

MassDOT Arrives

In June 2009, Governor Deval Patrick signed the historic transportation reform law approved by the legislature, creating the new Massachusetts Department of Transportation (MassDOT), effective November 1, 2009. Under this new reform, all statewide transportation agencies are now contained within MassDOT. The new organization is responsible for all major roadways including the Mass. Turnpike, all Big Dig related roads and tunnels, the Tobin Bridge, and several major DCR parkways in addition to all MassHighway roads.

*A welcome
message
from Jeff
Mullan
Secretary
and CEO*



Jeffrey Mullan was chosen by Governor Patrick to head the new MassDOT as Secretary and CEO. Below are excerpts of his initial remarks regarding new changes:

“I am privileged to have been chosen by Governor Patrick as the Secretary and CEO of this new organization. On behalf of the Governor, my message to all is that our primary institutional objective is as follows: To become ONE transportation agency, with ONE governing structure and with ONE vision and mission. That vision is to build a unified transportation organization that strengthens communities and encourages economic development by making long-term investments that move people and goods efficiently and safely throughout the Commonwealth.”

The mission of MassDOT is to deliver safe and efficient transportation services across the Commonwealth by building a culture of innovation and respect that makes customer service and public safety top priorities. The first step towards efficiency is the merging of the Pike, MassHighway, EOT, RMV, the Tobin Bridge and the

MBTA. All agencies are now consolidated into four divisions: Highway, Transit, RMV, and Aeronautics.

Jeffrey Mullan has been involved in Massachusetts transportation issues for more than 20 years. From May through October, 2009, he served as the Executive Director of the former Massachusetts Turnpike Authority where he was responsible for overseeing the abolition of the Turnpike Authority and leading an inter-agency Highway Integration Team responsible for creating the MassDOT Highway Division that will integrate MassHighway, Turnpike, Tobin Bridge and Department of Conservation and Recreation assets and operations.

Prior to 2007, Jeff worked for 14 years at Foley Hoag LLP, where he was a partner and the co-chair of the firm’s administrative law practice. While at Foley, he represented many public sector clients on redevelopment and transportation projects, and was involved in major initiatives such as the Central Artery/Tunnel Project, the Greenbush commuter rail line and the Route 3

North project. He also represented the Commonwealth in the creation of the Rose Kennedy Greenway Conservancy in 2004. Before joining Foley Hoag, Mullan worked at the former Massachusetts Department of Public Works as Right of Way Manager on the Central Artery Tunnel Project.

The goals of MassDOT, as outlined by Mullan are as follows:

First, to restore public trust by creating an open, responsive and well-managed organization;

Second, to encourage a culture of innovation and accountability; and

Third, to leverage projects that spark economic development and support livable communities, while balancing the needs of all transportation users.

With the new MassDOT, we are unveiling a transportation organization that:

Provides quality customer service to all transportation users;

Is transparent and accountable to taxpayers;

Aggressively seeks out every cost saving and efficiency possible; and

Makes critical investments in infrastructure that spark economic growth and strengthen our communities.

It's a back-to-basics approach that anyone who cares about transportation should welcome. For municipal highway managers, the new legislation ends past bureaucracies and the resulting confusion as to which jurisdiction certain roadways fall under.



www.massdot.state.ma.us



Installation of electronic toll collection equipment by UMass research assistants for measurement of travel time along Route 116 in Amherst

MassDOT Planning has recently begun updates of the Regional Intelligent Transportation Systems (ITS) Architectures for the Commonwealth of Massachusetts. These architectures provide a regional framework for ITS coordination -- identifying regional ITS stakeholders, describing existing and planned ITS elements and specifying high-level information flows among these elements. These updates are taking place in conjunction with the overall statewide ITS Strategic Plan.

The ITS Strategic Plan will support, enable and enhance a seamless multi-modal transportation system; ensure the competitive position of the Commonwealth in regional, national and international markets; and enhance social, environmental and quality of life factors for the Commonwealth's residents and visitors. The ITS Strategic Plan will engage the full range of the Commonwealth's transportation stakeholders, and build consensus for the Statewide ITS Program. MassDOT will be conducting meetings across the state in four different regions to facilitate the gathering of information and the exchange of ideas. Input from all municipal planning and transportation agencies is strongly encouraged.

