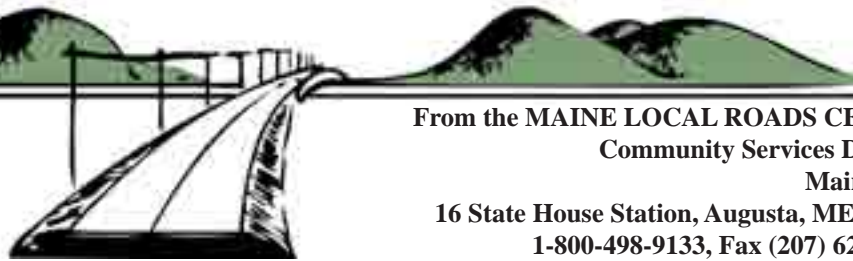




# “MAINE LOCAL ROADS NEWS”

Winter 2007/2008

A Newsletter to Assist Maine Towns in Dealing with Local Transportation Concerns



From the MAINE LOCAL ROADS CENTER  
Community Services Division  
MaineDOT  
16 State House Station, Augusta, ME 04333  
1-800-498-9133, Fax (207) 624-3301



Toll Free Number!  
1-800-498-9133  
Feel free to call us with your road questions



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## WINTER is almost over, but . . . . . here comes MUD Season



This winter will go down as one of the “*Good Ole Maine Winters*” that were fairly common several decades ago. Unlike the winters of recent years, this winter provided plenty of snow around the entire state, lots of overtime for weary plow drivers, and many miles of cracked and heaved roads. It is plainly evident now by driving anywhere on many state and local roads. It is a constant challenge to avoid potholes, giant cracks, uneven ruts, and big frost heaves. We all hope that many of these problem areas will “settle down” after the Spring thaw and provide decent road surfaces again.

In the meantime, mud season will be here shortly and all roads will be in their weakest state of the year. Depending on the thawing season and the amount of rain, all paved roads and gravel roads that never were really built correctly will be weak and still have to endure the loads imposed by cars and trucks. Thus, the need to restrict heavy loads from roads by “posting” roads to certain weights. The true impact on a road is determined from the “pressure” exerted from axles and not the gross vehicle weight of a vehicle. In other words, 22,000 pounds on 2 axles causes a lot more damage to a road than 22,000 pounds on 3 or 4 axles. That is simply because there are more “pounds per square inch” on the road from the 2 axle vehicle than the 3 axle vehicle.

Posting a road with the typical orange signs that say “Heavy Loads Limited” is a common practice by MaineDOT and many towns and cities. No one wants to restrict the free flow of commerce but it becomes a fact of life in Maine if government wants to protect its road investments. With rising prices, declining revenue sources, and more traffic, the need to post roads will continue for a very long time. A community can “soften the blow” by 1) posting only those roads that are necessary to post, 2) post roads from before thaw to just after complete thawing and draining, 3) get the word out ahead of time to the driving public, especially to trucking firms, and 4) make sure the town/city has a proper traffic ordinance to enforce its restrictions. There are still many towns in Maine who put up the orange signs but have no local ordinance on the books to enforce it. If the town is challenged by a violator and the town has no ordinance, then the violator will walk away with no penalties. Having a good ordinance in place is critical to a successful and enforceable posting program.

Much more info on posting roads and how loads affect roads, including a sample ordinance, can be obtained from the Center or it can be found on the website at:

[http://www.state.me.us/mdot/mlrc/traffic-issues/speed-limit\\_heavy-loads.php](http://www.state.me.us/mdot/mlrc/traffic-issues/speed-limit_heavy-loads.php)



# 2008 Spring Paving Seminar

For paving professionals, engineers, architects, state & municipal employees  
Wednesday-Friday, March 26-28, 2008 • Verrillo's Convention Center • Portland, Maine



**MMA members:**  
Watch your U.S. Mail in early March for a special invitation

Top industry speakers | New paving products and technology | The latest equipment

## EVENT AT A GLANCE

### Wednesday, March 26

#### PIT AND QUARRY AGGREGATE

- Crusher Types and Components • Crushing and Washing Aggregates • Aggregate Handling (Stock Piles) • Aggregate Sampling and Testing • Aggregate Consistency and the Importance to Final Product • RAP Processing • Energy Efficiencies

