

# MAINE LOCAL ROADS NEWS

A Newsletter to Assist Maine Towns  
in Dealing with Local  
Transportation Concerns  
www.maine.gov/mdot/csd/mlrc

From the Maine Local Roads Center  
Community Services Division  
MaineDOT  
16 State House Station, Augusta, ME 04333

WINTER 2014



**Toll Free Number!**  
**1-800-498-9133**  
email: local.web@maine.gov  
Feel free to contact us  
with your road questions.



U.S. Department of Transportation  
**Federal Highway Administration**

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## Pownal Public Works Makes Bold Changes in Snow Fighting

Pownal.....a small town west of Freeport with about 1500 citizens and 45 miles of winter road duties.

Prior to 2003, the town of Pownal used roughly 900 to 1000 tons of salt per year to treat those 45 miles of road and that salt was used as a de-icing agent. De-icing is the practice of melting snow and ice that has bonded to the pavement. When it's bonded to the pavement,



“hot loads” are often used to break that bond. In 2003, Shawn Bennett was hired as the Road Commissioner and started attending Local Roads Center workshops about snow & ice control. Shortly thereafter, he began calibrating their equipment and began an “anti-icing” practice. Anti-icing is the practice of treating the roads just prior to or just as the storm starts and using the right amount of material to keep the snow and ice from bonding to the road surface. Calibrating their spreaders allowed the town to reduce their salt usage to 600 tons per year. As the town replaced trucks they went from tailgate spreaders to side dump bodies and ground speed control systems and that reduced their usage further to where they began budgeting 500 tons per year.

Fast forward to 2011..... the Pownal public works crew started experimenting with pre-treating some roads with liquid salt brine. Salt brine is rock salt mixed with water at a 23.3 % solution. That is 2.5 pounds of rock salt mixed with every gallon of water and it is applied to the surface of the road up to 6 hours prior to the storm. It helps delay the bonding and accumulation of snow and ice on the pavement. After seeing some promising results in 2011, Shawn said they began pre-treating all their paved roads in 2012-13.

Shawn said “because the brine contains only 23 percent rock salt, it leads to using less salt. When the brine is spread on the roads several hours before the

*(continued on Page 2)*

(Pownal Publi Works, continued from page 1)

storm, it gives time for the water to evaporate leaving tiny salt granules. When snow lands on the tiny granules of salt it begins to create brine and because this happens, you're already ahead of the game. When you wait until the snow starts accumulating before you go out, even as little as 1 to 2 inches you're spreading bigger chunks. Those chunks have to dissolve before it actually starts working and this takes time and you run the risk of the snow and ice bonding to the pavement." They started out applying the salt brine with their 1 ton truck, a 535 gallon tank and a homemade distribution bar. They since have upgraded to a 1235 gallon tank with a pump. This unit has reduced the application time, as well as allowing more precise application rates due to the pump vs. the gravity of the old system. So with the pretreating method, you're getting a lot more on the road working for you and using less of it while getting the same result.

The Pownal crew is also pre-wetting their material, at the spreader, with salt brine which starts the dissolving of the rock salt as it comes out the spreader. When you spread it dry, you lose some to bounce and scatter, you lose some to it being blown off the road from traffic and it ends up in the ditch..... that's money in the ditch. Time and time again studies have proven that by pre-wetting your material 78% of the material stays on the surface of the road as compared to only 46% staying when applying it dry.! See figure A

Figure A

How Much Salt is for You?	Dry Application	Pre-wet Application
	(No Pre-wet)	
Initial Application	500 lbs/lm	<b>500 lbs/lm</b>
Retained	46% = 230lbs	78% = 390lbs
5 cars @ 38mph	30% = 69lbs	93 % = 363lbs
Total remaining after 100 cars @ 38mph	15% = 10.5 lbs	<b>80% = 290 lbs</b>

Shawn goes on to say "We're trying to provide the safest roads as quickly and economically as possible and we're seeing the differences with pretreating and prewetting with salt brine.

