U.S. Department of Transportation
Federal Highway Administration

Federal Highway Administration
RESOURCE CENTER

Centered on Service

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INSIDE

Centered on Service *is dedicated to sharing success stories, information, and updates on FHWA Resource Center projects as well as ongoing news about services provided by the Technical Service Teams to the FHWA Division Offices, Headquarters Offices, and State partners.*

LRFD Policy to Take Effect in October

On October 1, 2007, the Federal Highway Administration (FHWA) requires that all new bridges be designed in accordance with the American Association of State Highway and Transportation Officials' (AASHTO) *Load and Resistance Factor Design Bridge Design Specifications* (LRFD Specifications). The date for all States to transition from the previously used AASHTO *Standard Specifications for Highway Bridges* to the LRFD Specifications was set in a June 28, 2000, policy memorandum established in partnership with the AASHTO Highway Subcommittee on Bridges and Structures. The LRFD Specifications improve the reliability, serviceability, and safety of highway structures. Specifically, new bridges for which States initiate preliminary engineering on or after October 1, must be designed in accordance with the LRFD Specifications.

According to the FHWA LRFD policy clarification memorandum, dated January 22, 2007, "preliminary engineering" shall be interpreted as the initiation of the studies or design activities related to the identification of the type, size, and/or location of bridges. The term "initiation" refers to the date when Federal-aid funds are obligated for preliminary engineering. In cases where Federal-aid funds are not used in preliminary engineering, but are used in construction or other phases of the project, "initiation" refers to the date when the State obligates or expends their own funds for preliminary engineering. This policy also applies to total replacement bridges for which preliminary engineering is initiated on or after October 1. However, rehabilitation or widening of existing bridges can follow LRFD Specifications or design specifications that were used in its original design.

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Alabama Division Sponsors Peer Exchange for FHWA Emergency Relief Coordinators

On May 16 and 17, 2007, the Federal Highway Administration's (FHWA) Alabama Division Office sponsored a peer exchange for the agency's Emergency Relief (ER) Coordinators. This exchange culminated from a request recommended during the Field Engineer's Conference in Albuquerque, New Mexico. A group of Southeast Operation Managers solicited the help of the FHWA Resource Center (RC) to coordinate a meeting for interested ER managers in the southern States to share lessons learned and best practices.

The RC Construction and Project Management Technical Service Team (CPM TST) volunteered technical assistance, providing considerable coordination and facilitation services. In addition to the exchange of knowledge and practices, a session was presented on how the FHWA Divisions and State departments of transportation conduct ER training. Division offices with recent hurricane experience were invited, and the FHWA personnel from five States participated in the peer exchange. These States included Alabama, Georgia, Florida, Mississippi, and Louisiana, along with staff from the Resource Center.

Each Division presented an overview of its recent ER experiences and brought forward issues and concerns for discussion. Considerable discussion was generated on issues related to debris removal and on the similarities and differences in how damage assessments are performed. Kenneth Kochevar, Safety Engineer from the FHWA California Division Office, also joined the group, sharing his experience with the Maze Interchange collapse and rebuild in San Francisco, and how California trains State and local personnel. California has conducted training on the FHWA Emergency Relief Manual for more than 10 years and is considered a lead division in ER. Although California's disasters are more earthquake and flood related, Kochevar's input was beneficial to all participants.

A section of the I-10 bridge that was damaged by Hurricane Katrina is shown, Tuesday, Aug. 30, 2005, in New Orleans.

In exchange, Kochevar found the discussion on debris removal informative, and stated that the discussion will help in formulating California's position concerning debris removal. Kochevar commented, "I walked away with a new appreciation for what other States have gone through, your challenges and experience. I also now know a bunch of people that I can run an ER scenario by…I may get 5 different answers, but I know you will have an opinion! I hope this ER Peer Exchange is something we can do out west."

The division staff attending the peer exchange agreed that a common training module on emergency relief should be developed within the FHWA. In response to this request, the RC Construction and Project Management Technical Service Team will collaborate with Headquarters to modify the current FHWA Emergency Relief online training program to be State-specific. This training from the CPM TST will be available to FHWA Divisions in fiscal year 2008.

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FHWA Spreads the Word on Maintenance Decision Support System Tool

Introduction
Maintenance and operations are complex and challenging endeavors for any highway agency, especially those located in regions with cold climates. Winter maintenance requirements necessitate the bringing together of skilled and unskilled employees and their equipment in a battle against Mother Nature's wrath. Critical decisions have to be made concerning what warnings to give, which deicing materials to apply and when, as well as how plowing is to be done. These decisions determine the safety and mobility of the nation's roads for the traveling public. The good news is that these decisions can be made more easily and reliably through a technology called the Maintenance Decision Support System - or MDSS.

MDSS is a powerful computer software application that brings together a wide range of information vital to maintaining mobility and improving safety during adverse weather conditions. It integrates the information required to make sound maintenance decisions.

Managers are better prepared for efficient use of personnel, materials, and equipment. All of this can lead to a more cost-effective operation, activities that have less impact on the environment, and the creation of a safer driving experience.

The Federal Highway Administration's (FHWA) Technology Transfer (T2) program has been essential in providing for the technology deployment and transfer of information on this vital subject through the Operations Technical Service Team (TST). The Operations TST coordinated with the T2 program to advance MDSS as a Market Ready Technology. The Operations TST also conducts multiple seminars in coordination with FHWA division offices, State departments of transportation, and practitioners from other agencies.

MDSS RoadShow
Ray Murphy, a member of the Operations TST, has been busy promoting this market-ready technology through a series of seminars, known as the Maintenance Decision Support System RoadShow (or MDSS RoadShow for short). The FHWA is providing enhanced outreach to promote the MDSS technology by offering two versions of the RoadShow, an *Executive Brief* and a *Shop Session*. To date, the MDSS RoadShow has made its way through 14 States - Arizona, Delaware, Idaho, Illinois, Indiana, Maine, Massachusetts, Montana, Nevada, New Hampshire, Ohio, South Carolina, Washington, and Wisconsin.

