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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:

SAVE A LIFE:
Put The Cell Phone Down
October 1: Cell Phone Use RESTRICTED While Driving in Maryland

Make Your Vehicle a No Phone Zone!

A new law banning hand-held mobile phones went into effect on October 1st. Talking on a hand-held mobile phone while driving is a distraction that is not only dangerous, but now in Maryland, it also is illegal. Nearly 31,000 crashes in the State are attributed to driver inattention. Coupled with the 2009 texting ban, the laws are powerful tools to combat the leading cause of traffic deaths and injuries – distracted driving.

"Protecting the public's safety is the greatest obligation that we have in government," said Governor Martin O'Malley. "This new law is a big step toward reducing the number of crashes, deaths and severe injuries caused by distracted driving."

Colonel Terrence B. Sheridan, Superintendent of the Maryland State Police and Delegate James E. Malone, Jr. joined Transportation Secretary Beverley K. Swaim-Staley to unveil one of the signs that will be placed at state borders to alert drivers about Maryland's new laws prohibiting hand-held cell phone use and texting while driving.

"Every one of us has a responsibility to pay attention and drive safely," said Secretary Swaim-Staley. "A call can wait. The best advice is to make your vehicle a no-phone zone and not even use it while driving."

According to the National Safety Council, 1.6 million crashes in the United States are caused by cell phone use. Studies indicate that mobile phone conversations distract drivers and delay reaction time, which can cause and increase the severity of traffic crashes. Additionally, a person makes an average of 20 major decisions during every mile of driving and frequently has less than one-half second to act to avoid collisions.

"It only takes a second on the cell phone to drastically change the lives of you and your loved ones," said Delegate Malone. "If we all obey this law starting today, we will be one step closer to arriving home safely tomorrow."

Working hard with his legislative partners to pass this legislation, Delegate Malone defended the bill on the house floor during the legislative session. Delegate Malone is a 35-year veteran volunteer firefighter and frequently responds to help people injured in vehicular crashes.

The National Highway Traffic Safety Administration conducted a study in 2006 and found the risk of a crash or near-crash increases by nearly 30 percent when a driver is engaged in a mobile phone conversation. The risk of a traffic crash more than doubles when a driver dials.

Quick Facts

Are there exceptions to the law?
Phone calls placed to 9-1-1, ambulance, hospital, fire, or law enforcement agencies are allowed, as are calls made by emergency and law enforcement personnel. A driver is allowed to turn a hand-held phone on or off and to initiate or terminate a call.

Is the new law a primary offense?
No, it is a secondary offense, meaning a driver must first be detained for another offense, such as speeding before being ticketed for a cell phone offense. However, "negligent driving" is a primary offense in Maryland and can be used as a precursor to citing violators of the new cell phone law.

What is the fine for the offense?
The fine for a first offense is $40 and subsequent offenses are $100. Points are not assessed to the first-time violator's driving record, except, three points are assessed if the violation contributes to a crash. If a violator has a second or subsequent offense, they will receive a point plus the fine.

"We know that a combination of good laws and enforcement can reduce deadly distracted driving behavior," said National Highway Traffic Safety Administrator David Strickland. "Maryland residents are safer today thanks to this new anti-distracted driving law and vigilant enforcement by state police."

The law, also known as the Delegate John Arnick Electronic Communications

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Make Your Vehicle a No Phone Zone!
(Continued from page 1)

Traffic Safety Act, prohibits drivers in Maryland from using a mobile phone without a hands free device while operating a motor vehicle on a street or highway. Law enforcement officers will issue tickets to violators with fines up to $100 and one point. If the violator causes a crash, he or she may receive three points. The court may waive a penalty for a person convicted of a first offense if the person provides proof that he/she has acquired a hands–free device for the person's hand-held telephone.

The law is named for the late delegate in honor of his many years of advocacy for such a law.

"The number one cause behind traffic crashes in Maryland continues to be 'failure to give full attention' behind the wheel," said Colonel Terrence B. Sheridan, Superintendent of the Maryland State Police. "The new law will help to alleviate one of the many driver distractions that can lead to an injury or a fatality on our highways."

New Move Over Laws Take Effect

New Laws Intended To Increase Safety For Police/Fire Personnel and Bicyclists

Maryland State Police are reminding motorists to be aware of new traffic laws that took effect on October 1st which requires drivers to 'move over,' if possible, and are aimed at increasing safety for police, fire and emergency medical services personnel working on Maryland roadsides, as well as those riding bicycles or scooters.