Looking ahead, Shawn says and believes "we may be seeing some kind of regulation in the not too distant future, this will be directed toward minimizing salt and sand use because of their effects on the environment,

and I want to be ahead of the curve". Shawn believes that the use of salt brine and other liquids are tools that will help the town, and others, decrease their impacts while providing safe winter roads.

For more information contact Shawn at [publicworks@pownalmaine.org](mailto:publicworks@pownalmaine.org).

### Historical Number in Materials Used

YEAR	SNOW	EVENTS	SALT USED	SALT PER EVENT	SALT PER MILE
	<i>inches</i>		<i>tons</i>	<i>tons</i>	<i>tons</i>
00 - 01					
01- 02	45	19	675	35	0.80
02 - 03	60	21	883	42	0.95
03 - 04*	53	16	458	28	0.64
04 - 05	106	27	707	26	0.59
05 - 06	50	22	427	19	0.43
06 - 07	72	22	550	25	0.57
07 - 08	135	37	800	22	0.49
08 - 09	88	25	496	20	0.45
09 - 10	54	23	454	20	0.45
10/11	43	27	530	20	0.45
11/12		23	490	21	0.48
12/13		28	546	20	0.44
<b>10 Year Average</b>				<b>22</b>	<b>0.50</b>



Pownal's homemade liquid distribution bar



Clean road in Pownal after liquid brine application

## Local Road Inventory... is yours up to date?? Inspection is crucial

Having an accurate public and private road inventory is important for EVERY town, city, and organized plantation, Indian Nation, and the unorganized territories of Maine's 16 counties. This road inventory directly affects:

- Local Road Assistance Program (formerly URIP) payment amounts from MaineDOT
- Road maps from DOT and E-911 offices because they will be more up-to-date and accurate
- Emergency service response; if names or numbers are incorrect, then response will be delayed or go to the wrong place

Any community in Maine can visually see their road network on MaineDOT's Mapviewer or on the E911 Bureau's maps. The Mapviewer can be found at:

<http://www.maine.gov/mdot/mapviewer/index.html>

You can search for your town; click on the DATA tab, then open the ROADS file. Click on the "jurisdiction roads" button and all state and local roads that are publically maintained will show in color.

After reviewing these maps and you find a need to make ANY changes, your municipal (or county) Addressing Officer must fill out the standard form and submit that through normal channels to the E-911 Bureau. That Bureau will then automatically forward your data to MaineDOT mapping folks. And beginning in early 2014, the E-911 Bureau will be rolling out a web-based system for any municipal Addressing Officer to log into and then make corrections to the mapping. This could include name changes, length adjustments, new road additions, and much more.

The MaineDOT no longer sends out maps to each town for review. **Any and all changes** must come through the Addressing Officer to E-911 and NOT to the DOT office.

**The "bottom line":** if your local road mileage is not current in both DOT and E-911 systems, then your town is being paid the wrong LRAP amount AND emergency responses needed through someone dialing 9-1-1 may be severely delayed.

~~URIP~~  
**LRAP**

Local Road Assistance Program

One Payment in FULL amount  
by December 1<sup>st</sup> every year!



## Advance Spring Posting Signs

Depending on how and where your town posts its roads in the late Winter, you might need to do some advance posting. This sign can be very useful especially if the posted road is a mile or two down one road, or your posted road is beyond an adjacent town's non-posted road. If you think you could use a few, let us know and we'll send a maximum of 4 to your town.....at no charge.

# Workshops on “snow & ice control” on local roads attract almost 250 attendees.....again.

In November and December, the Center conducted 7 statewide workshops on this popular subject. Eighty six (86) towns, cities, and counties sent almost 250 employees/contractors to these sessions.

Workshop speakers included a meteorologist from the National Weather Service (NWS), an equipment rep from HP Fairfield Inc., DOT longtime snow & ice control professionals, Phil Curtis from the Center, and Shawn Bennett the Road Commissioner in Pownal.



It was plainly evident that many towns and cities are looking for cost-saving methods to reduce overall costs for winter operations. MANY towns have moved away from the age old practice of sand, sand, sand and are moving into proven methods of saving money by:

- using controlled amounts of salt,
- calibrating spreaders,
- pre-wetting salt with a liquid to reduce bounce-and-scatter on the roads,
- pre-treating road surface with liquid brine to create savings in salt use.....and better road conditions!