- The ***Executive Brief*** is approximately 20-30 minutes and focuses on investing and deploying the MDSS technology. It covers prospective cost savings that can be achieved, and describes how managers can effectively deploy resources. This session is geared toward transportation agency executives such as Chief Executive Officers, Deputy Directors, Commissioners, Administrators, and Chief Engineers.

- The ***Shop Session*** is approximately 2.5 hours in length. In addition to the topics covered in the *Executive Brief*, it also highlights other key elements of MDSS, including the use of real-time winter weather information, numerous winter maintenance treatment options, and how MDSS can be used as a training tool. The *Shop Session* is more technical than the *Executive Brief*. An overview of the actual software and screen displays are other areas also covered in this session. This session is geared toward maintenance managers, garage supervisors and field personnel.

The seminars are available to all public transportation agencies. Murphy coordinates with both the FHWA division and State DOT offices to help facilitate collaborative sessions. To that end, his efforts are concentrated on bringing regional public transportation agencies, such as State DOTs, together with county highway agencies, Turnpike authorities, etc., for a shared-common experience. In discussions that follow both the *Executive Briefs & Shop Sessions*, Murphy has found audiences enthusiastic and engaged.

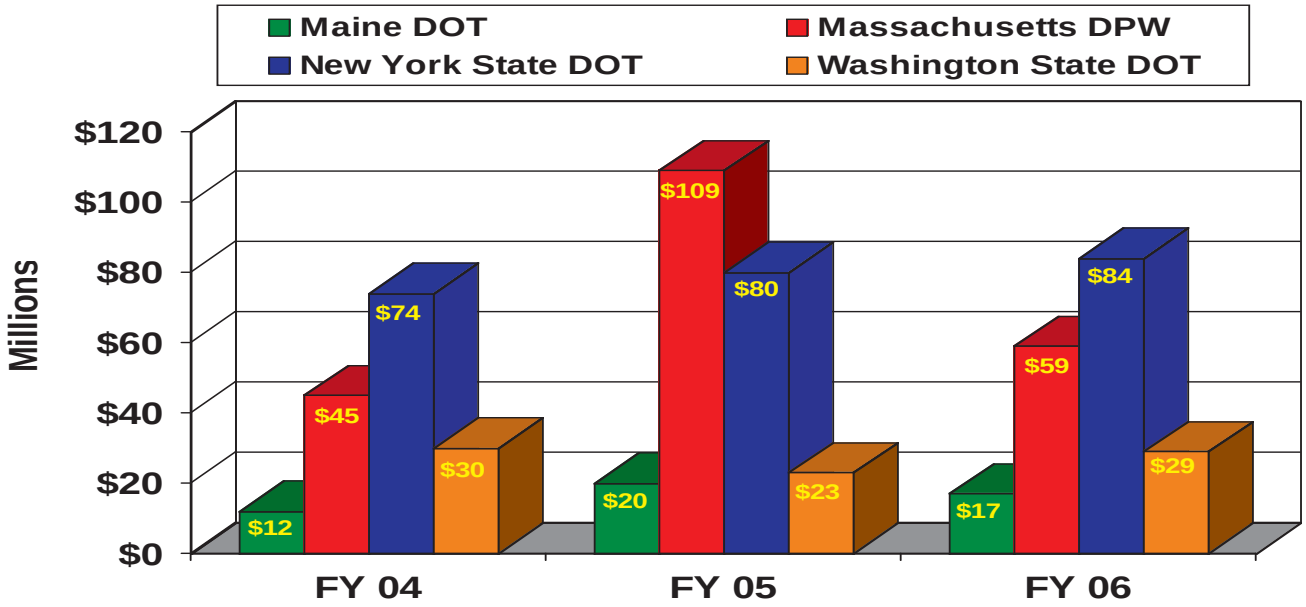
Additional information and a calendar of RoadShow presentations can be found at the Road Weather Management Program website:

www.fhwa.dot.gov/weather/

Potential Cost Savings
The MDSS technology has broad applications and is a valuable tool in the States' preparations for winter maintenance. Increases in materials, labor and equipment costs for winter maintenance due to inclement weather differ significantly from State to

See **MDSS RoadShow** *on page 4*

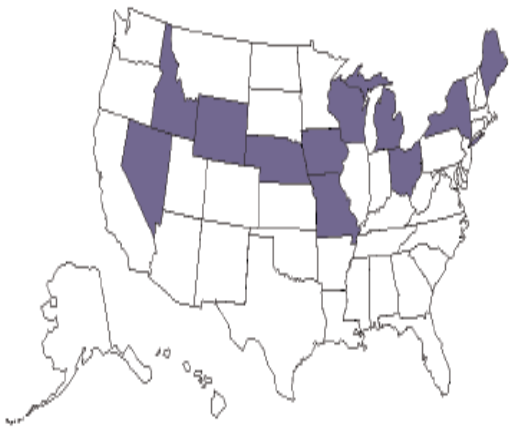
MDSS RoadShow *from page 3*



State, however, most report spending on average, anywhere between $10 to $40 million annually, as the sample above shows.

Potential cost savings can be achieved by adding an MDSS to a State's winter maintenance program, allowing managers & supervisors to more effectively employ their resources.

DTN MDSS Pilot Project Participants 2006-2007



- IA is also in the Pooled-Fund
- ME is host for MDSS Cost/Benefits Analysis
- NYS Thruway Authority also participated

75 Cities & Counties also Subscribe to DTN's MDSS

MDSS Deployment Activities

Several State DOTs are participating in a pooled-fund endeavor, investing in the development of the Meridian Environmental Technology-based MDSS System. The pooled-fund membership includes: CA, CO, IA, IN, KS, MN, ND, NH, NY, SD, and WY.

The graphic to the left depicts MDSS Pilot-State DOT participants--NV, ID, WY, NE, IA, MO, WI, MI, OH, NY, and ME-- who purchased the DTN/ Meteorlogix Web-based MDSS System (WeatherSentry) for the 2006-2007 winter season.

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TECHNOLOGY DEPLOYMENT

Product Demonstration Showcase Update:

Team Effort Sustains Safe Corridor Program in Washington State

Maintaining vehicle and pedestrian safety is a major public challenge. But another daunting task for safety experts has been moving promising safety initiatives from the planning room into actual practice.

