the town and people, which is the purpose of his career to begin with. He says he will continue to take classes because he can't resist workshops offering new and innovative ideas and information. David feels we are on the verge of an increased demand for workshops focusing on NPDES Stormwater II.

David and his wife of 16 years reside in Derry with their 2 daughters. When not working, David's two biggest favorite leisure-time activities are skiing and golf.



## Master Roads Scholar Alex Cote

Alex Cote is the Highway Agent in Deerfield. He has been with Deerfield for the past year and a half. Previously, he owned and operated a landscaping business and ran a tool room at a machine shop for twenty years.

Becoming a Master Roads Scholar has been important to Alex. He says, "it is crucial to keep up with public demand by learning the changing technologies, which is especially true for smaller towns like Deerfield." He believes that, since there are more vehicles on the roads and they are more expensive to buy and maintain, there is a higher demand for good quality roads. Alex feels it is the town's responsibility to be more cost-effective.

Alex says that he will "absolutely continue to take classes because he learns something at every workshop." Alex believes that one can never learn enough. He encourages the crew members to take classes and become Roads Scholars.

Alex finds his job rewarding because of the appreciation that some express toward the work that he and his crew complete. His family's support has been overwhelming. He has a wife and two teenage sons, a 15 year old daughter, and 5 years-old boy.

Alex deer hunts, plays men's soccer year-round, volunteers for the fire department, coaches youth soccer, and is involved with both youth basketball and baseball. Alex's favorite activity is to spend time with his children outdoors.



**Master Roads Scholar  
Roger Deboisbriand**

Roger is the Business Coordinator in the City of Nashua Street Department. He has been in his current position for four years and was the Waste and Measures Investigator for the City for three years. Roger owned and managed his own company for four years before coming to Nashua.

Roger says the status of Master Roads Scholar is important because he feels he has gained accurate knowledge of a wider perspective of business related activities and processes. He has been happy to gain increased knowledge on projects in the Public Works fields.

In general, Roger enjoys learning but he especially takes pleasure in the “hands-on” learning that UNH T<sup>2</sup> workshops offer. He admits that some people learn more than others, and that everyone learns differently. He believes that everyone can bring something home from a workshop. This could be anything from new innovative ideas for their department, a better sense of their job duties, or a sense of accomplishment and learning something new.

Married for 37 years, Roger has four sons. When out of the office, Roger might be caught fly fishing or golfing on a pleasant afternoon.



**Master Roads Scholar  
James Hanson**

Jim is the General Foreman for the Claremont Department of Public Works. After graduating from Claremont High School, he worked as a machinist. In 1974 he joined the Claremont Highway department and has been with the town ever since.

Jim is proud that his employer gave him the opportunity to take Technology Transfer Center training and achieve Master Roads Scholar. Jim plans to continue taking classes so he can keep up with technical changes and network with other road agents.

Jim feels as though the T<sup>2</sup> Center has been instrumental in helping public works jobs become more professional. He sees that cities and towns are becoming more selective in the hiring process and believes that most want individuals with education and experience in road work.

Jim and Karen have been married for for 29 years. Karen is a preschool teacher in Claremont. Their son, Michael, is 26 years old and lives in Saco, ME. Katherine, their daughter, is a preschool teacher in New Jersey. Each is getting married this fall. In his leisure time, Jim enjoys golf, motorcycles, camping, hunting, gathering oysters, and gardening.

**Congratulations Master Roads Scholars  
Dave Blanchette, Alex Cote, Roger Deboisbriand, and Jim Hanson!**

# Sign Maintenance



Traffic signs promote highway safety and provide for the orderly movement of all road users. They notify road users of regulations and provide warning and guidance needed for safe,

uniform, and efficient travel.

The *Manual of Uniform Traffic Control Devices* (MUTCD) governs traffic signs in all states and NH cities and towns. It states that signs must

- Fulfill a need,
- Command attention and respect,
- Convey a clear, readable message, and
- Allow the driver time to respond correctly.

To meet these purposes, agencies should keep signs properly positioned, clean, and legible. They must repair or replace damaged or deteriorated signs. To ensure proper signage, they should have a maintenance system.

## Maintenance Systems

Maintenance systems enable managers to prepare repair work plans. Some prepare budgets to accomplish the plans. Managers should give priority to critically located signs, such as at intersections and around schools.

Agencies must regularly inspect all its signs for repair or replacement. The MUTCD recommends day and night inspection. Managers must thoroughly train field inspectors. In addition, they should train employees who travel on roadways to report unsafe signs.