#### HOT MIX ASPHALT

- Comparison of Batch and Drum Plants • Silo Management • Cold Feeds and Loading • Rap Production • Truck Load out and Segregation • Methods of Sampling • Warm Mix • Pulls and Pay Factors

#### ASPHALT MIX DESIGNS

- Evolution and Importance

#### ROUND TABLE Q & A SESSION

### Thursday, March 27

#### UNDERSTANDING ASPHALT PAVER FUNCTION

- The Roll of the Tractor Unit • The Basis of the Self-Leveling Screed • The Importance of Proper Job Planning • The Importance of Consistent Paver Speed • Head of Materials • Proper Set Up and Use of Automated Feeders • Managing Truck Exchanges at the Paver • Temperature/Gradation Effects on Mat Quality • Quality Longitudinal & Transverse Joint Construction • Coping with Today's Screeds • Mat Management, Setup Maintenance and Adjustments • Basics of Automated Grade & Slope Control • Profile vs. Rideability • Application of Joint Matchers, Contacting Skis • Proper Set Up and Use of Contacting Screed Controls • Why Extend Tunnels and Augurs

#### BEST PRACTICES & PREPARATION FOR PAVING

- Base Preparation • Milling Surfaces • Straight Edges • Shim Courses • Understanding Existing Mat Conditions • Bridge Decks

#### SURFACE PREPARATION / TACK & ASPHALT EMULSION

- Material Asphalts: AC, RC, MC, Emulsions • Application Rates • Distributors: Basic Components & Functions • Application Rates Set-Up • Spray Patterns / Nozzles • Safety Issues • Chip Seal (Longevity and Misuse)

#### ROUND TABLE Q & A SESSION

### Friday, March 28

#### PRODUCTIVE COMPACTION

- Importance of Compaction • Definitions: Compaction, Density, Pass and Coverage • Factors that Affect the Compaction of HMA: Aggregate, Asphalt, Mix Design, Temperature, Trucking and Lay Down • Types of Roller • Forces of Compaction • Proper Operation • Phases of Rolling • Temperature Zones • Rolling Tender Mix

#### ESSENTIALS OF PARKING LOT & DRIVEWAY PAVING

- Importance of Measuring the Lot • Where to Start Paving • Determining Number of Passes • Using the Correct Paver • Hauling • Calculating Hand Work and Crew Size • How to Determine Hourly Rates of Production

#### ROUND TABLE Q & A SESSION

**For more information please contact:**

Larry Hutchins, (207) 767-7493  
lhutchins@semgrouplp.com

Charles Banks, (207) 838-1379  
info@maine-apa.org

**Pick your day and enjoy a special rate for Maine Municipal Association members:**

Wednesday or Thursday: \$115 / day

Friday: \$100

## CHANGEABLE MESSAGE SIGNS

In the last couple legislative sessions, the law pertaining to on-premise “changeable signs” was changed quite significantly. In 2005, LD 498 was passed as PL 2005, c.195 and in 2007, LD 830 was passed as PL 2007, c. 124. They have created some confusion across the state and this should help explain the details a bit more. The actual law is found in Title 23 § 1914 (11A).

1) The sign may be changed no more than every 20 minutes, unless the municipality in which the sign is located adopts an ordinance to the contrary and notifies the Department of Transportation in writing of that ordinance. If a municipal ordinance is adopted, the municipality is responsible for the administration of that ordinance.

2) The sign must change as rapidly as technologically practicable, with no phasing, rolling, scrolling, flashing or blending, unless the municipality in which the sign is located adopts an ordinance to the contrary and notifies the Department of



Transportation in writing of that ordinance. If a municipal ordinance is adopted, the municipality is responsible for the administration of the ordinance.

3) Notwithstanding the previous paragraph, a municipality may not adopt an ordinance that allows a sign to flash, and

4) The sign may consist of alphabetic or numeric text on a plain background and now may include graphic, pictorial or photographic images. However, continuous streaming of information or video animation is prohibited.

Feel free to contact MaineDOT’s Robert Sinclair, Supervisor Right of Way Control, at (207) 624-3611 or [robert.sinclair@maine.gov](mailto:robert.sinclair@maine.gov).

## MAINE LOCAL ROADS CENTER ANNOUNCES

### *Workshop Price Increase after 21 Years*

The Maine Local Roads Center will be charging \$40 per person and \$25 for any additional person attending a Center’s workshop. Any person who is a **individual member** of the Maine Chapter American Public Works Association (MCAPWA) will receive a \$10 Discount. This increase has been in effective since January 2008.