Because of this, many States are considering the Safety Corridor concept as a way to help reduce crash and fatality rates in identifiable problem areas. Washington is one such State. What makes Washington State's effort unique is the high level of integration of all the safety interests throughout the entire process. Citizen and business groups, law enforcement, engineering, education and medical service safety professionals all play an equal role in the planning, development, and construction process. Most importantly, the involvement of these interested parties is an important aspect for sustaining the effort over the long-term.

Here is just a sample of the results of these integrated safety efforts:

- **total collisions were reduced by 5 percent,**
- **total injuries were reduced by 11 percent,**
- **alcohol-related collisions were reduced by 15 percent and,**
- **fatal and disabling injury collisions reduced by 34 percent.**

Not only have Federal and State agencies bought into the concept but the State has also been able to get local communities involved in their Corridor Safety Program (CSP).

Safety professionals are invited to participate in a Product Demonstration Showcase (PDS) of the Washington State Department of Transportation (WSDOT) process, August 23 and 24, 2007, in Vancouver, WA. The Showcase is co-hosted by the City of Vancouver, WA, the WSDOT and both the Washington State and the Utah State Local Technical Assistance Programs (LTAP). The Showcase will cover all aspects of the process that was used to bring the Safety Corridor Program to life. This includes how all the parties were approached, the challenges they faced and how participation, planning, design and jurisdictional obstacles were overcome. Each partner will speak about their role and responsibilities. The Showcase will begin with presentations given in an interactive classroom format. Then Showcase participants, accompanied by a docent, will visit three real-time field sites including a 16-mile rural safety corridor along the Columbia River to experience original conditions and resulting solutions. This will be a two-way information sharing experience and participants will be encouraged to share solutions for WSDOT to consider.

The Washington State Department of Transportation conducted a corridor study to address the safety concerns on US 195 from Hatch Rd to I-90.

This is a can't miss opportunity for decisionmakers. CEU and PDH credits are available for this Showcase.

Registration is $99.00 for the two day event and includes all handout materials, site visit transportation and dinner Thursday evening. A group room block has been arranged at the Hilton Vancouver Washington, for $101.00 per night for single occupancy. You may contact the hotel direct at: (360) 993-4500. Please mention the Corridor Safety Showcase to receive this rate.

To register, or for more information on the Corridor Safety Program PDS, please visit ***www.utahltap.org*** or call Keri Shoemaker at the Utah LTAP Center (435) 797-2931 or Matthew Enders at the Washington LTAP Center (360) 705-6907.

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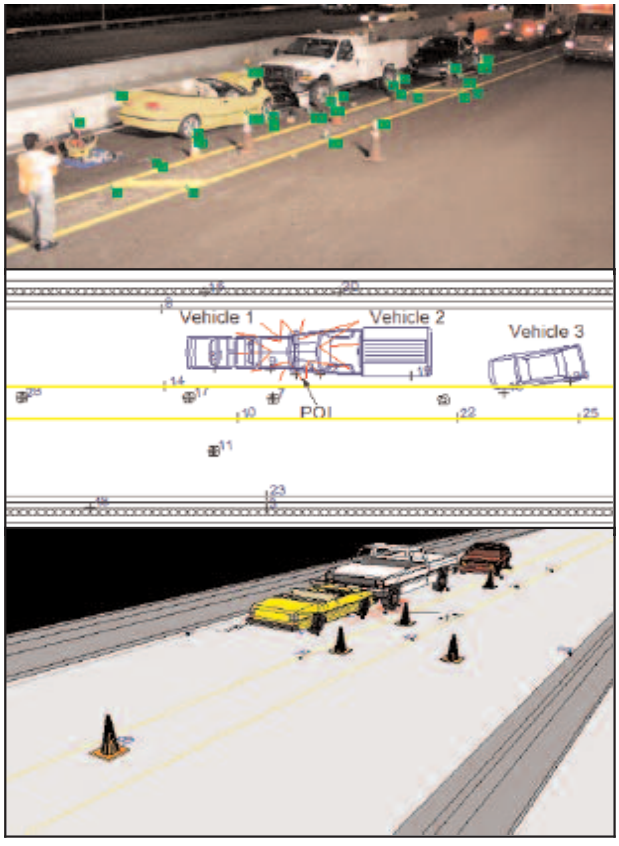
Photogrammetry:
An Illinois Implementation

A photogrammetry project is currently being implemented by the Illinois State Police (ISP) through the joint efforts of the Illinois Division Office and the Resource Center's Operation Technical Service Team. The technology being deployed is an affordable, and easy-to-use, close-range photogrammetric software system, developed for crash reconstruction and forensic measurement. This system uses images from consumer-grade digital cameras to create accurate three-dimensional measurements and object models for investigative purposes. The Illinois project is being pursued through the Technology Transfer program and other Federal funding sources.

The software and equipment being used is highly specialized and was selected by the ISP based on its performance characteristics and proven ability to deliver evidence reports that withstand court challenges. Using this technology, ISP crash investigators are able to document fatal crash scenes several times faster than current methods permit. As a result, expressway lanes may be re-opened more promptly, which leads to reduced post-incident congestion and associated secondary crashes.



Images courtesy of iWitness.com

Furthermore, an FHWA Division Office 2007 Performance Plan goal is to have photogrammetry implemented in ten ISP districts. The FHWA will continue to work with the ISP toward complete adoption and further promotion of this technology as a means to address non-recurring congestion.

The components of this project include:

- a 5-day train-the-trainer course for four students,
- instructor travel,
- four software licenses and technical support,
- four calibration code target sets,
- five evidence marker sets, and
- three camera and accessory equipment sets.

To date, the training has been completed and all equipment has been obtained. Next, the ISP plans to train an additional four to six officers in the photography aspect of photogrammetry, which will enable them to take investigative photos that can be diagramed by those trained in the complete process--ultimately resulting in more widespread use of the technological capability.

Two main goals are associated with this project and support the ISP conversion to photogrammetry:

1) Decrease congestion and secondary crashes due to lengthy lane closures for crash scene investigations, and
2) Provide ISP with an improved forensic technology to aid in their crash investigations.