If you would like to be involved and to find out more information, please contact MassDOT's Steve Pepin at 617-973-8051 or email him at: stephen.pepin@state.ma.us.

NEW MASTER SCHOLAR

Greg Rounseville

Dennis DPW

Chris Ahmadjian presented a Master Roads Scholar plaque along with a jacket to Greg Rounseville at the Baystate Roads Advisory Board Meeting in October 2009



Greg Rounseville has worked in the construction field for over 20 years. While working as a framing foreman, he obtained an Associate Degree in Construction Technology and Management (with honors in 1991) at Cape Cod Community College. Further employment included surveying and construction supervision. He is also certified as a Massachusetts Title 5 System Inspector.

After spending time in the private sector, Greg joined the engineering division at the Town of Dennis DPW in 1998. He was responsible for day-to-day field operations including drainage installation, culvert replacement, pavement projects and building construction. He conducted quantity take off, cost estimating, and purchasing while scheduling and coordinating progress of all facets of work. In 2004 he was promoted to assistant superintendent where he assists with management and supervision of more than 30 employees, and the preparation, presentation, and execution of an annual budget of 3.5 million dollars. He is responsible for supervision of the cemetery, fleet maintenance, grounds, highway and sanitation personnel. After obtaining funds from

an over-ride, he procured 1.2 million dollars of capital equipment. Current projects include installation of a photovoltaic array on the police station for the Alternative Energy Committee and investigation of possible wind turbine sites.

Greg strongly believes that employees are a town's greatest asset and that continuous investment in appropriate training, tools and equipment make an organization successful. By making these investments, a community can be better served by creating a professional, efficient and reliable workforce. He also believes that the role of a DPW should be to continually strive for greater service output, improved efficiency, transparency and quality of work.

In keeping with his belief in education, Greg graduated with a Bachelor of Science Degree in Business Administration from Suffolk University with honors (Beta Gamma Sigma) in 2008 and is currently enrolled in the MPA program. He lives in Dennisport with his wife, Carrie; daughter, Kate; and dog, Maisy. His favorite pastimes are spending time with his family at the beach, biking, boating and working in the yard.

HAVE YOU QUALIFIED FOR ROADS SCHOLAR OR MASTER ROAD SCHOLAR AWARDS?

Our workshop database will confirm your attendance at 7 classes for the first level or 22 classes for the Master level. Please provide T-Shirt size, your address and your supervisor's name, title, and address when notifying Baystate Roads Program of your status at: baystateroads@hotmail.com

SNOW AND ICE

WHAT IS ANTI-ICING?

The application of chemicals at the start of a precipitation event in an attempt to prevent or weaken the bond of snow ice to the pavement by reducing the freezing point of water.

BENEFITS

Research has shown that timely applications of anti-icing materials can cut the cost of maintaining a safe roads surface by 90% over the cost of deicing. Anti-icing chemicals are applied in liquid form (brine) to road surfaces just before a snow or ice storm. Liquid sodium chloride (NaCl) is a very effective choice for anti-icing above 25 degrees F.

Anti-icing is proactive and provides many benefits:

Anti-icing returns surfaces to normal faster, resulting in fewer accidents and delays.

Salt needs moisture to be effective. Applying brine jumpstarts the melting process.

Salt brine sticks to the road surface. It will not be as easily blown off by wind or traffic so material is more efficiently used.

