



MARYLAND  
TRANSPORTATION  
TECHNOLOGY  
TRANSFER CENTER

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

[www.mdt2center.umd.edu](http://www.mdt2center.umd.edu)

**INSIDE:**

**Page 2**

April Showers Bring...  
Drainage Problems?  
Maintenance of Signs and  
Sign Supports - Guide  
Update

**Page 3**

ARRA - Maryland's Year In  
Review

**Page 4**

ARRA, continued

**Page 5**

ARRA, continued

**Page 6**

ARRA, concluded  
MD SHA Provides  
Real-Time Destination  
Information to Motorists

**Page 7**

The Safety Edge  
CITE's 2010 Blended  
Courses

**Page 8**

MD SHA Provides Real-  
Time, concluded  
National Work Zone  
Awareness Week 2010:  
Work Zones Need Your  
Undivided Attention

**Pages 9 - 11**

Our Currently Scheduled  
Courses  
MD T2 Delivers!

**Page 12**

National Work Zone  
Awareness Week 2010,  
concluded

# technotes

Spring 2010 I Volume 27, No. 1

## U.S. Transportation Secretary Awards \$11.8 Million in Training Grants

### *American Recovery and Reinvestment Act Supporting Job Training for Transportation-Related Careers in 19 States and Two Territories*

United States Transportation Secretary Ray LaHood today announced \$11.8 million in American Recovery and Reinvestment Act (ARRA) job training grants for 19 states, Guam and Puerto Rico.

The grants, from the Federal Highway Administration's "On the Job Training/Supportive Services" (OJT/SS) program, fund apprenticeships and training centers for underrepresented or disadvantaged people pursuing careers in transportation, engineering or construction.

"Creating good jobs is what the Recovery Act is about, and these grants help people to get them and do them well," said Secretary LaHood. "We can never have enough well-trained people to help take care of our highway system, and these grants support those who help us keep America moving."

Created in 1998, the OJT/SS program promotes training opportunities for women and minorities who continue to be underrepresented in the highway construction industry's skilled and semi-skilled crafts, such as masonry and carpentry.

"By giving people the skills they need to succeed in highway construction," said Federal Highway Administrator Victor Mendez, "these grants will help people find jobs and are a valuable part of our efforts to sustain economic recovery."

A notable example of the OJT/SS programs is the Wounded Warrior program, which has been adopted by many states to help wounded active-duty military personnel keep job skills sharp or develop new ones while they recuperate. Colorado and Idaho each received grants for their Wounded Warrior programs.

Maryland is slated to receive \$240,000 through the Maryland State Highway Administration. For a complete list of the awards visit [www.fhwa.dot.gov](http://www.fhwa.dot.gov).

*Reprinted from the United States Department of Transportation, Federal Highway Administration. For more information visit: [www.fhwa.dot.gov](http://www.fhwa.dot.gov).*

As if three massive snowstorms this winter just weren't enough, Mother Nature appears insistent on bringing another round of challenges this spring: heavy rains and possible flooding.

More than two feet of snow remains on the ground in western Allegany and Garrett counties, in addition to saturated ground across the entire state. SHA crews were proactive in working to clear all SHA maintained drainage facilities including inlets, pipes and culverts. While most of the snow has melted across the State east of Hagerstown, the recent steady, slow snow-melt has saturated the ground, leaving any significant rainfall with little place to go.

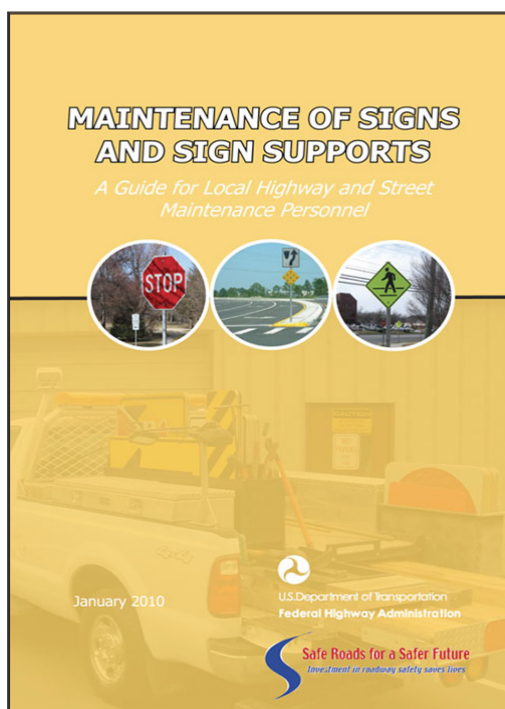
SHA crews will be ready to assist with "High Water" signs, detours, chain saws for any downed trees and other storm-related emergencies. Motorists in low-lying areas prone to flooding should expect flooding and remember to NEVER drive through standing water. It is virtually impossible to determine the depth of standing water and only a few inches of water can sweep a car into a ditch or other impassable area.