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The Safety Edge:

Easy and inexpensive countermeasure saves lives on rural two-lane highways

The following scenario can be a frightening – and even fatal – driving experience: You're cruising leisurely down a rural two-lane highway when suddenly your right-front tire slips off the pavement and onto an unimproved or deteriorating shoulder, causing your vehicle to lurch suddenly to the right, the steering wheel almost ripped out of your hands.

Startled, you struggle to maintain control. But then the trailing right-rear tire drops onto the shoulder and begins to "scrub" against the pavement edge, making a dangerous situation even worse. In an attempt to get back on the pavement and regain control, you jerk the wheel hard to the left. But as the right-front tire climbs back onto the pavement, the trailing right-rear tire catches the pavement edge, forcing your vehicle to yaw hard to the left and into a broadside skid.

Typical pavement-edge drop off (PEDO) or vertical drop off scenario.

What the driver has experienced is a condition known as pavement-edge drop off (PEDO), the uneven edge or vertical drop off between the paved travel lane and the unpaved shoulder. A drop off of 2 inches or more is considered a potential driving hazard.

Once a vehicle has slipped off the pavement and onto the unpaved or deteriorated shoulder, PEDO can make it difficult for a driver to re-enter the paved travel lane. Studies show that when drivers encounter the effects of PEDO, they tend to attempt to return immediately to the paved travel lane. But in doing so, they tend to over-steer when "scrubbing" – the intense rubbing of the right-side vehicle tires against the pavement edge – initially prevents the vehicle from climbing back onto the pavement. This over-steering can cause loss of control at the moment when the right-rear tire climbs back onto the pavement, causing the vehicle to fishtail.

Whether the driver regains control or crashes depends on a variety of circumstances, including vehicle speed, steer angle, the vehicles departure and return angle, vehicle size, drop-off severity, driver skills, roadside obstacles, and whether another vehicle is coming in the opposite direction.

According to studies, when PEDO-related crashes do occur, they are often more severe than other crash types, primarily because the vehicle often leaves the roadway, rolls over, hits a roadside object or is involved in a head-on collision. According to studies, an estimated 11,000 people suffer injuries and roughly 160 die annually in the United States in crashes related to unsafe pavement edges.

A Simple Solution

There is a relatively easy and inexpensive countermeasure to PEDO. It's called the Safety Edge, a tapered – rather than vertical – transition between the paved surface and the unpaved shoulder of a two-lane highway. The recommended 30-35-degree tapered pavement edge or fillet can help drivers make a smoother, more controlled re-entry back onto the paved travel lane than if there is a more abrupt or vertical edge. The tapered edge helps prevent drivers from overcorrecting if they drift onto the shoulder, thus decreasing the likelihood of the vehicle crossing into opposing traffic or leaving the roadway.

PEDO is commonly caused by pavement-edge breaking, erosion, wear of the unpaved shoulders, inadequate maintenance, or when the shoulder is not flush with the pavement following a resurfacing project. Studies have shown that edge drop off is most commonly encountered around mailboxes, on the inside of curves, on steeper grades, at turn-arounds, and along shaded areas. A combination of shoulder erosion and edge rutting caused by harsh weather and vehicles repeatedly leaving the paved travel lane are typically found at these locations.

In the case of pavement resurfacing projects, problems develop when the pavement edge begins to quickly crumble from the lack of compaction, creating a vertical drop. Edge rutting and soil erosion from repeated vehicle impacts and harsh weather soon follows. Installing the Safety Edge along each side of the roadway in resurfacing projects is a simple and relatively inexpensive way to improve overall pavement edge safety. The Safety Edge provides an angled and compacted transition that eliminates that abrupt drop associated with PEDO and provides for a stronger and stable pavement edge.

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Evaluation of the Safety Edge

For over three decades the transportation community has been searching for ways to combat PEDO. The Texas Transportation Institute conducted one of the first studies in 1982 on the advantages of using an angled wedge to minimize the effects of PEDO. Since then, numerous studies and research projects have demonstrated the advantages of an angled wedge. But how to actually lay down a tapered edge during a resurfacing project became the next challenge.

In early 2003, two employees from FHWA's Resource Center – Safety Engineer Frank Julian and Pavements and Materials Engineer Chris Wagner – developed concepts on how to create a tapered edge along the roadway shoulder. They built on Wagner's previous experience at the National Center of Asphalt Technology, where he did research on creating tapered wedges at the longitudinal joints of asphalt pavement. From there, Julian and Wagner developed a partnership with the Georgia Department of Transportation (GDOT) to design and plan a demonstration project to study the constructability of the Safety Edge on a resurfacing project. The challenge was developing a device attached to the asphalt paver screed that could create the required tapered wedge.

GDOT began the demonstration project in 2004 along a 13-mile section of Hwy. 88 just south of the town of Augusta. GDOT's maintenance department fabricated its own in-house device known as the Georgia

The Georgia Wedge, developed by GDOT

Wedge. Conceived by GDOT maintenance project manager Lynn Bean, the wedge is essentially a modified strike-off bolted onto the screed end gate. The shoe of the end gate rides on the pavement shoulder and moves freely vertically, allowing it to continually adjust to height differentials. A rounded leading edge produces the smooth appearance. The Safety Edge was successfully installed with little impact on production and a less than 1 percent increase in project cost. After one year, the Georgia demonstration project found no visible signs of deterioration and no expectations of any long-term degeneration along the Safety Edge sections.

But the sections in the demonstration project without the Safety Edge had degraded to a near vertical edge after one year, with cracking developing near the edge. The Georgia study concluded that the Safety Edge showed "promise as a low-cost solution to mitigate pavement shoulder drop off…The implementation of the Safety Edge design would be most applicable to asphalt resurfacing projects on two-lane undivided roadways with limited paved shoulders." For these reasons and others the Safety Edge is now a standard feature of Georgia resurfacing projects.

While the Georgia demonstration project got under way, FHWA asked TransTech Systems Inc. to develop a commercially manufactured device that could create the Safety Edge. The company had successfully researched, developed and marketed an array of innovative road-building devices, including the Notched Wedge Joint Maker, which creates a tapered edge at the longitudinal joint on asphalt resurfacing projects.