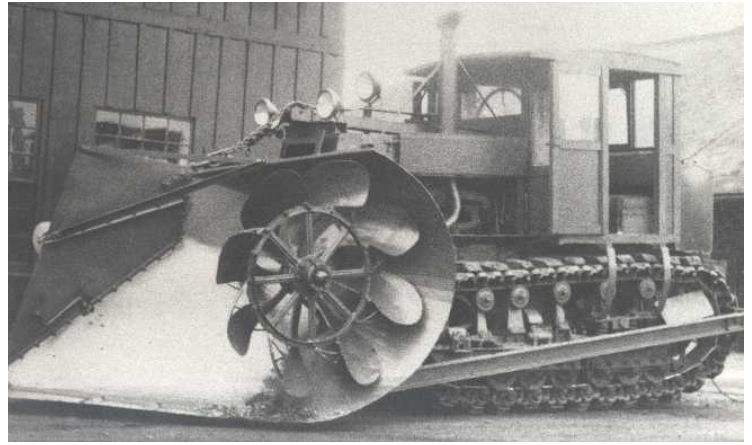
If the storm is delayed, salt residue remains on the road ready to begin work when any precipitation begins.

Crews can begin treatment in advance of a storm. Because anti-icing prevents bonding to the pavement, snowfighters have less work to maintain safe roadways as a storm progresses.

Increased efficiency results in use of less deicer and manpower, therefore, lowering the cost of maintainng safe road conditions.

Use of less deicing materials also minimizes environmental concerns.

Products available for use in anti-icing programs are sodium chloride, calcium chloride, magnesium chloride, potassium acetate, and calcium magnesium acetate. Each product has its own advantages and disadvantages. The most common material in use is sodium chloride in the form of a brine made by mixing rock salt and water which is effective to -6 degrees F.



Calibration ? ? ?

SALT BRINE

This is made by combining rock salt or solar salt with water; the final product is about 23% NaCl. The salt to water proportion is critical for effectiveness. Qualities of the brine will be reduced with too little or too much salt. Measurement for the correct salt to water content (23.3%) is obtained by using a salometer, a specialized hydrometer. This is the concentration at which salt brine has the lowest freezing point, -6 degrees F (the eutectic temperature of salt).

Although commercial brine makers are on the market, some towns have reduced their expenses by building custom devices using water tanks and PVC pipe (see related article from Concord on page 9).

APPLICATION

It is critical to obtain accurate weather and road surface information for efficient use of anti-icing chemicals. Doppler radar reports distributed over the Internet or to subscribers of weather service providers allow for better decision making. The Roadway Weather Information System (RWIS) provides everything from air temperature, dew point, and optical weather identifiers to pavement temperature, surface status, and chemical information.

Pavement temperature is often different than air temperature and critical in determining chemical choice, chemical form (dry or prewet) and the application rate. Understanding the freeze point depressing qualities of brine is important to its use and application as an anti-icing agent.

Additional precipitation always results in a dilution of brine at the road surface.

SNOW AND ICE

DEPOT MAINTENANCE

It is important to practice good housekeeping and salt storage at municipal depots. Here are some of Paul Brown's suggestions for keeping the communities happy and complying with environmental regulations:

