



US Department of Transportation
Federal Highway Administration

ROAD BUSINESS



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Fall 2000



At the open house, activities were planned for people of all ages. Here, children are taught to use drills.

On the Road in New Hampshire

The Second Annual Open House in Exeter

On May 20, 2000 the Public Works Department in Town of Exeter held their second open house. Over 175 people attended. It was such a success they plan to hold another one.

An open house is a public relations tool regularly employed by other municipal departments and used by some public works departments. Keith Noyes, Director of Public Works in Exeter said, "An open house is an opportunity to educate the public to be aware of the importance of public works to the community and to their everyday lives." An open house also creates a feeling of goodwill between the public and the department.

Planning is vital part of a successful event. Exeter did their homework. An 8 person committee co- chaired by Lori Burrage, secretary, and Steven Tucker, work leader, it took about 5

months to organize the event. Over 25 employees volunteered their time to work on the project.

The committee brainstormed topics for demonstrations and tours. Demonstrations were planned specifically for children, such as learning to use hand tools, recycling arts and crafts, and seeing a paint machine demonstration. For adults, a backhoe basketball game was created. Demonstrations not age specific included plowing, granite curb setting, and tapping a water line. Tours brought residents to other public works facilities, such as the water and wastewater treatment plants. The entire public works facility was open for inspection and everyone enjoyed grilled ribs and chicken (donated by a resident).

The Town Council is very supportive of this venture. The Town Manager came as well as some Selectmen.

To advertise the event, flyers were sent to the elementary school. The date coincided with Public Works week to tie in the local event to a larger one.

At an open house, it is important to have something for everyone. Demonstrations and tours will enable employees to show others what they do. This is great for morale, while employees are proud of what they do. They don't often get the chance to show others the diversity of what their jobs.

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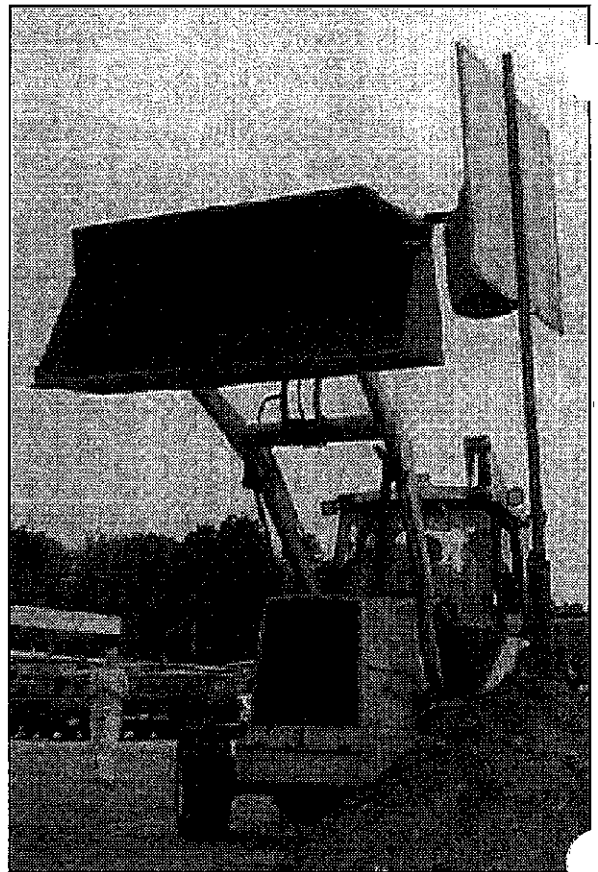
continued from page 1

Keith recommends an open house, because it is good for morale and public relations. He says, "Make it interesting for everyone you expect to attend. Plan well, advertise and provide refreshments."



Above: A cookout will make any event a hit!

Right: Adults enjoy Backhoe BasketBall



Opportunities for Funding in New Hampshire

By Victoria H. Chase, Project Manager,
New Hampshire Department of Transportation

Two sources of funding to enhance the safety and accessibility of communities are available through the New Hampshire Department of Transportation (NHDOT). The funding, established by The Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 was continued with the Transportation Equity Act for the 21st Century (TEA-21) in 1998.