Do you need a Drainage course refresher? If so, sign up now for our Basic Drainage course scheduled for March 31st. Don't worry if you missed the course, you can request a private session. For more information or to sign up visit [www.mdt2center.umd.edu](http://www.mdt2center.umd.edu).

*This article was reprinted from the Maryland State Highway Administration,  
for more information visit: [www.marylandroads.com](http://www.marylandroads.com)*

### *A Guide for Local Highway and Street Maintenance Personnel*

### Maintenance of Signs and Sign Supports - Guide Update



Highway signs are the means by which the road agency communicates the rules, warnings, guidance and other highway information that drivers need to navigate their roads and streets. This guide, which is an update to the same titled guide published in 1990, is intended to help local agency maintenance workers ensure their agency's signs are maintained to meet the needs of the road user. The guide succinctly covers the following topics: a description of sign types, sign materials and sign supports; sign installation and the elements of a sign management system including inventory, inspection, preventive maintenance, repair and replacement, and recordkeeping.

Contact us to get a copy - send an email to [mdt2@umd.edu](mailto:mdt2@umd.edu) or visit: [http://safety.fhwa.dot.gov/local\\_rural/training/fhwasa09025/](http://safety.fhwa.dot.gov/local_rural/training/fhwasa09025/)

*Reprinted from the United States Department of Transportation, Federal Highway Administration. For more information visit: [www.fhwa.dot.gov](http://www.fhwa.dot.gov)*

It was a year ago that on the same day that funds were available from the American Recovery and Reinvestment Act (ARRA) signed by President Barack H. Obama, Maryland began the first ARRA project in the nation when the Federal Highway Administration (FHWA) approved a project on MD 650, a safety and resurfacing project along New Hampshire Avenue in Montgomery County. And it was just about a year ago that Governor Martin O'Malley announced Maryland as the first State in the nation to meet its requirement to use at least half of its \$431 million of highway funding provided by ARRA. SHA achieved this milestone by obtaining FHWA approval of all 74 Phase I projects by Monday, March 23, only 20 days after the funds were allocated. On February 9, 2010 Maryland obligated all of its funds for a total of \$413.9 million (the original \$431.0 million, less the \$17.1 million transferred to our sister modal (MTA) to use).

SHA has initiated construction on 83 projects at a value of \$212.3 million; completed 14 projects valued at \$28 million, and has issued notices to proceed on an additional 104 projects valued at \$292.1 million.

These projects are keeping motorists safe, providing better accessibility, mobility and safety for pedestrians, and supporting the overall maintenance of bridges and roads throughout Maryland. The added overall benefit is that hundreds of jobs were created or saved because of these projects. Here are a few of the projects across the State that are funded because of ARRA.

### Montgomery County

*MD 650 between Milestone Drive and Venice Drive* - \$1.8 million (First project in the nation to be funded)



The MD 650 corridor serves many pedestrian and transit users, churches, and schools, carrying 44,000 vehicles per day. This section was last resurfaced in 1992 and had pavement cracks and a poor ride quality. All existing ramps were upgraded to Americans with Disabilities Act (ADA) standards to include replacing curb and gutter, median and drainage upgrades, installation of accessible pedestrian and countdown pedestrian signals at signalized intersections (to allow safer pedestrian access for sight-impaired persons), replacing existing signs and installing new pavement markings. The project was completed in December 2009. *Note:* One of the contractor's traffic managers was laid off from a competing contractor company due to the bad economy. Because of the stimulus funding, SHA's contractor was able to hire and employ him full-time. The job helped to bring a steady paycheck to help support his family.

*MD 193 between MD 586 and Arcola Avenue* - \$3.4 million



*Continued on Page 4*



This section of roadway is in the Wheaton area and carries more than 31,000 motorists per day. The project will provide ADA compliance, repair medians and curb, and improve mobility by repairing the road surface. Last resurfaced in 1993, the existing pavement has significant cracks, rutting and an overall poor ride quality. The signals at Grandview Avenue, Reddie Drive and Sligo Creek Parkway will be improved with accessible pedestrian and countdown pedestrian signals and LED signals. The project will be complete in the spring of this year.

**MD 725 Bridge** - \$1.6 million

This bridge is located within the county seat of Prince Georges County (Upper Marlboro) and is the only state route accessing the government hub. The project will remove and replace the existing bridge with a wider structure that will accommodate a new sidewalk and wider shoulders. The bridge serves local traffic and routinely floods during heavy rains. The roadway leading up to the bridge will also be reconstructed. Originally built in 1928, the MD 725 Bridge is structurally deficient and needs to be replaced. This project is part of SHA's bridge preservation and replacement program aimed at providing reliable facilities in a timely manner.

