Maryland State Highway Administration (SHA) crews are patrolling State roads and repairing potholes weekdays during non-peak travel times between 9 a.m. and 3 p.m. Recent rain and snow storms, as well as extreme fluctuations in temperature, have caused potholes to form on highways across Maryland. In order to safely repair pavements, crews need to briefly close travel lanes. Motorists should slow down and be extremely cautious near mobile work zones for their safety and that of road crews.

“Potholes are a normal result of the freeze and thaw cycle, so we are seeing more thanks to the numerous storms this year,” said SHA Administrator Melinda B. Peters. “Once potholes are reported, crews will respond within one business day to repair the pavement. Drivers can help us locate potholes by reporting them through our on-line system.” Citizens who encounter potholes are encouraged to report the location through SHA’s Customer Care Management System.

Potholes develop when water seeps below the road surface, freezes and expands. This pushes the pavement upward while the traffic above further stresses the roadway. When the pavement thaws, it gradually falls into the hole and eventually traffic chips away at and expands the pothole.

SHA maintains 16,000 lane miles of interstate, U.S. and state numbered, non-toll roads in Maryland’s 23 counties that carry almost three quarters of all traffic in the state. The roads take a constant beating from vehicles, accelerating the development of potholes. Generally, SHA crews will fill a pothole within one business day, unless it requires a more permanent, substantial repair, in which case it may take a few days to complete. On average, over the past five years SHA has spent approximately $2.5 million per year on pothole repairs.

SHA reminds motorists to “Move Over” when encountering highway construction and maintenance crews. Slow down and “Think Orange” and remember that maintenance workers often work on the highway without concrete barrier protection.

This article was reprinted from the January 2014 issue of FOCUS, a publication of the Federal Highway Administration and the United States Department of Transportation.
Have you or one of your coworkers recently built an innovative gadget or developed an improved way to do a job? If so, now is the time to show off a project your municipality is proud of in the Build a Better Mousetrap Competition.

The MDT2 Center is looking for projects that you, your employees, or crew designed and built. It can be anything from the development of tools, equipment modifications, and/or processes that increase safety, reduce cost, improve efficiency, and improve the quality of transportation.

If you have something you think would qualify for this competition, submit your entries by Tuesday, April 1, 2014. Entries will be judged by our board of directors; which is composed of representatives from local, state and federal departments and/or agencies on cost savings/benefits to the community, ingenuity, transferability to others, and effectiveness.

The winning entry will be submitted into a national competition to compete for prizes and, of course, bragging rights. Winners of the national competition will be announced at the annual LTAP/TTAP national conference this summer. All entries at the national level will be posted on the LTAP/TTAP program website and compiled into an electronic booklet.

To enter the competition, complete the entry form (also available to download on our website) and return it by Tuesday, April 1, 2014.

If you have questions, please feel free to email them to ckeane@umd.edu, or call Carly Keane at 240.304.9627.

Step into a portal to the Nation’s pavement data with LTPP InfoPave™, the new Web-based system available from the Federal Highway Administration (FHWA).

The system allows users to more easily tap into the wealth of pavement data available through FHWA’s Long-Term Pavement Performance (LTPP) program. Launched in 1987, the LTPP program has monitored nearly 2,500 in-service pavement test sections throughout the United States and Canada. These test sections represent a range of climatic and soil conditions. The data collected now form the largest and most comprehensive pavement database in the world.

LTPP InfoPave offers a gateway to data from the LTPP test sections, as well as findings from data analyses and extensive documentation for the many aspects of LTPP experiment design, data acquisition, quality control, and data dissemination. Also available are links to LTPP products and tools, including a falling weight deflectometer calibration system and LTPPBind, a software program designed to help highway agencies select the most suitable Superpave asphalt binder performance grade for a particular site. Users can also access an LTPP reference library containing more than 700 electronic documents.

“The new system provides a powerful and flexible tool that allows users at all levels—from researchers and professionals to students—to explore, extract, and employ LTPP data,” said Jane Jiang of FHWA.

Users have many different options for finding the data they need. An “LTPP Sections of Interest” feature allows visitors to narrow down the test sections that interest them. This feature also offers an overview of the various LTPP experiments and core data elements. A “Timeline” option provides the history of data collection and analysis.
LTTP InfoPave,
(concluded from page 2)

of each LTPP test section, including the construction, maintenance, rehabilitation, and monitoring activities that occurred during the life of the test section. The “Data Selector” tool can be used to identify and select the desired data. Data files and documents can then be searched. Using the “Data Pivot” feature, users can filter data by different criteria. Data can also be mapped geographically.

Also available are tools allowing users to create their own personalized data sets, summary reports, and queries, among other options. Data selections, views, and queries can be shared with other users. “With LTTP InfoPave, the universe of LTPP data is at your fingertips,” said Jiang.