The Congestion Mitigation and Air Quality Program (CMAQ)

CMAQ is usable for transit and carpool projects, traffic management and control systems, as well as bicycle and pedestrian facilities. CMAQ funding must be used in Air Quality Non-Attainment areas. These are primarily located in the southerly New Hampshire.

The Transportation Enhancement Program (TE)

TE is available for and environmental mitigation, bicycle, pedestrian, scenic, historic, landscaping projects.

Availability and Application

The NHDOT publication "Manual for the Development of CMAQ and TE Projects" (published April 2000) outlines the application and project development process of the grants.

The funding selection occurs every two years. The next round begins June 2001. It will be initiated by the Regional Planning Commissions (RPC). Project funding is typically available for two or three years. These are reimbursement programs, which usu-



ally require a match of 80% federal and 20% municipal.

Recent Projects

There have been five rounds of selection, 187 TE projects and 105 CMAQ projects have been funded statewide. Some of the projects include:

CMAQ

- multi-modal transit centers in Portsmouth, Nashua and Concord
- extensive bicycle and pedestrian path surrounding Derry
- purchase of buses, utilized by private intercity bus companies
- rail stations in Exeter and Dover
- sidewalks in Nashua

TE

- rail station in Durham and rehabilitation of rail station in Plymouth.
- purchase of abandoned rail corridors statewide
- sidewalks and pedestrian improvements in Canterbury and sidewalks in Plymouth, Newmarket, Exeter, and Wolfeboro
- bike shoulders in Conway
- drainage modifications to protect water quality

For more information, contact a RPC or Victoria H. Chase, Project Manager at the New Hampshire Department of Transportation (603) 271-2107.



Culvert Inspection and Repair

By Marisa DiBiaso, Project Assistant

In the autumn water levels are usually low, making it a great time to inspect culverts and perform routine maintenance. This article will cover inspections to determine needed cleaning, repair or replacement, and methods to minimize erosion.

Inspections

Thorough inspection is essential to effective maintenance. Knowledge of culvert material can predict the types of problems a culvert may have. Each material has specific weaknesses.

- Steel culverts are subject to corrosion and abrasion, and have a shorter life span than other materials.
- Aluminum culverts can sustain abrasion and have less strength.
- Plastic culverts bend easily and are subject to ultraviolet degradation. They are subject to impact damage at low temperatures.
- Concrete is the most durable material, but concrete and reinforcing steel still deteriorate.

Cleaning

Inspections frequently show that culverts require cleaning. During cleaning, certain maintenance tasks should be performed:

- Remove obstructions and clean inside the pipe.
- Examine the culvert for visible cracks, changes in shape, corrosion or abrasion.
- Check upstream for trees, dead branches, and other debris that may obstruct the pipe.
- Cut vegetation that may hinder flow near inlet and outlet.
- Look for evidence of past overflow to indicate whether the culvert is the correct size.
- Remove debris and sediment, or add material to make the ditch bottom level with the culvert invert elevation.

Repairs

Bent or broken culvert ends should be repaired for smooth water flow. Repair headwall cracks, loose mortar, and displaced stones. The chart on the facing page will help to diagnose other problems and choose a repair.

Replacements

The most important reason to replace a culvert is to minimize the possibility of structural failure. Weak culverts beneath a road are especially dangerous. Replace a culvert if it cannot handle the expected water flow. Water and debris lines above the culvert indicate a larger culvert is needed. Area residents and town records can indicate water levels of past storms and the maximum level to expect.

