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MARYLAND TRANSPORTATION TECHNOLOGY TRANSFER CENTER

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

www.mdt2center.umd.edu

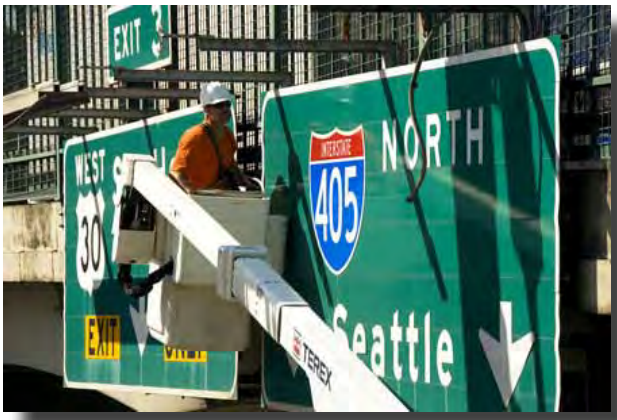
INSIDE:

Asset Management and Safety: States Share Best Practices at Peer Exchange

How can highway safety performance be improved through better transportation asset management (TAM)? How do agencies prioritize safety asset needs?

An Asset Management and Safety Peer Exchange held on August 2, 2011, in Cheyenne, Wyoming, brought together managers from State departments of transportation to share best practices and challenges in managing safety assets. Hosted by the Federal Highway Administration (FHWA) and American Association of State Highway and Transportation Officials (AASHTO), the peer exchange drew participants from 13 State transportation agencies.

While pavement and bridge assets often receive greater attention from TAM programs, State transportation departments also maintain an extensive amount of safety hardware and roadside appurtenances. These safety-related assets can include signs, pavement markings, line striping, guardrails and traffic barriers, traffic signals, lighting, sidewalks, bike lanes, and intelligent transportation system (ITS) equipment. States also have to consider safety-related characteristics of other physical assets, such as pavement friction, shoulder widths, clear zones, and bridge clearances. Using a TAM approach, agencies can more comprehensively view the big picture and evaluate collected data before making decisions on specific safety measures or high priority safety program areas, such as intersections, pedestrian crossings, or cross-median crashes.



Highway safety assets can include signs, guardrails and traffic barriers, lighting, and traffic signals. (Photo © ODOT).

A new report released by FHWA, Asset Management and Safety Peer Exchange (Pub. No. FHWA-HIF-12-005), summarizes the exchange proceedings. Four sessions covered Total Asset Management, Prioritizing Programming and Budgeting, Inventory Management, and Safety Asset Management in Context. For each session, State practitioners shared best practices within their agencies, followed by group discussion and a question and answer session.

To identify priority topics of interest, representatives from 39 States filled out an online survey prior to the exchange. Most respondents indicated that efforts are underway in their agencies to create or expand safety asset inventories, although lack of resources has been an obstacle. The top uses for such inventories to date include project scoping and the planning and scheduling of maintenance work.

Neil Pedersen, former Administrator of the Maryland State Highway Administration (SHA), discussed Maryland's experience with TAM at the exchange and described five core questions that an

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Check out our Transportation Asset Management course offered on April 11th. For more information see page 5.

Asset Management and Safety: States Share Best Practices at Peer Exchange

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asset management approach can help answer:

- What is the current state of physical assets?
- What are the required levels of service and performance delivery?
- Which assets are critical to sustained performance?
- What are the best investment strategies for operations, maintenance, replacements, and improvements?
- What is the best long-term funding strategy?

Following a TAM strategy, the Maryland SHA recently inventoried its freeway lighting, assessed the condition of the assets, and developed a performance goal for the percentage of lights functioning. The agency found that in many cases the electrical conduits were highly deteriorated and that it would be more cost effective to replace them rather than perform rehabilitation. During the replacement, Maryland found that fewer lights were needed than were originally installed, which will result in savings in future energy costs.

Del McOmie, Chief Engineer of the Wyoming Department of Transportation (WYDOT), noted that WYDOT used information on its traffic and safety assets to identify potential safety improvements. For example, WYDOT recently used its TAM inventory data to identify roadway locations with a median width of 12 m (40 ft) or less where cable barriers could potentially be installed.