To start exploring LTTP InfoPave, visit www.infopave.com. Visitors will also find information on LTTP InfoPave Mobile, a companion application for smart phones. For more information about the new system or the LTPP program, contact the LTPP Customer Support Service Center at 202.493.3035 or by email at ltppinfo@dot.gov.

Participate in the 2014 LTPP International Data Analysis Contest

Make plans now to participate in the 2014 Long-Term Pavement Performance (LTPP) International Data Analysis Contest. The contest is designed to encourage university students, professors, and highway agency engineers from around the world to get involved in using the LTPP database. This year’s theme is “Use LTTP InfoPave to Evaluate a Question or Concern for Your Region or State.” The contest is sponsored by the Federal Highway Administration and the American Society of Civil Engineers’ Transportation and Development Institute. Submissions are due by July 31, 2014. To view the contest guidelines, visit www.asce.org/tdi.

Winners will be recognized at the 94th Transportation Research Board Annual Meeting in Washington, D.C., in January 2015.

This article was reprinted from the January 2014 issue of FOCUS, a publication of the Federal Highway Administration and the United States Department of Transportation.

Want to know more about Asphalt? We’ve got you covered!

Check out this upcoming course:
Road Surface Management scheduled for April 24, 2014

Be sure to check out our Course Catalog for all our Asphalt Courses and you can always request it!

For more information about the courses listed above or any of our upcoming courses see our Currently Scheduled Courses on the next few pages.
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 301.405.6535 or register online by visiting us at www.mdt2center.umd.edu.

WORK ZONE DESIGN
Juan M. Morales, P.E.
April 1-2, 2014, 8:30am – 3:00pm
College Park, MD
$199 for Maryland local government participants
$235 for all other participants
PDHs: 12.0

The course will give participants knowledge of the entire temporary traffic control (TTC) process: planning, design, review, installation, maintenance, and inspection of temporary traffic control for highway work zones. Issues regarding planning, design, review, and operation of temporary traffic control are covered, including pedestrian accessibility, worker safety, human factors, and legal aspects. The material is based on Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD) and are modified to address Maryland State Highway Administration (SHA) TTC standards and guidelines. Topics Covered:
• Introduction to TTC
• TTC Standards and Guidelines (MUTCD and MD SHA)
• Fundamental Principles of Traffic Control
• Human Factors
• Component Part of the TTC Zones
• Traffic Control Devices
• The Typical Project
  o Planning
  o Design
  o Installation
  o Inspection
  o Enhancements and Modifications
  o Constructability Reviews
  o Removal
• Traffic Control Plan Strategies
• MD SHA Standards, Guidelines and Practices
• Legal Aspects of TTC
• Workshops

The course is aimed at individuals who are responsible for the design, review, or modification of temporary traffic control for work zones adjacent to and within roads and highways. The course will also be of interest to those responsible for installation, operation, and inspection.

BASIC DRAINAGE
Ed Stellfox
April 3, 2014, 8:30am – 3:30pm
College Park, Maryland
$89 for all participants
PDHs: 6.0

This course 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. Their uses, materials, installation and maintenance as well as erosion control are addressed. 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.

TRAFFIC SIGNS
Ed Stellfox
April 22, 2014, 8:30am – 12:30pm
College Park, MD
$59 for all participants
PDHs: 4.0

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.

ROAD SURFACE MANAGEMENT
Ed Stellfox
April 24, 2014, 8:30am – 3:00pm
College Park, MD
$89 for all participants
PDHs: 6.0

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.

DESIGNING PEDESTRIAN FACILITIES FOR ACCESSIBILITY
Juan M. Morales, P.E.
April 28-29, 2014,
Day 1 8:30am – 3:00pm, Day 2 8:30am – 12:30pm
College Park, MD
$150 for Maryland local government participants
$185 for all other participants
PDHs: 10.0

Upon completion of this course the participant will be able to:
• Identify applicable laws, regulations, guidelines, and standards pertaining to accessibility for persons with disabilities.
• Know the requirements for ensuring accessibility in existing facilities vs. work in new construction and alterations.
• Identify some of the challenges in the Public-Right-of-Way (PROW) faced by persons with disabilities.
• Review design elements necessary for achieving accessibility in the PROW, including work zones.
• Identify best practices.
FLAGGER CERTIFICATION
Juan M. Morales, P.E.
April 30, 2014, 8:30am – 12:30pm
College Park, Maryland
$100 all participants
PDHs: 4.0

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 course 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.

