



**MARYLAND
TRANSPORTATION
TECHNOLOGY
TRANSFER CENTER**

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

mdt2center.umd.edu

INSIDE:

Page 2
Thank You Ed!

Pages 2-6
Our Currently
Scheduled
Courses

Page 6
Moving Forward

technotes

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Congratulations to our Build a Better Mousetrap Winner!

Entry Title: Sign Stabilizer submitted by the Cecil County Government

Problem Statement: When hanging dual street name signs, we were having a problem with the signs folding under the high winds, and working free from the mounting hardware.

Discussion of Solution: When thinking about the problem, the solution came easy. When putting the two signs together, they would be harder to move without moving the post. I have been using them now for about 4 months, and not a single loss.

Labor, Equipment, and Materials Used: 1/2 inch pvc pipe cut into 2" pieces, 3" x 3/8" bolts, nuts, and washers. Equipment used: Chop saw, drill with 3/8" bit, and a 3/8" wrench. To put this together takes only a few minutes.

Cost: The cost for each post is \$1.25 plus the 10 minutes it takes to install them.

Savings/Benefits to the Community: The average street sign cost roughly 48.00, the loss of 10 signs cost you \$480.00. Resolving that cost you \$13.00.

We have entered this mousetrap idea into our regional (Delaware, Pennsylvania, Maryland, Virginia and West Virginia) competition as well as the National Local Technical Assistance Program Association Build a Better Mousetrap competition.

For more information about this innovation, contact [Robert Padgett](#). Congratulations again Cecil County and thank you for your innovative idea.



New Courses Ahead!

- School Crossing Design & Safety Analysis
- Advanced Highway Plan Reading
- Safe Work Practices On and Around Heavy Equipment
- Road Diets Workshop
- Conducting and Evaluating Regional Corridor Studies

For more information on these courses see pages 2-6.

Ed Stellfox, many of you know him as the MD T2 Center Co-Director and instructor but we have known him as a friend and colleague for more than 13 years. Recently, Ed decided to step down as co-director and only remain on as an instructor; giving him more time to spend with his wife and animals.

When asked how he came into this field, he answered, "My first contact with Municipal Governments came when I took a position with the City of Philadelphia Streets dept. This was for a FHWA Pedestrian Safety Study. It didn't really take as something I'd like to do for the rest of my life. However after working for a couple of paving contractors I was lucky enough to find Lower Providence township in PA needed a Public Works Director. I enjoyed this job, especially finding different ways to solve problems with various new methods. After a few years I saw an ad for a Circuit Rider with PA Rural Technical Assistance Program at Penn State in Harrisburg. This was the second best thing that ever happened to me (number one being when I met my wife at Penn State Harrisburg)." He continued, "From there it was nineteen years as the Senior Engineer and then on to Director at Maryland for the past thirteen years. For the most part I [have] thoroughly enjoyed every year. To me being an instructor is it's own reward but most instructors already know that. It's certainly been a great time for me."

So, the next time you see Ed in one of our courses, please join us in wishing Ed congratulations on his retirement! We are truly grateful for your services to the MD T2 Center and your wisdom you have bestowed upon us!

Upcoming Courses Instructed by Ed

Construction Mathematics scheduled for July 14
Winter Maintenance scheduled for October 6

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 class, contact Janette Prince at 301.405.6535 or register online at www.mdt2center.umd.edu.

SCHOOL CROSSING DESIGN & SAFETY ANALYSIS

Dane Ismart

July 11, 2016, 8:30am-4:00pm

College Park, Maryland

\$110 for Maryland local government participants only

\$125 for all other participants

PDHs: 10.0

The School Crossing Design Course will cover the recommended guidelines for school crossings. Various issues such as determining the school area boundaries, signing and markings for school crossing areas, and design criteria will be covered. Requirements and guidelines as covered by the Maryland MUTCD will be reviewed as part of the class. How to select treatments such as potential signalization, crossing guards, pedestrian cross walks, coverage, school speed zones and speed monitoring, location of traffic control devices, and warrants will be presented to the class. The Safe Routes to School program will be reviewed. Sources for information and school crossing information will be given to the class as well as innovative school treatments from other states. A class exercise will be conducted by the participants to demonstrate the application of the procedures and design principles for implementing school crossing treatments. Audience: Local and state planners and designers, school officials and associations involved in school transportation, and transportation consultants.

