



# Road Business

A University of New Hampshire Technology Transfer Center Publication

Vol. 17 No. 4

Winter 2002



*Mutual Aid Public Works Crews ready and able to work on the video and in your town.*

## On the Road in New Hampshire

### *Making the Mutual Aid Video*

On October 25, 2002, members of the New Hampshire Public Works Mutual Aid Program created an informational video. Its purpose is to increase awareness and participation in the program. A grant from the New Hampshire Office of Emergency Management provided the funding.

Seven communities contributed to making the video. Although not an emergency, it allowed municipalities to work with each other. The staged event demonstrated the benefits of participating in the Mutual Aid Program.

Doug Sargent, the Ossipee Public Works Director, and his crew made everyone feel welcome. They closed a road, fell trees and arranged for Fire and Rescue participate. An Ossipee employee provided a car, which Gregg Champlain

of the Office of Emergency Management drove over an embankment.

In the afternoon, shooting took place at Ossipee Aggregates. Don Hayward, Operations Manager and his crew, made every effort to ensure the success of the video.

WMUR covered the afternoon portion of the filming. They featured the video on the November 18, 2002, episode of *Chronicle*. They provided footage of previous NH disasters such as the Stratham microburst, the Alton dam breach, and the New London ice storm the footage became part of the video. Mike Haddad, WMUR's meteorologist appeared in the video. Fritz Weatherby narrated the video.

The videos will arrive at Public Works facilities in January. To borrow a copy, contact the UNH T<sup>2</sup> Center. Contact information is on page 12.

Thanks to the towns who participated in the event: Bow, Derry, Dover, Grafton, Loudon, New London and Ossipee.

*continued on page 2*

### ALSO IN THIS ISSUE

Testing Winter Operations .....	3
Road Scholars.....	4
Master Road Scholars .....	5
Sweepings.....	6
Catch Basic Cleaning .....	7
Block Grant Program .....	8
Publications .....	9
Videos.....	10
Milestones & Websites.....	11
Calendar .....	12

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Any product mentioned in Road Business is for information only and should not be considered a product endorsement.



*continued from page 1*



*Clockwise at top left: Gary Anderson, of Cineworks, going for an action shot. Crew members removing trees. New London's excavator moving sand. Trucks lined up and ready to roll. Gary and Elizabeth Anderson photograph Alan Côte of Derry*

# Testing in Winter Operations

## *Suggested Methods to Evaluate Products*

New winter operations products appear every year. Most suppliers accurately describe product performance and costs. A few, however, do not. Many local road managers want to take advantage of products that perform better and/or cost less. But how do they know which claims are accurate? This article offers suggestions to evaluate products.

### Equipment

NHDOT Highway staff members are an excellent source of reliable information for equipment. They have developed specifications over many years of experience. Their recently revised truck specs include the latest technology. They will continue to update them for just issued regulations on diesel engines.

### Chemicals

Many road managers test new winter operations chemicals. Too often, they also change techniques. The most common change is from post to pretreatment, or to anti-icing, technique. Some concurrently change application rates. When changing a chemical and technique together, the manager cannot be sure which is responsible for any benefits.

It becomes even more difficult when equipment changes. For example, is performance increased by new group speed controls or a new chemical? Finally, testing tends to increase attention on chemical use and its management. Thus, testing itself can influence test results.

New techniques, equipment, and increased attention, can each reduce chemical usage and costs. A new chemical might reduce usage, but managers must know how much it alone reduces cost.

New products might provide better service as well as save money. But they might not. An incorrect conclusion could reduce rather than improve the level of service. The following testing method will isolate the affect of a new chemical.

### Suggested Testing Method

The following procedure will isolate the effect of a chemical. Road managers should use it in their own tests. They can also look for similar methods in reports for new products.

1. Select two plow routes that have similar characteristics: rural/urban, ADT, hills and trees, road width and surface, and elevation.
2. Using exactly the same technique and equipment type, apply the past chemical on one route, and the new chemical on the other. Record for each application:
  - Storm conditions
  - Snow and ice melting effectiveness
  - Quantities used
  - Costs
3. After several storms, reverse the application. Apply the new chemical to the first route and the old chemical to the second. Record the above information. Data collection must be complete and detailed. Timely analysis will reveal information needs.
4. If conclusions differ for steps 2 and 3, managers should repeat them with different operators.

Frequent evaluation might indicate that the new chemical works better in certain conditions. Managers can test it on selected sections as described above.