DESIGNING SAFER ROADS FOR VULNERABLE ROAD USERS
Juan M. Morales, P.E.
May 6-7, 2014, 8:30am - 3:30pm
College Park, Maryland
$220 for Maryland local government
$250 for all other registrants
PDHs: 6.0

Vulnerable road users (VRU) are susceptible to traffic injuries and fatalities, perhaps more so than drivers. Yet we design highways for the mobility of cars sometimes neglecting the needs of the most vulnerable, such as pedestrians, bicyclists, motorists, transit users and others. This course will teach participants how to diagnose pedestrian (and other VRU) safety deficiencies and select the appropriate countermeasures to make conditions safer for all users including an overview of the American with Disabilities Act (ADA) accessibility requirements. Engineering countermeasures will be emphasized but education and enforcement countermeasures will also be covered. Upon Completion of the Course, Participants Should be Able to: Define vulnerable road users, Describe VRU needs, Diagnose crash causes and select proper countermeasures, Identify safety-related geometric design elements, and Discuss VRU safety issues and how to address them.

CONSTRUCTION MATHEMATICS
Ed Stellfox
May 22, 2014, 8:30am – 3:00pm
College Park, MD
$89 for all participants
PDHs: 6.0
CEUs: 0.6

Construction inspectors may need to brush up on math skills specifically related to construction inspection, especially basic geometry, fractions, area, volume and conversions. The class 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. *Participants should bring a calculator, scale and straight edge; notebooks will be provided.

SIGNAL WARRANTS AND INTERSECTION CONTROL ANALYSIS
Dane Ismart
June 3, 2014, 8:30am – 4:30pm
College Park, MD
$110 for all participants
PDHs: 6.0

This one-day course will cover the eight MUTCD signal warrants: Warrant 1: eight-hour vehicle volume, Warrant 2: four-hour vehicle volume, Warrant 3: peak hour, Warrant 4: pedestrian volume, Warrant 5: school crossing, Warrant 6: coordinated signal system, Warrant 7: crash experience, and Warrant 8: roadway network. The course will also cover warrants for four-way stops as well as alternatives to traffic control signals. A detailed discussion of the advantages and disadvantages both in the terms of capacity and safety of various types of traffic controls will be presented. The basis for both the installation and the removal of traffic control devices will be covered. As part of the course, workshop problems will be given to the class participants. The class will be provided intersection field data and will determine if signals are warranted for the sample intersections. After completing the workshops, MUTCD signal warrant analysis software will be demonstrated and the workshop problems will be evaluated based on microcomputer analysis. This course is designed for traffic engineers and transportation planners involved in the design and planning of corridors and intersections.

ROUNDABOUT PLANNING AND DESIGN
Dane Ismart
June 4, 2014, 8:30am – 4:30pm
College Park, MD
$110 for all participants
PDHs: 6.0

This one-day workshop will highlight the new procedure to roundabouts as per the NEW 2010 Highway Capacity Manual. Topics covered in the roundabout course will include geometric design, signing, striping, safety, and accommodation of pedestrians and bicyclists. An important component of the course will be a discussion of the advantages and disadvantages of roundabouts. HCS 2010 software will be used to demonstrate the US Roundabout Capacity procedure rather than SIDRA and Rodel. Maryland's Roundabout Guide will also be discussed and included as part of the course. Transportation Planners and Traffic Engineers who are planning or designing a modern roundabout are encouraged to participate.

Continued on page 6
HIGHWAY CAPACITY INTERRUPTED FLOW  
Dane Ismart  
June 5, 2014, 8:30am – 4:30pm  
College Park, MD  
$105 for Maryland local government participants  
$120 for all other participants  
PDHs: 6.0

This one-day course will cover the theory and methodology of the 2010 Highway Capacity Manual for interrupted flow. The Chapters that will be covered include: Signalized Intersections, Unsignalized Intersections (A) Two-Way Stops (B) Four Way Stops, and Urban Arterials. Changes in each of the interrupted Chapters of the 2010 Highway Capacity Manual will be highlighted during the lectures. The Highway Capacity Software will be demonstrated to the class using sample problems. The new roundabout capacity procedure is covered under a separate course.

HIGHWAY CAPACITY UNINTERRUPTED FLOW  
Dane Ismart  
June 6, 2014, 8:30am - 4:00pm  
College Park, Maryland  
$105 for Maryland local government participants  
$120 for all other registrants  
PDHs: 6.0  
CEUs: 0.6

This one-day course will cover the theory and methodology of the 2010 Highway Capacity Manual for uninterrupted flow. The Chapters that will be covered include: basic freeway sections, weaving, ramps, multilane highways, and two lane rural roads. Changes in each of the uninterrupted Chapters of the 2010 Highway Capacity Manual will be highlighted during the lectures. The Highway Capacity Software will be demonstrated to the class using sample problems.