CLEAN AND CLEAR DOORWAYS, STAIRS AND WALKWAYS OF SNOW AND ICE

USE CARE WHEN CLIMBING ON TOP OF SANDERS TO CLEAN GRATES OR CHECK LOADS

STORE SALT UNDERCOVER AND CLOSE DOORS WHEN NOT USING IT

CLEAN PAVEMENTS AFTER EACH EVENT

"CHARGED" SAND SHOULD BE MIXED AND STORED INDOORS

PRACTICE GOOD EROSION CONTROL FOR MATERIAL STORED NEAR WETLANDS

FOLLOW SOPs ENV-01-15-1-000 and ENV-01-08-1-000

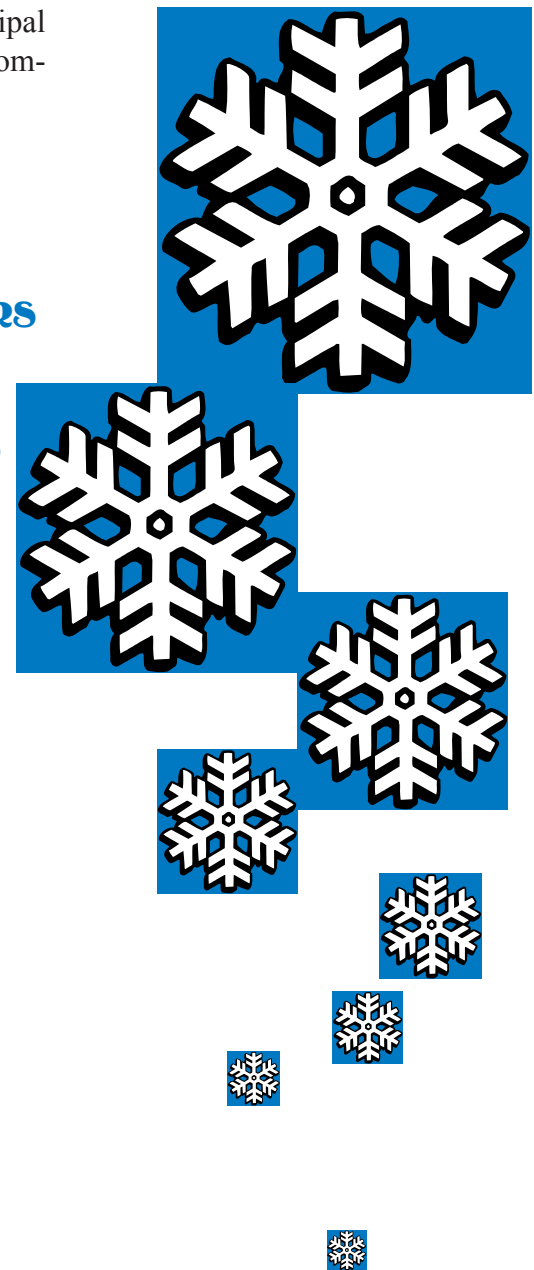
REPORT SALT SHED DAMAGE OR LEAKS TO SUPERVISORS IMMEDIATELY FOR REPAIRS

CONTROL OR COLLECT ALL DRAINAGE PROPERLY. COLLECTED BRINE CAN BE REAPPLIED TO A STOCKPILE DURING DRY SEASONS

PROVIDE GOOD DRAINAGE FOR ALL STORAGE STRUCTURES WITH A SLOPE OF 1/4" PER FOOT AWAY FROM THE CENTER

KEEP DEPOTS CLEAN AND RESPECTABLE

See Salt Institute's *The Salt Storage Handbook* for more details



SNOW AND ICE CHEMICAL APPLICATION GUIDELINES

Winter maintenance field personnel should follow a step-by-step procedure to determine the most cost-effective chemical application rate as presented on page 7 which reflect the newest techniques and materials according to MassDOT. Appropriate application rates for solid, pre-wetted solid and liquid salt (sodium chloride) are based on pavement temperature range, adjusted dilution potential level and presence or absence of ice/pavement bonds. These recommended application rates depend on weather and pavement conditions at the times of treatment and on how these conditions are expected to change before the next anticipated treatment.

Plowing should be done before chemicals are applied to remove any excess snow, slush, or ice, leaving the pavement surface wet, slushy or lightly covered with snow when treated. Paul Brown, Director of Snow and Ice Operations at MassDOT, is adamant about considering the following treatment factors:



Pavement Temperature
Road Condition
Weather

-- Precipitation Type
-- Storm Length and Intensity



Traffic Volume and Timing
Resources Available

When taking into account factors that influence the choice of materials and their application rates, operational changes need to be considered first. The most important operational considerations influencing the dilution rates are the potential treatment cycle times and traffic volumes.

Longer treatment cycle times allow more precipitation to accumulate on the roadway between treatments, thus increasing the dilution rate. For equivalent effectiveness, more chemical must be applied for longer cycle times. The traffic volume and speed will also displace ice control chemicals from the roadway making them less effective.

When choosing materials for fighting snow and ice, you need to consider certain major factors, namely, the



dilution potential that the chemical treatments will face and the performance characteristics of the materials:

Precipitation dilution potential is the potential form, type and rate of precipitation of a winter storm in progress.

Pavement conditions refer to aspects of the surface that influence snow and ice control operations. The pavement surface temperature is a key component, as it has a major effect on how chemicals perform and ultimately on the treatment decision itself.