Inspectors should look for obstructions that obscure sign visibility. Glare, shadows, and orientation are also visibility issues. Inspectors should also identify where new signs are needed. They should also ensure proper sign height and offset.

**Mounting Height.** The MUTCD requires

signs on rural roads to be at least 5 feet from the bottom of the sign to the near edge of the pavement. NHDOT advises that in areas of expected heavy snow fall, mounting height should be 6 feet to limit winter damage. The MUTCD requires that where parking or pedestrian movements occur, the clearance to the bottom of the signs shall be at least 7 feet.

**Lateral Offset.** The minimum distance from the shoulder edge to the near edge of a sign must be 6 feet. If no shoulder exists, the distance is from the pavement edge.

## Causes of Damage

Retroreflectivity makes signs visible at night by bouncing light back to its source. Age, sunlight, and air pollution reduce it.

Sign damage often hinders the message. Support damage can cause it to fail. Weather, accidents, and vandalism cause sign and support damage. Weather deteriorates sign faces and metal backing. It causes support to rust. Vehicle accidents bend and scrape them. Vandalism also causes missing and paint-sprayed signs. Bullet holes and dings can erase at least parts of a sign message. Many bullet holes reduce retroreflectivity. Crews should replace these signs.

## Shop and Field Repair

Crews can sometimes repair minor sign damage in the field. They should repair major damage in the shop. If they remove a sign to repair it, they should install a temporary sign.

Whatever the cause of reduced reflectivity, crews should replace such signs. They should also replace signs if a repair will reduce reflectivity. They should replace any damaged signs when motorist cannot easily read the message.

Crews can repair bent signs if they can straighten it on the post by hand pressure. If it is necessary to remove the sign and pound it flat, they will probably damage the background or legend. They should replace it, which is usually less expensive.

Many agencies find that replacing supports with breakaway posts is less expensive over time. They

also cause less damage and injury when struck. *State law requires calling DigSafe before digging.*



Figure 1

Crews cannot remove paint from the Figure 1 sign without damaging the retroreflectivity. They should replace it. Furthermore, the new sign should be a MUTCD designated S1-1. (See Part 7 of the MUTCD.)

Sometimes crews can remove paint without reducing the sign's reflective properties. To remove paint,

1. Wipe the sprayed area lightly with a soft cloth moistened with mineral spirits. If ineffective, go to step 2.
2. Wipe the sprayed area with a soft cloth moistened with lacquer thinner.

Abrasive materials and compounds usually scratch the sign face. Retroreflective sheeting damage depends on paint type, paint exposure length, and the cleaning chemical. After cleaning, night inspection is best. Repaired signs that look good in daylight can be ineffective, and unsafe, at night.

SIMS (Sign Inventory Management System), a software-based system, will assist road managers with inspection and reviews. Its purpose is repair plan development. Contact the UNH T<sup>2</sup> Center for more information. The UNH T<sup>2</sup> Center also has information on the MUTCD and sign placement.

Reference:

*Interchange*. Nebraska LTAP, Summer 2003. Vol. 17, No. 3.  
*Sign Guidelines*. US Dept. of Interior, March 2002.  
*Maintenance of Small Traffic Signs*. FHWA & USDOT, 1991.  
*Traffic Sign Handbook*, UNH T<sup>2</sup> Center, 2005.

## Pothole Patching

In 1998, Stephanie Fishman, then a UNH student, wrote an article on pothole patching for *Road Business*. It remains a clear description of how potholes form and how to repair them. Recent PW.Net traffic and new product developments indicate that some emphasis would be useful.

Potholes form when water becomes trapped beneath the pavement surface. As traffic moves over it, the pavement ruptures. Traffic makes the hole deeper and wider. As tires strike the water, it washes away the aggregate base. The longer the delay in repairing the hole, the bigger the pothole becomes.

Semi-permanent patching requires the following steps.

- Remove water and debris from the pothole, using a broom, shovel, and/or compressed air.
- Enlarge the hole with right angle corners and vertical sides using a pavement saw and square shovels.
- Use a tack on the bottom and sides, and place the mix with a shovel and rake in no more than 3" lifts.
- Compact each lift from the center towards the edges and corners with a vibratory plate compactor or single-drum vibratory roller.

Since Stephanie's article, some excellent proprietary mixes have become available. Their anti-stripping additives reduce the affect of water.

Sometimes, managers must quickly repair a pothole using a "throw-and-roll" or similar method. Crews at times patch a hole with water in it. Even with the modern mixes, crews will probably have to make a semi-permanent patch later. These mixes perform better than other materials, but cannot substitute for the steps described above.