Steve Lindland of the Oregon Department of Transportation (ODOT) described how the agency launched a TAM pilot project in 2006. Through the pilot, ODOT realized it was important to gather a basic asset inventory that could be collected once and used many times, and that the maintenance of data is critical for its inventory of transportation and safety assets. To share data on its assets within the agency, ODOT developed the Features, Attributes, and Condition Survey– Statewide Transportation Improvement Program (FACS–STIP) Map Tool and the FACS–STIP Data2Go Tool. The map tool is a Web–based system that integrates roadway inventory data, bridge and culvert locations, crash data, traffic data, and information on current and planned projects. The Data2Go tool stores detailed data for a range of asset types, including pedestrian ramps compliant with the Americans with Disabilities Act (ADA), approach roads, bridges, culverts, pavements, retaining walls, sidewalks, signs, unstable slopes, tunnels, traffic barriers, and traffic signals. ODOT staff can use the tool to query more than 20 databases.

ODOT has used the improved asset data to establish a new "1R" pavement preservation program. Through the program, ODOT is planning pavement preservation work and safety improvements independently, targeting each type of action where it is most needed. In the past, traffic and safety features were addressed only at locations where pavement work was already planned.

"The asset data has been instrumental in setting up the program and helped us to lower project development costs, as we don't have to perform in depth surveys," said Steve Lindland of ODOT. "It is easier to do and takes less time, as well as providing very clear direction on what needs to be done." As part of the "1R" program, ODOT has allocated $6 million per year to upgrade traffic barrier safety features. After compiling a statewide inventory of traffic barriers, for example, ODOT has now started a 10–year program to upgrade the traffic barrier assets. ODOT also compiled an inventory of sidewalks and ADA ramps in urban areas in 2011 and is now looking at necessary upgrades.

The Virginia Department of Transportation (VDOT) has better defined its asset data needs by organizing Communities of Interest (COI). These communities feature representatives from across the agency, including staff from district offices and the traffic engineering, structures, and IT departments. As Vanloan Nguyen of VDOT highlighted, the Traffic and Safety Assets COI has reviewed the agency's asset data needs and is now developing and implementing improvements in data collection. These include defining a standard data dictionary for traffic and safety assets, building an asset "data mart," and improving data on asset age and condition.

Also highlighted at the Peer Exchange was FHWA's Model Inventory of Roadway Elements (MIRE). Featuring more than 200 data elements, MIRE can be used as a guide to improve data inventories and support the adoption of performance measures. MIRE also provides a data dictionary with definitions and attributes for each listed element. To learn more about MIRE or to download a copy of MIRE Version 1.0 (Pub. No. FHWA–SA–10–018), visit www.mireinfo.org. For more details on State experiences with asset management and safety, download a copy of Asset Management and Safety Peer Exchange at www.fhwa.dot.gov/asset/hif12005/hif12005.pdf.

To learn more about managing safety assets, contact Steve Gaj with FHWA at stephen.gaj@dot.gov. For additional information on MIRE, contact Robert Pollack at robert.pollack@dot.gov.

Reprinted from the January/February 2012 issue of FOCUS, a publication of the United States Department of Transportation and the Federal Highway Administration

Top 25 Transportation Sources to Follow on Twitter

By Robert Krueger

Recently, Urban Land magazine compiled a list of the 25 most influential transportation infrastructure people on Twitter-a platform that allows users to follow trends and share important information.

Twitter can be a valuable resource for transportation consultants, developers, redevelopment agencies, planning departments and others who want to scope out trends, stay connected with the public, share information, and meet other professionals working on similar projects. It's also a quick way to find the latest news about the transportation industry.

In particular, Twitter can aid professionals who must deal with the political side of land use and transportation. Having passed particular sustainable growth laws and regulations over the years, local officials now shoulder increased responsibility to resolve controversial land use issues. With Twitter, these officials can now learn about best practices in other jurisdictions. Twitter is also being used heavily by citizens and special-interest lobbyists, including those who may oppose new projects. Following their Twitter feeds can help proponents understand their concerns and anticipate objections.

Planners and transportation consultants understand that social media sites like Twitter can be used to help educate the public and build support for a project by making sure the needs of all stakeholders are addressed. Twitter is being used as a resource for listening to the public's concerns and discovering what is and what is not working in other cities.