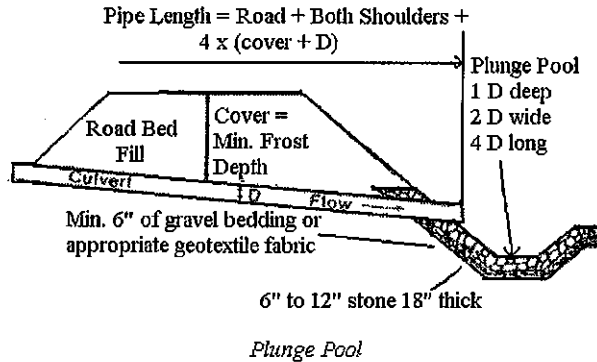
Replacing a culvert with one only slightly larger significantly increases the capacity of flow. For example, an 18" culvert has about 50% more capacity than a 15" culvert. Before installing a larger culvert, check culverts downstream to ensure they can handle the increased flow.

Multiple culverts might be necessary if cover is insufficient for a larger culvert. The table below shows the number of smaller diameter culverts equal in water carrying capacity to that of one larger sized culvert. It is based on culverts laid on the same slope. For example, one 24" diameter culvert is equivalent in water carrying capacity to five 12" culverts or two 18" culverts.

Multiple Culvert Installation					
Diam.	12"	15"	18"	21"	24"
12"	1				
15"	1.7	1			
18"	2.5	1.5	1		
21"	3.6	2.2	1.4	1	
24"	5	3	2	1.4	1

Erosion

Water exiting the culvert can erode the land at the outlet. The greater the velocity of flow, the greater the erosion. Erosion at the outlet of an upstream culvert will loosen sediment and debris, which can build up in ditches and inside a culvert downstream. Buildup slows the flow. Ultimately sediment is carried into streams, ponds, or lakes. A solution for low velocities is to plant vegetation.



For higher velocities, crews should construct a stone splash pad or plunge pool at the outlet. Typically, for culverts with a diameter of 30 inches or less, the depth of the plunge pool should equal the diameter of the culvert.

Culvert Diam. (ft.)	Depth (ft.)	Width (ft.)	Length (ft.)
1.0	1.0	2.0	4.0
1.5	1.5	3.0	6.0
2.0	2.0	4.0	8.0
2.5	2.5	5.0	10.0
>2.5	Need Detailed Engineering Design		

Plunge Pool Design

Inspection determines whether culvert cleaning, repairs, or replacement are needed. Where necessary, obtain a wetlands permit before performing maintenance. If replacement is necessary, it is important to choose a culvert the right size for the location and water flow. Regular maintenance, such as removing sediment and debris, is essential to keep the culverts working properly.

To obtain information on measuring and calculating slopes, see page 9 of this Road Business.

Sources:

- "Culvert Installation and Maintenance." *A Series of Quick Guides for New Hampshire Towns*. UNH Technology Transfer Center.
- "Inspect and Maintain Culverts." *Illinois Interchange Illinois LTAP*. Vol. 4, Number 4, Fall 1996.
- Drainage, Drainage, Drainage* UNH Technology Transfer Center. Durham, NH. January 1996.

Common Culvert Problems and Solutions

What you observe...	What may be the reason...	How to fix it...
Scouring/erosion at the inlet.	<ul style="list-style-type: none"> Ditch too steeply graded. Poor location / alignment. Clogged pipe. 	<ul style="list-style-type: none"> Line the ditch with stone. Properly align the ditch with the culvert. Clean and flush the culvert.
Scouring/erosion at the outlet.	<ul style="list-style-type: none"> Pipe sloped too much. Pipe is too small. 	<ul style="list-style-type: none"> Build a stone splash pad or plunge pool Check size and replace with larger pipe if necessary.
Ponded/puddled water.	<ul style="list-style-type: none"> Invert is too high. Ditch grade is too flat. 	<ul style="list-style-type: none"> Reset the pipe – match the invert to the channel bottom. Regrade ditch to maintain correct flow.
Dented/crushed ends.	<ul style="list-style-type: none"> Traffic / snowplows are hitting the ends. 	<ul style="list-style-type: none"> Fix pipe ends. Install maker posts or guardrails.
Heavy corrosion.	<ul style="list-style-type: none"> Water flowing through culvert is acidic. 	<ul style="list-style-type: none"> Install a PVC sleeve or replace with a non-corrosive material.
Piping around the culvert.	<ul style="list-style-type: none"> Pipe is incorrectly installed. 	<ul style="list-style-type: none"> Reinstall pipe with proper bedding and compaction. Install a head wall.
Sediment buildup.	<ul style="list-style-type: none"> Not enough slope. 	<ul style="list-style-type: none"> Reinstall pipe with a slope of at least ¼" per foot.

