"MAINE LOCAL ROADS NEWS"

FALL 2006

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

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

MaineDOT

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

Inside this issue:

National LTAP & TTAP Programs
Serving America's Local Road & Bridge Agencies

Workzone Pocket Guides Available Now

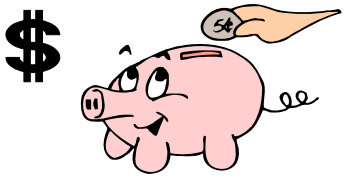
Cones, signs, and **flaggers** …….. where? how many? when? This handy pocket guide is an updated version of the one we published in 1995. It's a booklet that every town should have to ensure that workers and drivers are protected and properly guided through work zones on local roads.

Every town is entitled to **two free** and then it's $2.00 per additional guide.

If you would like to order copies of this new Work Zone Pocket Guide, please call the Maine Local Roads Center at 1-800-498-9133 or email Nancy Tyler at nancy.tyler@maine.gov

Electronic Fund Transfer is now available for Urban Rural Initiative Program (URIP) Payment

MaineDOT has recently created an opportunity for processing your the Urban-Rural Initiative Program's quarterly payments. We can now electronically transfer payments to your municipality's financial institution instead of receiving a paper check in the mail. Currently there are 75 municipalities (of 501) taking advantage of this speedy and secure service. With electronic fund transfers (EFT) your quarterly payment is transferred to your account and there is:



- √ earlier deposit in your account
- √ no waiting for the mail
- √ no misplaced or lost checks and
- √ no trip to the bank to deposit the check

How to Sign Up

If you are interested in Electronic Fund Transfer, you can contact the Office of the Controller for the State of Maine at 626-8420 or visit their web site at http://inet.state.me.us/osc/. On the web site, under Office Units, click on Accounting, then Electronic Funds Transfer. Here you can print out the "EFT Form Activation". Just complete it and send it in. If a municipality chooses Electronic Fund Transfer of funds, then all participating State programs will transfer funds electronically also.

Also ask about the Paymode-Link Clareon if more information with the payment is desired then what is furnished by regular EFT.

ALL TRAFFIC LIGHTS TO BECOME LIGHT-EMITTING DIODES (LED)

than the standard incandescent bulbs and energy-consuming lights. Most towns and cities in Maine have already switched their signals and beacons from bulbs to LEDs in the recent past, and energy consumption and cost has dramatically dropped for each town and city. Part of the Federal Energy Policy Act of 20 ic and pedestrian signal modules manufactured or imported after January 1, 2006 meet or exceed specific energ ments, which can only be met with LED technology. The legislation does not impact existing stock on hand b public agencies and does not cover replacement parts for signals with traditional bulbs. Also, and most impo ies that own or operate traffic signals are NOT required to retrofit their existing incandescent signals.

The impact of this regulation is not expect A large proportion of new traffic signal installations are already being designed with LED technology and cc bulb signals is also progressing at a rapid pace across the United States because of their availability and the significant energy cost savings. In fact, Maine was one of the lead states back in 2003 when the Public Utilities Commission (PUC) partnered with the Maine Department of Transportation to offer every town and city with signals the opportunity to replace their bulbs with LED's. Almost every town or city took advantage of this program because of the excellent prices for the LEDs. Energy consumption has dropped dramatically and these savings are being realized by each of these towns and cities. A copy of the actual federal memorandum dated February 6, 2006 can be found at http://www.maine.gov/mdot/mlrc/traffic-issues/documents/FHWALEDSignalsMemo.pdf

MUNICIPAL TRAFFIC COUNTING PROGRAM

Did you know that MaineDOT will loan traffic counting equipment to towns?

After many inquiries from town officials requesting traffic counts on local roads, MaineDOT began a program in the mid-1990s for loaning count equipment to towns. The idea was to allow the towns to collect the data that would meet their needs. Initially, a letter was sent out to ten or twelve towns annually, inviting them to take advantage of this program. After three years, the Department decided to allow any town the opportunity to borrow this equipment.

