

# Centered on Service

VOLUME 4, ISSUE 1

FEBRUARY 2008

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*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.

## FALCON Teams Take Flight

### Highlight on Environmental Stewardship Team

New FHWA-wide teams, known as FALCON teams, have been formed to provide **Focus Area Leadership** and **Coordination** of efforts undertaken to meet objectives established within the agency's Pavement and Materials Program. These new teams, better known as FALCON Teams, have members from the FHWA Headquarters offices involved with the pavement and material program, including the Office of Pavement Technology (HIPT) and the Office of Asset Management (HIAM), as well as members from the FHWA Resource Center, the Office of



*Photo of a lanner falcon (Falco biarmicus).  
[Source: istockphoto.com.]*

Infrastructure R&D, Federal Lands Highway Division, and various division offices.

FALCON Teams have been created for each of these Pavement and Materials Strategic Plan Focus Areas:

1. Pavement Design and Analysis;
2. Pavement Materials and Construction Technology;
3. Pavement Management and Preservation;
4. Pavement Surface Characteristics;
5. Construction and Materials Quality Assurance; and
6. Environmental Stewardship.

Each FALCON Team has developed a Team Charter that includes: the purpose of the team; vision and mission statements; a membership list; and expected outcomes for the team. The teams have also developed strategic plans that include performance objectives, measures, targets and strategies that the FHWA can employ to achieve desired

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## FALCON from page 1

outcomes for the focus area. A key activity currently underway is to benchmark the current state-of-the-practice in each of the focus areas. This is the first step in being able to measure the progress and impact of each team's efforts. In addition, this effort will help to identify gaps that need to be addressed or existing innovations that need to be advanced to meet focus area objectives.

The Team Charter for the Environmental Stewardship FALCON Team includes the following sections:

### PURPOSE

The Environmental Stewardship FALCON Team will develop a strategic plan for sustainable practices for highway pavement and materials to protect and enhance the human and natural environment and promote FHWA's stewardship of the environment. The FALCON team will develop a multi-year strategic plan that establishes national environmental performance objectives, performance measures, strategies and activities for the Pavement and Materials program.

### VISION

Our highways are designed, constructed, preserved and maintained to balance the natural and human environment in a sustainable manner.

### MISSION

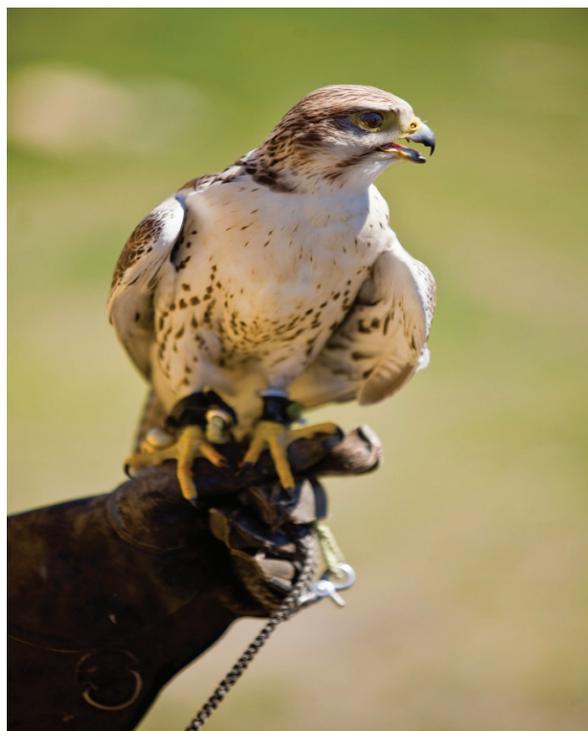
Provide for a sustainable national highway infrastructure by promoting the cost-effective implementation of pavement and material practices, activities and technologies. We will protect and enhance the natural and human environment through systematic highway planning, design, construction, preservation, maintenance, and operations. The Environmental Stewardship FALCON Team has the following four objectives:

**1) Recycled Materials:** The use of recycled highway materials in pavement construction, rehabilitation, preservation, and maintenance is maximized to the extent economical and practical with equal or improved performance.

**2) Re-use:** The use of consumer, industrial, agricultural, or energy co-products in pavements and pavement-related materials is optimized to the extent economical and practical with equal or improved performance.

**3) Environmental Innovations:** The highway industry utilizes innovative technologies which are environmentally-sound and applies sustainable approaches to pavement design and material selections, construction, preservation, and maintenance.