A new law requires drivers approaching from the rear of an emergency vehicle using visual signals while stopped on a highway to, if possible, 'make a lane change into an available lane not immediately adjacent to the emergency vehicle.' This movement should only be done if another lane in the same direction is available and the move can be made safely and without impeding other traffic. If moving to another lane away from the stopped emergency vehicle is not possible, the law requires drivers to 'slow to a reasonable and prudent speed that is safe for existing weather, road, and vehicular or pedestrian traffic conditions.'

The intent of the 'move over' law is to provide an extra barrier of safety for police officers, fire fighters, and emergency rescue personnel working along Maryland roads. It is hoped drivers will become more aware of police and emergency workers stopped along the road and move away from them or slow down as they pass by the traffic stop or incident scene.

Under Maryland Vehicle Law, emergency vehicles are defined as:

- Vehicles of federal, state, or local law enforcement agencies;
- Vehicles of volunteer fire companies, rescue squads, fire departments, the Maryland Institute for Emergency Medical Services Systems, and the Maryland Fire and Rescue Institute;
- State vehicles used in response to oil or hazardous materials spills;
- State vehicles designated for emergency use by the Commissioner of Correction;
- Ambulances; and
- Special vehicles funded or provided by federal, state, or local government and used for emergency or rescue purposes in Maryland.

Violation of the 'move over' law is a primary offense with a fine of $110 and one point. If the violation contributes to a traffic crash, the fine is $150 and three points. If the violation contributes to a traffic crash resulting in death or serious injury, the fine is $750 and three points.

A similar law is aimed at increasing safety for bicyclists or persons operating a motor scooter, or electric personal assistive mobility device (EPAMD). This law requires drivers overtaking a bicycle, EPAMD, or motor scooter rider to pass safely at a distance of not less than three feet. Exceptions are when the conveyance operator is not obeying the law or is solely responsible for creating a clearance of less than three feet, or if the highway is not wide enough to pass the vehicle at a distance of at least three feet.

Drivers must also yield the right of way to a bicycle, EPAMD, or motor scooter being operated lawfully in a designated bike lane or shoulder if the driver of the motor vehicle is about to enter or cross the bike lane or shoulder.

A violation of this law is a primary offense with a fine of $80 and one point. If the violation contributes to a traffic crash, the fine is $120 and three points.

For more information about the new laws contact Greg Shipley, Maryland State Police, Office of Media Communications & Marketing at 410.653.4200.

FHWA Launches New Pedestrian Safety Initiative

Program to recognize communities' commitment to walkability

The Department of Transportation's Federal Highway Administration, in conjunction with the Pedestrian and Bicycle Information Center (PBIC), launched Walk Friendly Communities (WFC), a new initiative to encourage communities across the country to support pedestrian safety.

"We are committed to giving Americans more choices that foster active, livable communities" said Secretary LaHood. "This initiative will do just that by improving pedestrian safety in areas across the country and providing a safe means of walking in and around their neighborhood."

Communities that apply for a WFC designation will have access to suggestions and resources on how to improve pedestrian safety. The national launch comes on the heels of a successful pilot in which nine communities tested the application and the online assessment tool. Applications for the nationwide program will be accepted between November 1 and December 15, 2010.

The WFC program will evaluate community walkability and pedestrian safety through questions related to engineering, education, encouragement, enforcement, evaluation and planning. Designations will be announced two to three months after the December 15 deadline.

"The Walk Friendly Communities program will show us how communities are improving walkability and demonstrating leadership in addressing pedestrian safety concerns," said FHWA Administrator Victor Mendez.

Walk Friendly Communities is jointly supported by the Federal Highway Administration, the Centers for Disease Control and Prevention and FedEx. For more information, visit http://www.walkfriendly.org.

Since its inception in 1999, PBIC's mission has been to improve the quality of life in communities through the increase of safe walking and bicycling as a viable means of transportation and physical activity. The Pedestrian and Bicycle Information Center is maintained by the University of North Carolina Highway Safety Research Center with funding from the U.S. Department of Transportation Federal Highway Administration.

Want to learn more?
Check out our Current Courses page online, we're working on courses related to this topic!

Additional Resources:
Walk Friendly Communities Web site http://www.walkfriendly.org,
Pedestrian and Bicycle Information Center Web site http://www.walkinginfo.org,
Federal Highway Administration Web site http://www.fhwa.dot.gov/environment/bikeped and http://safety.fhwa.dot.gov/ped_bike/.