ROAD SAFETY 365: A WORKSHOP FOR LOCAL GOVERNMENTS  
Juan M. Morales, P.E.  
June 12, 2014, 8:30am - 3:30pm  
College Park, Maryland  
$100 for all registrants  
PDHs: 6.0

This course is designed to provide local and rural agencies with practical and effective ways to mainstream safety solutions into their day-to-day activities and project development process. This one-day workshop focuses on processes for incorporating safety into all aspects of local and rural projects, and on making safety a priority through inclusion in the traditional decision-making process - 365 days a year. The course stresses the importance of road safety, and illustrates how it can be integrated into rural/local transportation project development at all stages: planning, design, construction, implementation, operations, and maintenance. Through practical exercises and facilitator-led discussions, the emphasis is on operations and maintenance to reflect the predominant, day-to-day responsibilities of rural/local transportation agencies. The benefits and potential cost savings of safety initiatives are shown using examples from rural/local agencies. The workshop audience ranges from decision-makers to road crews. It is aimed primarily at local and rural road and public works supervisors. Others who would benefit include: elected officials, public safety advocates, State DOT personnel, law enforcement, consultants, regional and rural development organizations, municipal associations.

SITE IMPACT ANALYSIS  
Dane Ismart  
June 19-20, 2014, 8:30am – 4:30pm  
College Park, MD  
$199 for Maryland local government participants  
$225 for all other participants  
PDHs: 12.0

Participants will learn the standard techniques for estimating the traffic impacts of both small and large site developments. Content includes procedures for land use forecasting, trip generation, trip distribution and assignment, site impact layout design, and level of service designation. The workshop will be conducted with manual procedures, but computer software packages suitable for site impact will also be demonstrated. Participants will receive a workbook, traffic access and impact studies, evaluating traffic impact studies, and a site impact handbook are provided. This course is designed for transportation engineers, traffic engineers, and planners concerned about the impacts of site development. Previous experience in traffic capacity or planning procedures is useful.

FLAGGER CERTIFICATION  
Juan M. Morales, P.E.  
August 5, 2014, 8:30am – 12:30pm  
College Park, Maryland  
$100 all participants  
PDHs: 4.0

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.
THE NEW MD MUTCD ONE DAY SEMINAR  
Dane Ismart  
August 26, 2014, 8:15am – 4:30pm  
College Park, MD  
$100 for all participants  
PDHs: 6.0  

This one-day training is to enable participants to become familiar with the new MD MUTCD regarding the application of its principles to their traffic control devices in Maryland. As of February 3rd, 2012, the new Maryland Manual on Uniform Traffic Control Devices (MDMUTCD) has been officially adopted by the State of Maryland. The workshop is open to representatives of all traffic engineering and planning organizations and elected officials. Part of the workshop is also geared towards Local Administrators and Elected Officials. Agenda will include compliance days for new and existing traffic control devices, new sections within various chapters of the manual, other changes in standards and guidance, procedure for experimentation and interpretation, etc. Who should attend: State and Local Transportation Engineers, Traffic Engineers, Planners, Elected Officials, and Traffic Engineering Consultants responsible for the placement and maintenance of uniform traffic control devices in Maryland. Sponsors: This workshop is presented by the Maryland T2 Center and is sponsored by MD SHA and the FHWA.

TRAFFIC CALMING  
Dane Ismart  
August 27, 2014, 8:30am – 4:00pm  
College Park, MD  
$110 for Maryland local government participants  
$125 for all other participants  
PDHs: 6.0  

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. The seminar will focus on the appropriateness and effectiveness of various traffic calming measures as well as the specifics of designing such measures to achieve their desired effect. Upon completion of the workshop sessions, the participants will present their solutions to the class. Students will receive a course notebook.

BRIDGE MAINTENANCE INSPECTION  
John Hopkins  
September 15, 2014, 8:15am – 3:00pm  
College Park, MD  
$110 for Maryland local participants  
$125 for all other participants  
PDHs: 6.0  

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.

CONSTRUCTION INSPECTION FOR LOCAL AGENCIES  
John Hopkins  
September 16, 2014, 8:15am – 3:00pm  
College Park, MD  
$110 for Maryland local participants  
$125 for all other participants  
PDHs: 6.0  

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 straightforward 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.

CONSTRUCTION INSPECTION - INTERMEDIATE LEVEL  
John Hopkins  
September 17-18, 2014, 8:15am – 3:00pm  
College Park, MD  
$200 for Maryland local participants  
$230 for all other participants  
PDHs: 12.0  

An intermediate class focuses on the construction, inspection, measurement and testing of materials associated with road way construction. Includes real-life scenarios and problems faced on the job, and covers general practices and MD standards. 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. A test will be administered to acquire class credit. *Participants should bring a calculator, scale and straight edge; notebooks will be provided.

WINTER MAINTENANCE  
Ed Stellfox  
October 21, 2014, 8:30am – 3:00pm  
College Park, MD  
$89 for all participants  
PDHs: 6.0  

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, publics works and maintenance personnel, equipment operators, and city or town managers.
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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 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 and fill out our request training form or call Janette Prince at 301.405.6535 and she’ll be glad to assist you.