Storm Water Phase II

NPDES II Will Impact Many New Hampshire Municipalities

The Environmental Protection Agency (EPA) has issued a "Final Rule" enacting Phase II of its National Pollutant Discharge Elimination System Storm Water Program (NPDES II or Phase II). This rule will affect nearly all municipalities to some degree, and have a major impact on others. This article will provide an overview of the three areas of NPDES II coverage:

- Industrial Activities.
- Regulated Municipal Separate Storm Sewer Systems (MS4s).
- Construction Activities.

The information below provides basic information to municipal officials about Phase II requirements.

Industrial Activities

The Industrial Activities rules will impact nearly all highway departments. These include municipal garages, truck and vehicle washing, salt and sand storage, and wastewater treatment plants. It will also include some recycling centers and refuse transfer stations.

Municipalities will need a No Exposure Waiver or permit for each activity. To obtain a waiver, the agency must show that the materials "are not exposed to storm water" during storage or handling operations. Some municipalities will have to construct new or modify existing facilities. For example, water from salt handling, from vehicle repair, and from washing will often have to drain through pollutant interceptors. To get a permit will likely require a commitment to achieve a No Exposure Waiver. The deadline for applications is March 2003.

Regulated MS4s

An MS4, or "municipal separate storm sewer system" means

1. All components and the system of components of a road drainage system. It includes roads and streets, catch basins, curbs, gutters, ditches, culverts, man-made channels, and storm drains.

2. Such facilities owned or operated by a governmental entity, including municipalities, states, universities, local sewer systems, hospitals, military bases, and prisons.

Phase II regulates all MS4s located in "urbanized areas" (UAs) as defined by the Bureau of the Census. These UAs cover the entire cities of Dover, Manchester, Nashua, Portsmouth, Rochester, and Somersworth. They cover parts of

Amherst	Hudson	Pelham
Auburn	Litchfield	Plaistow
Bedford	Londonderry	Rollinsford
Durham	Madbury	Rye
Goffstown	Merrimack	Salem
Hollis	New Castle	Windham
Hooksett	Newington	

EPA might add municipalities to this list, or modify the current areas. It must designate regulated MS4s by December 9, 2002.

Each regulated MS4 will have to develop a Storm Water Management Program (SWMP). That program must contain six "minimum control measures." Each is summarized below.

1. Public Education and Outreach. Inform citizens about the impacts polluted storm water runoff can have on water quality.
2. Public Participation/Involvement. Encourage citizen participation in program development and implementation.
3. Illicit Discharge Detection and Elimination. Develop and implement a plan to detect and eliminate illicit discharges to the storm sewer system.
4. Construction Site Runoff Control. Develop, implement, and enforce an erosion and sediment control program for construction activities that disturb one or more acres of land.
5. Post-Construction Runoff Control. Develop, implement, and enforce a program to address discharges from new development and redevelopment areas.
6. Pollution Prevention/Good Housekeeping. Develop and implement a program to prevent and reduce pollutant runoff from municipal operations.

The EPA describes specific requirements in a separate Fact Sheet for each measure. They are available on the EPA webpage:

www.epa.gov/owm/sw/phase2/

Municipal officials without web access can request them from the UNH T² Center.

Waiver options are available for small MS4s that meet specific criteria. EPA provides that criteria in its Fact Sheet 2.1.