**4) Workforce Capability:** The highway industry workforce is well-trained, well-connected, qualified, and experienced to conduct environmentally-sound paving and material practices.



*Photo of an Arabian falcon sitting on the gloved hand of a handler. [Source: istockphoto.com.]*

Several activities have been funded in FY 2008 to support these objectives. Warm-Mix Asphalt (WMA) is an exciting new technology that can reduce the energy demands of traditional Hot-Mix Asphalt (HMA). The FHWA will be working to implement the findings from an international scan on WMA, to expand the use of this technology across the nation, and to evaluate the various asphalt additives that are required in the process. Recycled-Asphalt Pavement (RAP) is already a widely-used product in HMA, however many State DOT specifications have limitations on the use

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The Environmental Stewardship FALCON Team includes the following members:

| Role           | Name                 | Unit          |
|----------------|----------------------|---------------|
| Co-Chairs      | Jason Harrington     | HIPT          |
|                | Steve Mueller        | RC - P&M TST  |
| Secretary      | Eric Weaver          | HRDI          |
| Members        | Gina Ahlstrom        | HIPT          |
|                | Chris Newman         | HIAM          |
|                | Mike Arasteh         | RC - P&M TST  |
|                | Connie Hill Galloway | HEP           |
|                | Patricia Cazenias    | HEP           |
|                | Jeff Lewis           | RC - C&PMTST  |
|                | Ernie Bastian        | HRDI          |
|                | Brad Neitzke         | FLHD          |
|                | Jason Dietz          | CA Div        |
|                | Bryan Cawley         | UT Div        |
|                | Darrin Grenfell      | TX Div        |
|                | Brian Smith          | RC - ENV TST  |
|                | Liaisons             | John Bukowski |
| Steve Gaj      |                      | HIAM          |
| Tom Harman     |                      | RC - P&M TST  |
| Jack Youtcheff |                      | HRDI          |
| Marketing      | Kathleen Bergeron    | HFL           |

For more information on the Environmental Stewardship FALCON Team, please visit:

[www.fhwa.dot.gov/pavement/enstewardship.cfm](http://www.fhwa.dot.gov/pavement/enstewardship.cfm)

of RAP. FHWA has created an expert task group to assist in expanding the use of RAP and in the evaluation of HMA pavements with high RAP contents. The Recycled Materials Resource Center (RMRC) is now a joint effort between the University of New Hampshire and the University of Wisconsin at Madison. The FHWA is working closely with the RMRC and other partners to develop projects and informational materials to expand the use of recycled materials and the beneficial use of industrial by-products that can be re-used in a highway environment rather than landfilled. The FALCON Environmental Stewardship Team is also working with the EPA to share FHWA's pavement and materials perspectives and support the expansion of the Green Highway Partnership.

Finally, here are some interesting facts about falcons that led us to adopt them as our team mascot.

FALCON facts:

- Incredible vision! 8 times human eyesight
- Results oriented – they rarely fail!
- Productive – dive 140 mph, handle 17 g's
- Strong – carry load 6 times their weight

For more information on the Environmental Stewardship FALCON Team, contact:

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## TECHNOLOGY DEPLOYMENT

### PDS Update: Reserve These Dates

The dates have been set for three Product Demonstration Showcases (PDS) and two more are in the developmental stages.

#### **Corridor Safety Program April 24th in Portland, WA**

The Safety Technical Service Team (TST) is offering a PDS on the Corridor Safety Program (CSP). This showcase will be held in conjunction with the NACE Conference on April 24th in Portland, WA. This PDS is a joint effort between the Washington State Department of Transportation and the Washington Traffic Safety Commission, along with many partner agencies including the Washington State Patrol. This 1-day event will feature presentations and Q & A with program leaders and project participants from the City of Vancouver, WA, and from Skamania County, WA. Information on how the project is coordinated and completed, from engineering, enforcement, and public awareness perspectives, will be shared. Overall program history and success stories will also be conducted to both urban and rural project locations to see improvements that were made and to talk with project participants.

The CSP works to reduce collisions on roadways using low-cost, near-term solutions through the use of partnerships with engineering, enforcement, education, and emergency services. The program is locally coordinated in each community, and involves interested citizens along with businesses and agencies that have a vested interest in the safety of their roadways.