**Did you know the MD T2 Center offers a Bridge Maintenance Inspection course? For more information check out page 11!**

**Prince Georges and Montgomery counties**

**ADA Upgrades** - \$3.3 million

Safety upgrades and enhancements along several segments in Montgomery and Prince George's Counties will bring existing state-maintained roadways into compliance with the Americans with Disabilities Act (ADA). All existing ramps will be upgraded to ADA standards to include replacement of curb and gutter, median and drainage upgrades, installation of accessible pedestrian and countdown pedestrian signals at signalized intersections, new signing and pavement markings. SHA is proactively working to improve accessibility by upgrading sidewalks on state roads where needed by using state-of-the-art technology to catalog locations and conditions of sidewalks. Community benefits are substantial. The selected locations will improve pedestrian mobility and accessibility along busy county roadways that include transit stops, residences, shopping centers, schools, and military installations. The projects are expected to be completed by summer 2010.

**St. Mary's County**

**MD 236 (Thompson Corner Rd) between MD 5 and MD 234** - \$1.6 million

MD 236 serves a unique community purpose in St. Mary's County, carrying local vehicle traffic, commercial traffic and substantial horse and buggy traffic for Amish families traveling to and from the Mechanicsville market. Replete with potholes, cracks, deep depressions and substantial shoulder deterioration, the 6.2 mile roadway was declared "the worst state road in St. Mary's County" by local Commissioners. Citing damage to their buggies and injuries to their horses, local Amish community representatives made a rare appearance at the county seat to plead for improvements to the roadway. Stimulus funding enabled a contractor to patch the roadway before winter, and will fund resurfacing of the entire road in spring 2010.



**ADA sidewalk retrofit, MD 198 at Russett**



*Continued on Page 5*

The MD 198 corridor from MD 197 to MD 295 is a major shopping hub for the planned community of Russett and for thousands of others who live in and around the Laurel and Ft. Meade areas. Existing sidewalks along MD 198 were not ADA compliant, and did not provide continuous access to local facilities. Stimulus funds under an areawide contract provided for ADA-compliant upgrades to existing sidewalks, and construction of new sidewalks to create a continuous pedestrian path on the heavily-residential westbound side of MD 198. Work included cuts through existing traffic channel islands to allow wheelchair access across side streets. Local resident James Spears, who catches a bus along MD 198, said the improvements will provide much-needed access to a bus stop he previously could not reach in his wheelchair.

### **Garrett County**

*US 219* - \$1.1 million

SHA resurfaced US 219 between the town of Accident and the bridge over Bear Creek. SHA improved approximately one and one-half miles as part of the \$1.1 million project completed last fall. New center-line rumble strips and pavement markings were installed to alert motorists they are traveling too close to the center of the roadway, resulting in enhanced driver awareness.

### **Allegany County**

*I-68* – 3.3 million

SHA resurfaced I-68 (National Freeway) between the Evitts Creek Bridge and the Rocky Gap Road bridge over I-68 east of Cumberland. SHA completed the \$3.3 million project last fall. In addition to the resurfacing, the safety enhancements included installing rumble strips to alert motorists when they drift onto the shoulder. Crews installed pavement markings and recessed reflective markers along the centerlines of the road. Recessed markers will provide additional visibility for centerline lane markings at night.

### **Frederick County**

*MD 80* - \$1.6 million

SHA is improving the intersection of MD 80 (Fingerboard Road) and Ijamsville/Big Woods Roads. Currently, Ijamsville Road and Big Woods Road do not intersect MD 80 directly across from each other. The new roadway alignment



will improve safety by providing better sight distance to motorists as they approach the intersection. Additionally the new dedicated turning lanes will improve traffic flow and provide congestion relief on MD 80 and Big Woods Road/Ijamsville Road. This project is expected to be complete this summer.

### **Carroll County**

*MD 26* - \$1.2 million

SHA will add dedicated left-turn lanes on eastbound and westbound MD 26. The existing traffic signal will be modified to include a “green arrow” to provide an exclusive left turn. The new left-turn lanes and signal modifications will improve safety and traffic operations for motorists turning onto Klee Mill Road or Old Liberty Road from MD 26. SHA will also add acceleration and deceleration lanes on MD 26 in both directions to improve the transition for right-turning motorists accessing or departing Klee Mill Road/Old Liberty Road. This project was not funded for construction and had been placed on hold pending funding. If ARRA funds had not become available this project would have been several years away from starting construction.

*MD 140* - \$622,000

At MD 140, SHA will widen the eastbound and westbound ramps to MD 27 to provide a dedicated right-turn movement. The new right turn lane on the eastbound and westbound MD 140 ramps will provide congestion relief and improve safety, minimizing the current congestion onto MD 140 as motorists access MD 27. This project was not funded for construction and had been placed on hold. If ARRA funds had not become available this project would have been several years away from starting construction.