This article was reprinted from the United States Department of Transportation, Federal Highway Administrations' Office of Public Affairs for more information visit: www.dot.gov/affairs/briefing.htm

CITE Blended Courses for 2011

The Consortium for ITS Training and Education (CITE) announces its Blended Course schedule for 2011. 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:

- Introduction to Telecommunications Technology, February - March
- Advanced Telecommunications Technology, April - May
- Improving Highway Safety with ITS, June - July
- Introduction to Systems Engineering, September - October
- Traffic Signal Timing, September - October
- Road Weather Information Systems (RWIS) Equipment and Operations, October - December
- Configuration Management for Traffic Management Systems, October - December

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

A Context Sensitive Approach to Designing Walkable Urban Thoroughfares

Now coming to a town near you: A more livable, walkable community. Context sensitive solutions (CSS) for today's urban communities are the focus of a new report sponsored by the Federal Highway Administration (FHWA) and U.S. Environmental Protection Agency (EPA), Designing Walkable Urban Thoroughfares: A Context Sensitive Approach. The report was developed by the Institute of Transportation Engineers in partnership with EPA, Congress for the New Urbanism, and FHWA.

Designing Walkable Urban Thoroughfares looks at how to use CSS to improve both mobility and livability by enhancing the walkable thoroughfares in communities, making walking both a desirable and efficient mode of transportation. Characteristics of walkable communities include mixed land uses in close proximity; building entrances that front the street; pedestrian-scale building, landscape, and thoroughfare design; compact developments; a highly connected circulation network; and public spaces that contribute to "placemaking."

Across the country, communities are embracing the principles of CSS and transforming the transportation project development process to better meet the needs of users. As the new report highlights, the principles of CSS promote a collaborative, multidisciplinary process that involves all stakeholders in planning and designing transportation facilities. These facilities:

- Meet the needs of users and stakeholders.
- Are compatible with their setting and preserve scenic, aesthetic, historic, and environmental resources.
- Respect design objectives for safety, efficiency, multimodal mobility, capacity, and maintenance.
- Integrate community objectives and values relating to compatibility, livability, sense of place, urban design, cost, and environmental impacts.

In applying these CSS principles, objectives, issues, and trade-offs based on stakeholder and community input are identified at the beginning of the regional transportation planning process, continuing through each level of planning and project development.

Designing Walkable Urban Thoroughfares describes the principles of CSS in detail and identifies how these principles can be applied when planning and developing roadway improvement projects on urban thoroughfares. Examining everything from initial planning decisions to the final design, the report guides readers through the many steps involved in achieving a walkable community. Planning topics covered include CSS in network planning, effective network planning for walkable areas, and urban corridor thoroughfare planning for walkable urban areas. Guidance is also offered on how to select appropriate thoroughfare types and corresponding design parameters to best meet walkability needs in a particular context. Topics discussed include streetside, intersection, and multiway boulevard design, with criteria provided for the specific elements of each thoroughfare type. Design examples and recommended practices are included, as well as suggested sources for additional information.

As the report notes, "one size does not fit all" when designing walkable thoroughfares, which means that the function of a thoroughfare and its design should complement the context that it serves. This context can include the surrounding land use, such as residential versus commercial use, and the site design of such elements as buildings, parking, and landscaping. Also discussed is the process of balancing the needs of all users, adjoining land uses, environmental considerations, and community interests when making project decisions.

Across the country, communities are embracing the principles of CSS and transforming the transportation project development process to better meet the needs of users.

The report supplements and expands on policies, guides, and standards commonly used by State and local transportation agencies. These include the American Association of State Highway and Transportation Officials' A Policy on Geometric Design of Highways and Streets, Highway Safety Design and Operations Guide, Roadside Design Guide, and A Guide for Achieving Flexibility in Highway Design, as well as FHWA's Flexibility in Highway Design and Manual on Uniform Traffic Control Devices.

For more information about CSS, visit www.contextsensitivesolutions.org, or contact Jon Obenberger at FHWA, 202.366.2221, or by email at jon.obenberger@fhwa.dot.gov; Neel Vanikar at FHWA, 202.366.2068 or by email at neel.vanikar@fhwa.dot.gov; or Harold Peaks at FHWA, 202.366.1598 or by email at harold.peaks@fhwa.dot.gov.

To download a copy of Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (Pub. No. RP-036A), visit: www.contextsensitivesolutions.org/content/reading/designing_walkable_urban_thorou/.

Printed from the September 2010 issue of FOCUS a publication of the United States Highway Administration and the Federal Highway Administration

Sharing the Road Takes on New Meaning for Bicyclists and Drivers

Have you ever driven along a road and encountered a bicyclist? Did you know what to do? Did you know how to pass safely? Did you know what the law requires?

Several new Maryland laws are taking effect to help clear up any confusion and make sure everyone shares the road safely. Bicycles are considered vehicles in Maryland, but bicyclists typically travel at much lower speeds than automobiles.

"People often bike as an alternative to driving, which is better for their health, traffic congestion and the environment," said SHA Administrator Neil J. Pedersen. "By respecting each other, following traffic laws and using common sense, we can all share the road safely."