For a copy of Stephanie's article, see the website below or contact the UNH T<sup>2</sup> Center.

Reference:

Fishman, Stephanie R. 1998. "Cost Effective Pothole Repairs." *Road Business*. Winter, UNH Technology Transfer Center.  
<http://www.t2.unh.edu/winter98/pg6.html>

# Road Business Four Year Index

To request articles call, fax, or email the UNH T2 Center or visit the web  
[www.t2.unh.edu/rdbus\\_index.html](http://www.t2.unh.edu/rdbus_index.html)

**Bridges.** Fast Track Bridge, 2004 #3.

**Culverts and Catch Basins.** Test Your Culvert Design Knowledge, 2001 #3. Catch Basin Cleaning, 2002 #4. Culvert Maintenance and Repair, 2003 #1. Place Culverts Correctly the First Time, 2003 #2.

**Drainage.** Road Drainage Can Become Focus in Combating West Nile Virus, 2004 #1. Importance of Drainage, 2004 #4.

**Emergency Management.** Public Works Mutual Aid, 2001 #4. ICS, 2003 #4.

**Environmental.** Wetlands Permits, 2001 #1. NPDES II Rule Changes Will Impact Many Municipalities, 2002 #2. MS4s, 2002 #2. NPDES II and Highway Garage Complexes, 2002 #2. Seacoast Coalition Creates a Stormwater Video, 2003 #1. Wetlands Permit Saves Time, 2003 #2. Tips for Public Works Facilities, 2004 #2.

**Equipment.** Calibration of Spreaders, 2004 #3.

**Legal Matters.** Legal Q & A, 2004 #3.

**Management.** How to Interview, 2001 #1. Conducting an Interview, 2001 #1. RSA 265:3 Obedience to Flagpersons, 2001 #2. Leadership Skills, 2001 #2. Stress in Today's Workplace, 2001 #4. Tracking Departmental Costs, 2003 #2. Training to Improve Performance, 2003 #3. Learning Approaches, 2003 #3. Getting the Most from Training, 2003 #3.

**Other.** Technology Transfer Center Celebrates its 15th Anniversary, 2001 #3. Pulverized Glass Aggregate, 2003 #1. Work Smarter: How Time Slips Away, 2003 #2. Changes for Many Dig Safe Callers, 2003 #3. Topographical Maps, 2004 #4.

**Paved Roads.** How Potholes Form, 2001 #2. Street Sweeping, 2002 #4. Guiding Motorists Through Turns and Curves, 2003 #2. Tack Coat, 2003 #4. Roadway Preservation, 2004 #1. Surface Treatments, 2004 #4.

**Public Relations.** Telephone Etiquette, 2002 #3. Taking the Fear Out of Giving Presentations, 2004 #2. Grant Writing 101, 2004 #2. Email Etiquette, 2004 #4.

**Roadside Design.** Controlling Vegetation, 2003 #4.

**Safety.** Chainsaw Safety, 2002 #3. Accessible Sidewalks and Curb Ramps, 2004 #2. Reducing Traffic Speeds, 2004 #3.

**Signage and Roadway Markings.** Signs at Pedestrian Crosswalks, 2001 #3. Installing the Correct Traffic Sign, 2001 #4. Traffic Signs to Restrict Trucks, 2001 #4. Rumble Strips in Workzones, 2002 #1. Stop Sign and Supplemental Devices, 2002 #2. Crosswalk Placement, 2002 #3. Center and Edge Line Pavement Markings, 2003 #3. Dover Tests Crosswalk, 2003 #4. MUTCD Revision, 2003 #4.

**Traffic Calming.** Traffic Calming, 2001 #2. Setting and Posting Speed Limits, 2002 #3.

**Unpaved Roads.** Paving Gravel Roads, 2002 #1. Good Quality Gravel: Curing Washboarding, 2004 #1.

**Winter Operations.** Pros and Cons of Sand on Ice and Snowpack, 2001 #3. Snow Disposal, 2001 #3. Testing Winter Operations, 2002 #4. What to eat on Snow Plowing Nights, 2003 #4. Anti-icing, 2004 #3.





# Publications

## UNH Technology Transfer Center

Copies of the following publications are available through the UNH T<sup>2</sup> Center. To view a complete list go to [http://www.t2.unh.edu/video\\_pub/publist.html](http://www.t2.unh.edu/video_pub/publist.html). When requesting an item with a charge, please include the check with the order form. If ordering by mail, use the order form below. To request by telephone, call 603-862-2826, or in NH, 800-423-0060, or fax to 603-862-2364, or e-mail to [t2.center@unh.edu](mailto:t2.center@unh.edu).