*Continued on Page 6*

### **Baltimore County**

#### ***I-695 Bridge over MD 26/Liberty Road - \$30 million***

With more than \$316 million in ARRA funding directly for the Maryland State Highway Administration (SHA), nearly \$30 million in ARRA funds are being used to replace the eightlane I-695 bridge over MD 26 (Liberty Road) in western Baltimore County. I-695 carries more than 186,000 vehicles a day in this area, meaning nearly 68.9 million vehicles travel over this bridge every year. The bridge is showing signs of deterioration and the ARRA funds will replace the aging structure with a new modern bridge. The bridge was one of the highest priorities for being replaced on the Baltimore Beltway. The new bridge will be wider to accommodate lane widening in the future when the rest of the beltway is actually widened. Associated ramps will be reconstructed to accommodate the new bridge elevation. Additionally, the project will add a collector distributor (C-D) lane parallel to the Northbound I-695 mainline lanes. This C-D lane will be separated from the mainline by a striped 4-foot wide buffer area and will help separate traffic entering and exiting ramps from mainline traffic. This project will address safety and traffic concerns in this heavily travelled Interstate roadway. The project has been awarded and construction will start in spring of 2010. The scheduled construction completion date is August 2012.

### **Caroline County**

#### ***MD 404 between Tuckahoe Creek and MD 480 - \$17.6 million***

In September 2009 SHA began a \$17.6 million widening project on more than one mile of MD 404 (Shore Highway) between east of Tuckahoe Creek and east of MD 480 (Ridgely Road) in Hillsboro, Caroline County. This project is the first segment of the 11-mile widening project to convert MD 404 from US 50 to MD 404 Business at the Denton Bypass into a four-lane divided highway. This favored alternative route to the Maryland and Delaware beaches carries an average of 24,200 vehicles daily during the summer. This segment also includes the MD 480 and MD 309 intersections in the Hillsboro area, where crash statistics concern community residents. Stimulus projects such as these are not only improving our roadway system and state's economy, but are changing the lives of Maryland citizens.

*For more information on Maryland's ARRA projects,  
visit the Maryland State Highway Administration at [www.marylandroads.com](http://www.marylandroads.com)*

### **MD SHA Provides Real-Time Destination Information to Motorists**

#### ***Travel Time Messaging Expanded in Central Maryland***

Sitting in traffic is extremely frustrating. The main question for motorists is: how long it will take to get moving again? That is about to change. The Maryland Department of Transportation's State Highway Administration (SHA) is taking a major step forward in rolling out a second phase of real-time destination information directly to motorists.

Beginning March 8, 2010, SHA will post travel times to major destinations like I-695, I-70, I-95, I-83 and the Capital Beltway on overhead signs. The program, which began in January along I-95 between the Baltimore and Capital beltways, has been expanded to help motorists determine travel time information on some of Maryland's most congested highways.

"New technology is allowing SHA to provide real-time travel time information to our customers," said Neil J. Pedersen, SHA Administrator. "Motorists can in turn make informed decisions about alternate routes or travel plans."

In addition to I-95, the expanded travel time system will include Variable Message Signs (VMS) along sections of the Baltimore and Capital beltways and MD 295 (Baltimore/Washington Parkway).

SHA will employ 23 VMS signs in the travel time program, which are located along the following roads:

- Seven along I-495/I-95 between I-95 and the Woodrow Wilson Bridge;
- Eight along I-95 between I-695 and I-495, as well as prior to MD 43 (Whitemarsh Blvd.);
- Six along I-695 from Essex through Towson and into Catonsville; and
- Two along MD 295 between I-695 and I-195.

The system uses travel time information that comes from GPS transponder devices in company

*Continued on Page 8*



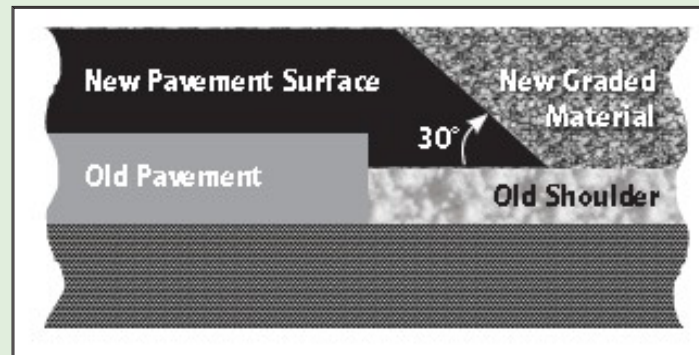


The asphalt paving technique called the Safety Edge is gaining momentum across the country as State transportation departments strive to protect motorists from run-off-the-road crashes. The Federal Highway Administration recommends that States use the safety edge technique—particularly on two-lane roads with unpaved shoulders.

During the normal paving process, pavement edges are formed vertical or near vertical. The recommended practice of bringing the adjacent graded material (unpaved shoulder or stabilized soil) flush with the top of the pavement only lasts for a short time and requires frequent maintenance. The exposed vertical edge can contribute to drivers losing control of the vehicle when attempting to recover from a roadway departure.

While data documenting the role of pavement edges at the national level remain elusive, studies in several States point to the life-saving potential of safer edges. For example, researchers studying crashes in Missouri during 2002-2004 reported that pavement edges may have been a contributing factor in as many as 25 percent of rural run-off-road crashes on paved roadways with unpaved shoulders. This type of crash was twice as likely to include a fatality as rural crashes overall on similar roads.