As pavement temperatures decline below about 10 degrees F, most ice control chemicals become less effective in terms of the amount of ice melted per unit of chemical applied. Pavement temperature, therefore, drives the decision to plow only, plow and apply chemicals, or plow and apply abrasives depending also on level of service desired. A significant pavement surface condition is whether the snow or ice is already bonded to the surface.

Snow or ice remaining on the roadway after plowing will cause chemical treatments to dilute more quickly, in addition to the dilution caused by continuing precipitation. If snow or ice has bonded to the pavement, it may take 30 percent or more chemical to unbond it.

Adjusted dilution potential is the erosion of a chemical's effectiveness under normal operating conditions. It takes into consideration precipitation rate, pavement conditions and operational conditions.

Material Application Guidelines Based On Pavement Temperature And Conditions					
Current Pavement Temperature (°F)	Forecasted Pavement Temperature	Severity/Precipitation Type	Application Rate (lbs/in/mile)	Recommended Treatment	Comments
Above 32	Higher ↑	Light -Rain, Sleet or Wet Snow	240	Initial application, then reapply with pre-wetted salt as needed	Do not pre-treat roadway with calcium chloride if temperature is above 32° Pre-wet salt application @ 8-10 gals/ton
	Lower ↓	Moderate to Heavy -Rain, Sleet or Wet Snow	240	Initial application, then reapply with pre-wetted salt as needed	Pre-wet salt application @ 8-10 gals/ton Pre-treat roadway with calcium @ 20-30 gals per lane mile
25 to 32	Higher ↑	Light Freezing -Rain, Sleet or Snow	240	Initial application, then reapply with pre-wetted salt as needed	Pre-treat roadway with calcium chloride @ 20-30 gals per lane mile
	Lower ↓	Moderate to Heavy -Freezing Rain, Sleet or Snow Light -Freezing Rain, Sleet, or Snow Moderate to Heavy -Freezing Rain, Sleet or Snow	240	If precipitation is greater than 1”/hr, then plow and reapply directly behind the plowing operation	Pre-wet salt applications with calcium chloride @ 8-10 gals per ton
20 to 25	Higher ↑	Light -Sleet, Dry Snow or Wet Snow	240	Initial application, then reapply with pre-wetted salt as needed	Pre-treat roadway with calcium chloride @ 20-30 gals per lane mile
	Lower ↓	Moderate to Heavy - Sleet or Snow Light -Sleet, Dry Snow or Wet Snow Moderate to Heavy - Sleet or Snow	240	If precipitation is greater than 1”/hr, then plow and reapply directly behind the plowing operation	Pre-wet salt applications with calcium chloride @ 8-10 gals per ton
15 to 20	Higher ↑	Light - Sleet or Dry Snow	240	Initial application, then reapply with pre-wetted salt as needed	Pre-treat roadway with calcium chloride @ 20-30 gals per lane mile
	Lower ↓	Moderate to Heavy - Sleet or Dry Snow Light - Sleet or Dry Snow Moderate to Heavy - Sleet or Dry Snow	240	If precipitation is greater than 1”/hr, then plow and reapply directly behind the plowing operation	Pre-wet salt applications with calcium chloride @ 8-10 gals per ton
15 or below		Plow as needed and apply sand if necessary. Monitor pavement temperature and discuss conditions with supervisor. Apply pre-wet salt when temperature continues to rise above 15° F			
Notes: If snow is blowing off the roadway do not apply any materials. Plow areas where drifting snow is collecting and discuss conditions with supervisor. If ice has bonded to the roadway to form pack, call you supervisor immediately. Do not apply Calcium Chloride on pack unless applied with salt.					

SNOW AND ICE

ACTION DPW – PASS THE SALT BUT HOLD THE SAND PLEASE

The Acton Highway Department management team, through networking with peers and attending seminars, found other municipalities were experimenting with alternative methods of fighting snow and ice. These towns, in an effort to reduce the amount of sand without increasing the use of salt, were using different chemicals to pretreat roads. The Acton DPW proposed the following plan for the 2005/2006 winter:

1. To use as little sand as possible without using more salt. The DPW coordinated with the police to make sure it was called at the first snowflake or sign of icing. To aid in determining the correct time to apply salt, a truck was equipped with temperature gauges that read air and pavement temperatures while driving.