CRASH AND SAFETY DATA ANALYSIS

Dane Ismart

July 12-13, 2016, Day 1 8:30am-3:30pm, Day 2 8:30-12:30pm

College Park, Maryland

\$130 for Maryland local government participants only

\$145 for all other registrants

PDHs: 10.0

This day and a half course will cover the following:

- Crash Data and Computation of Crash Frequency - Using several years data, establish crash rates to compare with similar locations, while explaining hazard indices, conflict analysis, and warrant analysis.
- Condition Diagramming and Collision Types - Review the process and the elements contained in a condition diagram and use police reports to identify.
- Speed Analysis and Traffic Calming - Methods for conducting speed studies, including data collections, sample size, computation of mean, 85th percentile and pace speeds, and controlling speed with traffic calming techniques.
- Sight Distance Analysis - Methods for determining minimum stop and sight distances will be covered.
- Pedestrian Safety - Design features such as signing, marking, timing for intersection crossings, crosswalk widths, minimum sidewalk standards including radius, ramps, and specialized HAWK pedestrian crossing.
- School Crossing Considerations - Review school crossing mitigation measures including school guard criteria, school signs and markings, speed zones, gap analysis, and school crossing signalization.
- Marking and Signing Considerations - Review marking designs and requirements, including sign design and location requirements as well as both longitudinal and traverse markings specifications according to the MUTCD.
- Safety Design Issues and Mitigation - Introduce the concept of Improving safety through improved access design and applying them to identify mitigation measures for improving real and potential safety problems.

Audience: This course is intended for Traffic Engineers, planners, traffic analysts, traffic signal technicians and local officials involved in the planning or design of transportation facilities.

Continued on page 3

Our Currently Scheduled Courses

(continued from page 2)

CONSTRUCTION MATH

Ed Stellfox

July 14, 2016, 8:30am-3:00pm

College Park, Maryland

\$89 for all participants

PDHs: 6.0

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, superintendents, 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.

SITE IMPACT ANALYSIS

Dane Ismart

August 2-3, 2016, 8:30am-4:00pm

College Park, Maryland

\$199 for Maryland local government participants only

\$215 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 instructed by Dane Ismart will be conducted with manual procedures, but computer software packages suitable for site impact will also be demonstrated. Participant's 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.

ROUNDBOUT PLANNING AND DESIGN

Dane Ismart

August 4, 2016, 8:30am-4:00pm

College Park, Maryland

\$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.

DESIGNING PEDESTRIAN FACILITIES FOR ACCESSIBILITY

Juan M. Morales, P.E.

August 16-17, 2016, 8:30am-3:30pm

College Park, Maryland

\$199 for Maryland local government participants

\$225 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. There will be (weather permitting) a field visit to a nearby intersection to assess its design and accessibility. Topics covered in the course include: Laws, Regulations, and Pedestrian Characteristics; Pedestrian Access Routes; Curb Ramps and Other Transitions; Detectable Warning Surfaces; Pedestrian Crossings; Accessible Pedestrian Signals; Pedestrian Facilities and Temporary Pedestrian (TPAR) in Work Zones; and a Field Visit.



Continued on page 4

Our Currently Scheduled Courses

(continued from page 3)

WORK ZONE DESIGN

Juan M. Morales, P.E.

September 7-8, 2016, 8:30am-3:30pm

College Park, Maryland

\$199 for Maryland local government participants only

\$225 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: Planning; Design, Installation, Inspection, Enhancements and Modifications, Constructability Reviews and Removal; Traffic Control Plan Strategies; MD SHA Standards, Guidelines and Practices; Legal Aspects of TTC; and 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.

HIGHWAY CAPACITY INTERRUPTED FLOW

Dane Ismart

September 13, 2016, 8:30am-4:00pm

College Park, Maryland

\$110 for Maryland local government participants only

\$125 for all other registrants

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 arterial. 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

September 14, 2016, 8:30am-4:00pm

College Park, Maryland

\$110 for Maryland local government participants only

\$125 for all other registrants

PDHs: 6.0

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; multi-lane 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.

DESIGNING SAFER ROADS FOR PEDESTRIANS AND VULNERABLE ROAD USERS

Juan M. Morales, P.E.

September 20-21, 2016, 8:30am - 3:30pm

College Park, Maryland

\$199 for Maryland local government participants only

\$225 for all other participants

PDHs: 12.0

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, motorcyclists, 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.

FLAGGER CERTIFICATION

Juan M. Morales, P.E.

September 22, 2016, 8:30am – 12:30pm

College Park, Maryland

\$100 for 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.

