



m³ QUARTERLY

Winter 2016
Volume 30
Number 1

Formerly *Mass Interchange*

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Massachusetts Department of Transportation



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Federal Highway Administration



BAYSTATE ROADS
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2016 INNOVATION +TECH TRANSFER EXCHANGE



Are you wondering how to improve both the efficiency and effectiveness of your operations? Are you looking for the latest technology or equipment for your organization? Don't stay trapped in the 20th century. Take the leap forward by discovering 21st century innovations

"New this year will be the addition of Innovative Equipment vendors on March 8."

and technologies at the annual MassDOT Innovation and Tech Transfer Exchange.

You will learn about the latest innovations being made in the fields of Construction,

Please see 'Innovation' on page 12



MassDOT

INNOVATION

+ TECH TRANSFER

Exchange

MARCH 8-9, 2016

THE DCU CENTER, WORCESTER, MA

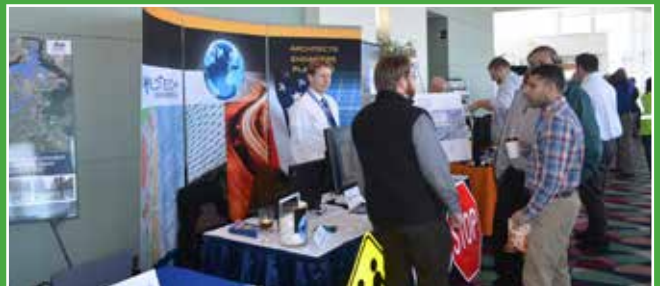
Mark your calendar for the largest Innovation & Tech Transfer Exchange in the state! Learn about the latest advances being made in construction, design, safety and more! See the newest in equipment, materials and maintenance operations being developed throughout the Commonwealth. The event is open to all transportation professionals including MassDOT, FHWA, municipalities, consultants, contractors, vendors and manufacturers.



**NEW!
Innovative
Equipment
Display
March 8!**

REGISTER TODAY!

www.MASSDOTINNOVATION.com





Hundreds gathered to promote healthy transportation at MassDOT's Moving Together Conference

Over 650 transportation professionals, from MassDOT, municipalities, academics, advocacy groups and private consultants gathered at the Boston Park Plaza Hotel on November 4 to learn about the latest advances being made in healthy transportation throughout the state. There were over 20 informative sessions and site visits for individuals to attend, ranging from Complete Streets Funding to Surviving the Winter of 2015. Attendees also had the opportunity to visit with over 35 sponsors and exhibitors during the event.



"It was really active and vibrant this year, which is typical but this year seemed even more. So, I think because this conference is working and we've all come a long way and doing so much more."

Participant Survey Respondent

"Both conferences in Worcester and Boston have been run well and have met all expectations. From an outsider with great technology we have found it impossible to speak to the "right" people except at these conferences. This has been a great experience and hopefully we can help our transit authorities implement this much needed, cost effective technology."

Exhibitor Survey Respondent



GRAVEL ROADS

Revised Construction & Maintenance Guide

The original “Gravel Roads Maintenance and Design Manual” was published in 2000. It became an invaluable resource for managing gravel surfaced roads throughout the nation. Through a joint effort by the Federal Highway Administration (FHWA) and South Dakota Local Technical Assistance Program (SDLTAP) a revised manual is now available.

The revised manual is designed for local agency officials, managers, and grader operators who are responsible for designing and maintaining gravel-surfaced roads. The technical information is presented in layman’s terms without sacrificing clear guidelines and instructions on how to perform the operation well.

Good gravel road maintenance or rehabilitation depends on two basic principles: proper use of a motorgrader



and use of good surface gravel. The use of the grader to properly shape the road is obvious to almost everyone, but the quality, volume and size distribution of gravel needed is not as well understood. This manual provides information on what makes a good gravel road surface.