When applied, salt melts and forms a brine layer that prevents snow and ice from sticking to the road and allows it to be plowed away. Sand applied with the salt does not aid this process. From the Department's research it was determined that sand in most instances offers little or no benefit if salt is applied in the proper manner. **Acton's objective was to use as little sand as possible without using more salt.** To aid in determining the correct time to apply salt, the assistant highway superintendent's truck was equipped with temperature gauges that read air and pavement temperatures while driving. Police also notified the DPW at the first snowflake sighting or sign of icing.

2. To increase the efficiency of the salt, an additive consisting of magnesium chloride and a corn-based liquid enhancer for pretreatment of salt were chosen. This additive allowed salt to be more effective at a lower temperature and reduced the "bounce" when spread. Salt stayed on the road surface, not on the shoulders. The same additive with a slightly lower viscosity can be applied directly to the road surface at or before the beginning of a storm to get a jump on the brine creation.

3. Upgrading six of the "sanders" so that all eight would have plow blades mounted under the trucks (belly scrapers) was a priority. This allowed the "sander" to scrape the road in front of the salt spreader, allowing



applied salt to reach the road surface more efficiently. Salt was not wasted melting down through the snow but rather immediately went to work on the road surface to form the brine solution.

4. All spreaders were calibrated to determine the amount of salt to be spread at various speeds, and each driver was instructed on how to make adjustments when traveling at various speeds. Driver education was an important component in the program's implementation. Baystate Roads Program provided this training for the Acton Highway Department on site.

The cost to implement this program was \$68,193 for sander upgrades and \$10,830 for tanks and equipment to handle the additive. During the 2005/2006 season 2,873 tons of salt and 17,508 gallons of additive were used but no sand. Average annual salt use for five previous years was 2,652 tons along with 5,742 of sand.

The real savings was realized in the reduction of hours spent sweeping sand from streets which totaled \$71,800 and included wages for town employees and outside contractors for the 2005 snow season. Acton is part of a salt purchasing cooperative with neighboring towns and compared well with its salt usage per mile at 27.36 tons.

Acton has completely eliminated the use of sand as of the 2005/2006 season with no detrimental effects according to Russ Robinson, Highway Superintendent, and Bruce Stamski, DPW Director, who both contributed to this article. Russ can be reached at 978-265-9624 for further information.



SNOW AND ICE

CONCORD'S BRINE SYSTEM APPLICATION

The Town of Concord, MA will continue to utilize a brine application system this upcoming winter season to help control icing on certain roads and sidewalks. This will be the third winter season of this application. The salt brine is applied by a tanker truck that is clearly marked, and is used on the main roads as well as the business center sidewalks. This ice and snow bonding prevention method aims to reduce salt use while allowing for a more effective pre-treatment of highways and sidewalks before bad weather arrives. The salt brine adheres to the surface, instead of bouncing off like rock salt, preventing slippery conditions.

The initial investment for Concord was minimal as only the brine making tank had to be purchased and town crews modified a truck system already in existence. Solar salt was purchased for making this brine and the manufacture of the brine was relatively easy for assigned highway crews with a little training in the use of a hydrometer. This was necessary to establish the correct specific gravity of the solution. The manufacture of this solution was relatively inexpensive with the cost at approximately nine (9) cents per gallon excluding the original capital expense.

Salt brine continues to potentially improve the safety conditions for motorists in Concord because the trucks are out ahead of the storm instead of waiting for it to arrive. Regular road salt in its granular form creates brine by absorbing moisture from the snow or rain before it can start to work. Salt brine reduces this reaction time because it is already in liquid form and is more evenly distributed. Salt brine has the residual effect of providing ongoing anti-icing effectiveness by staying on the pavement and lasting for several days, depending on weather and plowing conditions. It remains important for the public to understand this application as the brine may be applied hours, or even days, before a storm arrives and could leave a noticeable powdery residue. Because of this different process of application it remains important to do some public awareness notices explaining how this system works. The question a caller usually asks is, "Why and what are you spreading on the roads today when the sun is shining?"