Recent updated research has shown that almost all drivers and vehicles can recover if the edge is tapered to 30 degrees from the horizontal. This durable taper, the Safety Edge, is easy to include in the paving process, provides a safer roadway edge, and a stronger interface between the pavement and the graded material. The additional cost of the asphalt edge is minimal when included as part of resurfacing projects. Benefits include the avoided economic and social impacts of fatalities, injuries, and property damage.



*Reprinted from the United States Department of Transportation, Federal Highway Administration.  
For more information visit: [www.fhwa.dot.gov](http://www.fhwa.dot.gov).*

### CITE Blended Courses for 2010

The Consortium for ITS Training and Education (CITE) announces its Blended Course schedule for 2010. A “blended” course combines the best features of both instructor-led and web-based instruction. Features include: live discussions through the use of conference calls, convenient, flexible web-based learning, a specific time schedule in which to complete the course, and student interaction through the use of a discussion board.

Scheduled courses include:

- Advanced Telecommunications Technology, April - May
- Improving Highway Safety with ITS, April - June
- Fundamentals of Database Management Systems, June - July
- Managing High Technology Projects in Transportation, September - October
- Traffic Signal Timing, September - October
- Principles and Tools of Road Weather Management, October - December
- Introduction to Systems Engineering, October - December

For more information about or to register for CITE's Blended Courses visit:  
[www.citeconsortium.org](http://www.citeconsortium.org)

## MD SHA Provides Real-Time Destination Information to Motorists (concluded from page 6)

fleet vehicles. The data ascertained from the equipment is available to motorists between 6 a.m. and 9 p.m. seven-days a week.

In addition to gaining real-time travel information on the overhead signs, motorists can log onto [www.roads.maryland.gov](http://www.roads.maryland.gov) before leaving from home, work or school. The information will allow motorists to select viable alternate routes, which helps to reduce recurring congestion.

In the past, variable message signs displayed information such as incidents, detour routes or traffic congestion. The travel time system will make more efficient use of the VMS system, which will revert back to normal messaging in the event of a major crash or delay. The travel time messages are automatically removed in the event of an urgent message, such as an incident with lane closures or a planned roadway closure. SHA plans to deploy additional travel time systems later this summer along routes such as I-83, I-270 and I-795. Motorists can view a map of the DMS sign locations by logging onto [www.roads.maryland.gov](http://www.roads.maryland.gov).

*Reprinted from the Maryland State Highway Administration, for more information visit: [www.marylandroads.com](http://www.marylandroads.com)*

## National Work Zone Awareness Week 2010: Work Zones Need Your Undivided Attention

April 19. As the number of State and local outreach events and public awareness campaigns grows each year, the goal of the week continues to be reminding drivers how they can help keep everyone in a work zone safe. In 2008, 720 workers and motorists were killed in highway work zones and more than 40,000 were injured. Eighty-five percent of those killed in work zones are drivers or their passengers.

NWZAW was created in 1999 when the Federal Highway Administration (FHWA), American Traffic Safety Services Association (ATSSA), and American Association of State Highway and Transportation Officials (AASHTO) signed a Memorandum of Agreement pledging to increase public awareness of work zone safety issues through a national media campaign. Since then, outreach efforts have included everything from a “Between the Barrels” education initiative for teenagers in Tennessee to work zone safety information distributed at highway rest areas in Illinois to the Virginia Department of Transportation’s (VDOT) creation of the VDOT Workers Memorial on Interstate 64.



© www.iStockphoto.com/KirkKozaw

*The goal of National Work Zone Awareness Week is to remind drivers how they can help keep everyone in a work zone safe.*

resources include a collection of work zone best practices and a series of fact sheets on State work zone safety initiatives. Also available are links to resources developed through FHWA’s Work Zone

Supporters of the eleventh annual event include State transportation departments, American Road and Transportation Builders Association (ARTBA), and the Associated General Contractors of America. More details on NWZAW 2010 will be posted at [www.atssa.com](http://www.atssa.com) and [www.ops.fhwa.dot.gov/wz/outreach/wz\\_awareness.htm](http://www.ops.fhwa.dot.gov/wz/outreach/wz_awareness.htm) as information becomes available.

FHWA’s many work zone safety and mobility resources can be found online at [www.ops.fhwa.dot.gov/wz](http://www.ops.fhwa.dot.gov/wz) and [safety.fhwa.dot.gov/wz](http://safety.fhwa.dot.gov/wz). These

*Continued on Page 12*



The following courses are currently scheduled and we are still adding to the list! For more information or to schedule a class, contact Janette Prince at 301.403.4623 or register online by visiting us at [www.mdt2center.umd.edu](http://www.mdt2center.umd.edu).