Managers can also apply this scheme to evaluate new techniques or equipment. If testing a technique, for example, equipment types, chemicals, and operator skills must be the same for each route.

For some, this testing process will seem expensive. It can be more expensive to accept invalid conclusions. Moreover, an invalid test could reduce winter operations effectiveness, and even motorist safety.

One town's test can be useful to others. Please share results of local tests. We can inform others of valid and reliable results.

# New Hampshire Road Scholars

*We are pleased to recognize individuals who, during the Fall of 2002, have achieved the following levels in the UNH T<sup>2</sup> Center Road Scholar Program.*

**Master Road Scholar.** Participated in UNH T<sup>2</sup> Center training activities totaling 100 contact hours and covering the range of topics required for Road Scholar II.

<u>Road Scholar</u>	<u>Affiliation</u>
George Conkey Jr	Dorchester
John Cote	Dorchester
Lee Dunham	Swanzy
Nate Hadaway	Bow
Gregory Hatfield	Whitefield
Michael Hillhouse	Goffstown
<i>Ralph Carter</i>	<i>Sanbornton</i>
<i>Perry Day</i>	<i>Amherst</i>
<i>Dennis Eastman</i>	<i>New Ipswich</i>
<i>Norman Litalien</i>	<i>Nashua</i>
<i>Dennis Patnoe</i>	<i>Lancaster</i>
<i>Richard White</i>	<i>Rochester</i>
Bruce Moreau	Merrimack

**Senior Road Scholar.** Participated in UNH T<sup>2</sup> Center training activities, which totaled 70 contact hours and covered the range of topics required for Road Scholar II.

<u>Road Scholar</u>	<u>Affiliation</u>
Ronald Dubois	Peterborough
Wayne Elliot	Gilford
David Foster	Somersworth
David Lent	Merrimack

**Road Scholar II.** Participated in UNH T<sup>2</sup> Center training activities, which totaled 50 contact hours and covered a set of minimum subject areas including road design and construction basics, other technical, tort liability or safety, and supervision or personal development.

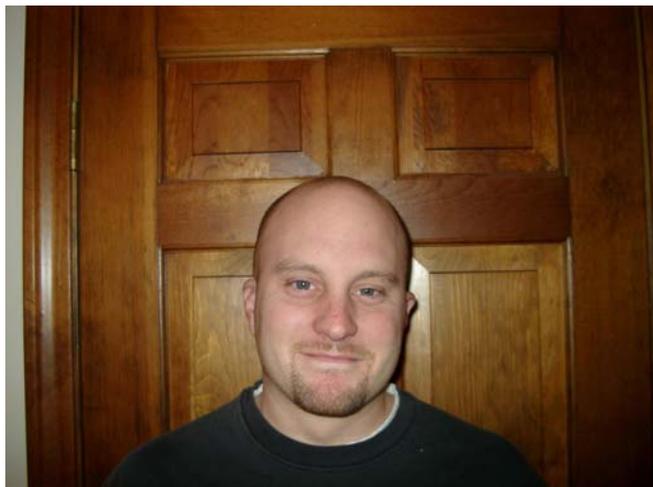
<u>Road Scholar</u>	<u>Affiliation</u>
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**Road Scholar I.** Participated in UNH T<sup>2</sup> Center training activities which totaled 30 contact hours.

<u>Road Scholar</u>	<u>Affiliation</u>
Dan Bissonette	Whitefield
Nathan Brown	Bradford
Charles Dylun	NHDOT
Larry Gay	Merrimack
Lawrence Gilpatric	Bridgewater
Arthur Lane	Portsmouth
David Leel	New Ipswich
Robert Lovering	Merrimack
Jason Marro	Whitefield
Rick Plankey	Keene
Jim Plante	Chesterfield
John Reindeau	New Boston
Michael Tarr	Nelson
Dave Wholley	Salem



## Master Road Scholars



### Master Road Scholar Nate Hadaway

Nate Hadaway is the Mechanic at the Bow Public Works. He has been the mechanic for eight years. He has worked fulltime the last four years. During the first four years he worked during the summer while attending Utah State University where he earned a Bachelor's of Science in Sociology with a minor in Psychology.

Nate says that he takes classes because he enjoys learning new things. He never passes up an opportunity to receive an education. He knows things are constantly changing in the transportation field, and feels the workshops keep him up-to-date.

Nate's supervisors are very happy he has achieved Master Road Scholar status. He says they are extremely supportive when it comes to education. They also supported him co-instructed a flagging class during last year's Traffic Control Workshop.