Concord will continue to utilize this method of pretreatment on a limited basis with emphasis on main roads and sidewalks in the business centers but will monitor the effectiveness for additional roads. Future plans could include additional application equipment for additional coverage. Pre-treatment is becoming more and more prevalent with many states in the mid-west utilizing this process and New Hampshire and Maine using it with great success for a number of years. While

the system does not address all of the challenges facing snow and ice control, it can help reduce costs and increase the effectiveness of the annual battle against winter driving hazards.

If municipalities are interested in looking at this system or discussing the manufacture and application process, please call Dick Fowler, Superintendent, or John Wilson, Highway and Grounds Division, Concord Public Works, at 978-318-3220.



Left lane was treated with brine but right lane has not had salt added yet

SNOW AND ICE EQUIPMENT MAINTENANCE

With the winter season just weeks away, it is important to remember to prepare not only yourself, but your equipment as well. Taking key steps to maintain plows, trucks, and other equipment will help prevent breakdowns and malfunctions as well as prolong the life of your equipment.

PRE-SEASON EQUIPMENT PREPARATION

Key areas to review before you take your equipment out for the first winter event include:

HYDRAULIC SYSTEM INSPECTION/SERVICE

- Change operation fluid in both main power units and angle cylinders.
- Inspect hoses for dry rot, cracks, or pressure bubbles and couplers if applicable.
- Clean out or replace internal filters or strainers.
- Check all fittings to make sure they are tight and are not leaking.

ELECTRICAL SYSTEMS

- Inspect all connections to both plows and vehicle harnesses for broken terminals.
- Coat each connection with dielectric grease.
- Check solenoid operation and connection.
- Test vehicle batteries and replace if necessary.
- Inspect vehicle lighting including wiring and sockets on headlights, tail lights, stop lights and turn signals.

GENERAL AREAS OF SERVICE

- Grease all moving/pivot points.
- Adjust trip springs and replace if needed.
- Check and tighten “nuts & bolts” on both plow assembly and vehicle mount.
- Inspect/replace cutting edge.
- Adjust plow lights.
- Order replacement parts for all types of plows.

MAINTENANCE DURING THE SEASON

There are easy steps you can take during the winter allowing for maximum performance and fewer opportunities for serious damage. Remember the following:



❄ Thoroughly cleaning your equipment is a key part of maintenance. Washing equipment allows you to view paint and structural, hydraulic or electrical damages before the next storm. Pressure washers or car washes are both easy options to ensure that equipment looks its best and is functioning properly.

❄ While cleaning, look for structural problems. Cracks are usually first shown by paint/powder coat cracking and rusting at joints. Look for bent, twisted or distorted parts and make notes for scheduling repairs.

❄ Regularly check for electrical problems including frayed and crushed wires, loose connections, damaged plugs or pins, broken bulbs, corroded or water filled motors, and bad batteries, alternators and solenoids.

❄ Mount, load and test all spreaders. Calibrate them and place calibration cards on each truck's visor.

Repairs or replacements of parts should be taken care of quickly to prevent further damage. Preparing a plan or checklist to maintain your equipment after each major event is a good way to guarantee that it is performing correctly and safely when needed. Salt Institute's *Snowfighter's Handbook* has a good template for this. Spending time before, during and after each season will help prevent equipment from getting damaged, saving you time and money.

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SNOW AND ICE

THE IMPORTANCE OF SHOVELED SIDEWALKS

*Wendy Landman, Executive Director, WalkBoston
Lewis Howe, Injury Prevention Coordinator,
Massachusetts Department of Public Health*



Safe, clear sidewalks are fundamental to a working transportation system in Massachusetts. Walking is an integral part of virtually all journeys, whether that means a walk to school, to a bus stop or subway station, or simply a walk from a parked car to a store or office entrance. Winter's snowy, icy, un-cleared sidewalks and curb ramps restrict and endanger the movement of pedestrians in many Massachusetts communities. Each winter many people are injured by falls on slippery sidewalks and streets. Each year also sees tragic accidents when people walking in the street to avoid un-shoveled sidewalks are struck by cars. Well-cleared sidewalks are crucial elements of safe, healthy, environmentally sound and vibrant communities.