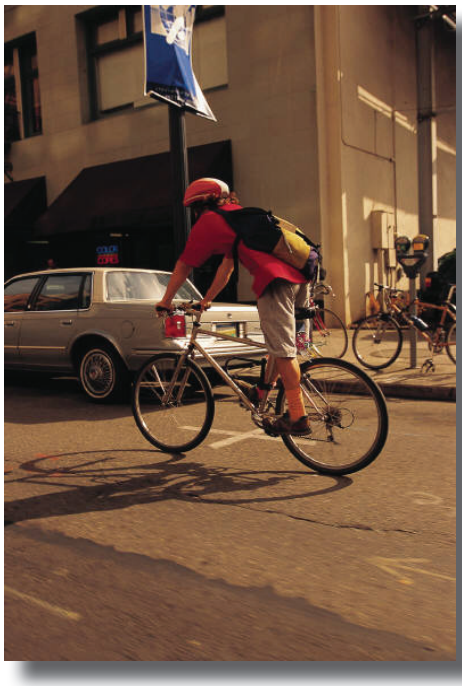
Sharing the road takes on new meaning as laws went into effect on October 1 which define road space for bicyclists. The new law, passed during the 2010 Legislative Session and signed into law by Governor Martin O'Malley, requires motorists to pass bicyclists at a safe distance of at least three feet, except in certain circumstances. Additionally, bicyclists are allowed to use crosswalks in areas where bicycling on sidewalks is permitted. A previous law that required bicyclists to travel on roadway shoulders was repealed.

"These bills modernize Maryland law," said Senator Brian Frosh, who sponsored one of the measures. "They'll increase bicycle safety and help all of us by encouraging people to leave their cars at home."

On average, from 2005 through 2008, seven bicyclists were killed and more than 650 were injured in traffic crashes annually in Maryland. According to preliminary data from the Maryland State Police, 10 bicyclists died in traffic collisions in 2009.

Information on all of the Maryland laws pertaining to bicycling, as well as tips for bicyclists and drivers are available at www.choosesafetyforlife.com.

Want to learn more?
Check out our Current Courses page online, we're working on courses related to this topic!



Law Summaries

Senate Bill 51 requires a driver of a vehicle to safely overtake a bicycle, electric personal assistive mobility device(EPAMD), or a motor scooter at a distance of at least three feet, unless at the time, the bicycle, EPAMD, or motor scooter rider fails to ride to the right side of the roadway, comply with a requirement to ride in a bike lane or shoulder, or maintain a steady course. The passing rule under the bill also does not apply if the highway on which the vehicle is being driven is not wide enough to lawfully pass the bicycle, EPAMD, or motor scooter at a distance of at least three feet.

Senate Bill 624 repeals the general requirement that a bicyclist use the shoulder if it is a paved smooth surface. Senate Bill 624 also specifies that, in a place where a person may ride a bicycle on a sidewalk, a person may ride from the curb or edge of the roadway in or through a crosswalk to the opposite curb or edge. The bill alters the definition of "bicycle" by repealing provisions that specify that a bicycle must have a rear drive and a specified wheel configuration and establishes instead that a bicycle is a vehicle that

1. is designed to be operated by human power;
2. has two or three wheels, with one being more than 14 inches in diameter; and
3. has a drive mechanism other than by pedals directly attached to a drive wheel.

The definition of "crosswalk" is expanded to mean the connection of lateral lines of a bicycle way where a bicycle way and roadway of any type meet as measured from the curbs or the edges of the roadway. The law also requires vehicle operators to yield the right-of-way to a Bicycle riding in bike lanes and shoulders when these vehicle operators are entering or crossing the occupied bike lanes or shoulder.

Reprinted from the Maryland State Highway Admistration, for more information visit: www.MarylandRoads.com

FHWA Gives the Green Light to Adaptive Signal Control Technologies

Outdated signal timing contributes to traffic congestion; this doesn't need to be commonplace. Adaptive signal control technologies can use real-time traffic information to reduce congestion by determining which lights should be red and which should be green.

Improving Traffic Flow

Arterial management allowing for an efficient flow of traffic.

Wait, go, stop, wait, wait some more; most drivers have spent time fuming at red lights. Maybe the intersection was empty, yet the light stayed red for a maddening amount of time. Or perhaps the road is so congested that you have to wait three or more full light cycles before you can make a left turn. Why don't traffic lights adjust to actual conditions?

Adaptive Signal Control Technologies (ASCT), in conjunction with well engineered signal timing, can do just that. By receiving and processing data from strategically placed sensors, ASCT can determine which lights should be red and which should be green. ASCT helps improve the quality of service that travelers experience on our local roads and highways. Less unnecessary delays and traffic moves quickly and smoothly.