Here's how the program works. Someone from the town office should contact Debbie Morgan of MaineDOT's Traffic Engineering Division at 624-3606, or at Deborah.morgan@maine.gov, and discuss their needs. Depending on the number of locations to be counted, we will loan the counters, road tubes, chains and locks. You will need to coordinate a time when you can come to Augusta to pick up the equipment (usually a Friday works best). A count technician will provide you with verbal and written instructions for collecting traffic counts. You may keep the equipment for two weeks. Then you will contact the technician to coordinate a time and date to return everything to Augusta. We will analyze the data and send the town a sheet for each location, stating the hourly volumes and the AADT (Annual Average Daily Traffic). The technician will explain the guidelines necessary to collect a count that will produce a valid AADT.

PAVING RIGHT THE FIRST TIME

It's July and temperatures are in the mid 70s. It's been raining for days and suddenly the paving company rolls into town. They want to start at 6 AM and the roads still have some standing water from the previous night. What does the town do? This article explores how municipalities can promote a more effective paving program on their local roads.

The Maine Local Roads Center presented a series of workshops, from Presque Isle to Westbrook, this summer called "All About Asphalt." Many topics were discussed as communities wanted to know how to do the paving job right the first time. Several key points were made by both instructors (Paul Brown and Brian Luce) to help understand the paving process itself and how to promote better planning.

Hot Mix: What to Specify

Those paying for paving with Hot Mix Asphalt (HMA) should first understand what it is they are paying for. Made at the asphalt plant, HMA consists of a percentage of specified aggregate and liquid asphalt. Whether municipalities realize it or not, in most cases, they are getting HMA based on MaineDOT's specifications (formerly called "superpave") when they purchase mix from the plant. Asphalt plants produce the most volume of HMA for MaineDOT, so municipalities that prefer the older design mix ("B" or "C" mix) need to specify that to suppliers.

The state has been using a superpave design mix since 1998, in an effort to reduce rutting problems associated with the older "Hveem-designed" design method. The current standard provides for less liquid AC and a more crushed aggregate. The results show there are fewer rutting problems on high-traffic state highways. On the negative side, the mix is stiffer and harder to work during installation, particularly with hand work, such as driveway aprons.

Knowing what to use for HMA, and how much, should be determined on a case-by-case basis. Towns should understand whether there is a need for preventive maintenance paving or whether greater strength is needed in the roadway. This can be found by testing the sub-base for gradation and compaction, as well as visual review of the surface distresses.

A municipality has several options for pavement depth, depending on what it intends for results. A "rule of thumb" to follow is never go any less deep than double the size of the aggregate in the mix. For example, don't pave any thinner than 1" depth for HMA with maximum size stone of ½" .

Here are some options:

1) A 1 ¼" overlay is a good routine maintenance paving standard and can be specified as a 9.5 mm fine (or coarse) mix (about 3/8 in. size stone). Depending on the subbase conditions, some structural strength is added to the road with this type of overlay.

2) To add more structural strength, towns can look at doing a 1 ½" to 2 ½" overlay of 12.5 mm mix (about ½ in. size)

3) For adding lots of strength, 2" to 3" of ¾" modified binder is a good option.

4) If all you need is to make the road smooth and black again with no real added structural strength, specify a "maintenance mix" which is really nothing more than sand and asphalt with no sizable stone in it. This is a truce "surface treatment" and should be applied on structurally sound pavements that just need a smoothing and sealing treatment. Typical thickness will be 5/8 inch.

MaineDOT's Brian Luce recommends that municipalities also look at specifying a modified HMA for use on local roads. It is a little closer to the pre-superpave design and has a greater liquid asphalt content and finer gradation which creates fewer voids. These modified mixes can be specified by requiring the contractor to use 50 gyration mixes. Just specifying a MaineDOT approved pavement mix design, without factoring these considerations listed above, may not give the town the best long term results.

In some cases, it may be possible to do crack sealing and avoid a surface coat for 2 to 3 years. In other cases, it may be recommended to do crack sealing and an overlay! Work will vary depending on what surface distresses exist for each particular road.

But, it isn't "just the mix" that municipalities pay for. It's the all-important paving process itself, where a lot of attention can be made at the local level. This is where the road supervisor needs to be involved!