Another important matter to consider is the dramatic change in the vehicles and equipment using low volume roads. Tire pressures have increased to accommodate an ever expanding fleet of commercial trucks and agricultural equipment increasing in size, weight and horsepower. The damaging effect of larger and heavier vehicles on gravel roads is serious and it is often not recognized. Sections of this manual are focused on construction, drainage, surface gravel, and stabilization of these roads.

The final section of the manual covers innovations in the gravel road maintenance and rehabilitation industry. There are new ways of stabilizing roads, new methods of dust control, and different kinds of equipment available for maintenance or rehabilitation of gravel roads.

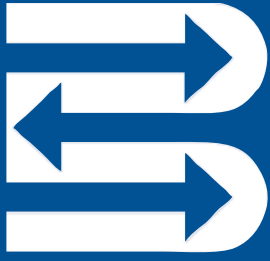
The first and most basic thing to understand in road maintenance and construction is proper shape of the cross section. In addition, a ditch must be established and maintained to drain water away from the roadside. Once the correct shape and adequate drainage is established on a roadway, attention must be given to obtaining and properly placing good gravel.

When the proper shape is established and good surface gravel is placed, many gravel road maintenance problems simply go away and road users are provided the best possible service from gravel roads.

Local government agencies can obtain a copy of “Gravel Roads Construction & Maintenance Guide” online at <http://www.fhwa.dot.gov/construction/pubs/ots15002.pdf>



Photo source: FHWA



#71 - Model Exposure Control Plan for Syringe Pick-Up



Background

In 2015, several municipal and state facilities have noticed an increase of occurrences where used syringes are found discarded in public parks, lobbies, or bathrooms. Used syringes can be contaminated with blood that may be infectious for Hepatitis, HIV or other bloodborne pathogens. Municipal and state employees who are assigned to clean up discarded syringes must be protected from unprotected contact with discarded syringes.

Purpose

This Exposure Control Plan is developed to provide minimum procedures for protecting employees from contacting illness when handling used syringes.

This sample plan is specifically



IMPORTANT

All discarded syringes should be assumed to be contaminated with blood that could contain Hepatitis, HIV or other bloodborne disease. This is called "Universal Precautions" when all blood-contaminated items are considered infectious.

designed for public works, parks, library, transportation and water department employees whose job descriptions do not include providing healthcare, dental services.

Fire/EMS should reference "Exposure Control Plan for Healthcare Providers"

Schools may reference the "Exposure Control Plan for Schools"

A copy of the Exposure Control Plan can be downloaded by visiting <http://www.mass.gov/lwd/labor-standards/massachusetts-workplace-safety-and-health-program/public-sector-employee-health-and-safety/services-available.html>

Please see 'Syringe' on page 6

Syringe

Continued from page 5

What to Do when a Used Syringe is Observed

There are designated staff who will be delegated responsibility for cleaning up used syringes that have been left behind by the public. These staff will be provided with gloves, tools and a puncture-proof sharps container, and will be offered the Hepatitis-B vaccine.

All discarded syringes should be assumed to be contaminated with blood that could contain Hepatitis, HIV or other bloodborne disease. This is called “Universal Precautions” when all blood-contaminated items are considered infectious.

How to Pick Up Discarded Syringes

- Bring gloves, pliers and a sharps container to the location of litter.
- Put on puncture resistant gloves, such as a leather glove. The purpose of the leather glove is to reduce the risk of skin puncture.
- In outdoor, library, or office settings, the leather gloves can be re-used.
- In manhole and sewage treatment settings, the gloves should be discarded if they become contaminated with sewage. Gloves can be discarded in regular trash.
- Do not touch the syringe with your hands.
- Use pliers to pick up the syringe, or
- Use a dustpan and broom.



- Put the syringe immediately into a Sharps Disposal Container. Place the syringe needle-first into the container.
- Do not recap the needle. If a syringe was already capped, keep the cap on, and still discard in a Sharps Disposal Container.
- Bring the Sharps Disposal Container with you to location of syringe. Do not walk across park or down a hallway to get to the sharps container, bring the container with you.