The process is simple. First, traffic sensors collect data. Next, traffic data is evaluated and signal timing improvements are developed. Finally, ASCT implements signal timing updates. The process is repeated every few minutes to keep traffic flowing smoothly. On average ASCT improves travel time by more than 10 percent. In areas with particularly outdated signal timing, improvements can be 50 percent or more.

Faster Responses to Traffic Conditions

The traditional signal timing process is time consuming and requires substantial amounts of manually collected traffic data. Traditional Time-of-Day signal timing plans do not accommodate variable and unpredictable traffic demands. This produces customer complaints, frustrated drivers, and degraded safety. In the absence of complaints, months or years might pass before inefficient traffic signal timing settings are updated. With ASCT, information is collected and signal timing is updated continually.

Special events, construction, or traffic incidents typically wreak havoc on traffic conditions. While large-scale construction projects and regular events can be anticipated, determining their impact on traffic conditions can be extremely difficult. Other disruptions, such as crashes, are impossible for time-of-day signal timing to accommodate.

Cutting Costs

Outdated traffic signal timing incurs substantial costs to businesses and consumers. They account for more than 10 percent of all traffic delay and congestion on major routes alone. For consumers, this causes excess delays and fuel consumption. For businesses, it decreases productivity and increases labor costs.

According to the Texas Transportation Institute, the cost of traffic congestion is $87.2 billion in wasted fuel and lost productivity. That translates to $750 per traveler.

Outdated signals also affect State DOT costs. Personnel must respond to citizen complaints when traffic signals do not meet traveler needs. Personnel compile the data for transportation specialists who then analyze the data and develop updated signal timing using the traditional signal timing process before generating their recommendations. Because these specialists must balance the needs of one intersection against system requirements, this is time consuming as well as expensive.

With ASCT, the data collection and analysis are done automatically. More important for travelers, signal timing updates are made as situations occur—stopping many complaints from ever happening.

Arterial management allowing for an efficient flow of traffic.

Adaptive Signal Control Quickfacts

- Outdated traffic signal timing currently accounts for more than 10 percent of all traffic delays.
- Adaptive signal control technology effectively reduces traffic congestion, excess fuel consumption, and delays.
- Whereas traditional signal timing design and maintenance is labor-intensive, adaptive control is handled automatically.
- Because adaptive signal control technologies use real-time traffic data, they adjust signals to events that cannot be anticipated by traditional time-of-day plans, such as accidents and road construction.
- When traffic signals are responsive to traffic demands, overall travel times are decreased.
- Average speeds improve when adaptive signal control technologies are used.
- Adaptive signal control typically improves travel time and delay by 10 percent.
- Within the United States, adaptive signal control technologies have been in use for roughly 20 years, though they have been deployed on less than 1 percent of existing traffic signals. ACS Lite is a specific, lower cost adaptive signal control technology.
- For use in closed-loop systems, which represent 90 percent of the traffic signal systems in the United States, ACS Lite is very effective. It cannot be used in grid systems.
- ACS Lite can be used with conventional control equipment, communications, and traffic sensors.

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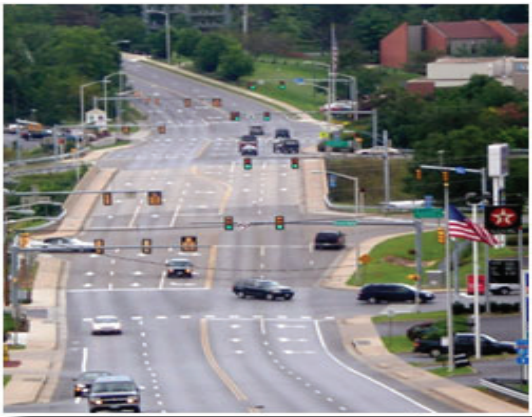
FHWA Gives the Green Light to Adaptive Signal Control Technologies

(Continued from page 6)



Adaptive signal control technology allowing for an efficient flow of traffic.

Types of ASCT

Implementing ASCT will maximize the capacity of existing systems, ultimately reducing costs for both system users and operating agencies. Because full-scale ASCT is expensive, FHWA has developed a cost-effective alternative: ACS Lite. ACS Lite is a specific ASCT—developed by FHWA through a public-private partnership—which shatters many of the barriers to wide deployment of ASCT by reducing the cost, complexity, and management and operations burden typically associated with adaptive control. ACS Lite—similar to its counterparts—measures traffic flow and adjusts the signal timing based on current traffic conditions. It can be used with new signals or to retrofit existing ones.