The Maine Local Roads Center (MLRC) has charged \$25 per person and \$15 for any additional person to attend any workshop put on by the Center for 21 years. It is amazing how the Center has been able to function with the same fee for so many years. With the increasing cost of supplies, materials, lunches, and instructors the Center is forced to increase registration fees to help off-set the increased cost. The Local Roads Center hopes this will not negatively affect workshop attendance.

*The Center looks forward to continually serving the Municipalities of Maine!*

## BRIDGES, MINOR SPANS AND CULVERTS

### *Town vs. State responsibilities*

In Maine, there are about 2200 bridges, almost 800 minor spans, and a large number of culverts on public roads that are the responsibility of either MaineDOT, or each town, city, or county. In 2001, a significant review of the confusing Local Bridge Program was undertaken and the law was changed so that it makes sense and it's easy to understand... and it's fair.

Here are the definitions per 23 MRSA 561- 568:

**BRIDGE** – a structure that has an opening measured along the center of the roadway of more than 20 feet between the undercropping of abutments or spring lines of arches or the extreme ends of openings for multiple boxes. It also includes multiple pipes when the clear distance between openings is less than 1/2 of the smaller contiguous opening.

**MINOR SPAN** – a structure that is larger than a culvert but has a span less than 20 feet.

**CULVERT** – any pipe or other structure that has a span of less than 10 feet or multiple pipes or other structures with a combined opening of less than 80 square feet in area.

**LOW USE BRIDGE (LURB)** -- a bridge on a townway with an AADT of under 100 motor vehicles.

A complete website is available for municipalities that lists every bridge and minor span in Maine. It can be sorted in several ways and lists the important attributes of each structure and its condition. It can be found at <http://www.maine.gov/mdot-stage/brmgmt/homepage.php> It will be updated soon so that it reflects current data.



### Responsibilities Relating to Structures Defined in 23 MRSA c. 9, sub-ch 4-A

	Bridge		Minor Span		Culvert		Low Use Redundant Bridge	
	Capital Imp.	Maint.	Capital Imp.	Maint.	Capital Imp.	Maint.	Capital Imp.	Maint.
<b>State Highway</b>	S	S	S	S	S*	S*	N/A	N/A
<b>State Aid</b>	S	S	S	S	S*	S*	N/A	N/A
<b>Town Way</b>	S	S	M	M	M	M	50%S 50%M	M

M = Municipal Responsibility  
 S = State Responsibility (MaineDOT)

\* Municipal Responsibility if inside urban compact area

## INTERESTING FACTS about CRASHES on MAINE ROADS

From 2001 to 2005, the following reported highway crashes occurred on Maine roads. Separate publications on each of these categories are available by calling the MaineDOT's Traffic Engineering Division at 624-3618 or by emailing greg.costello@maine.gov

### MOOSE CRASHES:

- ▶ There were 3,417 crashes and 12 human fatalities
- ▶ The greatest number happened in Aroostook County
- ▶ The least number occurred in Sagadahoc, Knox, and Lincoln Counties
- ▶ The most common age group of driver was the 40's followed closely by drivers in their 30's and 50's
- ▶ The most common vehicle was a 4 door sedan followed closely by a pickup truck
- ▶ The month with the highest number of crashes was June and the lowest was in February and March
- ▶ The highest number of crashes occurred from 7:00 to 10 PM
- ▶ Weather conditions in the greatest majority of crashes was clear.

### DEER CRASHES:

- ▶ There were 17,155 crashes and 3 human fatalities
- ▶ The number of crashes per year has been steadily dropping from 2001 to 2005.
- ▶ The greatest number happened in Cumberland County followed closely by Penobscot County
- ▶ The least number occurred in Sagadahoc, Piscataquis, and Lincoln Counties
- ▶ The most common age group of driver was the 40's followed closely by drivers in their 30's and 50's
- ▶ The most common vehicle was a 4 door sedan followed closely by a pickup truck
- ▶ The months with the highest number of crashes was November and December and the lowest was in February and August

- ▶ The highest number of crashes occurred from 4:00 to 11 PM and from 4:00 to 7 AM
- ▶ Weather conditions in the greatest majority of crashes was clear.