Nate has been married for a year. Both he and his wife, Melinda, have Harley Davidsons and enjoy riding them any chance they get. Soon they will need to get a sidecar. They are expecting their first child any day. Nate also enjoys fishing and skiing when he has the chance.

Congratulations to Master Road Scholar Nathan Hadaway!



### Master Road Scholar Gary Webster

Gary Webster has been in the engineering and surveying business for over thirty years. He began his career in the Army, and has worked for the town of Hudson since 1989. Previously he worked for an engineering firm. He attended school at New Hampshire College.

Gary says the classes are very useful because they deal with the work he does daily. He also enjoys meeting people from other towns, and is happy to bring information home to his department.

His supervisors think it is great that he has reached the Master Road Scholar level. He is grateful for their continued support and keeps all of his Road Scholar awards on his desk.

Gary and Connie have been married for thirty-one years and have lots of God-children. They love to travel, and especially enjoy planning group cruises. For the past eighteen years Gary has been a volunteer for American Legion Baseball, a statewide organization for youths between sixteen and eighteen. Eight of those years he was the chairperson. Last year, the Red Sox and Rockies drafted two of their players.

Congratulations to Master Road Scholar Gary Webster!

# Street Sweeping

## Why Sweep Streets?

A swept street looks good. Municipal officials with clean streets also look good. Street sweeping removes glass and other hazards to motorists and pedestrians. Water flows off roads after highway departments sweep street gutters and surfaces. Sweeping protects drainage system capacity. It removes sediments and debris before they clog catch basins, piping, and ditches.

For these reasons alone, municipalities have swept streets. The increasing focus on water quality makes street sweeping even more important. This article provides information to make street sweeping more efficient.

## Vacuum Sweepers

Traditional brush type sweepers remove only about 15 percent of fine materials. Modern vacuum machines can remove over 90 percent. Although often too expensive for a town to own, it can contract for sweeping by modern machines.

The more efficient machines also reduce water pollution. Solids, and contaminants attached to them, can pollute receiving waters at drainage system discharges. Vacuum sweepers remove solids before they enter a drainage system.

Efficient street sweeping can reduce filter, interceptor, and detention pond construction. These devices are expensive to construct and maintain. Instead, some public works officials use the new sweepers to *clean* streets monthly, sometimes weekly

## Sweeping Practices

Highway departments use mechanical equipment to pick up sediment and debris, or create piles for immediate pick up in trucks. In pollution sensitive areas, they should use modern sweepers. They should not use water flushing to clean roads and parking lots.

Many road managers apply the following best practices.

1. **Inventory.** Maps should show all roads and parking lots. A database should describe the sweeping program for each paved surface.
2. **Scheduling.** They schedule sweeping based on:

- a) Sweeping and catch basin cleaning records that show the amount and type of material removed. These provide expected quantities for future sweeping.
  - b) A goal to reduce catch basin cleaning material. Street sweeping is usually less expensive than catch basin cleaning. In addition, less material in catch basins reduces contamination.
  - c) Removing sand and salt as early as possible in the spring.
  - d) Sweeping before water system flushing and catch basin cleaning.
  - e) Sweeping residential streets only in the spring and fall.
3. **Operations.** The following practices increase effectiveness and efficiency.
    - a) Crews working longer shifts, such as four 10-hour days, when sweeping periods are short.
    - b) Double shifts, especially in the spring, to reduce material quantities washed into drainage systems.
    - c) Some road managers use a water truck to wet the surface instead of the sweeper spray. The spray is seldom effective. Sweepers can operate longer when not refilling their water tanks. One driver can drive both the water truck and the debris pick up truck.
  4. **Hazardous Materials.** If sweeping crews see evidence of oil or other chemicals, they should skip the area. The municipality should test the material. It must remove and dispose of hazardous waste in accordance with applicable regulations.
  5. **Training Operators.** Skilled operators should train less experienced and new operators. This increases efficiency and reduces mistakes when the operator “goes solo.”

### Sources

- Best Practices.* 1994. Metropolitan Council: St. Paul MN
- Stormwater Management and Erosion and Sediment Control Handbook.* 2nd Ed. (Draft). 2003. Rockingham County Conservation District.
- Bannerman, Roger. 1999. “Sweeping Water Clean.” *American Sweeper.* Vol 7, No. 1. <http://www.americansweeper.com/v7n1/cleanh20.html>

# Catch Basin Cleaning

Adequate drainage protects highway structures. It also safeguards the lives of people who use highways. On urban roads, curbs and gutters carry water into inlet structures connected with pipes. On some rural roads, inlet structures receive water for flow in culverts. Catch basins are particular types of inlet structures. This article describes their function, and best practices for cleaning them.