Time to Test: Compaction and Temperature

Compaction. Communities should make sure, for any MaineDOT design mix, that a minimum of two different rollers be on-site to do the job. These are a 10-ton static vibratory roller for initial knockdown of the material. The job would then be followed up by a 12 to 16-ton rubber-tired pneumatic roller. The end result for compaction should be in the 92%-95% range. If trying to compact over 2" thick asphalt, a roller greater than a 10-ton one is needed. With MaineDOT mixes, it is critical that a rubber-tired roller be used, so don't be afraid to ask for one!

Temperature. Two temperatures should be observed on every paving job: the temperature of the mix itself and that of the road surface. Loaded mix temperature, in the truck, should not be hotter than 325 degrees or less than 250 degrees. Yes, it can be too hot! To ensure the mix retains a steady temperature during transportation, loads should be covered. For optimum compaction results, the temperature of the mat should be within the 220 to 260-degree range. Road surface temperature needs to be 50 degrees and rising for all wearing-surface jobs. To be "rising", especially in spring and fall conditions, work should not begin until about 9 AM, rather than first thing (like 7 AM).

Paving Right the First Time continued:

specs. For example, on a 55-degree day, a truck mix temperature of 300 degrees will remain in the truck for a couple hours. However, once the contractor starts putting down a 2-inch lift, they have approximately 15 minutes to place and compact the material. Roller operators are not supposed to roll over 3 mph in order to get proper compaction. A helpful tip for haulers is to have HMA loads covered while being transported to the jobsite.

If the mix is too cold, possible failures may include: poor joints, unraveling, and delaminating. While the road looks "smooth and black" right after being paved, it is at much greater risk of failure and will have a shorter life expectancy as a result of not staying within the proper temperature range.

Testing and Inspection

In order to ensure proper compaction, among other testing criteria, towns can refer to MaineDOT's "Method C" test. This is a basic test that examines in-place density, liquid asphalt content, and aggregate blend (gradation). Also, MaineDOT allows no more than 15% recycled asphalt product (RAP) in their HMA. Higher RAP percentages may bring the integrity of the mix into question by presenting greater unknown factors due to adding the RAP material. To find the entire spec used by MaineDOT for HMA (or any other state road work), you can refer to Spec 401 in the Standard Specifications manual on the web at: http://www.maine.gov/mdot/contractor-consultant-information/ss_standard_specification_2002.php .

A hard copy can also be purchased for $14 by calling the MaineDOT mailroom at 207-624-3220.

A number of consulting and testing firms are available in Maine to provide these services. For a statewide listing, towns can contact the Maine Local Roads Center. It is recommended to have a testing budget of 5% to 10% of the total project cost. While this may seem expensive, consider it insurance that the right job gets done at the right time.

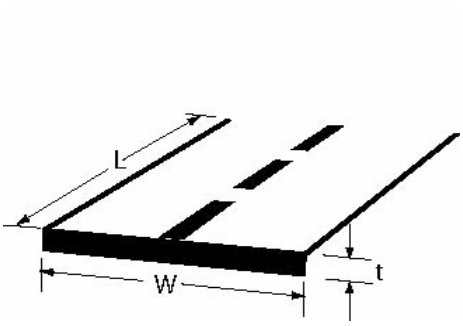
Even if consultants aren't used, buying a few temperature gauges could be a great tool. Another inexpensive tip is simply grabbing samples from the paver with shovel and a bucket. By collecting, naming and dating samples, it shows that the municipality cares about the paving job. If necessary in the future, the town can refer to the mix sample for that job. Without a representative sample, the town will have to resort to destructive test methods to identify whether or not a HMA mix problem exists. Also, without any form of testing, towns are actually gambling that the job gets done correctly. If the mixture fails prematurely, a town has no recourse against the contractor if you do not have clear, defined specs.

For a lot of municipalities, paving budgets are a large percent of the overall highway budget. And it does not take long to spend thousands of tax dollars on paving, whether on resurfacing or a part of a reconstruction job. It is important to protect municipal investment on paving by better understanding the industry in Maine and how to do the job right the first time. If your community would like more information on paving, or how to create a pavement management system, please contact us here at the Maine Local Roads Center.

TONS of hot mix = length (ft) X width (ft) X thickness (inches) X 0.0061

Example: L=1,000 ft, w=20 ft, t=2"

1000 x 20 x 2 x .0061 = (244 tons)



Road Dimensions

"Ahhh...how do I figure the tons of "tah" that I need on this road?"