Many choices are available from many vendors, with more in development. Available adaptive signal control technologies include the Split Cycle Offset Optimization Technique (SCOOT), Sydney Coordinated Adaptive Traffic System (SCATS), Real Time Hierarchical Optimized Distributed Effective System (RHODES), and Optimized Policies for Adaptive Control (OPAC) "Virtual Fixed Cycle."

Customer Satisfaction

With ASCT, the FHWA addresses a legitimate problem. The 2007 Traffic Signal Report Card, released by the National Transportation Operations Coalition (NTOC), assigned an overall grade of "D" to traffic signal operations practices in the United States, indicating that "agency programs that support efficient maintenance and operations of traffic signals are not as effective as they could be."

On average, travelers spend 36 hours per year in traffic tieups. For urbanites, the number is much higher. Collectively, Americans spend nearly 4.2 billion hours sitting in backups. Implementing ASCT can help improve customer satisfaction report card score.

Other Benefits

Adaptive signal control technologies are also kinder to the environment. Using ASCT can reduce emissions of hydrocarbons and carbon monoxide due to improved traffic flow.

Real-time management of traffic systems is proven to work, yet these systems have been deployed on less than 1 percent of existing traffic signals. FHWA already took the lead in making ASCT affordable when its Turner-Fairbank Highway Research Center helped develop ACS Lite. The Agency is now working to bring these technologies to the rest of the country. For frustrated travelers, the optimal balance of red light/green light is on the way.

ACS Lite test project in Bradenton, FL.

For more information about ASCT visit: http://www.fhwa.dot.gov/everydaycounts/technology/adsc/intro.cfm

Toll Facilities Workplace Safety Study Report to Congress

This report describes a study undertaken to investigate issues surrounding worker and motorist safety in the vicinity of toll collection facilities. The study was undertaken in direct response to Section 1403 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation, and is focused on accomplishing two main objectives:

(1) To study the safety of highway toll collection facilities for workers and motorists through data, and through interviews and observations.

(2) To identify recommendations for improving toll facility safety – in the form of safety strategies for consideration by toll agencies.

The study involved a review of existing literature, a survey of toll operators, site visits to 7 agencies, interviews with 21 agencies, a workshop with representatives from 20 agencies, and an analysis of available worker injury and motorist crash data. Together these activities provided a better understanding of the safety of toll collection facilities and allowed for identification of a wide range of strategies that toll agencies can consider implementing when looking to improve safety at their toll plazas.

The study was guided by a panel of stakeholders from a variety of industries relevant to this project, who graciously provided their time and energies throughout the life of the study. The panel worked together to set the scope for this project and actively provided feedback, guidance, and direction where appropriate. The panel members included representatives from the International Bridge, Tunnel and Turnpike Association (IBTTA), the Pennsylvania Turnpike Commission, the New York State Thruway Authority, the International Brotherhood of Teamsters, the Occupational Health and Safety Administration (OSHA), the American Association of State Highway and Transportation Officials (AASHTO), and the Federal Highway Administration (FHWA). A full list of the individual panel members can be found in Appendix A.

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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.

STORM SEWER SYSTEMS AND PAVEMENT DRAINAGE

Brian C. Roberts
December 1-2, 2010, 8:15am – 3:30pm
College Park, Maryland
$225 Maryland Local Government Employees
$250 Maryland State Government Employees
$295 All Other Participants
CEUs: 1.2

This two-day course provides students with a thorough knowledge of surface pavement drainage design and hydraulic design of storm sewer systems. The course instructed by Brian C. Roberts, P.E. includes a brief review of hydrology for pavements, detailed information on sizing curb open inlets, grates, and curb and gutter flow. One day is spent on sizing storm sewers, computing energy losses and hydraulic grade line calculations. Example problems are performed using nomographs and calculators (bring your calculator!) This course is intended for engineers, consultants, designers, technicians, and planners involved with the design of stormsewer facilities, review of plans submitted by consultants and developers, or those responsible for policy related issues.

WORK ZONE DESIGN

Juan Morales
December 1-2, 2010, 8:15am – 3:30pm
College Park, Maryland.
$225 Maryland Local Government
$240 Maryland State Government
$260 All Other Participants

The course will give participants knowledge of the entire temporary traffic control (TTC) process: planning, design, review, installation, maintenance, and evaluation of proper maintenance of traffic (MOT) controls for work zones. While the functions of planning, design, review, and operation of temporary traffic control are covered in detail, issues concerning safety of pedestrians and highway workers, human factors, and legal responsibility are also addressed. The procedures and devices covered are generally taken from Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD) and are modified to meet practices and standards in Maryland.