Since the final rule covers all small MS4s in a UA, several governments and/or agencies could have overlapping jurisdiction. An example is where a state road is within a designated area of a town or city. Another example is in Durham where the University of New Hampshire is within the designated area for the town. In such instances, the EPA encourages the parties to form a unified SWMP. The deadline for an initial application is March 2003. SWMP implementation is due about 5 years later.

Construction Activities

Operators of a construction site must obtain a permit if they disturb one or more acres of land. If part of a larger development, areas less than one acre are also regulated. The "construction site operator" is the party or parties with operational control of plans and specifications or of day-to-day activities. (See EPA Fact Sheet 3.0)

If a municipality is a new construction operator, it must obtain one. Construction activity does not include routine maintenance of roads and ditches.

As noted above, regulated MS4 municipalities must control construction site and post-construction site runoff. Their planning regulations should require construction operators to obtain permits. These regulations should also address post-construction discharges.

Assistance to NH Municipalities

During this calendar year, representatives of various agencies have met periodically. Their objective is to determine needed assistance and to develop plans to provide it. Several city public works officials have clarified the needs and concerns. The participating agencies, in bold type below, and their likely roles follow.

NH Office of State Planning (NHOSP).

NHOSP can provide guidance to municipal planners, and model ordinances and regulations for NPDES II compliance.

NH Department of Environmental Services (NHDES). Although the EPA will enforce Phase II in New Hampshire, many NHDES regulations apply. That is, compliance with state regulations will fulfill some specific NPDES II requirements. Moreover, its staff has considerable expertise in storm water management practices.

Natural Resources Conservation Service (NRCS). The NRCS and county conservation districts have a number of erosion and sediment control experts. Municipalities can request services through their county conservation district.

NH Department of Transportation (NHDOT). The state is a regulated MS4 within the designated UAs. They will coordinate their SWMPs with affected municipalities.

UNH Technology Transfer Center. The UNH T² Center provides technical and management information to improve local road maintenance. Many workshops and newsletter articles contain information directly related to Phase II. It is developing a Drainage Maintenance System (DrainMS) aimed at helping municipalities prepare and execute Phase II SWMPs.

The Environmental Protection Agency, Boston (EPA Boston) is the permitting and enforcement agency for New Hampshire. To provide information to municipalities, it will hold a workshop and tradeshow on November 30 in Manchester. Several of the above agencies are co-sponsors. The event will include workshops covering each of the Phase II areas.

Private engineers and vendors can also assist with engineering studies, equipment, and construction. Thirty or more firms will exhibit at the November 30 tradeshow.

Finally, municipal officials can assist each other. PWN^{et} is one way to communicate with peers. See the box on page 11 to join in the dialogue. That dialogue will also help the agencies to plan assistance. For example, it will help the UNH T² Center define future workshops and newsletter articles.

Improving Communications with the Public

Kenneth W. Ward, Sr. Loss Prevention Representative, NHMA-PLT



At a seminar of Public Works Professionals from around the country, creative ways were discussed to improve public relations. This article is to share a few

ideas useful to municipalities. Ask citizens to comment on the work, how well was it done, were they notified in advance, what went well and not so well, and were noise levels excessive?

Produce quarterly newsletters to inform citizens of work has been done, work planned for the near future, etc... Meet with various committees, social groups, etc... describe the work being done, work planned for the near future, and to receive suggestions and comments. Conduct a local government day. Invite local schools to visit all municipal departments to see and better understand what municipal government does. Host a "new comers" breakfast for newly arrived families. All municipal departments attend too, and present a brief overview of the services they perform for the municipality.

Follow up complaints with a one on one visit to the person issuing the complaint.

Replace telephone "on hold" music with information about the public works.

In larger municipalities, establish a media officer. When working with a media representative, repeat what you just told them to ensure they understood your message.

Take heavy equipment to local hangouts (malls, landfill, and stores) for the public to view and be prepared to answer questions about public works.

Websites

A website should request citizens to e-mail suggestions, compliments, complaints, and comments. Offer defensive driving tips, information about driving around snow removal equipment, and work zones.

Winter Policies

Once a year, publish the municipal snow removal policy in the local paper.

