technotes

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MARYLAND TRANSPORTATION TECHNOLOGY TRANSFER CENTER

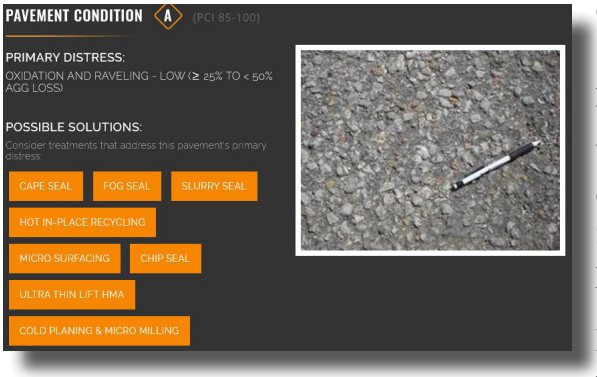
Local Technical Assistance Program (LTAP)
University of Maryland at College Park

mdt2center.umd.edu

PPRA Pavement Preservation Treatment Calculator

The Pavement Preservation & Recycling Alliance (PPRA) has a great Treatment Toolbox that is available for free as an online resource for your pavement preservation planning.

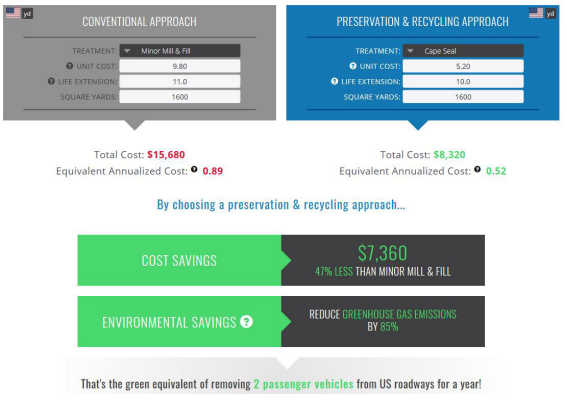
One of the available tools allows you to select appropriate treatment candidates based on the pavement condition index (PCI), primary distress, road type, and the surface type. In the top photo, an urban local asphalt road in good condition, with some longitudinal and transverse cracks is a candidate for fog seal, slurry seal, microsurfacing, ultra-thin lift, chip seal, and others. Take a moment to experiment with the tool and you will see that it is an easy way to narrow down your options for a given pavement condition.



An alternative approach is to explore methods based on photos. With this tool, you can browse their photo library to spot roadway conditions similar to yours and receive more information about the distress type, as well as possible preservation techniques.

From either of these tools, you can link to more information for candidate preservation technologies, but you can also learn more about them directly by visiting the Treatment Resource Center.

Yet another tool on PPRA's site is the Cost Calculator. Here, conventional approaches can be compared to appropriate pavement preservation tools, using generalized unit costs or by substituting your own.



Yet other tools on the site are the structural comparison calculator and the life cycle cost calculator, among others.

Take a few minutes and explore the PPRA tools to see how you can use them in planning your pavement management going forward.

This article was reprinted with permission from the Delaware T2/LTAP Center

Roadway Management Conference Wrap-Up

While it was definitely a different experience from year's past, the Roadway Management Conference continued in 2020. With nearly 300 registrants, attendees joined us online. The change of format allowed us to still share a series of educational presentations with transportation professionals from across the mid-atlantic states and beyond.

See the links below to learn more about the sessions at the 2020 RMC.

Agenda & Handouts

Session Recordings

Save the Date! RMC 2021 will be October 6-8, 2021 in Rehobeth, DE!

Our Currently Scheduled Courses

The following courses are currently scheduled and we are still adding to the list! For more information or to schedule a virtual class, contact Janette Prince or register online at www.mdt2center.umd.edu.

TRAFFIC CALMING

Location: Virtual Classroom
Date: January 26, 2021
Time: 8:30am - 3:00pm

This 1-day training seminar instructed by Dane Ismart on the principles and practices of Traffic Calming. This Traffic Calming seminar is designed to present a broad-based understanding of traffic calming philosophy and measures while recognizing and preserving the function of roadways. This course is adapted toward state and local government officials and employees who are charged with enhancing roadway safety.
Professional Development Hours: 6.0.
Registration Fees: $45 for all participants.

BASIC DRAINAGE

Location: Virtual Classroom
Date: February 18, 2021
Time: 8:30am - 3:00pm

This course instructed by Ed Stellfox emphasizes the importance of good drainage with discussions of water and its effects on roads, problems caused by improper drainage, and ways to handle these problems. It covers types of drainage facilities, ranging from ditches, culverts, subdrains, inlets and end structures. It also introduces geosynthetic drainage applications. The following topics will be covered: importance of drainage, characteristics of water, system maintenance, drainage principles, surface and subsurface drainage, ditches, driveways, drainage culverts – materials and placement, headwalls, endwalls and inlets, erosion control, and geosynthetics in drainage.
Professional Development Hours: 6.0.
Registration Fees: $50 for all participants.