Recently, Urban Land magazine compiled a list of the most influential transportation infrastructure people on Twitter. This ranking includes the person's name and Twitter handle alongside his or her rankings in reach, engagement, and influence. Each person's Twitalyzer (http://twitalyzer.com/index.asp), Klout (http://klout.com/home), and PeerIndex (http://www.peerindex.com) scores, produced by three of the most commonly used ranking websites, have been included as well. The methodology used to create the list employed several factors, including influence, number of followers, who each follows, and number of retweets. The methodology is explained in more detail in the full article which can be viewed in the link below.

To read the full article visit: http://urbanland.uli.org/Articles/2012/Jan/KruegerTwitterTrans

CITE Blended Courses for 2012

The Consortium for ITS Training and Education (CITE) announces its Blended Course schedule for 2012. 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.

For more information about or to register for CITE's Blended Courses visit: www.citeconsortium.org

Scheduled courses include:

- Configuration Management for Traffic Management Systems, April - May 2012
- Fundamentals of Database Management Systems, June - July 2012
- Improving Highway Safety with ITS, June - July 2012
- Introduction to Systems Engineering, September - October 2012
- Traffic Signal Timing, September - October 2012
- Road Weather Information Systems (RWIS) Equipment and Operations, October - December 2012

Fact: SafeZones is for your safety as well as workers.

The purpose of the SafeZones program is to not only safeguard workers, but also protect the drivers and passengers traveling through work zones. Nationally, in 4 out of 5 work zone crashes, it is a driver or passenger who is injured or killed. Active work zones with lane shifts, reduced lane widths, jersey barrier, uneven pavement and equipment leave little margin for driver error both when workers are present and not.

Fact: SafeZones works.

In the work zones where SafeZones is deployed, drivers are slowing down, evidenced by the drop in the percentage of citations issued at these work zones. In fact, there has been a more than 75 percent reduction in the violation rate of vehicles traveling between 5 and 20 mph over the speed limit in work zones.

	JULY 2010	***FEBRUARY 2011***
>0-5 mph	57	18
>6-10 mph	10	3
>11-20 mph	2.2	0.5

(Above rates are for a month period per 1,000 vehicles traveling through the work zone).

Fact: SafeZones only issues citations to drivers going 12 mph or more above the posted speed limit.

Transportation Article § 21-810, effective Oct. 1, 2009 allows the use of cameras to document drivers exceeding the speed limit by 12 mph or more in work zones along controlled access roadways with a 45 mph or higher speed limit. The civil fine is $40 and no points are assessed against drivers' licenses. Due to the limited lanes and shoulders in construction work zones, there is limited space for police-conducted enforcement.

Fact: SafeZones has generated approximately $16.3 million since the program's inception in fall 2009, despite reports that the program has generated that amount in only nine months.

Taking into consideration program expenses that include vendor costs, time for police certification, other programmatic costs, as well as the citations that are not paid, revenues cannot be simply derived by multiplying the number of citations by $40. Revenues collected are being forwarded to the Maryland State Police through June 30, 2012.

This article was reprinted from Maryland Roads, for more information visit: www.MarylandRoads.com

Did You Know?

We have many courses that will help you better manage SafeZones and Work Zones. Courses include:

Flagger Certification scheduled for April 25, 2012

Road Safety 365 - A Safety Workshop for Local Governments scheduled for June 5, 2012

Signal Warrant and Intersection Control Analysis scheduled for June 25, 2012

For more information about these courses read our Currently Scheduled Course Section starting on the next page.

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.

TRAFFIC SIGNS

Ed Stellfox

March 22, 2012, 8:30am – 12:30pm

College Park, Maryland

$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.

HIGHWAY CAPACITY UNINTERRUPTED FLOW

Dane Ismart

March 27, 2012, 8:30am – 4:30pm

College Park, Maryland

$105 for Maryland local government participants

$120 for all other participants

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.

PROJECT DEVELOPMENT WITH FEDERAL AID

Dane Ismart

March 28-29, 2012, 8:30am – 3:30pm

College Park, Maryland

$220 for Maryland local government participants

$235 for Maryland state government participants

$250 for all other participants

PDHs: 12.0

State DOTs and local agencies when developing projects involving federal-aid must follow a prescribed set of rules, regulations, and procedures. This course will cover the various steps necessary to meet the federal requirements. The course will be initiated with a discussion of categorical funds and what activities they are eligible for. A detailed presentation will be made on how the federal highway financial system works and the process that determines the amount of federal funds that will be available to the States and MPOs. Presentations will then be made on federal rules to meet planning and environmental requirements, right-of-way rules and requirements (the Uniform Act), design standards, the bridge inspection program requirements. Federal contract requirements will also be presented that discuss a broad of issues such as use of proprietary materials, contract bidding rules, contract provisions, etc. Class exercises will be used to demonstrate typical real life issues involving the development of federal-aid projects. This course is intended for State and Local Government personnel involved with federal funded projects.