Create temporary mailboxes in the event a plow damages one.

Stencil plow route signs with telephone numbers for further winter information.

ideas useful to municipalities.

Tips from Greeley, Colorado

A contest is held in Greeley Colorado each October. Elementary, middle and high school students paint the moldboard of a plow with various subject topics. The plow is left at the school with painting instructions: where they may paint and cannot paint. Prizes of \$50.00, \$20.00 and \$10.00 are given to the best paintings. Awards are made from the city budget.

Prior to the snow season, the Greeley Public Works Department prints the municipal snow plow policy on doorknob hanger sheets. The purpose is to provide parts of the policy as it may affect the citizens, and includes phone numbers as to whom to contact for further questions.

Greeley also conducts a "Snow Operations" Open House. They distribute a snow removal booklet that details the different vehicles and their ages, the different snow removal routes, information about salting and why it is required for safety. To obtain a copy of this booklet contact PLT.

The "Show and Tell" program brings various pieces of heavy equipment to schools for educational and safety purposes. All grades are welcome.

Tips from Across the Country

Customer Service. Once work is completed, leave a questionnaire with the affected residents.

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 T² Center. 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, or by e-mail to t2.center@unh.edu

The following materials are available free of charge.

___ *UNH T² Center Publications and Video Catalog.*

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

___ *Concrete in Practice Fact Sheets.* Includes 29 fact sheets covering various practices.

___ *Measuring and Calculating Slopes.* Informational sheet on how to measure a roadway slope. Recommended guidelines for roadway slopes are also included.

___ *Nonpoint Source Pollution.* This NHDES guide describes the causes of nonpoint source pollution and suggestions for prevention.

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

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

___ *Snow Disposal Guidelines.* NHDES Environmental Fact Sheet; flyer gives recommended guidelines for snow disposal.

___ *Series of Quick Guides for New Hampshire Towns.* A set of pamphlets dealing with the topics below. Developed by the UNH T² Center and distributed as a set. 1) Culvert Installation and Maintenance, 2) Ditch/Channel Construction and Maintenance, 3) Vegetative Erosion & Sediment Control, 4) Non-Vegetative Erosion & Sediment Control, 5) Cut and Fill Slopes, 6) Beaver Pipe: Construction and Maintenance, 7) Stormwater Inlets and Catch Basins, 8) Mowing and Brush Control, 9) Snow and Ice Control, and 10) Obtaining Permits

The following materials involve a minor charge. Please send a check with the form when requesting one of these materials.

___ *Basics of a Good Road.* The manual discusses how to design and build roads that will last. Specific topics covered include drainage, treatments, and soils. A UNH T² Center workshop notebook. \$15

___ *Drainage, Drainage, Drainage.* The manual describes various drainage concepts and features. Problems with drainage, and proper maintenance to ensure good drainage, are also discussed. A UNH T² Center workshop notebook. \$15

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 T² Center.

Name: _____

Position: _____

Organization: _____

Address: _____

Town: _____ State: _____ Zip: _____

Videos

University of New Hampshire Technology Transfer Center
Road Business, Fall 2000, Vol. 15, No.3

The following videos are available from the UNH T² Center Video Library. 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

___ **M-281, Anti-Icing & Deicing**, 30 min. This informative video discusses the benefits and differences between anti-icing and deicing methods. Basic chemistry of deicing chemicals is explained. Making of brine, pre-wetting and snow fences are also covered.

___ **M-283, Using Winter Weather Resources**, 35 min. This video explains how to use weather information to make decisions during winter operations. The video covers weather resources such as RWIS, DTN and local forecast information. Although Midwest weather and terrain is represented, there is detail describing basic weather terminology.