- Do not hand the syringe to another person. If a member of the public wants to hand you a syringe that they found, ask them to: 1) place the syringe directly into a sharps disposal container; or 2) if a container is not available, ask them to put the syringe on a table so you can pick the syringe up from a stationary surface when the container is obtained.

- Remove your gloves. Leather gloves can be reused.
- Wash hands, or use alcohol gel to clean your hands as soon as possible.
- Keep the sharps disposal container in a secure location. This must be disposed as biohazard waste.

What to Do if You Experience a Needlestick

If you experience a needlestick, get medical treatment within the first 24 hours.

Report the injury immediately the

injury coordinator at your workplace.

If you are punctured or get a laceration by a used syringe, lancet, razor or other medical “sharp,” getting medical treatment within the same day is required. Studies have shown that receiving medical treatment for a needlestick within the first 24 hours is able to prevent transmission of HIV and Hepatitis.

Employees may not decline going to a healthcare provider for evaluation. (The employee may decline the advice or treatment offered by a healthcare provider, but they must obtain the evaluation.) The medical exam is confidential – the employer should not receive medical test results or other medical information regarding the employee.

Instructions after a Needlestick:

- Discard the syringe into the Sharps Disposal Container.
- Do not bring the syringe to the doctor – the blood in the syringe is not tested for HIV or Hepatitis.
- Wash the puncture area with soap and water.
- Do not disinfect your skin with bleach or disinfectant – this can damage the skin and make transmission of Hepatitis or HIV easier.



Dispose syringe directly into sharps container without hand contact.

Use pliers to pickup syringe so that hand contact is not required.



Look for ANSI-rated puncture resistant glove when cleaning areas with a high density of syringes.



Leather shoes with sturdy sole required for Public Works. Rubber overboots may be required for areas with high-density of syringes in debris.



Be prepared to tell the healthcare provider about:

- Location of puncture on your skin
- How deep the puncture/laceration
- Whether or not there was visible blood inside the syringe tube
- Whether or not there was visible blood on the needle

Requirements for Tools and Equipment

Sharps Disposal Container

- Must be puncture-proof and leak-proof.
- Should have a cap that allows the container to be carried to different locations without spilling.
- Should be replaced when 3/4th full.
- Never pour out contents of a smaller sharps container into a larger container.
- Must be labeled with a Biohazard label.
- Vendors are available on the state vendor list.

Tools:

- Use pliers, long-handled picker tool, or a dustpan and broom to pickup syringe so that hand contact is not required.

- Dispose syringe directly into sharps container without hand contact.

Gloves

- Should be puncture resistant.

Please see 'Syringe' on page 8

Syringe

Continued from page 7

- Look for ANSI-rated puncture resistant glove when cleaning areas with a high density of syringes.
- Do not use healthcare latex/nitrile gloves – these are too thin to resist a needle.
- The puncture-resistant glove can be re-used.

Shoes

- Closed-toe shoes are required.
- Leather shoes with sturdy sole required for Public Works.
- Rubber overboots may be required for areas with high-density of syringes in debris.

Handwashing

- Handwashing with soap and water is required after handling a used syringe.
- Alcohol hand-sanitizer can be used when a sink is not available.

Hepatitis B Vaccine

- The Hepatitis-B vaccine must be offered to employees who are given the job duty to pick up discarded syringes.



Resources

<http://www.mass.gov/eohhs/gov/departments/dph/>

The following link is the general fact sheet about safe disposal of needles, and includes contacts for all the syringe and needle disposal sites in MA:

<http://www.mass.gov/eohhs/docs/dph/environmental/sanitation/medical-waste/needles-syringes-disposal.pdf>

Sample training:

<http://www.mass.gov/lwd/labor-standards/massachusetts-workplace-safety-and-health-program/public-sector-employee-health-and-safety/sample-safety-and-health-training.html>

Bulletins:

<http://www.mass.gov/lwd/labor-standards/dls/massafetyworks-.html>

Template written programs:

<http://www.mass.gov/lwd/labor-standards/massachusetts-workplace-safety-and-health-program/public-sector-employee-health-and-safety/services-available.html>



Baystate Roads is a cooperative effort of the Federal Highway Administration (FHWA), Massachusetts Department of Transportation (MassDOT), and the University of Massachusetts. Program Director, Dr. Mike Knodler, and Program Manager, Dr. Christopher J. Ahmadjian, provide technology transfer assistance to all communities in the Commonwealth. Our purpose is to provide information and training on transportation and related topics, to answer the needs and problems of local agencies, to identify and transfer new technologies and innovations into a usable format, and to operate as a link between transportation research and practicing highway personnel. mass.gov/baystateroads.