**The following materials are available for free:**

\_\_\_ **Accessible Sidewalks and Street Crossings.**

An informational guide to designing appropriate and safe structures for pedestrians with disabilities. *USDOT & FHWA.*

\_\_\_ **Basic Math for Local Agencies.** Includes a pre-test, examples with answers, and comprehensive explanations of basic math principles. *UNH T<sup>2</sup>.*

\_\_\_ **Common Roadside Invasives.** A roadside field guide to identify and destroy harmful weeds and forbs. These plants can invade and destroy agricultural land and natural resources. *USDOT & FHWA.*

\_\_\_ **Controlling Nonpoint Source Runoff Pollution from Roads, Highways, and Bridges.** Roads, highways, and bridges are large contributors to pollution in our waters. This guide focuses on recognizing, preventing, and controlling polluting run-off. *EPA.*

\_\_\_ **Erosion Control Handbook for Local Roads.** Provides guidelines and methods for effective erosion control practices on low volume roads. *Minnesota Local Road Research Board.*

\_\_\_ **Guide to Crack sealing.** A handy guide focusing on the importance of crack sealing including; cost-effective materials and devices, proper use of equipment and accessories, proper sealant application, and job site safety. *Cimline Incorporated, 2003.*

\_\_\_ **Hiring New Personnel.** Tips to ease any hiring process. Ideas and thoughts are presented for before, during, and after interviewing. The publication is written to make the hiring process less stressful and more organized. *UNH T<sup>2</sup>.*

\_\_\_ **Measuring and Calculating Slopes.** Explains the difference between a minimal slope needed and a slope that is too steep. Includes a table on the recommended slopes for road cross section, shoulders, and ditches for both paved and unpaved roads. *UNH T<sup>2</sup>.*

\_\_\_ **Nonpoint Source Pollution.** A guide for citizens and town officials describing the causes of nonpoint source pollution, and suggestions on ways that NPS pollution can be prevented.

\_\_\_ **Series of Quick Guides for NH Towns.** Set includes ten diverse topics including culvert installation and maintenance, ditch construction and maintenance, cut and fill slopes, stormwater inlets and catch basins, mowing and brush control, and snow and ice control. *US DOA, UNH T<sup>2</sup>, & NH Association of Conservation Districts.*

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### To Request Material by Mail

Check items you wish to receive, fill out form, and mail to the Technology Transfer Center.

Name: \_\_\_\_\_

Town/City: \_\_\_\_\_

Position: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Organization: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Mailing address: \_\_\_\_\_

Email: \_\_\_\_\_

# Vi deos

## UNH Technology Transfer Center



The following videos are available from the UNH T<sup>2</sup> Center. To view a complete list consult the website at [www.t2.unh.edu](http://www.t2.unh.edu). Up to five videos can be borrowed for a three-week with no charge. To request by mail, check the requested videos, fill out the form, staple closed, affix stamp, and mail. To request by telephone, call 603-862-2826 or 800-423-0060 (in NH) or email [t2.center@unh.edu](mailto:t2.center@unh.edu).

- \_\_\_\_\_ **DC-246, Aesthetic Bridge Rails and Guardrails**, 8 min. Illustrates crash testing and special features of concrete bridge rails and guardrails. *FHWA*.
- \_\_\_\_\_ **DC-239, Asphalt Pavements that Perform**, 5 min. Short and precise explanations of SHRP's asphalt products, including reasons for using them and why, are introduced. Studies supporting these products are reviewed. *SHRP*.
- \_\_\_\_\_ **M-241, Caterpillar Road Reclaimer**, 11 min. Describes road reclamation and its benefits, especially the cost effectiveness. *Caterpillar Inc.*
- \_\_\_\_\_ **M-266, Maintaining a Safe Roadside**, 21 min. Examples of unsafe roadsides to show the importance of creating and preserving safer roadsides. *Colorado LTAP*.
- \_\_\_\_\_ **ST-240, New Directions in Sign Management**, 17 min. Describes sign management problems and how a Sign Management System can solve them. *ATSSA*.
- \_\_\_\_\_ **PA-211, Pavement Management Systems for Local Administrators**, 17 min. Describes how a pavement management can help determine the what, where, and when of road repair. *USDOT & FHWA*.
- \_\_\_\_\_ **DC-211, Processed Glass Aggregate (PGA)**, 9 min. Describes how PGA is a win/win situation for asphalt mixes and many others usages, including how it is made and recycled and some process related issues. *Hanover Public Works Association*.
- \_\_\_\_\_ **M-282, Snow and Ice Control**, 12 min. Presents results of SHRP's research on snow and ice control, emphasizing snow fences, snow plows, deicing chemical tests, anti-icing procedures, and road weather information systems. *SHRP*.
- \_\_\_\_\_ **PA-213, The Team of Your Life**, 20 min. Stresses the importance of communication in the workplace and reveals secrets to increasing employee productivity. *Caterpillar Inc.*
- \_\_\_\_\_ **PA-231, Unsurfaced Road Management**, 9 min. Explains how to use an unsurfaced road management system by outlining steps on managing unpaved roads, gathering proper information, and translating that information into an orderly data set for use in the repair of roads. *US CRREL*.
- \_\_\_\_\_ **PA-230, Utility Cut Repair**, 11 min. Increases the quality of workmanship associated with making and repairing utility cuts. Shows the benefits of doing things right the first time and the disadvantages of doing things wrong.