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ASPHALT ROADS COMMON MAINTENANCE PROBLEMS

Location: Virtual Classroom
Date: March 4, 2021
Time: 8:30am - 12:30pm

Municipal employees with road maintenance responsibilities should understand the causes of common maintenance problems on asphalt roads and be familiar with proper repair materials and methods. This course instructed by Ed Stellfox discusses causes and repair procedures for common problems such as cracking, potholes, rutting, corrugations, etc. The procedures cover materials, equipment, and techniques for lasting repairs. Also included, a brief discussion of surface treatment.
Professional Development Hours: 4.0.
Registration Fees: $35 for all participants.

PREVENTIVE PAVEMENT MAINTENANCE (Learn about seal coates, slurry seals, and microsurfacing)

Location: Virtual Classroom
Date: April 8, 2021
Time: 8:30am - 3:00pm

This course is the first step in making your asphalt pavements last longer at lower costs. The course instructed by Ed Stellfox covers preventive maintenance treatments such as chip seals, slurry seals, and micro-surfacing and discusses when and where each technique could be effective. It presents application methods, including preparation, materials, equipment, operations and safety, along with practical tips on how to avoid trouble.
This course is open to municipal officials, road commissioners, supervisors, and superintendents; public works and maintenance personnel; equipment operators; and city or town managers.
Professional Development Hours: 6.0.
Registration Fees: $50 for all participants.

CONSTRUCTION MATHEMATICS

Location: Virtual Classroom
Date: April 29, 2021
Time: 8:30am - 3:00pm

The class lead by Ed Stellfox is a good refresher, and excellent preparation for the construction inspection class. The course was designed for road workers, foremen, superintendants, construction inspectors and supervisors in need of a refresher, especially in preparation for the Construction Inspections class. Depending on the interest of the participants, the course may cover: whole number and fractions, decimals (for measurement and payment), mixed operation fractions and decimals, formula evaluation, techniques of algebra, ration and proportion, percentage, hints for problem solving, useful formulas, square and square roots, conversion, and transportation construction examples.
Professional Development Hours: 6.0.
Registration Fees: $50 for all participants.

ASPHALT RESURFACING

Location: Virtual Classroom
Date: May 13, 2021
Time: 8:30am - 12:30pm

This course instructed by Ed Stellfox reviews the various asphalt mixes, their components and their uses. Asphalt resurfacing procedures are covered, including preparation, material, equipment, operation and safety. Special emphasis is placed on proper rolling and compaction of the asphalt overlay. Superpave mix design is discussed as well. Municipal officials, road commissioners, supervisors, and superintendents; public works and maintenance personnel; equipment operators; and city or town managers are encouraged to attend.
Professional Development Hours: 4.0.
Registration Fees: $35 for all participants.

ROAD SURFACE MANAGEMENT

Location: Virtual Classroom
Date: May 27, 2021
Time: 8:30am - 3:00pm

This course instructed by Ed Stellfox provides participants with the basic concepts of road surface management including inventory, distress identification, condition survey, strategies, programs, budgets, and field surveys. A Road Surface Management Systems software demonstration will also be conducted during this course.
Professional Development Hours: 6.0.
Registration Fees: $50 for all participants.

TRAFFIC SIGNS

Location: Virtual Classroom
Date: June 10, 2021
Time: 8:30am - 12:30pm

This half-day course instructed by Ed Stellfox will cover the regulations and guidelines for traffic signs including; regulatory signs, warning signs, and guide signs. A review of the Manual on Uniform Traffic Control Devices (MUTCD) will also be covered. An in depth discussion of sign examples, installation and maintenance, as well as sign management will be covered.
Professional Development Hours: 4.0.
Registration Fees: $35 for all participants.

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Our Currently Scheduled Courses
(concluded from page 3)

ASPHALT RECYCLING
Location: Virtual Classroom
Date: July 29, 2021
Time: 8:30am - 12:30pm

This course discusses the advantages of asphalt recycling as part of your road maintenance program. It covers techniques for recycling asphalt pavement, including surface recycling, hot mix recycling (both in plant and on-site), and cold mix recycling. The course instructed by Ed Stellfox emphasizes cold mix recycling, full depth reclamation, reviewing materials, equipment and operations. It also presents recent examples of asphalt recycling projects in several states.
Professional Development Hours: 4.0.
Registration Fees: $35 for all participants.

GRAVEL ROAD MAINTENANCE
Location: Virtual Classroom
Date: August 12, 2021
Time: 8:30am - 3:00pm

This course instructed by Ed Stellfox addresses basic maintenance techniques for unpaved and gravel roads. Topics include road materials, blading or dragging, reshaping or regrading for proper crown, regraveling, stabilization or full-depth reclamation, and dust control, with an introduction to road management techniques.
Professional Development Hours: 6.0
Registration Fees: $50 for all participants.