Continued on page 5

ADVANCED HIGHWAY PLAN READING

Glynn Stoffel

October 3, 2016, 8:30am-3:30pm

College Park, Maryland

\$110 for Maryland local government participants only

\$125 for all other participants

PDHs: 6.0

This class discusses how the highway supervisor, superintendent, maintenance worker and inspector can use a set of highway plans to ensure any new work, or roadway/structure repair work is performed according to design standards. This course is designed as a follow-up to T2's Blueprint Reading for Highway Workers. At the successful conclusion of the course, the student should be able to:

- Read and interpret the information given on a set of highway plans.
- Review plans and recognize potential maintenance problems.
- Use the proper vocabulary to communicate about key elements of the plan.
- Locate key items in the plan using stations.
- Locate buried or hidden objects in the field using scaling and triangulation techniques.
- Draw legible field sketches and red-line drawings

SAFE WORK PRACTICES ON AND AROUND HEAVY EQUIPMENT

Glynn Stoffel

October 4, 2016, 8:30am-3:30pm

\$110 for Maryland local government participants only

\$125 for all other participants

PDHs: 6.0

Jobs requiring heavy equipment demand that all persons on the job recognize the hazards that exist when operating and working around this equipment. The class provides a comprehensive overview of how to safely operate and work with the equipment used in highway and utility construction and maintenance work. The subjects covered include: OSHA standards for heavy equipment; job site hazard recognition and abatement; safe operation of backhoes, excavators and graders; safe operation of front-end and skid-steer loaders; hand signals and other communication techniques; safely working around heavy equipment; safely working around dump trucks and other mobile equipment; safe excavation techniques; safe rigging and lifting techniques; and safe street driving and transport of heavy equipment.

WINTER MAINTENANCE

Ed Stellfox

October 6, 2016, 8:30am – 3:30pm

College Park, Maryland

\$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, public works and maintenance personnel, equipment operators, and city or town managers.

ROAD DIETS WORKSHOP

Dane Ismart

October 19, 2016, 8:30am-3:30pm

College Park, Maryland

\$110 for all participants

PDHs: 6.0

The course covers the design, safety, and operations of road diets. Road diets, although they come in many different designs, reduce the number of through lanes and allocate excess roadway width to parking, bicycle lanes, freight movements, and transit operations. The classical design reduces a 4-lane undivided highway to three lanes consisting of operations. The classical design reduces a 4-lane undivided highway to three lanes consisting of one through lane in each direction and a continuous two lane left turn in the middle. A road diet may also reduce the widths of lanes as well when appropriate. The advantages, disadvantages, various road diet configurations, guidance, and criteria for determining the feasibility of implementing a road diet are discussed. Safety and operational considerations as well as examples of actual case studies are part of the course. The after results of example corridors that are renovated and redesigned as road diets are presented. The course is concluded with the class broken up to teams that work on a corridor problem and present their solution and road diet design. This Workshop will be of interest to Engineers, Transportation Planners, Pedestrian and Bicycle Coordinators, Safe Routes to School Coordinators, Local Public Agency Coordinators, and Transportation Alternatives Program Managers.

SAFETY THROUGH ACCESS MANAGEMENT

Dane Ismart

November 15-16, 2016, 8:30am-3:30pm

College Park, Maryland

\$199 for Maryland local government participants only

\$225 for all other participants

PDHs: 12.0

Traffic engineers have long recognized that eliminating unexpected events and separating decision points simplifies the driving task. Since access control reduces the number, complexity, and spacing of events to which the driver must respond, it results in improved traffic operation and reduces accidents. Other benefits include reduced delay, improved traffic flow, increased capacity, and improved fuel economy. This course covers not only why, but also how to manage access, from a policy, legal, and design perspective. This two-day short course covers the following topics: access management policies; access design principles, trip generation; access management techniques; retrofit programs; access and median design guidelines; site plans and access for major activity centers; evaluation of improvements; and workshops.

Concluded on page 6

Our Currently Scheduled Courses

(concluded from page 5)

THE NEW MD MUTCD ONE DAY SEMINAR

Dane Ismart

November 29, 2016, 8:30am-3:30pm

College Park, Maryland

\$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. A series of five workshops will be provided in various regions of the State. 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.

CONDUCTING AND EVALUATING REGIONAL CORRIDOR STUDIES

Paul Hershkovitz

December 7-8, 2016, 8:30am-4:00pm

College Park, Maryland

\$199 for Maryland local government participants only

\$225 for all other participants

PDHs: 12.0

This course will be a two-day “how-to” practical overview for professionals – either to conduct a regional arterial corridor analysis, or how to evaluate work that has already been done. The course will cover the regional corridor analysis process – for example, why a corridor evaluation is necessary, the steps in a regional corridor evaluation, definition of terms, how to perform the work, key issues to address, “do’s and don’ts” (lessons learned), how to phase improvement recommendations, and sample problems to solve. By the end of the second day participants should have an overall understanding of the necessary tools to conduct and/or review a regional arterial corridor study. This course is intended for transportation engineers and planners who are involved with the technical and policy aspects of roadway improvements.

Moving Forward

With Ed Stellfox’s retirement, we’ve made some staffing changes. Tom Jacobs will remain the Director of the MD T2 Center while Janette Prince and Carly Keane will manage the day-to-day operations. Janette is now the Program Manager of Training and Carly is the Program Manager of Outreach. Our hope is that our customers will see no changes and that the Center will continue to provide the excellent level of service we have always strived to provide.





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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 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.