Pownal’s Shawn Bennett showed how he has implemented these methods and has saved material and labor costs. As Shawn states, “

*“While sand will always be necessary in certain areas, it has huge costs associated with purchasing, hauling and stacking, loading, spreading, and the inevitable cleanup of sand-filled ditches, catch basins, front lawns, and shoulders. The cost of sand is simply not \$7 per yard!”*

Any town or city or private contractor wanting to reduce costs can do 2 things:

- 1) prewet material before it hits the road, and
- 2) calibrate all spreading equipment

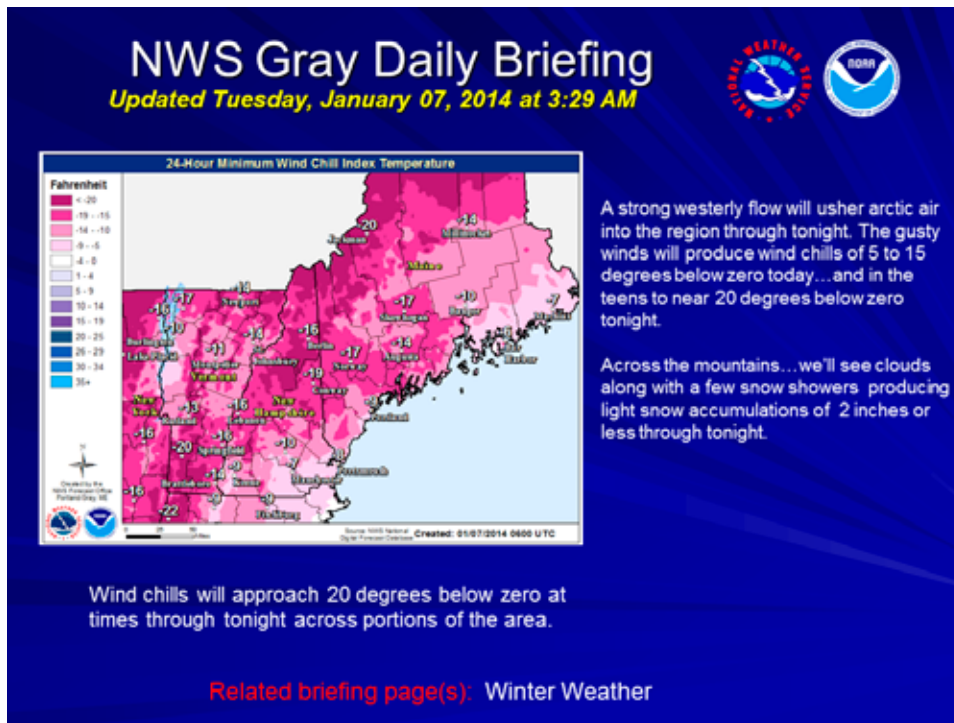
These are EASY ways to save costs. If you want to save even more AND have better winter road conditions, using calibrated amounts of salt, not sand, is the answer. However, this requires a change in attitude, a willingness to try something different, and the 3 T’s of Timing, Technology, & Training. All of this might require an investment of a couple thousand dollars but it has big payoffs in the long run.

## Where do you get your winter weather forecast?

Do you rely on your local news stations to hear the weather forecast? Did you know that in some cases the people who broadcast the weather on these local channels are not true “meteorologists” but rather trained in “broadcast meteorology?” What about the Weather Channel or Intellicast?

No matter which one you tune into, they all get their information from the National Weather Service (NWS). The National Weather Service is a branch of the Federal government and is the provider of all weather information and has no control on how local channels or other companies broadcast it. This might be why you hear a slightly different

forecast from one station to another, which can lead to a broader view but it can also lead to some confusion.