INTRODUCTION TO GEOSYNTHETICS
Location: Virtual Classroom
Date: August 26, 2021
Time: 8:30am - 3:00pm

This course is an introduction to geosynthetics, beginning with a discussion of geosynthetics, what they are, how they are made and how they can be used in a road maintenance program. The course then looks at other geosynthetics and their road system uses, including geogrids, geocells and geowebs, presenting new materials with new applications. This course instructed by Ed Stellfox, will cover the following topics: history; materials (geotextile fabrics, geogrids, geocells and geowebs); uses and applications of drainage, erosion control, reinforcement, separation, and reflective crack control.
Professional Development Hours: 6.0.
Registration Fees: $50 for all participants.

WINTER MAINTENANCE
Location: Virtual Classroom
Date: October 21, 2021
Time: 8:30am - 3:00pm

This course covers all aspects of winter operations-planning and organizing, methods of snow and ice control, salt usage, and winter equipment maintenance. Instructed by Ed Stellfox this lesson will include usage of snow maps, formal snow plans, snow plow and salt spreader operation. This course in intended for municipal officials, road commissioners, supervisors, superintendents, publics works and maintenance personnel, equipment operators, and city or town managers.
Professional Development Hours: 6.0.
Registration Fees: $50 for all participants.

From our family to yours, wishing you the very best this holiday season!

Thank you for your support in 2020, we are looking forward to working with you in 2021!

Cheers to a healthy New Year!

Salt Spreader Calibration

Are the spreaders on your snowplow trucks calibrated for the season? If not, you probably don't dial in the scope on your deer rifle either, right? You don't balance the speakers on your home theatre system? Do you check the internal temperature of the center cut pork chops before they come off the grill? Hmm, but you don't calibrate your spreaders?

These days, many salt spreaders have advanced control units to meter out the salt (and/or sand) placed on the roadways during winter storms. These are key to containing your costs for salt and minimizing environmental harm. However, those advanced systems aren't controlling anything if they aren't calibrated to the mechanical tools at the rear of the truck. You have to calibrate your spreaders. You just have to.

Our instinct, generally speaking, is to put down more salt than is necessary. The result is spending more money than necessary on salt and the excess material can create damage to the environment.

Whenever you have a new spreader or new controls, you need to perform a calibration. And ideally, you should calibrate each spreader prior to the beginning of each season. In a demanding season, another calibration part way through is smart, also. If you change something in the hydraulics or the auger, if you change the battery or modify the gate setting or opening, a calibration is warranted.

Simply put, if your spreader is not calibrated, you don't need those fancy and expensive controls in the cab…because you really don't know how much you are putting down anyway. Save the money on those expensive gizmos so you can make up for all the money you are probably wasting on salt that isn't being put to good use.

The good news is that calibrating spreaders isn't particularly hard. Oh, it's a bit tedious, but that's not unique in our line of work. If you are unsure of how to calibrate your spreaders, we do cover it briefly in our Winter Maintenance training workshop, so look for our next offering of that course. But there are very good training videos available online as well. Bear in mind that your type of equipment and setup may be a little different than what you see, but the basic concepts are the same.

One such pair of videos from North Caroline DOT begins in Part 1 with the removal of the tailgate and installation of the V-box spreader, while Part 2 focuses on calibrating that type of spreader. You will also notice that the demonstration crew is mindful of safety precautions as they install the equipment and perform the calibration.

Calibration Chart

Agency: _____

Location: _____

Truck No.: _____ Spreader No.: _____

Date: _____ By: _____

Gate Opening (Hopper Type Spreaders)				Pounds Discharged Per Mile								
	A	B	C	Minutes to Travel One Mile								
Control Setting	Shaft RPM (Loaded)	Discharge Per Revolution (Pounds)	Discharge Rate (lb/min)	5 mph x 12.00	10 mph x 6.00	15 mph x 4.00	20 mph x 3.00	25 mph x 2.40	30 mph x 2.00	35 mph x 1.71	40 mph x 1.50	45 mph x 1.33
1		This weight remains constant										
2												
3												
4												
5												
6												
7												
8												
9												
10												

12 ❄ *A Practical Guide for Snow and Ice Control*

Another online resource from the City of Farmington Hills, Michigan shows an approach to calibrate a tailgate spreader.

After watching these videos, or others you can find online, you will see that calibration is not very difficult and takes a relatively short time. You can use a chart like the one developed by the Salt Institute below and you'll have all the information you need to set your controllers. Then, you will actually be able to control how much salt (and/or sand) you are actually putting down on the roadways.

This article was reprinted with permission from the Delaware T2/LTAP Center.

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COVID-19 and In-Person Training

As the COVID-19 pandemic has spread globally we are taking every precaution to make sure it doesn't reach our classroom. With safety in mind we have transitioned our in-person courses to online classes. LTAP centers around the nation are doing the same and are even allowing other states to offer the classes to our locals.

Want to see what we offer? Join our mailing list!

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