## TECHNIQUES FOR REDUCING CONSTRUCTION AND MAINTENANCE COSTS

*Ed Stellfox*

**April 14-15, 2010, 8:30am – 3:00pm, Day 2 8:30am - 12:30pm**

College Park, Maryland

\$120 All Participants

Counties and municipalities bear a considerable financial burden with respect to the construction and maintenance of roadways. Inflation, increasing cost of labor, materials and fuel have risen steeply in the past few years. At the same time, municipal budgets have not kept pace. It is essential to conserve resources, find energy efficient and low maintenance materials and to use more efficient techniques. This workshop will conclude with groups of participants developing a cost control plan for a project.

## ENGINEERING FABRICS, GRIDS, WEBS, AND CELLS (WHAT THEY ARE AND HOW THEY'RE USED)

*Ed Stellfox*

**April 21, 2010, 8:30am – 3:00pm**

College Park, Maryland

\$89 All Participants

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 geoweb, presenting new materials with new applications. Designed for municipal officials, road commissioners, supervisors, and superintendents; public works and maintenance personnel; equipment operators; and city or town managers. This course will cover the following topics: history; materials (geotextile fabrics, geogrids, geocells and geoweb); uses and applications of drainage, erosion control, reinforcement, separation, and reflective crack control.

## THE 7 HABITS OF HIGHLY EFFECTIVE PEOPLE

*Kim Carr*

**May 4-5, 2010, 8:00am – 4:00pm**

College Park, Maryland

\$175 Maryland Local Government Employees

\$225 All Other Participants

Maybe you have heard about The 7 Habits of Highly Effective People – the best-seller business book. Now you have a chance

to attend two days of training based on this same book. This training experience provides the foundation to strengthen the human side of performance at the personal, managerial, and organizational levels. This program equips employees with the tools and skills to work at the highest levels of effectiveness, both with and through others. The content of this training helps build stronger organizations by strengthening and exercising the character and competence of the individuals within them. During the workshop, you'll experience interactive exercises, case studies, and poignant video segments, and learn from the experiences of other participants..

## ROAD SURFACE MANAGEMENT

*Ed Stellfox*

**May 5, 2010, 8:30am – 3:00pm**

College Park, Maryland

\$89 All Participants

This course 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.

## INTRODUCTION TO TEMPORARY TRAFFIC CONTROL

*Ed Stellfox*

**May 6, 2010, 8:30am - 3:30pm**

College Park, Maryland

\$125 Maryland local government employees

\$150 Maryland State Highway Administration employees

\$185 All other registrants

An introductory course to temporary traffic control in work zones, TCC is a one-day course designed to give participants a complete overview of traffic control in work zones, including applicable standards, devices used, component parts and their requirements, and installation/removal considerations.

This is intended for anyone whose actions affect safety on temporary traffic control work zones, including traffic managers, traffic technicians, inspectors and designers; and will prepare participants to take the Maryland SHA Traffic Manager's course. The following topics will be covered: definition of temporary traffic control (TTC), quantification of the safety problem, manuals and standards applicable in the State of Maryland, fundamental principles of TTC, component parts of the TTC, introduction to traffic control devices, tapers and other transitions, and installation and removal considerations.

## **LOW COST SAFETY IMPROVEMENTS**

*Mark Hood*

**May 12, 2010, 8:15am – 4:00pm**

College Park, Maryland

\$115 Maryland Local Government Employees

\$135 All Other Participants

This course provides participants with methods for implementing effective, low cost safety improvements targeted at high crash areas. It emphasizes the basic and enhanced application of traffic control devices, low cost safety improvements, and their specific safety benefit (crash reduction factors). Traffic crash data collection, identification of hazardous locations, and engineering study procedures are also discussed. Emphasis is placed on low cost solutions that may be made at the local level.

## **PREVENTIVE PAVEMENT MAINTENANCE**

*Ed Stellfox*

**May 19, 2010, 8:15am – 3:00pm**

College Park, Maryland

\$89 All Participants

This course is the first step in making your asphalt pavements last longer at lower costs. The course 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.

## **FLAGGER CERTIFICATION**

*Juan Morales*

**May 20, 2010, 8:30am - 12:30pm**

College Park, Maryland

\$100 All Participants

The safety of workers, motorists and pedestrians is dependent upon the flaggers' performance. Since the flagger position involves safety, proper training is vital; flaggers are expected to pass a test to prove their proficiency and competence level. A MD SHA-approved ATSSA (American Traffic Safety Services Association) flagger card will be issued upon satisfactory completion of this course. This will be valid for 4 years and is acceptable in several states, including MD, VA and DC. The class is presented in PowerPoint© and will include a 25-question multiple choice exam and a flagger demonstration (dexterity test). Students will receive their ATSSA Flagger Certification card the day of the course (upon passing the exam). The course is

intended for anyone whose actions affect safety of contemporary traffic control work zones, including traffic managers, traffic technicians, inspectors and designers.