ASPHALT ROADS - COMMON MAINTENANCE PROBLEMS

Ed Stellfox
February 1, 2011, 8:30am – 12:30pm
College Park, Maryland
$59 All Participants

Municipal employees with road maintenance responsibilities should understand the causes of common maintenance problems on asphalt roads and be familiar with proper repair materials and methods. This course discusses causes and repair procedures for common problems such as cracking, potholes, rutting, corrugations, etc. The procedures cover materials, equipment, and techniques for lasting repairs. Also included, a brief discussion of surface treatment.

ASPHALT RECYCLING

Ed Stellfox
February 10, 2011, 8:30am – 12:30pm
College Park, Maryland
$59 All Participants

This course discusses the advantages of asphalt recycling as part of your road maintenance program. It covers techniques for recycling asphalt pavement, including surface recycling, hot mix recycling (both in plant and on-site), and cold mix recycling. The course emphasizes cold mix recycling, full depth reclamation, reviewing materials, equipment and operations. It also presents recent examples of asphalt recycling projects in several states. The following topics will be discussed: advantages; review of techniques -materials, equipment, and operations for surface recycling, hot-mix recycling, cold-mix recycling, and full depth reclamation.

ASPHALT RESURFACING

Ed Stellfox
February 15, 2011, 8:30am – 12:30pm
College Park, Maryland
$59 All Participants

This course reviews the various asphalt mixes, their components and their uses. Asphalt resurfacing procedures are covered, including preparation, material, equipment, operation and safety. Special emphasis is placed on proper rolling and compaction of the asphalt overlay. Superpave mix design is discussed as well. Municipal officials, road commissioners, supervisors, and superintendents; public works and maintenance personnel; equipment operators; and city or town managers are encouraged to attend.

FLAGGER CERTIFICATION

Juan Morales
February 22, 2011, 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).

BASIC DRAINAGE

Ed Stellfox
February 24, 2011, 8:30am – 3:00pm
College Park, Maryland
$89 All Participants

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.

CONSTRUCTION MATHEMATICS
Ed Stellfox
March 1, 2011, 8:30am – 3:00pm
College Park, Maryland
$89 All Participants

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 lead by Ed Stellfox is a good refresher, and excellent preparation for the construction inspection class. The course was designed for road workers, foremen, superintendants, construction inspectors and supervisors in need of a refresher, especially in preparation for the Construction Inspections class.

TRAFFIC SIGN INSTALLATION & INSPECTION
Mark Hood
March 3, 2011, 8:30am – 3:00pm
College Park, Maryland
$110 All Participants

This course will cover the basics of traffic signs: using the appropriate rules and regulations to select and apply appropriate traffic signs, as well as proper installation and maintenance techniques. Participants will learn the importance of and the basic rules for signing, inspection techniques for sign installation, and maintenance procedures for sign faces and supports.

TECHNIQUES FOR REDUCING CONSTRUCTION & MAINTENANCE COSTS
Ed Stellfox
March 9-10, 2011,
Day 1: 8:30am – 3:00pm, Day 2: 8:30am - 12:30pm
College Park, Maryland
$99 All Participants

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.

ROAD SURFACE MANAGEMENT
Ed Stellfox
March 31, 2011, 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.

TRAFFIC SIGNS
Ed Stellfox
April 2, 2011, 8:30am – 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.

PREVENTIVE PAVEMENT MAINTENANCE
Ed Stellfox
April 14, 2011, 8:15am – 3:00pm
College Park, Maryland
$89 All Participants

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.

UNDERSTANDING ROAD DESIGN AND MAINTENANCE FOR ELECTED OFFICIALS
Ed Stellfox
April 19, 2011, 8:30am – 3:00pm
College Park, Maryland
$89 All Participants

This course is the first step in understanding the problems that a Municipal Road department faces on a daily basis. This course designed for elected officials conveys an understanding of design and maintenance of municipal roads that will make your life easier when dealing with Road Superintendents, Public Works Directors, Foremen, etc. It also gives elected officials a better understanding of what is involved in a road and street budget.

UNPAVED AND GRAVEL ROAD MAINTENANCE
Ed Stellfox
April 28, 2011, 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, regraveling, stabilization or full-depth reclamation, and dust control, with an introduction to road management techniques.

INTRODUCTION TO GEOSYNTHETICS
Ed Stellfox
May 3, 2011, 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 geowebs, presenting new materials with new applications.

WINTER MAINTENANCE
Ed Stellfox
October 4, 2011, 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 in intended for municipal officials, road commissioners, supervisors, superintendents, publics works and maintenance personnel, equipment operators, and city or town managers.