Adapting technology from the Notched Wedge Joint Maker, TransTech developed the Shoulder Wedge Maker to create the Safety Edge. This device attaches to the screed face instead of the end gate. It has a self-adjusting internal spring that allows the device to follow the roadside surface independent of other paver components. The device has an angled surface that pre-compacts the asphalt as it enters the device while another fixed-angled surface forms the tapered edge. As the asphalt continues under the wedge-forming surface, the asphalt is smoothed to create a finished surface on the tapered edge.

A recent demonstration project in New York's Schenectady County using the Shoulder Wedge Maker also showed positive results. Since the Safety

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Regional Geotechnical Conferences: *Great Opportunity for Sharing Best Practices Across State Lines*

For the past 30 plus years, regional geotechnical engineering conferences have been an excellent conduit for the transfer of information and technology to practitioners across the Nation. These regional exchange events are held annually in five separate locations—the Northeast, the Northwest, the Midwest, the Southeast, and the Southwest. Geotechnical engineers from State departments of transportation (DOT) attend the various regional events, based on location, and each region has also been assigned a Federal Highway Administration (FHWA) engineer to assist in coordination of these conferences. They provide the ideal environment for the fluid exchange of information among practitioners and enhance the state-of-the-practice nationwide.

Specific reports on the latest round of these events are provided below to give you a feel for what they include, who attends, and the benefit of attending these events. Next time we're in your neck of the woods, plan to attend.

Want to be a host State?
Every year, a State DOT in each region is selected, based on a rotation, to host the annual conference. Generally, State DOT and FHWA engineers are the target audiences of these meetings; however, some conferences include various speakers, consultants, and contractors as invited participants.

The host State DOT creates a meeting agenda prior to the conference. Presentations and field trips are typically incorporated with all of the conferences. Many times, a one-day formal training session is added. Participants find these conferences to be extremely beneficial for transferring information, networking, and professional development.

Membership:

Northeast States Geotechnical Engineers (NESGE) Conference member Federal and State DOT organizations include: Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsyl- vania, Vermont, Puerto Rico, and the FHWA.

Northwest States Geotechnical Engineering (NWSGE) Workshop member Federal and State DOT organizations include: Alaska, Colorado, Idaho, Montana, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming, and the FHWA.

Midwest Transportation Geotechnical Engineers Conference (MWGEC) member Federal and State DOT organizations include: Iowa, Illinois, Indiana, Michigan, Minnesota, Missouri, Nebraska, Ohio, Wisconsin, and the FHWA.

Southeast Transportation Geotechnical Engineers Conference (STGC) member Federal and State DOT organizations include: Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, and the FHWA.

Southwest Geotechnical Engineers Conference (SWGEC) member Federal and State DOT organizations include: Arizona, California, Hawaii, Kansas, Louisiana, Missouri, Nevada, New Mexico, Oklahoma, Texas, and the FHWA.

Southwest Geotechnical Engineers Conference

The 2007 Southwest Geotechnical Engineers Conference (SWGEC) was held on April 23-26, in Overland Park, KS. The Kansas Department of Transportation (DOT) hosted the 4-day conference, which focused on varied geotechnical technologies such as deep foundations, Expanded Polystyrene (EPS) Geofoam, and earth retaining structures.

Representatives from 10 State DOTs (Arizona, California, Hawaii, Kansas, Louisiana, Missouri, Nevada, New Mexico, Oklahoma, and Texas), the FHWA Resource Center, the FHWA Division Office in Kansas, contractors, consultants, suppliers,

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and invited speakers from the U.S. Army Corps of Engineers (USACE) attended the event. In fact, more than 100 practitioners were registered for the conference.

Making the Most of the Time Together
The 4-day conference was well-planned and organized. It included an "ice-breaker" session on the opening day, followed by two full-day schedules, and ended with tours of the U.S. Cavalry Museum in Fort Riley, Milford State Park, and an EPS Geofoam technology facility. During the two full-day sessions, the scripted agenda consisted of presentations on technical topics and several case studies, along with seminars from members of the USACE and the URS Corporation. One presentation was on the seismic retrofit work on the Tuttle Creek Dam and another addressed Turkey Creek Tunnel repairs. According to both State and FHWA participants, the conference was considered "the best and most productive technical session they attend" during the year. Case studies also provided a friendly environment for the fluid discussion of real-life experiences among participants.

The MS PowerPoint presentations have been posted to the FHWA ftp site. The file names are arranged by author and title from the agenda which is also on the ftp site. The site (***ftp://fhwaftp.fhwa.dot.gov/wrc/Geotech/SW%20Geotechnical%20Conference%20Presentations/***) can be accessed with the following:

Customer Login:
User Name: wrcguest
Password: wrcguest

Who's On Deck?
The FHWA Resource Center and the Texas Department of Transportation have already set the date and location for the 2008 conference. **Next year, the conference will be held from April 21 to April 24 in Corpus Christy, TX.** The 2009 and 2010 conferences will be hosted by the Arizona DOT and the Louisiana DOT, respectively.

For more information on the SWGEC contact:

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Southeastern Transportation Geotechnical Engineers Conference

The 38th Southeastern Transportation Geotechnical Engineering Conference (STGEC) attracted more than 200 participants, who attended and discussed problems encountered on transportation projects, and innovative solutions that have been applied successfully.

The first meeting of this annual event was held in 1969 when the Federal Highway Administration proposed that the southeastern States meet to discuss landslide problems and settlement problems with high interstate embankments.

The first STGEC meeting was held in Atlanta, GA, and featured Professor George Sowers as the guest speaker. There were approximately 50 attendees at this meeting, and because this event was such a success, interest spread quickly, and an annual meeting was soon scheduled due to the overwhelming response. A "Steering Committee" was formed to be a governing body consisting of one member of each State involved, as well as one member from FHWA and TRB. The Committee also established a set of by-laws to assist in governing the group. The main objective in these meetings is to discuss the rapidly advancing technology of soil mechanics and to share success or problems in the Geotechnical field to meet the demands for economical and successful transportation systems.

In terms of economics, the conference has always been self supported as a non-profit organization. The registration fee charged to all participants covers the costs incurred to provide meeting facilities, transportation, banquet, etc. Any excess funds are passed along to help fund the next meeting. There are 193 people registered for this year's conference.

The next STGEC 2007 will be in Bowling Green, KY, at the Holiday Inn University Plaza from October 8-12, 2007.