## **UNPAVED AND GRAVEL ROAD MAINTENANCE**

*Ed Stellfox*

**June 2, 2010, 8:30am – 12:30pm**

College Park, Maryland

\$59 All Participants

This course addresses basic maintenance techniques for unpaved and gravel roads. Topics include road materials, blading or dragging, reshaping or regrading for proper crown, regravelling, stabilization or full-depth reclamation, and dust control, with an introduction to road management techniques.

## **TRAFFIC SIGNS**

*Ed Stellfox*

**June 16, 2010, 8:00am – 12:30pm**

College Park, Maryland

\$59 All Participants

This half-day course 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.

## **FLAGGER CERTIFICATION**

*Juan Morales*

**August 26, 2010, 8:30am - 12:30pm**

College Park, Maryland

\$100 All Participants

The safety of workers, motorists and pedestrians is dependent upon the flaggers' performance. Since the flagger position involves safety, proper training is vital; flaggers are expected to pass a test to prove their proficiency and competence level. A MD SHA-approved ATSSA (American Traffic Safety Services Association) flagger card will be issued upon satisfactory completion of this course. This will be valid for 4 years and is acceptable in several states, including MD, VA and DC. The class is presented in PowerPoint© and will include a 25-question multiple choice exam and a flagger demonstration (dexterity test). Students will receive their ATSSA Flagger Certification card the day of the course (upon passing the exam). The course is intended for anyone whose actions affect safety of contemporary traffic control work zones, including traffic managers, traffic technicians, inspectors and designers.

## CONSTRUCTION INSPECTION FOR LOCAL AGENCY EMPLOYEES

*John Hopkins*

**September 1, 2010, 8:00am - 4:00pm**

College Park, Maryland

\$110 Maryland Local Government Employees

\$125 All Other Participants

This one day session will cover some of the major duties and responsibilities of an individual responsible for the quality of a project. It will address the importance of understanding the plans, the contract, the order of operations, the materials to be used and the various quality control tests used in project inspection. This course is presented in a straight forward manner and deals with the reality of everyday factors involving contractors and agencies. Qualified field inspection personnel with one to three years of field experience are encouraged to attend; participants must possess basic math skills in geometry and algebra. *\*Participants should bring a calculator, scale and straight edge; notebooks will be provided.*

## BRIDGE MAINTENANCE INSPECTION

*John Hopkins*

**September 2, 2010, 8:00am - 4:00pm**

College Park, Maryland

\$110 Maryland Local Government Employees

\$125 All Other Participants

This one day course will cover inspection of bridge maintenance. A brief summary of the topics to be covered are as follows: approach, deck maintenance, deck joints, deck drains, bearing maintenance, concrete beams, steel beams, timber beams, bridge seats and caps, piles and bents, truss maintenance, painting, and winter maintenance. The class is for the actual field maintenance worker who has to do the repairs. It is mostly concerned with what to look for from a maintenance standpoint not a structural rating perspective.

## WINTER MAINTENANCE

*Ed Stellfox*

**September 22, 2010, 8:30am – 3:00pm**

College Park, Maryland.

\$89 All Participants

This course covers all aspects of winter operations- planning and organizing, methods of snow and ice control, salt usage, and winter equipment maintenance. This lesson will include usage of snow maps, formal snow plans, snow plow and salt spreader operation. This course is intended for municipal officials, road commissioners, supervisors, superintendents, public works and maintenance personnel, equipment operators, and city or town managers.

**T**he Maryland Transportation Technology Transfer (MD T2) Center delivers; private courses that is. Our staff at the MD T2 Center understands the economic hardtimes we all are facing and that most of us are dealing with travel restrictions which can be problematic in getting the training your staff requires. We have a solution! Request any of our courses and we can bring it to you!

To request a course, simply visit us on the web at [www.mdt2center.umd.edu](http://www.mdt2center.umd.edu), on the left menu bar, click on Training and then click on the Request Training, this will bring you to a request training form which you simply fill out and one of our staff members will contact you to arrange your requested class.

What you'll need: a room to accommodate your employees taking the class (you can also invite other company's employees to attend this class). The room's lights should be able to darken to accommodate our projector. If you have a projector screen we could utilize that's great, if not, a bare wall will work too. Our instructor would appreciate a pot of coffee to help stimulate the mind and the lecture!

If you are interested in finding out more information, please contact Janette Prince at 301.403.4623 or at [janette@umd.edu](mailto:janette@umd.edu).

We look forward to serving your training needs in 2010!

## MD T2 Delivers!





**Outreach efforts have included everything from a “Between the Barrels” education initiative for teenagers in Tennessee to work zone safety information distributed at highway rest areas in Illinois.**

Safety Grant program. From 2006–2009, \$17.2 million in grant funds were distributed with the aim of providing highway work zone safety training and developing guidelines to prevent and reduce work zone injuries and fatalities. Through a competitive process, grants were awarded to the Laborer’s Health and Safety Fund of North America (LHSFNA)/ARTBA, ATSSA, Wayne State University (WSU) in Michigan, and the Illinois Institute of Technology (IIT).