## Design and Maintenance

Drainage system designers assume that system components will have little if any debris. That is, they assume highway agencies will clean material from all components.

Designers also consider pollution impacts. Drainage systems can discharge large volumes of water into water bodies. The drained water can carry contaminants, also in large amounts. Some devices, such as catch basins, remove contaminants before they pollute receiving waters.

Catch basins have a basin below the outlet pipe. They remove solids best when basins have no retained material. As basins fill with sediment, solids tend to flow into connecting pipes. Ultimately, solids flow into receiving waters. Therefore, cities and towns must periodically clean catch basins.

## Catch Basin Cleaning Practices

Special trucks remove solids from catch basins. Modern trucks use high-pressure water to loosen compacted material. They use vacuum hoses to remove solids.

Because these trucks are expensive, many cities and towns use contractors. They charge from \$75 to \$100 per catch basin. Their fees increase for large quantities or compact material. Inspectors should accompany contractors.

Cities and towns should apply the following best practices.

**Cleaning Periods and Scheduling.** Cities and towns should establish cleaning periods to minimize contaminants reaching receiving waters. Scheduling should also consider that goal.

4. Have maps that show all catch basins.

5. Have a database that describes cleaning periods and schedules.
6. Base periods on recorded amounts of removed material, and the percent of the sump filled. Cities and towns should clean catch basins before basins are half full.
7. Cleaning schedules should reflect when solids are most likely to enter catch basins. Cities and towns that sand streets should schedule cleaning in early spring. They should schedule cleaning in late fall to remove leaves and other debris.

**Operations.** The following best practices contribute to effective and efficient cleaning operations.

1. If municipal crews clean catch basins, longer shifts, such as four 10-hour days, increase efficiency.
2. If crews or inspectors see evidence of oil or other chemicals, they should stop cleaning. The municipality should test the material. NHDES rules govern hazardous waste removal and disposal.
3. Cleaning crews should also record catch basin, gutter, and road surface conditions.
4. Supervisors should train crews and/or contract inspectors. Training should include record keeping to define cleaning periods and conditions.

### DrainMS

The UNH T<sup>2</sup> Center has developed the Drainage Management System (DrainMS). Its products include multiyear maintenance plans and budgets. With DrainMS, users can apply many best practices described above. Users can also apply many street sweeping best practices described in another article.

DrainMS workshops are scheduled for February 27 in Manchester and March 13 in Portsmouth. Call or email the UNH T<sup>2</sup> Center to register.

# Highway Block Grant Funds

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

*This article is a reprint from 1997. Municipal Officials should look for the Information Report in February 2003 to ensure the NHDOT has the correct information so, in the future, municipalities will receive the correct block grant aid.*

The State of New Hampshire distributes money to cities and towns for maintenance and repair of their roads. Highway Block Grant Aid has two "Apportionments." Apportionment A is 12% of the State's highway revenues. Apportionment B was a set amount of \$400,000. It is intended to assist municipalities with high roadway mileage but relative low property values.

This article focuses on Apportionment A. It describes how the NHDOT calculates municipal shares, and procedures to request changes in population and mileage records.

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

The NHDOT distributes Apportionment A quarterly to each municipality based on its 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 Population and Mileage Records**

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.

The NHDOT Bureau of Municipal Highways sends an "Information Report" to each municipal office. Section 2 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

Municipalities should also provide, if known, the Road Inventory Number (RIN). The NHDOT data base ties all information for a road to the RIN. Road names often change, and must be connected to the correct RIN. The NHDOT Bureau of Transportation Planning can prepare maps which show both their recorded Road Name and RIN for each road.

To request a map or the total mileage for block grant aid funds, contact the Bureau of Transportation Planning at 271-3344. 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.

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

#### Acknowledgments

Nancy J. Mayville, Project Engineer, Bureau of Municipal Highways, New Hampshire Department of Transportation

# Publications

University of New Hampshire Technology Transfer Center

Copies of the following books and pamphlets, and our complete list of publications, are available through the UNH T<sup>2</sup> Center. The website has the most up-to-date list of publications. When requesting an item with a charge, please include the check with your form. If ordering by mail, follow the instructions below. To request by telephone, call 603-862-2826, or in NH, 800-423-0060. You can also request by fax to 603-862-2364, on-line at [www.t2.unh.edu](http://www.t2.unh.edu), or by e-mail to [t2.center@unh.edu](mailto:t2.center@unh.edu)

The following materials are available free of charge.