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**Technology Transfer Center  
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Place  
Stamp  
Here

## Milestones:

*Ken Daniels*, Director of Public Works in Enfield has replaced *Ed Betz*, Director of Public Works in Peterborough on the Board of Director for Mutual Aid.

*Albert Cross* has retired from Northfield and *Doug Sargent* has become the Public Works Director.

## Websites:

### Pavement Edge Drop Offs

<http://www.aaafoundation.org/pdf/PavementDropoffs.pdf>

### Keep your desk more organized

<http://www.orgcoach.net/trimthefat.html>

### Cemetery Information

<http://www.nhcemetery.org/>

<http://www.newenglandcemetery.org>

*For Fun*

### Gallup Poll <http://www.gallup.com/>

*The following links were provided by John McCarthy, Assistant Director of the Alabama LTAP Center*

**NHDOT traveler information** (current information on construction projects, weather conditions, list of special events and congestion locations, EZ Pass toll).

[www.state.nh.us/dot/traveler.htm](http://www.state.nh.us/dot/traveler.htm)

### National Work Zone Awareness Week

<http://www.atssa.com/public/nwzaw.asp>

### Ten Tips for Driving Safely in Work Zones

<http://www.fhwa.dot.gov/safetytips/index.htm>

### Traffic and Road Closure National Information

<http://www.fhwa.dot.gov/trafficinfo/index.htm>

### FHWA Work Zone Mobility and Safety Program

The goal of this program is to provide products and tools to transportation practitioners to reduce congestion and crashes due to work zones.

<http://www.ops.fhwa.dot.gov/wz/index.asp>

## Tips to Save Time on the computer

### Microsoft keyboard shortcuts

- To minimize all open Windows--Microsoft Key + M
- To open My Computer--Microsoft Key\* + E
- To close an active window--Alt + F4
- To switch between open windows--Alt + Tab
- To copy--Control Key + C
- To cut--Control Key + X
- To paste--Control Key + V
- To undo--Control + Z
- To copy a selected item-- Control + Left Click and Drag
- To see options when dragging selected items -- Right Click and Drag

### Google shortcuts

- <http://labs.google.com/keys/>

\*The Microsoft Key is the key to the left of the space bar next to the Alt key).

Sources:

[www.poweredperformance.com](http://www.poweredperformance.com)

<http://www.microsoft.com/enable/products/keyboard/keyboardresults.asp?Product=27>



### PW.NET

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# Road Business

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## Calendar

April				
4	5—Repair Treatments, Manchester-- <b>FULL</b>	6	7—Workzone Traffic Control, Rochester	8
11	12—Erosion Control, Manchester-- <b>FULL</b>	13	14—Workzone Traffic Control, Manchester-- <b>FULL</b>	15—Public Relations, Newmarket
18	19—Road Standards, Rochester	20	21—All About Asphalt, Lebanon	22
25	26	27	28—All About Asphalt, Rochester	29
May				
2	3	4	5	6
9	10—Municipal Permits, Plymouth	11	12—NHPWA Annual Meeting, Concord	13
16	17—ICS, Enfield	18—ICS, Enfield	19	20
23	24	25	26—Mt. of Demos, Gilford	27
June				
30	31	1—Project Planning, Gilford-- <b>FULL</b>	2	3
6	7—Hard Road to Travel, Manchester-- <b>FULL</b>	8	9—Hard Road to Travel, Lincoln-- <b>FULL</b>	10