BASIC DRAINAGE

Ed Stellfox

April 4, 2012, 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.

TRANSPORTATION ASSET MANAGEMENT

Alan Kercher

April 11, 2012, 8:30am - 3:00pm

College Park, Maryland

$99 for all participants

PDHs: 6.0

This course introduces the main elements of transportation asset management (TAM). TAM provides the framework and management tools necessary to cost-effectively deal with the ever-increasing inventory of aging roadways, bridges and roadside infrastructure. Deteriorating infrastructure coupled with the dramatic fluctuations in construction costs, the retirement of experienced transportation workers, and the increased competition for available funding is overwhelming many public works agencies. TAM provides agencies with the tools to save money by systematically selecting the right repair at the right time at the right location in order to minimize the life-cycle costs of assets while increasing the level of service. This course will cover the processes and tools necessary to help transportation agencies document asset conditions, optimize allocation of resources, and determine the most effective use of available funds. A main emphasis of the course will be a focus on how to successfully implement a TAM system to ensure that all levels of an agency are making informed decisions, both short-term and long-term that will improve the overall operational efficiency of the organization. The course also illustrates available tools to support the use of TAM in any public agency and provides guidelines for the implementation of these principles. The workshop audience ranges from managers, engineers and planners to road crew supervisors. Others who would benefit include: elected officials and state DOT personnel.

ASPHALT RESURFACING

Ed Stellfox

April 12, 2012, 8:30am – 12:30pm

College Park, Maryland

$59 for all participants

PDHs: 4.0

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.

FLAGGER CERTIFICATION

Juan Morales

April 25, 2012, 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).

HIGHWAY CAPACITY INTERRUPTED FLOW

Dane Ismart

May 1, 2012, 8:30am – 12:30pm

College Park, Maryland

$105 Maryland local government participants

$120 for all other participants

CEU's: 0.6

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.

INTERSECTION AND ARTERIAL SAFETY DESIGN ANALYSIS

Dane Ismart

May 7-8, 2012, 8:30am – 4:00pm

College Park, Maryland

$199 Maryland local government participants

$215 for all other participants

CEU's: 1.2

PDHs: 10.2

This course will have broad general coverage of at-grade intersection analysis and design features. The analysis will include signalized, unsignalized and roundabout intersections. Specific coverage will include capacity, analysis, signal warrants, queue analysis and safety selected design features. Software packages such as HCS and SIDRA will be demonstrated. This course is targeted for municipal engineers; public works directors; state, federal, and private engineers; planners, designers, and traffic engineers that may be involved in the selection and design of intersections.

CONSTRUCTION INSPECTION FOR LOCAL AGENCY EMPLOYEES

John Hopkins

May 23, 2012, 8:30am – 3:30pm

College Park, Maryland

$110 for all 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 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
May 24, 2012, 8:30am – 3:30pm
College Park, Maryland
$110 for all 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.

ROAD SAFETY 365 - A SAFETY WORKSHOP FOR LOCAL GOVERNMENTS

Juan M. Morales
June 5, 2012, 8:30am – 3:30pm
College Park, Maryland
$110 for all participants
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.

SIGNAL WARRANT AND INTERSECTION CONTROL ANALYSIS

Dane Ismart
June 25, 2012, 8:30am – 4:00pm
College Park, Maryland
$110 for Maryland local government participants
$120 for Maryland state government participants
$135 for all other participants
CEUs: 0.6
PDHs: 6.0

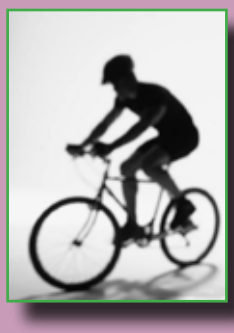
This one-day course will cover the eight MUTCD signal warrants:

- 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
- 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.







MD T² 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
ellenn@umd.edu

Carly Keane
Newsletter Editor
240.304.9627
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 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 301.403.4623 and she'll be glad to assist you.

MD T² Advisory Board Committee