For more information on STGEC 2007, visit the website at:

www.transportation.ky.gov/bridges/STGEC/STGEChome.htm

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For more information on future Southeast Geotechnical Meetings, contact:

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Midwest Geotechnical Conference

The 35th Annual FHWA Midwest Geotechnical Conference, hosted by the Iowa Department of Transportation, drew more than 40 participants for the 2 1/2-day conference. Participants from numerous State departments of transportation including Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin, and representatives from nine FHWA offices from across the country attended.

Presentations included: Geological & Geophysical Results and Remediation Options; Rock Cut Slope and Catchment Design; Rockfall! – Glenwood Canyon, CO; Secant Wall Movement/ Repairs on the Marquette Interchange; Use of Micropiles for Correction of Drilled Shaft Bridge Foundations. One full-day of the conference was devoted to MSE wall technology, with an emphasis on MSE wall design, construction, repair, and other problems. Presentations were given by representatives of State DOTs, numerous FHWA personnel, Iowa State University professors, and one Iowa DOT consultant. The MSE Walls portion of the program included sessions on MSE Wall Pre-Design Procedures; Geosynthetic-Reinforced Abutments and Bridge Approaches; the Iowa Experience—Post-Letting Contracting Issues and Problems; Ohio DOT MSE Wall Issues and Solutions; MSE Walls – Missouri's Experience; and Lessons Learned from the South.

Typical MSE Wall

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47th Annual Conference of the Northeast States Geotechnical Engineers (NESGE)

The 47th Annual Northeast States Geotechnical Engineers (NESGE) Conference featured the FHWA Resource Center Geotechnical & Hydraulics Technical Service Team's presentation of its Micropile mini-course. Technical sessions on day 2 focused on State experiences including among other topics, ground anchor installations; geotechnical evaluation; and LRFD Shallow spread footing design.

The 48th Annual NESGE is scheduled for late September/early October 2007, in Massachusetts – most likely in Boston. Details are still being developed.

For more information on the NESGE, contact:

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Northwest Geotechnical Workshop

The 32nd Northwest Geotechnical Workshop brought together participants from 10 State DOTs, the FHWA's Resource Center, Central and Western Federal Lands, and division offices, as well as several invited speakers from private industry. A variety of technical and case study presentations were made on subjects such as slope stability, foundations, geophysics, retaining walls, and other geotechniques. The workshop was held the same week and in the same location as the Highway Geology Symposium and the two meetings shared a 1-day field trip to see geology, natural hazards, and geotechnical engineering along the Interstate 70 and U.S. 6 corridors in the mountains of Summit and Clear Creek Counties, in CO.

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Partnering Today for a Better Tomorrow:

NCDOT and FHWA Sponsor First National Transportation Summit–TRANSPO '07

More than 500 people gathered in Charlotte, NC, the week of June 4, 2007, for the first **National Transportation Summit—TRANSPO '07**. A new program entitled, Business Opportunity and Workforce Development (BOWD), initiated by the Federal Highway Administration's Office of Civil Rights, was the primary focus for this immensely successful meeting dedicated to the development of viable businesses and a strong workforce within the transportation industry.

TRANSPO '07 was sponsored by the North Carolina Department of Transportation in conjunction with the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), and the Southern Transportation Civil Rights Executive Council (STCREC). This first National Transportation Summit was designed to provide industry leaders with forums that outline strategic solutions to increase business opportunities for the disadvantaged business enterprise (DBE) community and expand workforce development initiatives. The summit's participants included a cross section of leaders—chief executive officers, company presidents, senior Federal and State officials, and tribal representatives.

Federal Highway Administrator J. Richard Capka was the keynote speaker during the opening luncheon at the National Transportation Summit. In his welcome message, Administrator Capka comments, "This year's theme, 'Partnering Today For A Better Tomorrow' reinforces our Agency's national commitment to lead in coordinating workforce training opportunities for minority businesses in the transportation industry. The FHWA family is fortunate to have excellent leadership in the Office of Civil Rights that is committed to making Civil Rights a model program."

The National Transportation Summit was followed by the Civil Rights Training Symposium from June 6 through June 8, 2007, in which the FHWA Office of Civil Rights rolled out its new program toolkit. Frederick D. Isler, FHWA Associate Administrator for Civil Rights, established a variety of multi-disciplinary workgroups and teams to help improve the delivery of the FHWA and State civil rights programs. One of the key strategies for improving the administration of the program includes the development of an FHWA Civil Rights Program Toolkit. This toolkit contains a Brochure, Topic-based Handbook, and Desk Reference on each of the program's major discipline areas, and it is designed to provide information to FHWA division offices and State transportation agencies that will help ensure the basic requirements of the civil rights programs are met. The FHWA Resource Center staff from the Civil Rights Technical Service Team, along with the Marketing and Communications Internal Services Team, contributed significantly to the creation and development of the toolkit.

The National Transportation Summit was a call to action, allowing participants to roll up their sleeves and engage in candid discussion about challenges, and real and innovative solutions for expanding construction opportunities. Approximately 100 representatives from minority-owned construction companies across the Nation attended the summit. Participants played an important role in sharing recommendations for program improvement and setting the course for future initiatives. The momentum generated from the

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FHWA North Carolina Division Administrator John Sullivan welcomes participants to the first National Transportation Summit, TRANSPO '07. Joining him onstage for opening presentations are Tiffanie Williams, President, Drive Safe, and FHWA Associate Administrator for Civil Rights, Frederick D. Isler.

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summit will strategically advance future efforts to sustain and coordinate long-term action, which will be catalysts for dramatic change within the business contracting community.

The summit opened with a safety presentation, which featured the video, Little White Crosses. Following the video, Tiffanie Williams, DBE and Youth Entrepreneur, provided an inspiring message concerning young drivers. Williams, 13 years old, along with her two sisters, 11 and 9 years old, manage Drive Safe, a company that produces driver notification signs for vehicles. The signs display safety messages, such as New Driver (Please Be Patient). The teens also are leading a safety education campaign called, Smart Teens Drive Safe. Drive Safe is committed to making roads and highways safer for all motorists, especially the teenage driver.