\_\_\_ *Another Sleepless Night?* From Primex<sup>3</sup>, this publication provides guidelines for more productive “all-nighters” during winter operations.

\_\_\_ *Calcium Chloride Package.* A package of articles and pamphlets explaining the benefits of deicing with calcium chloride.

\_\_\_ *Deicing, Anti-icing, and Chemical Alternatives.* Informative fact sheet discussing the benefits of anti-icing, deicing, prewetting, and liquid chemical alternatives.

\_\_\_ *Local Low Volume Roads and Streets.* Basic road design information on rural streets and other less-traveled roads for town officials, crew managers, and road managers.

\_\_\_ *Manual of Practice for Anti-icing of Local Roads* This UNH T<sup>2</sup> Center workshop notebook explains the difference between deicing and anti-icing, and describes aspects of a good anti-icing program.

\_\_\_ *NPDES II.* Packet containing *Fact Sheets for Designated MS4s, Regulations for Highway Garage Complexes*, features *Federal Register* Oct. 30, 2000 and *Conditional No Exposure Exclusion for Industrial Activity, Regulations for Salt Storage, and Holding Tanks for Floor Drains.*

\_\_\_ *Road Salt and Water Quality.* Environmental Fact Sheet discusses road salt management, alternatives to road salt and the DOT Reduced Salt Pilot Program.

\_\_\_ *The Salt Storage Handbook.* A practical guide for handling deicing salt. Published by the Salt Institute.

\_\_\_ *Snow Disposal Guidelines.* Environmental Fact Sheet with recommended guidelines for snow disposal.

\_\_\_ *The Snowfighter’s Handbook.* A practical guide for snow and ice control before, during, and after a storm. Published by the Salt Institute.

\_\_\_ *Things to Know Before You Buy a New Plow.* This article points out recommended specifications for snow plows, considering New Hampshire’s climate.

\_\_\_ *Statewide Travel Forecasting.* This FHWA book describes methods and techniques of statewide travel forecasting.

\_\_\_ *Winter Operations Snow Removal and Ice Control Policy.* Published by the State of New Hampshire DOT, it describes general policies, maintenance techniques, and equipment for snow and ice management

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## To Request Material by Mail

Check the items you would like to receive. Fill out this form and include a check in the envelope, if necessary. Cut out this page and mail to the UNH T<sup>2</sup> Center.

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

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

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

Address: \_\_\_\_\_

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

# Videos

*University of New Hampshire Technology Transfer Center*  
**Road Business, Winter 2002, Vol. 17, No.4**

The following videos are available from the UNH T<sup>2</sup> Center Video Library. The website has the most up-to-date list of videos. You can have five videos for a two-week period with no charge. To request by mail, check the videos you would like to borrow (up to 5), fill out the mail request form, staple closed, affix stamp, and mail. To request by telephone, call (603) 862-2826 or (800)423-0060 (in NH). Visit our complete publication and video catalog on our website at <http://www.t2.unh.edu>. Or email [t2.center@unh.edu](mailto:t2.center@unh.edu)

\_\_\_\_ **ST-223, Snow Plowing and Sanding Techniques**, 20 min. This video discusses techniques for plowing and sanding, as well as preparation and safety. Oregon DOT

\_\_\_\_ **PA-210, Idea Store Edition 4**, 10 min.

Illustrates new ideas for trapping rain water, equipment for keeping snow and ice off the bottom of plows, and placing materials in ditches, minimizing aggregate loss. Also, recycling old tires and portable sign displays. FHWA/Pennsylvania DOT

\_\_\_\_ **PA-217, Safety Restoration Snow Removal Guidelines**, 25 min. Presents snow and ice removal safety hazards and methods for correcting them. Also discusses the importance of snow and ice removal management plans and how they can be implemented.

\_\_\_\_ **PA-219, Snow Removal Colorado**, 18 min.

Defines snow removal policies and snow and ice removal management, including pre-season management.

\_\_\_\_ **M-243, Plow Power**, 15 min. Modern techniques for efficient and effective plowing, focusing on plowing in towns and cities. Techniques include main streets, intersections, cul-de-sacs; wing blade, tandem blade, and reversible blade usage, and one-way streets.