NEW LAWS RELATING TO TRANSPORTATION

The following law changes relating to transportation are a small sample of laws enacted in the 122nd Legislature earlier this year. All laws listed below were effective September 17, 2006.

Traffic Control – LD 1337, passed as PL 2005, c.167
An Act To Allow Firefighters and Emergency Service Personnel To Direct Traffic

This Act authorizes "public safety traffic flaggers" to control vehicular traffic at the site of an accident or other "public safety emergency," unless otherwise directed by a law enforcement officer. To qualify as a "public safety traffic flagger," one must be a municipal firefighter, a volunteer firefighter or an EMS worker who has received training approved by the Department of Labor (DOL) regarding traffic control on public ways.
(that program is available from the Dept. of Labor's SafetyWorks! at 624-6400)
The law also makes it a traffic infraction to disobey a request or signal of a public safety traffic flagger.

Charitable Traffic Stops –LD 1217 , passed as PL 2005, c. 106
An Act To Permit the Stopping of Traffic by Charitable Nonprofit Organization for Certain Fund-raising Projects

This Act exempts certain events or projects sponsored by charitable nonprofit organizations from the general rule that prohibits hawkers and street vendors from stopping motor vehicles in the public way for the purpose of solicitation or ticket sales. The exemption applies if the charitable organization has received municipal and local law enforcement approval for the event.
(editorial comment—it is strongly recommended that all devices and procedures used for temporary traffic control follow the Manual on Uniform Traffic Control Devices (MUTCD))

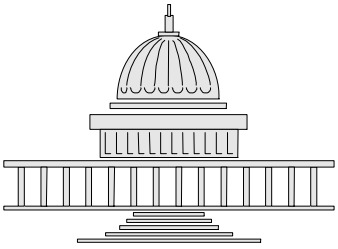
No-passing Zones – LD 1082, passed as PL 2005, c.141
An Act To Prohibit Passing in Designated No-passing Zones

In addition to other prohibited places already in the law, passing is prohibited where an unbroken yellow line (single or double) is painted on the road and, in the case of a double line, when the unbroken line is marked in the operators lane. There is an exception for emergencies.
(editorial comment—it is strongly recommended that all centerline striping follow the practices found in the MUTCD which only allows for a double yellow centerline for 2 lane roads. Single yellow (or even white) lines should NOT be used for centerline striping).

Changeable Signs –LD 498, passed as PL 2005, c195
An Act To Amend the Laws Relating to Changeable Signs (PL 2005, c. 195)

This Act amends the laws governing the management of electronic "changeable" signs. Specifically, the Act allows municipalities to adopt ordinances that govern how often the message on changeable signs may be changed which, unless otherwise controlled by ordinances, can not be changed more often than once every 20 minutes. The Act also allows municipal ordinances to control how the electronic message is changed with respect to such factors as phrasing, rolling, scrolling or blending, all of which are not allowed unless otherwise controlled by ordinance. In no case may a local ordinance allow for the flashing of changeable sign messaging.

New Motor Vehicle Laws – LD 1341, passed as PL 2005, c. 314
An Act To Amend the Motor Vehicle Laws



This law amends a number of motor vehicle statutes.
A few highlights of the amendments are as follows:

Trailers or semi-trailers must have two rear lights (one on each side of the axis) capable of displaying a red light visible at least 100 feet (29-A MRSA § 1905 (1));
The burden is now placed on the person claiming that their exhaust qualifies for the 95 decibel exception to provide evidence that the noise was measured and that it did not exceed 95 decibels (29-A MRSA § 1912 (6));
A vehicle equipped and used for plowing on other than public ways is no longer required to utilize an amber light when entering a public way while in the course of plowing private driveways and other off-highway locations (29-A MRSA § 2054 (2) (C) (4)).