The agenda for the National Transportation Summit for the next three days consisted of the following panel discussions:

- Transportation Leadership
- Business Opportunity and Workforce Development
- Community Outreach
- Highway Contractors and Partners Forum

The emphasis throughout the summit was on partnership, including several motivational presentations and a tour of the Charlotte BOWD Center. The FHWA Office of Civil Rights established the Business Opportunity and Workforce Development Program in an effort to maximize resources to enhance the effectiveness of the On-the-Job Training (OJT) program and the DBE program. The Office of Civil Rights is promoting partnerships to deliver both programs together, encouraging State DOT recipients to partner with prime contractors, minority colleges, community-based organizations, and the DBE community to establish BOWD Centers. The purpose of the BOWD Center is to provide targeted assistance to help develop underutilized DBEs, who are ready, willing and able to compete for and perform highway contracts.

FHWA Associate Administrator for Civil Rights Frederick Isler (right) recognizes the outstanding work and partnership demonstrated by Benedict College, in South Carolina, by presenting Ms. Vereva Harris, Project Director (center), and Dr. David H. Swinton, President of Benedict College (left), with the Minority Institute of Higher Education with the Business Opportunity Development Center Partnership Award.

King Gee, FHWA Associate Administrator for Infrastructure, addresses the TRANSPO '07 Summit during a panel discussion on Transportation Leadership. Joseph Toole, FHWA Office of Professional and Corporate Development, was the moderator for the panel, which included Steve L. Massie, Associated General Contractors of America; John Bowles, National Association of Minority Contractors, and Midwest General Construction and Steel Fabricators, Inc.; Susan Binder, FHWA Office of Policy and Governmental Affairs; Richard A. Juliano, American Road and Transportation Builders Association; and Carol Chapman, National Association of Women in Construction and Mobile Construction.

FHWA Civil Rights Program Toolkit Available to All Divisions

Development of a Civil Rights Program Toolkit was recently completed and unveiled at the Civil Rights portion of the TRANSPO '07 Summit in Charlotte. These toolkits are designed to promote uniformity and consistency in the delivery of the civil rights program administered through the Federal-aid Highway Program and State departments of transportation.

The major program discipline areas included are as follows:

- **Americans With Disabilities Act (ADA)/ Section 504**
- **Contractor Compliance**
- **Disadvantaged Business Enterprise/ Supportive Services (DBE/SS)**
- **Limited English Proficiency (LEP)**
- **On-The-Job Training/ Supportive Services (OJT/SS)**
- **State Internal Equal Employment Opportunity (SIEEO)**
- **Title VI**

The purpose of the Civil Rights Program Toolkit is:

- *To provide technical assistance to FHWA Division Offices and State transportation agency (STA) personnel on the basic requirements of major civil rights programs.*
- *To provide an alternative, interactive method of delivering training to the STAs, other DOT recipients, customers, partners and stakeholders.*
- *To serve as a comprehensive, self-help product to enhance the user's knowledge of applicable laws, regulations, and policy guidance.*

Each Civil Rights Program Toolkit includes a:

- Brochure (providing a basic overview of issues pertinent to the Agency's individual civil rights program focus areas.)
- Program-based Handbook (containing an Introduction, Technical Assistance Tool, Applicable Authorities, Roles & Responsibilities, and a Q & A Brief)
- Desk Reference (containing Laws and Regulations, Policies and Procedures, and detailed "how to" samples)

Each of the civil rights tools will be posted on the FHWA Office of Civil Rights website at:

www.fhwa.dot.gov/civilrights/index.htm

These tools will also be delivered through web-conferencing and video-conferences. In addition, on-site training sessions can be provided by members of the FHWA Resource Center Civil Rights Technical Service Team, Division Office Civil Rights staff, or the Headquarters Office of Civil Rights.

For more information on the Civil Rights Toolkit, contact:

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SAFETY EDGE *from page 8*

Edge was installed in 2004 along two rural roads, yearly inspections showed that the shoulder wedge has held up exceptionally well, with no degradation of the edge. Additional analysis has shown no cracking or breaking away from the main rolled mat area.

Before implementation of the Safety Edge

After deployment of the Safety Edge technology

Another demonstration project is currently underway in Indiana as part of an FHWA-sponsored Transportation Pooled-Fund Program. During the early stages of that study, the Safety Edge was successfully installed in seven of nine projects in 2004 and 2005 at minimal additional cost to the contractor. In fact, most of the contractors didn't even factor the Safety Edge into their bids, said Elizabeth Pastuszka, an INDOT materials engineer who was involved with the edge construction of the demonstration projects. In the two unsuccessful projects, the problems were totally unrelated to the Safety Edge itself, she said. Pilot projects also have been completed in Utah and Colorado. Minnesota and Tennessee are also implementing the Safety Edge.

Reducing Tort Liability

Another benefit of the Safety Edge, according to experts, is the potential for reduced tort liability. According to the FHWA 2004 report, *Construction of a Safe Pavement Edge: Minimizing the Effects of Shoulder Dropoff*, by Wagner and GDOT researcher Yeonsoo Stanley Kim, Ph.D., PEDO is a common source of tort claims against highway agencies. The authors cite court cases in Louisiana, Minnesota and South Carolina in which monetary judgments were awarded to motorists involved in crashes caused by PEDO. In these cases, the transportation agencies were found liable for creating an unsafe condition and not properly warning motorists of the hazardous conditions.

A 2006 American Automobile Association Foundation for Traffic Safety study, which analyzed PEDO in Missouri and Iowa, found that crashes in which PEDO was the major cause resulted in major tort liability suits filed in those states. Tort claims filed from 2000-2005 in Iowa, for example, in which "pavement/shoulder edge" or "shoulder conditions" was the major crash cause were the highest-ranking tort liability claims in terms of total dollar value.

During a 15-year period (1988 to 2003), Louisiana had 388 claims filed against the State for alleged roadway shoulder defects, including PEDO, according to former Assistant Attorney General James R. Dawson. Of those claims, the State paid out an average of $62,144 per claim, or more than $241 million.

"So you see how shoulder defects, including drop-off problems are a major factor in how we are able to spend our dollars on improving highway safety," Dawson said at a Feb. 11, 2004, *Managing Pavement Edge Drop Offs Workshop* in Atlanta, GA.