SAVE THE DATE!

JUNE 7-8, 2016

**DCU
CENTER
WORCESTER, MA**



2016 Northeast Transportation Safety Conference

Education • Emergency • Engineering • Enforcement

"The sum is greater than its parts"

Hosted by MassDOT, DPH and EOPSS along with our Federal partners

We cannot simply enforce, educate, engineer, or respond our way toward zero deaths (TZD). All components must work together; proving that the sum is greater than each part. Session topics will address transportation safety through the integration of the four major areas of Education, Emergency/Health, Engineering, and Enforcement.

REGISTER TODAY at www.NETSC.org!

For more information about this event, including sponsorship and exhibitor opportunities, and transportation safety app competition, please visit www.NETSC.org.

MassDOT Aeronautics Reminds Drone Operators to Fly Safely



The Federal Aviation Administration estimates that more than a million Unmanned Aircraft Systems (UAS) or drones will be sold this 2015 holiday season.

The FAA has documented hundreds of incidents this year where aircraft pilots have encountered drones while in flight.

“Recreational drones can be a fun and innovative way to experience aviation. However, operators must keep in mind that drones can cause serious damage if not handled properly or if they are flown in inappropriate areas,” said Dr. Jeff DeCarlo, Administrator of MassDOT’s Aeronautics Division. “If an operator loses control of a drone, or if a drone experiences a mechanical issue, it can cause serious injuries or damage to other aircraft or property.” If you are planning on buying or giving a recreational drone this holiday season, MassDOT suggests the

following guidelines (along with common sense) to assist users with safe operation:

- Contact an airport or control tower if you are operating (or planning to operate) a drone within five miles of an airport, no matter the size of the airport.
- Stay within an appropriate operational area. Drones should not be flown above populated areas, sporting events or private properties, such a neighbor’s backyard.
- Do not fly in bad weather conditions or low visibility.
- Operate drones only during daytime hours and within sight. Do not rely on binoculars or following a drone with a moving vehicle to maintain visual contact.
- Fly no higher than 400 feet.
- Fly more than 25 feet away from vehicles, boats, buildings or people.

- Avoid other aircraft, including other drones. Land as soon as it is safely possible if an aircraft comes within the vicinity of your drone.

In addition, please note that the FAA has implemented new registration requirements that go into effect, today, Dec. 21, which require registration of drones weighing less than 55 pounds and more than 0.55 pounds. These requirements are in addition to existing FAA registration requirements for drones weighing more than 55 pounds. Visit the FAA online for more information on registering your drone at <https://www.faa.gov/uas/registration/>.

*Source: MassDOT Blog
Written by Klark Jessen*

Congratulations Baystate Roads Scholars

Keith Bardwell	Whatley DPW	Courtney Dwyer	MassDOT D6
George Batchelor	MassDOT	Pat Farrell	Franklin DPW
John Bedard	MassDOT District 1	Chunxia Feng	MassDOT District 2
Richard Benevento	WorldTech Engineering	Ronald Ferreira	Swansea Highway Dept.
William Betts	MassDOT	Harold Gallagher	Needham DPW
Ethan Britland	MassDOT District 6	Sonja Gray	MassDOT District 1
Debbie Cheng	City of Cambridge	Daniel Greenwood	Framingham DPW
Michelle Ciccolo	The Ciccolo Group	Joshua Grzegorzewski	FHWA
Brian Clairmont	MassDOT District 1	Laura Hanson	MassDOT - District 2
Jon Connell	Field Engineering Co. Inc	Pamela Haznar	MassDOT D5
Kelley Conway	Town of Billerica	Tom Johnson	Washington DPW
Mark Cressotti	City of Westfield	Erin Kinahan	MassDOE District 6
Joseph Daley	Otis Highway Dept.	Timothy Kochan	MassDOT District 5
Frank DePaola	MassDOT	Paul Krom	New Marlborough DPW
Thomas DiPaolo	MassDOT Highway	Edward Kukkula	Town of Townsend
Bill Domingos	Swansea Highway Dept.	Philip Laflamme	Easthampton DPW
Joseph Doucette	Wayland DPW	Amanda Loomis	Town of Framingham
Susan Draves	MassDOT	Thomas Loughlin	BSC Group