### TRUCK CRASHES:

- ▶ There were 10,512 crashes and 102 human fatalities
- ▶ By far, the greatest number happened in Cumberland County
- ▶ The least number occurred in Piscataquis County
- ▶ The most common age group of individuals involved in truck crashes was the 30's and 40's.
- ▶ The months with the highest number of crashes were December and January and the lowest was in April
- ▶ The highest number of crashes occurred in daylight from 8:00 AM to 4 PM
- ▶ Weather conditions in the greatest majority of crashes was clear with dry road conditions (by far).

### MOTORCYCLE CRASHES:

- ▶ There were 2,420 crashes and 84 human fatalities
- ▶ The number of crashes has increased over the last 3 years
- ▶ By far, the greatest number happened in Cumberland and York Counties
- ▶ The least number occurred in Piscataquis and Washington Counties
- ▶ The most common age group of individuals involved in motorcycle crashes was the 40's followed closely by the 30's and 50's.
- ▶ One of the least common age group of individuals involved in motorcycle crashes was 15 to 19.
- ▶ The months with the highest number of crashes were June through August
- ▶ The most common days for crashes were Saturday and Sunday
- ▶ The highest number of crashes occurred in daylight from 2:00 to 6:00 PM
- ▶ Weather conditions in the greatest majority of crashes was clear with dry road conditions (by far).

### PEDESTRIAN CRASHES:

- ▶ There were 1,414 crashes and 52 human fatalities (average of about 280/year)
- ▶ By far, the greatest number happened in Cumberland County
- ▶ The least number occurred in Piscataquis County
- ▶ The highest number occurred in urban areas
- ▶ The most common age group of pedestrian involved in crashes was 15 to 19 followed by folks in their 30's and 40's.
- ▶ The month with the highest number of crashes was January and the lowest was in April
- ▶ The greatest number occurred on Wednesdays, Thursday, and Fridays and the least number occurred on Sunday.
- ▶ The highest number of crashes occurred from 4:00 to 6:00 PM
- ▶ Weather conditions in the greatest majority of crashes was clear with dry road conditions (by far).

### BICYCLE CRASHES:

- ▶ There were 1,002 crashes and 9 human fatalities (average of about 200/year)
- ▶ By far, the greatest number happened in Cumberland and York Counties
- ▶ The least number occurred in Piscataquis County
- ▶ The highest number occurred in urban areas
- ▶ The most common age group of bicyclists involved in crashes was 10 to 14 followed by 15 to 19.
- ▶ The month with the highest number of crashes was July followed closely by August, June, and September
- ▶ The greatest number occurred on Thursday and Friday and the least number occurred on Sunday.
- ▶ The highest number of crashes occurred in daylight from 4:00 to 6:00 PM
- ▶ Weather conditions in the greatest majority of crashes was clear with dry road conditions (by far).

## URIP FUNDING

*Towns will soon have to “report”  
where their funds are going every year*

Over the summer of 2007, the state Office of Program Evaluation & Government Accountability (OPEGA) studied the Urban/Rural Initiative Program (URIP) which provides Highway Fund allocations to 501 towns, cities, counties, and Indian Reservations in Maine. In the current fiscal year, the “URIP pie” is \$ 25.7 million.

### OPEGA sought to answer 3 questions:

1) Is the funding being fairly distributed?

The finding was “yes” and it noted that DOT has sound processes to insure that URIP calculations are accurate.

2) Are the funds processed and distributed in accordance with the law?

The finding was “yes” and that most towns return their Annual Certification Forms on time and that state checks are sent out before the 4 statutory dates.

3) Are the funds being utilized by municipalities in accordance with state law?

OPEGA found that it is likely that funds are being used properly but there is little specific data available to verify this opinion. There is no requirement to report how the funds are actually used or what roads were being fixed with these funds.