The Safety Edge is indeed a cutting-edge technology that has proven it can save lives, reduce injuries, and minimize costly lawsuits. The Safety Edge has shown

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Trans Tech System wedge maker

that it can minimize – and even eliminate—those frightening, and even fatal, driving experiences when a motorist encounters PEDO.

For technical assistance and information about the Safety Edge contact:

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More information about road departure issues and effective countermeasures can also be found at the FHWA's Office of Safety website located at:
http://safety.fhwa.dot.gov/roadway_dept/index.htm

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Presentation awards included: *Best Presentation* – Mark Vessely, Colorado DOT for **"Maroon Creek Bridge in Aspen – What You Can Buy for $14 Million in Aspen;"** *Best Technical Presentation* – Mitchell McDonald, Alaska DOT and Robert Dugan, Golder Associates for **"Using Innovative Methods for Geologic Mapping of a Proposed Highway Alignment;"** and the *Project From Hell* award – Clifton Farnsworth, Utah DOT for **"Provo Canyon Reconstruction."**

The 2006 ***Mr. Northwest Geotech*** award recipient was **Mark Falk**, Wyoming DOT. The 2006 ***Hat's Off Award*** recipient was **Mark Vessely**, Colorado DOT.

This Northwest Geotechnical Workshop again proved to be a very successful geotechnical technology transfer activity, according to participants.

The next Northwest Geotechnical Workshop will be hosted by the Idaho Transportation Department, September 3 - 6, 2007, in Coeur d'Alene, ID. The fieldtrip will cover geological and geotechnical features along the US 95 corridor north of Coeur d'Alene.

For more information on the NWSGE Workshop, contact:
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FHWA Resource Center Welcomes New Team Members

CONSTRUCTION & PROJECT MANAGEMENT

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Major Projects Engineer
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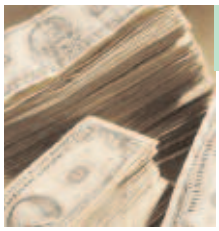
Jeff Lewis joins the Construction and Project Management TST in the Resource Center, as the Major Projects Engineer. Lewis has extensive experience in the FHWA project delivery program areas, having served in two former Division Offices and the Federal Lands Highway Division. In his 28-year career with FHWA, he has received numerous awards, most recently receiving Headquarters Special Recognition Award for "Construction Program Management Workshop" in March 2007. While concentrating his efforts on Major Projects, he will also provide technical assistance and technology deployment to Divisions and States in the areas of LPA, Construction Quality, Contract Administration, and Emergency Relief—to name a few. Lewis will work from the Sacramento, CA, Division Office.



FINANCE SERVICES

Finance Services TST gains 3 new members

BRENDA BERKLEY
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Brenda Berkley recently joined the team from the Resource Center Administrative Services Team where she was a Financial Technician. Berkley brings with her an outstanding knowledge of the Agency's financial operations, and she earned a bachelor's degree in Economics from Morgan State University.

KEN JENKINS
Financial Manager
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Ken Jenkins recently joined the team from the Missouri Division Office where he was the Financial Manager. Jenkins brings with him a vast knowledge of the FHWA, and has been with the agency for 31 years, serving in many Division Offices. He has a bachelor's degree in Business Administration, Accounting, and Economics from Lincoln University in Jefferson City, MO. He has expertise in finance and accounting, innovative finance, contracting/procurement, grants management, administrative and financial reviews, division financial management, audits and process improvements/internal controls. Jenkins is a Certified Government Financial Manager (CGFM) and a member of the Association of Government Accountants.

VINCENT SYKES
Financial Managment Specialist
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Vincent Sykes also recently joined the team from the Resource Center Administrative Services Team, where he was a Financial Technician. Sykes brings to the team a vast knowledge of budgeting and procurement as well as experience performing administrative and procurement reviews. Sykes has a bachelor's degree in Accounting from The University of Phoenix.

As members of this team, Ken, Brenda, and Vincent will work to provide Division organizational and financial assessments used to assist in identifying critical performance and process improvement needs. They will implement and refine tools designed to improve the effectiveness of Division program stewardship efforts including, risk assessment, FIRE Order requirements, project funds management and quality management improvement strategies. They will work closely with the Office of the Chief Financial Officer to disseminate financial management policy guidance to Divisions as well as coordinate and perform reviews with various Division Offices, Headquarters, and State DOTs. They will also help provide training to both Divisions and State DOTs on matters of traditional Federal-aid financing, internal controls, accounting systems and indirect cost allocation plans.

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NEW HIRES *from page 17*

PAVEMENT & MATERIALS

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Andy Mergenmeier has joined the Pavement & Materials TST with a wealth of knowledge, by way of the Virginia Department of Transportation (VDOT), where he most recently served. He began working in the pavements field in 1986 after graduating from the University of Kansas with his bachelor's degree in civil engineering. Upon graduation, Mergenmeier entered the FHWA Engineer Trainee program and subsequently served as Assistant Area Engineer in the FHWA Louisiana Division; Area Engineer in the FHWA Maryland Division; and Highway Engineer in the FHWA HQ Construction and Maintenance Division. In 1995, he became a Highway Engineer in the Virginia Division Office and then in 2000 he went to the VDOT as the State Materials Engineer. In that post, he directly managed 70 employees and materials testing and evaluation laboratories in VDOT Headquarters. He also provided technical leadership to an additional 230 employees located in nine regional facilities across Virginia, in addition to being responsible for administering a budget of over $15 million. He also carried Statewide responsibility for the development and implementation of policy/procedures and employee training/development for preliminary engineering and construction functions, such as, geotechnical investigations, slope design, soil structures, pavement design; testing and approval of asphalt, aggregate, concrete, and pavement markings; and inspection and repair of structural steel and precast and pre-stressed concrete. Mergenmeier's areas of expertise include Materials Acceptance Programs, and Pavement Construction and Design. From 2004-2007 he served as American Association of State Highway and Transportation Officials (AASHTO) Highway Subcommittee on Materials Task Force Chairman for Technical Section 5a, Pavement Measurement Technologies. He also served as a member of the AASHTO Joint Task Force on Pavements. He is a Registered P.E. in Virginia.

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