Complete Streets -Benefits, Eligibility & Funding workshops offered

Complete Streets can benefit all communities - rural, suburban and urban! By attending this workshop, local decision makers, consultants and advocates will gain a solid framework for planning and delivering Complete Streets. Learn how the new Complete Streets Funding Program can help you design and fund Complete Streets projects. After this training you will understand how Complete Streets can benefit your community.

Instructors will discuss the benefits a multi-modal transportation network has on public health and the environment. The class will build upon the guidance provided in MassDOT's 2006 Project Development and Design Guide and MassDOT's 2012 Healthy Transportation Policy Directive and supporting Engineering Directives.

Instructors will walk you through the Complete Streets 3-tier funding program to show you how all municipalities - regardless of size or location - can benefit. You will have an opportunity to grade a sample policy and learn about the Policy Development process. Lastly, the class will provide guidance on how to build a municipality-wide Complete Streets Prioritization Plan.

Attendance by one municipal official is a prerequisite for eligibility for MassDOT's Complete Streets Funding Program.

For more information on dates and locations for upcoming classes, please visit the Baystate Roads workshops page at <http://baystateroads.eot.state.ma.us/workshops/>.

2015 Innovation & Tech Transfer Exchange organizers recognized for contributions



Karen Dodge of the UMass Transportation Center presents Abbie Goodman from the American Council of Engineering Companies (top) and John Pourbaix from Construction Industries of Massachusetts (bottom) with a plaque recognizing their efforts and contributions to the 2015 Innovation & Tech Transfer Exchange. Also recognized but not pictured were Dave Capelle from Highway Rehab

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Advancing Municipal Mobility, Methods and Modes in Massachusetts



m3 Quarterly is a quarterly newsletter published by Baystate Roads (LTAP). The Local Technical Assistance Program (LTAP) is a national effort of the Federal Highway Administration (FHWA) designed to improve access to highway, road, and street technology for local agencies. Local capabilities and needs differ, and it is the recognition and accommodation of this fact that has been primarily responsible for the program's success. Flexibility in the delivery of technology is a key to responding to the multitude of needs felt by a group as diverse as the local agencies. LTAP is, therefore, based on a policy that employs a national network of technology transfer centers established in partnership with the State highway agencies and staffed with personnel skilled in providing an interface with their respective local constituencies. Because the program relies on input from many sources, inquiries, articles and ideas are encouraged.

To contact Baystate Roads
call (413) 545-2604 or FAX 413-545-9569
mass.gov/baystateroads



Innovation

Continued from page 1

Safety, Projects and Design, Maintenance, and Materials at this two-day conference. There will be over 30 breakout sessions, where you will have the opportunity to discuss with your peers, the advantages and challenges associated with the methods and technologies being presented. New at this year's Exchange will be the addition of an Innovative Equipment vendors on March 8.

The event is open to all transportation professionals including MassDOT, municipalities, consultants, contractors, vendors and manufacturers. The exchange will take place on March 8-9, 2016 at the DCU Center in Worcester, MA. Don't miss the largest tech transfer event in the state! For more information on attending the 2016 Innovation & Tech Transfer Exchange please visit www.MassDOTInnovation.com or www.Mass.gov/Baystateroads.

Interested in being an Exhibitor or Sponsor at this year's event? Please contact Baystate Roads at 413-577-2743.