Year-round walkable and accessible sidewalks should be a priority for municipal and state agencies and private property owners. Facilities for pedestrians -- sidewalks, curb ramps, and intersections -- deserve clearance equal to that provided for citizens in vehicles. For the past several years, WalkBoston has been working with the Massachusetts Department of Public Health to educate the public and public agencies about how to improve sidewalk snow and ice clearance in towns, cities, along roadsides and across bridges.

WalkBoston has developed the following recommendations for action steps that might be undertaken to improve snow clearance:

1. Determine which sidewalks should be top priorities for immediate clearance. In urban or dense suburban

communities this could include all sidewalks. In less dense suburban or rural municipalities this might include town centers and major streets, as well as locations leading to such facilities as bus stops, commuter rail stations, schools, libraries, grocery stores and senior housing. Some very lightly used sidewalks on light trafficked streets might not require clearance.

2. Shovel all sidewalks within the priority clearance zones after a storm.

3. Establish clear guidelines outlining responsibilities of public/private parties concerning how quickly sidewalks should be cleared, areas, widths, priorities, etc.

4. Distribute the clearance guidelines broadly and publicize them widely. Information campaigns can create an atmosphere of public responsibility.

5. Set up a "snow hotline" which should be staffed for as many hours as possible and be well advertised. Follow up on calls should be prompt.

6. Inspect and enforce the clearance rules - and be responsive to complaints. Monitoring and enforcement may be strengthened by giving ticketing authority to municipal workers who are already outdoors (e.g., parking officers, police), and by passing legislation to increase the very low fines now permitted (\$10/day in towns, \$50/day in cities).

7. Establish services to assist those unable to clear their sidewalks, e.g., elderly or disabled residents.

8. Treat the clearance of curb ramps as a public, not a private, responsibility since it is needed to comply with accessibility requirements and meet the needs of all citizens for year-round mobility. Municipal and private snow plowing personnel can be trained in techniques to clear and keep clear ramps, crosswalks and pedestrian crossing islands (as well as those sidewalks that are a public responsibility).

For further information or examples of municipal ordinances and public information materials, please contact Wendy Landman: wlandman@walkboston.org or 617-367-9255.

BAYSTATE ROADS PROGRAM
UMass Transportation Center
214 Marston Hall
130 Natural Resources Road
Amherst, MA 01003
ST131775

Non-Profit Organization
U. S. Postage Paid
Permit No. 2
Amherst, MA
01002

The Baystate Roads Program, which publishes *Mass Interchange* each quarter, is a Technology Transfer (T2) Center created under the Federal Highway Administration's (FHWA) Local Technical Assistance Program (LTAP). This newsletter is prepared in cooperation with MassDOT and the United States Department of Transportation Federal Highway Administration. FHWA is joined by MassDOT, UMass Transportation Center at the University of Massachusetts/Amherst, and local public works departments in an effort to share and apply the best in transportation technologies. In addition to publishing *Mass Interchange*, the Baystate Roads Program facilitates information exchange by conducting workshops, providing reports and publications and videotapes on request, and offering one-to-one technical assistance on specific roadway issues. Because the program relies on input from many sources, inquiries, articles and ideas are encouraged.

LTAP Local Technical Assistance Program

To contact the Baystate Roads Program call (413) 545-2604 or FAX (413) 545-6471



MassDOT
Federal Highway Administration
UMass Transportation Center



**Congratulations to the newest
Baystate Roads Scholars on
their fine achievement. Keep
saving those certificates and
you could also be listed here.**

**Jeremy Babin
Hubbardston DPW**

**Mark Boomsma
Blandford DPW**

**Carlos Jaquez
Tewksbury DPW**

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