Toll Facilities Workplace Safety Study
(concluded from page 7)

The study team worked with 15 agencies to collect data on worker injuries occurring at toll plazas. The team obtained records for a total of 2,662 worker injuries, and based on these injury records, it can be observed that:

- 12 percent of injuries involved some sort of interaction with a vehicle, although it is important to note that it appears that the majority of the injuries in the database that involved a vehicle did not involve any direct contact between the vehicle and the worker.
- The most common cause of injury was a fall, slip, or trip (28 percent). Other common injuries were those resulting from being struck by an object (11 percent), and from pulling, lifting, or pushing an object (9 percent).
- The most common types of injuries were cuts, scrapes, or abrasions followed by strains (these comprised 22 percent and 18 percent of all injury types, respectively).
- The most common body parts injured were the knee and the back, with the knee making up 12 percent of the injuries and the back making up 11 percent of the injuries.

The study team worked with seven agencies to collect data on vehicular accidents occurring in the vicinity of toll plazas (for the purposes of this study, this was defined as any incident occurring between the start of the upstream transition zone and the end of the downstream transition zone). The team obtained records for a total of 10,322 vehicular accidents. While it was possible to examine several trends in the data, the data was not broad enough or consistent enough to allow significant industry-wide conclusions to be drawn or to fully examine trends. The team did perform some analysis on an agency-by-agency basis for those agencies with strong data collection and archiving, but the findings of these analyses cannot necessarily be said to be representative for the Nation's toll facilities as a whole.

In order to compare data across toll facilities to make industry-wide observations and conclusions, the study team recommends that standardized reporting procedures be implemented for both accident and injury data, and that a centralized database be created and maintained to store this data and organize this data in a searchable format. This would allow data to be compared across toll facilities to make industry-wide observations and conclusions.

From the accident and injury data and agency interviews the study did not find evidence to suggest that toll collector fatalities are a frequent occurrence at toll plazas. The accident and injury records obtained through this study did not include any fatalities, and the project team learned of only one fatality through agency interviews.

The most significant finding of the study with regard to the safety of toll plazas is that tolling authorities across the country are implementing a wide range of safety strategies with success, and it appears that many of these strategies could be effective if implemented by other agencies. These strategies, which span a wide range of issues, and tackle a wide range of safety challenges, were identified through a survey, telephone interviews, and site visits. They were then vetted with representatives from 20 of the Nation's toll agencies in a facilitated workshop setting to obtain feedback from individuals in the field on the perceived effectiveness of each strategy and of any concerns and/or constraints that they may see or have with any particular strategy. As the operating conditions, culture, etc., are different at each agency and even at each toll plaza in some cases, the strategies are presented not as recommendations, but as ideas for agencies to consider when seeking ways to improve safety for workers and motorists at their toll collection facilities.

The findings in this document are organized according to four categories. The first two categories focus directly on the issues called for in the legislation:

- Design of toll facilities - this includes the effect of design or construction of the facilities on the likelihood of vehicle collisions with the facilities; the safety of crosswalks used by toll collectors in transit to and from toll booths; the use of warning devices, such as vibration and rumble strips, to alert drivers approaching the facilities; and the use of traffic control arms in the vicinity of the facilities.
- Enforcement practices – this includes the extent of the enforcement of speed limits in the vicinity of the facilities; the use of cameras to record traffic violations in the vicinity of the facilities; and law enforcement practices and jurisdictional issues that affect safety in the vicinity of the facilities.

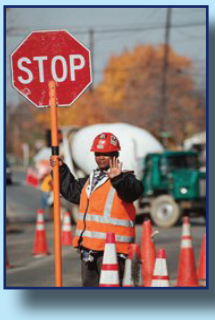
The final two categories present additional information that was uncovered during this study that is still very relevant to the topic of highway safety at toll plazas, but that does not directly address the requirements of the legislation:

- Maintenance practices – this includes strategies focused on reducing the occurrence of incidents and injuries related to maintenance activities in and around toll plazas.
- Human factors issues – this includes strategies focused on reducing the incidence of vehicles stopping or backing up in high-speed lanes, mitigating sensory overload, and mitigating driver inattention.

Beyond these four categories, the study also uncovered information about other safety challenges at toll plazas that are not highway-related– such as ergonomics, worker exposure to the environment, and worker risk of assault. These additional findings are presented in Appendix F. In addition to this, information on workshop participants' thoughts on all of the strategies (both those presented in Chapter 4 and those presented in Appendix F) can be found in Appendix H.

To read the full report visit, email us at mdt2@umd.edu and request FHWA-IF-08-001 and we'll be happy to send it to you.






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
Ellen@umd.edu

Carly Keane
Newsletter Editor
301.403.4601
Ckeane@umd.edu

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