Emergency lighting –LD 243, passed as PL 2005, c.299
An Act To Allow Emergency Responders To Equip Their Vehicles with 2 Emergency Flashing Lights

This act authorizes firefighters (both municipal or volunteer) and EMS workers to mount one flashing red light or two flashing red/

15th Annual Highway Congress
Skowhegan Fairgrounds - June 1, 2006

TIME OUT FOR TRAINING PRIZE WINNERS

NAME	ASSOCIATION	DONOR	PRIZE
Nicole Chase	Maine Turnpike Authority	American Concrete Industries	Carhartt Winter Jacket
Michael Kaplan	Freeport	American Concrete Industries	Carhartt Winter Jacket
Linda Osgood	MaineDOT-Springfield	Beauregard Equipment	Toy Case Display Model - Grader
Thomas Gregor	Monmouth	Beauregard Equipment	Toy Case Display Model - Dozer
Walter Booker	Norridgewock	Beauregard Equipment	Toy Case Display Model - Backhoe
Ray Ingalls	Kennebunk	Beauregard Equipment	Toy Case Display Model - Wheel Loader
Anthony Rossignal	Winslow	Brake Service & Parts Inc.	PHI 8-101 50ft. Droplite Shop Light
Jeff Goldrup	Freeport	Chadwick Baross	1 Model Construction Equipment
Chuck Haskell	Jay	Chadwick Baross	1 Model Construction Equipment
Kevin Noyes	Portland	Chadwick Baross	1 Model Construction Equipment
Chris Logan	Cumberland	Chadwick Baross	1 Model Construction Equipment
Richard Chapman, Jr	Winslow	CMP	Travel Mug, Cup, Hat & Pen
John Brown	MaineDOT	CMP	Travel Mug, Cup, Hat & Pen
Paul Boutin	Old Town	CMP	Travel Mug, Cup, Hat & Pen
Andy Young	Winslow	CMP	Travel Mug, Cup, Hat & Pen
Lewis Gray	Winthrop	CMP	Travel Mug, Cup, Hat & Pen
Skip Webber	Norridgewock	CMP	Travel Mug, Cup, Hat & Pen
Fred Rockwell	Pleasant Ridge Plt	DJ's Municipal Supply	25 Person 1st Aid Kit
Doug Carlson	MaineDOT	DJ's Municipal Supply	1 Extension Cord Reel
Brad Roland	Portland	DJ's Municipal Supply	1 Shovel Set
Dale Barter	MaineDOT	DJ's Municipal Supply	$25 Gift Certificate Walmart/Sams
Steve Walker	Pinkham & Green Engineer	Edward and Kelcey	Fleece Jacket
Jerry Boss	Portland	Edward and Kelcey	Fleece Jacket
Ken Cooper	Wiscasset	Gagne Precast	Jacket - Forester
Johanna Gauvreau	MaineDOT - Intern	Hagar Enterprises, Inc.	Gift Certificate Dunkin Donuts
Norman Miller	Topsham	Hagar Enterprises, Inc.	Golf Shirt & T-Shirt
Tammy Vir	Portland	Howard P. Fairfield, Inc.	$50 LL Bean Gift Certificate
Paul Killam	Winslow	Hydron Inc.	Collectable Bill Elliot Nascar Dicast
David Vance	Portland	Maine Local Roads Center	Vest
Bill Washburn	Skowhegan	Maine Local Roads Center	2 Pair Work Gloves
Walter Miller	Topsham	Maine Local Roads Center	2 pair Work Gloves
Kathy Snow	MaineDOT-Farmington	Maine Local Roads Center	$25 Gift Certificate Hannaford
Joe Bishop	Norridgewock	Maine Oxy	$25 Gift Certificate Maine Oxy
Fred Richards	Jay	Maine Oxy	$25 Gift Certificate Maine Oxy
Roger Goyette	Lisbon	Maine Water Works Supply	$50 LL Bean Certificate
Dan Burr	Cumberland	Messer Truck Equipment	4 Tickets to Portland Sea Dogs
Duncan Daley	Lisbon	Messer Truck Equipment	4 Tickets to Portland Sea Dogs
Butch Thompsom	Portland	N.H. Bragg	Cresent 2 Piece Pliers Set
Charles Bess	Skowhegan	N.H. Bragg	Streamlight Flash Light
Ronald Brown	Skowhegan	Nation Wide Ladder & Equip. Co., Inc.	Target VH5 14" Dry/Wet Diamond Blade
Lloyd Bubier	Bangor	Nation Wide Ladder & Equip. Co., Inc.	1 Partner Hat & 1 Target Hat
Gary Snow	MaineDOT-Farmington	O'Connor GMC	Cobra Compact CB Radio
Rodney Bubier	Monmouth	Onspot of North America	Onspot Golf Shirt