If you want to get weather information from the same source as these local channels, you can do that by logging on to the NWS website at <http://www.weather.gov/>. Anyone can access it and it provides an overwhelming amount of information. However, the National Weather Service offices in Caribou and Portland/Gray have each developed a new Emergency Managers' Self-Briefing webpage. The goal is for the webpage to be an easy “one-stop shop” for the information that road managers or emergency managers and other decision-makers need to make for life-saving and life-protecting decisions. The webpage contains

sections for different types of hazards: coastal flooding, fire, flooding, heat, thunderstorms, tropical, and winter. Each hazard section contains thumbnails of graphics related to the particular hazard. The user can click on the thumbnails to enlarge the graphics.

The addresses for the webpages are:

Caribou: <http://www.weather.gov/car/EMhome>

Portland/Gray: <http://www.weather.gov/gyx/EMhome>

*Check it out.....*

# New Laws Relating to Transportation

The following law changes relating to transportation are a small sample of laws enacted in the first session of the 126<sup>th</sup> Legislature this spring. All laws listed below became effective September 12, 2013, unless otherwise noted.

## TRAFFIC CONTROL WITH MINORS

**LD 605 – An Act To Allow a Minor in the Police Explorer Program To Assist with Traffic Control at Civic Events. PL 2013, c. 142**

This Act allows minors who are at least 14 years of age and volunteer participants in a career-oriented law enforcement program to perform traffic control duties at daylight civic events after receiving traffic control training in accordance with the requirements of the supervising law enforcement agency. The Act establishes the supervision requirements that must be employed by law enforcement officers and specifies the types of events where volunteer traffic control duties may not be performed.

## SNOWPLOWS AND TRAFFIC SIGNALS

**LD 11 – An Act To Allow Vehicles Engaged in Snow Removal or Sanding Operations on Public Ways To Use Preemptive Traffic Light Devices. Emergency Enacted ; PL 2013, c. 61 (5/07/13)**

This Act allows a vehicle owned or contracted by a municipal, county or state agency engaged in snow removal or sanding operations on a public way to use a preemptive traffic light device that can be operated inside the plow truck to coordinate the traffic lighting so as not to impede the truck's activities. The Act requires the municipal use of this authority to be expressly approved by the municipal officers.

## SNOW PLOW TRUCKS

**LD 567 – An Act To Amend the Definition of “Special Mobile Equipment” in the Motor Vehicle Laws. PL 2013 c. 84**

This Act amends the definition of “special mobile equipment” in the motor vehicle law. The current definition includes “trucks used only to plow snow and carry sand only for ballast”. The amended definition is “trucks used only to plow snow and for other duties pertaining to winter maintenance, including sanding and salting...”. Maine's motor vehicle excise tax law is applied to special mobile equipment on the basis of the vehicle's actual sales price rather than its manufacturers' suggested retail price.

## ROAD POSTING “RULES”

**LD 109 – An Act Relating to Vehicles Delivering Home Heating Fuel. PL 2013, c. 55**

This Act provides that rules adopted by the Department of Transportation (DOT) regarding the proper use of public ways so as to prevent abuse are “routine technical” rules and that municipal or county regulations or restrictions on the use of public ways are not subject to the rulemaking procedures required under the state's Administrative Procedures Act. The Act also directs the DOT to include in its regulatory definition of “home heating fuel” oil, gas, coal, stove length wood, propane and wood pellets.

## PRIVATE ROAD ASSOCIATIONS

**LD 1356 – An Act To Improve the Statutes Governing Road Associations. PL 2013, c. 198**

This Act amends many of the provisions of law regarding the formation, scope and function of road associations formed for the purpose of repairing and maintaining a private road, a private way or bridge.

**TEXTING & DRIVING****LD 1392 – An Act To Amend the Motor Vehicle Laws PL 2013, c. 381**

This Act makes numerous amendments to the state’s motor vehicle laws especially in the context of operating motor vehicle while texting. The Act defines the term “operate” to include being stationary in the public way while waiting for a traffic light or at a stop sign, but “operate” does not include being pulled over to the side of or off a public way, with the motor running or not running, provided the vehicle has halted and can safely remain stationary.