___ **ST-256, Torts are Everybody's Business**, 5 min. Tort suits are lawsuits brought against a Department of Transportation because of road problems. This video answers many questions about what torts are and how they can be prevented. PA DOT

___ **PA-232, Inspecting Unsurfaced Roads**, 8 min. This video describes one of the first steps in the Unsurfaced Road Management System—inspection. It briefly explains what defects to look for in an unsurfaced road and how to measure them. USA CRREL

___ **DC-251, The Importance of Road Drainage**, 19 min. The basis for this film is that if you don't drain water from roads, nature will drain it for you. Describes surface and subsurface drainage, drainage systems, and procedures for their inspection and repair. FHWA

___ **M-284, Preventive Maintenance: Project Selection**, 30 min. The principle of this video is to apply the *right* treatment to the *right* road at the *right* time. It explains the advantages of preventive maintenance and the importance of preserving the life of the road, rather than restoring it.

___ **M-247, Planning and Organizing Winter Operations**, 12 min. Preparations for winter operations including ordering parts and materials, stock piles, checking drainage areas, rental agreements, snow plowing map, crew, and staff meetings. PA DOT

___ **ST-219, New Directions in Sign Management**, 17min. Presents the problems that create the need for a sign management system. Highlights the main points of a management program. ATSSA

___ **Video Catalog.**

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Milestones:

David Ford, has left the position of Director of Public Works in Rochester.

Joseph "Skip" Grady has retired as Director of Public Works in Durham

Wayne Leavitt is the new Road Agent in Lyndenborough.

Roger C. Pelton has retired as Road Agent in Langdon. Roger L. Pelton, his son, has taken over the position.

Websites:

There are many helpful websites for public works employees. If you have others that your colleagues could benefit from, send the urls to t2.center@unh.edu. We'll publish the site and your name in *Road Business*. (No commercial sites please).

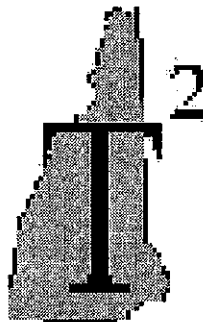
UNH T² Center: <http://www.t2.unh.edu>

Federal Highway Office of Asset Management
<http://www.fhwa.dot.gov/infrastructure/asstmgmt/>

Use this site to see what roadways are under construction

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

Use the web page to provide local information on work zones, such as where, when and for how long.

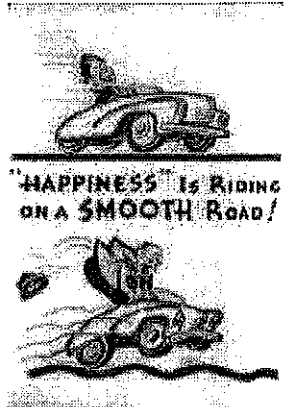


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At the beginning of every snowstorm, contact the media to note the time out on the roads and any particulars of the storm, as they become apparent.

Use a plow ride-along program to educate the public better about plowing including long hours, poor vision from the cab, and so on. Many NH communities do this.

Editors note: Many of these ideas can be implemented with little or no cost. The benefit that the public works department may see from these ideas is immeasurable. For more information contact Ken Ward at the New Hampshire Municipal Association.



PW.NET

Want to know what is happening in other towns? 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

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

For instance:

Add pw.net John Doe

Road Business

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Calendar

September				
4	5	6 Mutual Aid Orientation— Concord	7	8
11	12	13	14	15
18 Getting Your Message Across-- Lancaster	19 Getting Your Message Across-- Keene	20	21 SIMS-- Manchester	22
25	26	27 RSMS-- Manchester	28 RSMS-- Manchester	29
October				
2	3	4	5 Incident Command System for PW-Lincoln Project Planning— New London	6 Incident Command System for PW-Lincoln
9	10	11 Tort Liability-- Machester	12	13
16	17	18	19	20
23	24 Basics of a Good Road—New London	25	26	27
November				
30	31 Drainage, Drainage, Drainage-- Ashland	1	2 Drainage, Drainage, Drainage-- Rochester	3

November 9, 2000 APWA Winter Operations, Durham

November 15-17, 2000 NHMA, Manchester

November 30, 2000 EPA Stormwater Technology Fair, Manchester Contact UNH T² Center