ATSSA has developed or updated courses on such topics as temporary traffic control, work zone strategies, safe and effective use of law enforcement personnel in work zones, and flagger training. Products available also include a work zone protection toolbox, safety performance measures booklet, and guidance on worker visibility and temporary traffic control considerations for pedestrians. LHSFNA/ARTBA, meanwhile, has developed a roadway safety awareness program CD that provides an overview of common hazards

in highway construction and simple prevention measures. Training and guidance is also being developed in such areas as speed management and work zone access and egress.

WSU has focused its efforts on developing training for managing utility work zones. Products available include traffic control training programs, an instructor’s guide, case studies, guidelines, and temporary traffic control plan software. At IIT, grant funds have been used to develop highway work zone safety audit guidelines that can be adapted to State or local applications. For more information on the Work Zone Safety Grant program and all of the products available through the program, visit [www.ops.fhwa.dot.gov/wz/outreach/wz\\_grants.htm](http://www.ops.fhwa.dot.gov/wz/outreach/wz_grants.htm).

FHWA also offers a Work Zone Safety and Mobility Peer-to-Peer (P2P) program, which matches agencies with experienced transportation professionals who can provide guidance on how to address common challenges in implementing work zone management strategies. “This resource is available to assist States with all of their work zone questions and challenges,” says Chung Eng of FHWA. To be matched with a peer, call 866.P2P.FHWA (866.727.3492), or send an email to [WorkZoneP2P@dot.gov](mailto:WorkZoneP2P@dot.gov). There is no cost to participate in the program.

For additional information about FHWA’s work zone safety and mobility resources, contact Chung Eng at FHWA, 202.366.8043 (email: [chung.eng@fhwa.dot.gov](mailto:chung.eng@fhwa.dot.gov)). To learn more about work zone safety, visit the National Work Zone Safety Information Clearinghouse at [www.workzonesafety.org](http://www.workzonesafety.org). This comprehensive “cyber library” offers details on laws and regulations, best practices, current research, work zone safety products, public awareness campaigns, and training materials. International resources are also available in English, French, Spanish, Russian, Arabic, Chinese, and Japanese.



© www.iStockphoto.com/Kenneth Spontler

*FHWA’s Peer-to-Peer program provides guidance on implementing work zone management strategies.*

*Reprinted from the March 2010 issue of FOCUS a publication of the United States Department of Transportation, and Federal Highway Administration*



## MD T<sup>2</sup> Center Staff

Tom Jacobs, Director

301.403.4534

Tjacobs@umd.edu

Ed Stellfox, Co-Director

301.403.4696

Stellfox@umd.edu

Janette Prince

Program Manager

301.403.4623

Janette@umd.edu

Ellen Neal

Administrative Assistant

301.403.4239

Ellen@umd.edu

Carly Keane

Newsletter Editor

301.403.4601

Ckeane@umd.edu

### Need Training but budget cuts won't allow travel?

*Request a class and we'll bring it to you!*

We understand your training needs and the tremendous budget cuts everyone is dealing with in this economy. By logging on to [www.mdt2center.umd.edu](http://www.mdt2center.umd.edu) and requesting a course that 10 or more of your employees need, we'll bring our course to you. We'll need a room where your employees can learn and either a white board or bare wall for our projector and a pot of coffee for our instructor.

Requesting a course is simple, visit [www.mdt2center.umd.edu](http://www.mdt2center.umd.edu) and fill out our request training form or call Janette Prince at 301.403.4623 and she'll be glad to assist you.

## MD T<sup>2</sup> Advisory Board Committee

- |                                |  |
|--------------------------------|--|
| <b>Ed Adams</b>                | Baltimore County<br>Department of Public Works   |
| <b>Greg Africa</b>             | Anne Arundel County<br>Department of Public Works<br>Vice President of CEAM            |
| <b>Ali Haghani</b>             | Civil and Environmental<br>Engineering, UMD  |
| <b>Allison Hardt</b>           | Maryland State Highway<br>Administration   |
| <b>Thomas Hicks</b>            | Maryland State Highway<br>Administration, OOTS   |
| <b>Patrick Kennedy</b>         | Federal Highway<br>Administration  |
| <b>Alex Moyseenko</b>          | City of Hagerstown   |
| <b>Neil Pedersen</b>           | Maryland State Highway<br>Administration   |
| <b>Dan Sanayi</b>              | Montgomery County, Traffic<br>Engineering & Operations<br>Section                      |
| <b>Christopher Schlehr</b>     | Town of Bel Air  |
| <b>Richard J. Shelton, Jr.</b> | Maryland State<br>Highway Administration,<br>OOTS                                      |
| <b>Lee Starkloff</b>           | Maryland State Highway<br>Administration   |
| <b>Eric Tabacek</b>            | Maryland State Highway<br>Administration, Traffic<br>Development & Support<br>Division |
| <b>Dr. Richard Y. Woo</b>      | Maryland State<br>Highway Administration   |