\_\_\_\_ **M-302, Winter Operations Training Program: Pre-Season Preparation**, 30 min.

This video discusses how to mount snow removal equipment, including reversible plow, V-plow, light-duty wing, and heavy-duty wing. It provides a step-by-step approach to conducting a pre-season check of plow trucks and all mounted equipment.

\_\_\_\_ **M-303, Winter Operations Training Program: Plowing Techniques**, 30 min.

This video discusses the basic snow plowing techniques and procedures for clearing two-lane roads and multiple-lane highways. It also outlines how to use the heavy-duty wing, ice blade, V-plow, and the reversible plow. The video also covers special techniques for clearing intersections, bridges, railroad crossings, ramps, gores, curbs, and islands.

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Place Stamp Here
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## Milestones:

*Jerard DeCosta* is the new Road Agent in Litchfield.

*Jim Stanford* is the new Director of Public Works in Bedford.

*Keene, Nashua* and *Meredith* have joined the New Hampshire Public Works Mutual Aid Program.

## Websites:

UNH T<sup>2</sup> Center: <http://www.t2.unh.edu>

Anti-icing Chemical Guide  
<http://www.anti-ice-guide.com/>

Anti Icing Manual of Practice  
<http://www.t2.unh.edu/pubs/manofpractice.pdf>

Creating Mutual Aid Video  
<http://www.t2.unh.edu/ma/video/index.html>

### PW.NET

Want to know what is happening in other towns? Learn the very latest in regulations? Need a place to ask questions of other public works officials? Want to be the first to receive notifications of UNH T2 Center workshops? Then, subscribe to PW.NET. It's free. Send an email message to: [kathy.desroches@unh.edu](mailto:kathy.desroches@unh.edu)

In the body of the message type:  
Add pw.net your name

For instance:

Add pw.net John Doe

## Standard Highway Signs Manual

The Federal Highway Administration's 2002 edition of the *Standard Highway Signs* is available. Traffic agencies, jurisdictions, and others involved who fabricate, install, and maintain traffic signs will benefit from it, it includes drawings with exact dimensions; layouts for all regulatory, warning and guide signs; and conversion tables, design guidelines, spacing tables, and standard alphabet-numeral series. The new manual contains over 100 new signs approved in the Millennium Edition of the Manual of Uniform Traffic Devices. See

[http://mutcd.fhwa.dot.gov/ser-shs\\_millennium\\_eng.htm](http://mutcd.fhwa.dot.gov/ser-shs_millennium_eng.htm) Editions may be purchased from [www.attsa.com](http://www.attsa.com)

## The New Used Oil Grant Program

The Used Oil Grant Program has been updated. It allows for annual grants of \$2,500 to establish, improve, or operate a used oil collection center. Applications may be submitted at any time and take two months to process. Work and purchases may occur only after the grant is approved. Funds have been used for:

- Collection Tanks;
- Drum Containment;
- Spill Kits/Sorbents;
- Used Oil Fuel Burners;
- Funnels, Fill Gauges, Padlocks, etc;
- Used Oil Filter Crushers;
- Sheds;
- Transfer Pumps;
- Transport Costs to a Recycler;
- Used Oil Burner Cleaning/Serviceing;
- Sampling Costs and Removal of Sludge from Collection Tanks; and

For more information, contact The NH Department of Environmental Services at 1-888-TAKEOIL  
[www.des.state.nh.us/hwcs/used\\_oil.htm](http://www.des.state.nh.us/hwcs/used_oil.htm)

# Road Business

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## Calendar

Planned UNH T<sup>2</sup> Center workshops  
Spring of 2003

For additional information or registrations,  
call the UNH T<sup>2</sup> Center or check the web-site

### Bridge Repair Projects

2 Locations

### Drain MS

- February 27, 2003 Manchester

### Drainage, Drainage, Drainage

2 Locations

### Erosion Prevention & Sediment Control

4 Locations

### Marketing Public Works Departments

2 Locations

### MUTCD

2 Locations

### Project Management

1 Location

### Reconstruction Project Planning

1 Location

### RSMS

1 Location

### SIMS

1 Location

### T<sup>2</sup> Challenge

1 Location

### Tort Liability, Risk Management

- April 10, 2003, Manchester

### Workzone Traffic Control

- May 6, 2003,  
Manchester
- May 13, 2003,  
Lincoln