**HIGHWAY FUNDING & LOCAL ROAD ASSISTANCE PROGRAM****LD 1480 – An Act Making Unified Appropriations and Allocations for the Expenditures of State Government, Highway Fund and Other Funds, for the Fiscal Years Ending June 30, 2014 and June 30, 2015. Emergency Enacted; PL 2013, c. 354 (6/26/13)**

This Act implements the FY 2014-2015 Highway Fund budget. Of municipal interest, the Act decreases the percentage of Highway Fund Budget provided to municipalities under the Local Road Assistance Program (LRAP). For the last 13 years, approximately 10% of DOT’s Highway Fund budget is distributed to municipalities to be used for capital improvements on local roads or maintenance inside compact areas. Beginning in FY 2015, the municipal share of DOT revenues would be reduced to 9% which likely will create a reduction of funds sent to all 502 Maine towns, cities, and counties.

The adopted budget also makes two “administrative changes” to the program. One directs the Department to issue all funds by December 1, rather than quarterly. The second eliminates the “hold harmless” clause that was enacted when the program was overhauled in 2000, which guaranteed that municipalities would receive no less in state road aid than provided in 1999.

In addition to LRAP-related changes, the FY14-15 Highway Fund budget: (1) provides \$1.2 million to nine “built” municipalities as the state share of the construction of sand-salt facilities; and (2) increases General Fund responsibility for Maine State Police services from 51% to 65% and decreases Highway Fund responsibility from 49% to 35%.

**STREETLIGHTS****LD 1559 – An Act To Reduce Energy Costs, Increase Energy Efficiency, Promote Electric System Reliability and Protect the Environment. Emergency Enacted; PL 2013, c. 369(6/26/13)**

This is an “omnibus” energy Act designed in a variety of ways to reduce energy costs in the state, maximize energy efficiency, reduce the state’s reliance on fuel oil, and ensure adequate electricity and natural gas supplies. Of particular municipal interest, this emergency Act provides municipalities with more direct control of their street lighting programs by requiring electricity transmission and distribution utilities to provide three service options. The first option could be called the “utility-provided services” option, where the utility provides all of the street lighting infrastructure, maintains the infrastructure, and powers the lighting from an electricity provider of the municipality’s choice. The second option could be called the “municipally owned, utility-installed” option, which involves the utility installing lighting infrastructure purchased and owned by the municipalities, with the municipality maintaining that infrastructure using qualified municipal or contracted personnel. The third option is the “municipally owned, installed and maintained” option, which involves the municipality controlling all elements of the street lighting program, except for actually delivering the electricity to the lighting infrastructure. The legislation directs the Public Utilities Commission to establish the various rates that may be charged for utility-provided services, as well as how the street and area lighting will be placed on the utility poles, at what rates or by what method the electricity delivery charges may be assessed, and how a municipality may transition from one option to another.

# MAINE LOCAL ROADS NEWS

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**THIS IS A NEWSLETTER ABOUT LOCAL ROADS. IT IS WRITTEN TO ASSIST MAINE MUNICIPALITIES IN DEALING WITH TRANSPORTATION-RELATED CONCERNS.**

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The Maine Local Roads Center is part of the Local Technical Assistance Program (LTAP)- a nationwide effort jointly funded by the Federal Highway Administration (FHWA), the various state departments of transportation, and state universities. Its purpose is to decode technical information on roads, streets, bridges and public transportation and put it into a form that is useful to local government personnel.

The Maine Local Roads Center is sponsored by the Maine Department of Transportation (MaineDOT) and FHWA. This newsletter is intended to keep you informed about training opportunities in the form of workshops and seminars and about publications, techniques or products that might help you in your work. It will also provide a place where useful information can be exchanged among Maine towns on whatever road and street related topics are of interest to you.

Other resources which are available from the Center include:

- Statewide workshops on a wide variety of subjects
- The Maine "Roads Scholar" program
- A large library of videotapes and publications which are either free or available at a very nominal cost
- Practical advice and technical support by phone, email, or website
- A traveling "Road Ranger" who can provide local training or advice
- Several software programs for managing road maintenance, equipment maintenance, or sign maintenance.

Any findings, conclusions or recommendations presented in this newsletter are those of the authors and do not necessarily reflect those of FHWA or MaineDOT.

## Maine Local Roads Center