### The Report concluded with 2 specific “findings” and action items.

1) Because there is no specific data being collected on how URIP funds are actually being used by each receiving town or city, the MaineDOT will now require each town, city, county, and Indian reservation to provide that information. In order to keep it simple, the information will be part of the annual certification process that occurs in July every year. On the flip side of the “Annual Certification Form”, the DOT will ask which roads were improved over the past year, the type of work completed on each road, and how much was spent on that road. For instance, if the Town of Mudville got \$50,000 last year and they fixed 2 roads, they would have to report:

“Maple St -- 0.3 miles, paving reclamation and 3 inch overlay for \$40,000”

“Pothole Lane – 0.2 miles, 2 inch hot mix overlay for \$10,000”

2) URIP administrative costs could be lowered by reducing the actual number of paper checks being processed and mailed. Many recipients have not taken advantage of direct deposit payments yet. By signing up for direct deposit, each town will get its funds sooner than the paper check, and never have to deal with depositing a paper check anymore. Plus, it would lower state mailing costs.

**For more info, you can contact Pete Coughlan or Fred Hutchinson at 624-3270 or see the website at:**

<http://www.state.me.us/mdot/community-programs/uri-program.php>



## SPRING MEETING of Maine's Public Works Personnel

The Annual Spring Meeting of the Maine Chapter of the American Public Works Association (MCAPWA) will be held again in Waterville on Thursday, April 3, 2008. Any municipal official interested in road subjects like pothole patching, crack sealing, salting and sanding in the winter, or “stamped” concrete will find this meeting to be very beneficial..... and funny. The luncheon speaker will be a comedian from the Portland area.

It will be held at the Waterville Elks Lodge on the Industrial Park Road from 8 AM to 1 PM. The cost is \$30 per person and includes a nice hot buffet lunch.

A brochure was mailed to every town in late February so check at the Town Office or City Hall. Otherwise, all info can be found here at [www.mcapwa.org](http://www.mcapwa.org) or by calling the MMA Training Office at 1-800-452-8786.

<b>COMPARISON TABLE FOR WINTER</b>	
<b>SALT</b>	<b>SAND</b>
Melts snow and ice	Can't melt snow and ice
Gives temporary traction	Gives temporary traction
Sharply reduces potential skidding period	Prolongs potential skidding period
Prevents bonding of ice and snow to pavement	Can't prevent bonding of ice and snow to pavement
Keeps snow mealy and plowable even when it's too cold for melting	Can freeze into snowpack or get covered by snow and become useless
Not as visible to motorists	More visible to motorists
Costs more to purchase	Costs less to purchase
Requires no mixing with other materials	Entails cost of mixing with some salt to prevent freezeup
Requires no cleanup	Clogs storm sewers, drains and ditches, thereby requiring costly and lengthy cleanup operations
Doesn't interfere with road drainage	Builds up on road shoulders and interferes with proper road drainage
Contributes to corrosion if vehicles and bridges are not properly maintained or bridges are not properly constructed	Contributes to corrosion by holding moisture and salt content
Does not damage paint or glass on vehicles	Pits windshields and chips paint when thrown about by vehicles wheels, exposing bare body metal to corrosion
Leaves road surface clear	Remains on road surface and can create ball-bearing effect on which wheels can skid after pavement is dry
Can damage some types of vegetation close to roads only when used in excess	Can smother roadside grasses when not cleaned up
Less costly in long run by requiring less material, plowing, equipment and manpower, and no cleanup	More costly in long run by requiring more material, plowing, equipment and manpower, plus extensive cleanup
More effective overall	Less effective overall

### **“STATE EQUIPMENT RATES”**

Every year, the MaineDOT publishes “state rates” that the DOT uses in its work and many municipalities use for their local road work. The 2008 Rates are now available online or in paper format by request. The address is:

<http://www.state.me.us/mdot/community-programs/laborrates.php>

MaineDOT develops these annual rates in the interest of not having to negotiate every rental rate continually throughout the state. Many towns use them but it's important to understand that the rates are NOT developed for that purpose. Some towns use the state rates as a guide; others apply them exactly as they are shown on the schedule. The state rates are merely a guide for municipal officials and they are convenient to use. In no way does MaineDOT say that anyone has to use these rates for their purposes.

## MAINE LOCAL ROADS NEWS

MaineDOT  
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E-mail us at: [local.web@maine.gov](mailto:local.web@maine.gov)

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

### NEWSLETTER EDITORS

Peter M. Coughlan, Director  
Jerry Douglass, Program Manager  
Bob Stevens, Technical Assistant  
Nancy Tyler, Planning & Research Assistant

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 quarterly 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.

We request articles from any source for inclusion in this newsletter. They should be sent to the Maine Local Roads News, Community Services Division, MaineDOT, 16 SHS, Augusta, ME 04333-0016. 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**