Implementation of the CSP in Washington State has been a very successful effort, not only in building community relationships, but also in terms of making highways safer. In 28 active or completed corridors around the State, total collisions have been reduced 5 percent, total injuries have been reduced 11 percent, alcohol-related collisions have been reduced 15 percent, and fatal/disabling collisions have been reduced 34 percent. The average Corridor Safety Project saves \$4.1 Million per year in societal costs from collisions.

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#### **Accelerated Construction & Prefabricated Bridge Elements May 1<sup>st</sup> in La Grange, GA**

A PDS has been scheduled for May 1st in La Grange, GA, just 45 minutes southwest from the Atlanta airport. This showcase will feature presentations by Georgia DOT officials and contractors on the construction of the I-85 interchange in La Grange and feature technologies such as design/build, prefabricated piers and caps, and performance contracting. Also on the agenda are details on the public involvement process during construction as well as both congestion minimization and speed band monitoring, followed by a question and answer session and a site visit to observe actual installation of prefabricated elements. The Resource Center will play an active role in deployment of these market-ready technologies through student education with the Georgia Institute of Technology and the University of Auburn.

For more information contact:

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#### **Maintenance Decision Support Systems May 28<sup>th</sup> in Omaha, NE**

A showcase on Maintenance Decision Support Systems (MDSS)--hosted by the Nebraska Department of Roads (NDOR)--has been scheduled for May 28th in Omaha, NE.

This showcase will include presentations on a pooled-fund MDSS demonstration project, as well as sessions on training, on-board data collection, IT requirements, management support, communication costs and expectations, set-up requirements, and other topics of interest.



*Snowplows clear residential streets in Denver, CO*

The FHWA Resource Center's Operations TST and staff from Headquarters' Road Weather Management Program are working with the Local Technical Assistance Program, the American Association of State Highway and Transportation Officials' MDSS Technology Implementation Group, the NDOR, the Colorado Department of Transportation, and the City of Denver to sponsor this regional event. Transportation agency-based field personnel whose programs include winter

See MDSS on page 6

## Making the Case for Column Supported Embankments

# Liberty Memorial Bridge East Abutment Project

The 86-year-old Liberty Memorial Bridge, spanning the Missouri River between Bismarck and Mandan, North Dakota, is currently being replaced due to the need for major repairs and the age of the structure—the bridge was originally completed in 1922.

### **Problem & Background**

The east bridge approach embankment is designed as an MSE wall with 5 x 10 foot pre-cast panels, and is approximately 33-feet tall. The geotechnical investigation by North Dakota Department of Transportation (NDDOT) revealed that the sub-surface profile consists of up to a 20-foot deep layer of soft clays. The load from the embankment would generate immediate and long-term consolidation settlement of the soft clay layer.

Although MSE walls are capable of withstanding relatively large total and differential settlement, the deformations may lead to potential chipping and/or cracking of panels as the joints tighten and the panels begin to interact. In this case the differential settlement criteria of the facing panels, which is defined as the length of the panel divided by 100, could not be met under the existing conditions.



*Bottom of excavation showing steel pile caps. Load transfer platform will be constructed on top of these pile caps. Note the piles continuing up are for the bridge abutment. Photo provided by North Dakota DOT.*

In addition, since the bridge abutment is on piles and is a stiff foundation relative to the embankment, the differential settlement between the abutment and the embankment would be significant, causing the effect of a bump at the end of the bridge, until the soft clays complete the consolidation process. Due to a constricted area between the bridge abutment and the retaining wall, some of the facing panels were designed to be attached to the bridge abutment. This created another potential problem; differential settlements would likely result in structural damage or misalignment to the facing panels.

### **Recommendation: Column Supported Embankment**

The NDDOT asked for technical assistance from the Federal Highway Administration (FHWA) Resource Center to address this issue. After evaluating the subsurface conditions, loadings, project schedule, and deformation criteria, the FHWA Geotechnical & Hydraulics Technical Service Team recommended a column supported embankment be selected to address this issue. Since time was of the essence, conventional approaches -- such as surcharging the embankment

to take out the expected settlements prior to finalizing the embankment -- were not practical, due to the time required to consolidate the soft clays. The column supported embankment is designed to support the embankment loads as quickly as the embankment can be constructed with little to no settlements. A geosynthetic reinforced load transfer platform (LTP) was used to help transfer the embankment loads to the piles.

This ground improvement technology has been around for a couple of decades internationally, but it has gained momentum in the United States over the past 10 years.

See **COLUMN** on page 6



MSE wall being supported by the column supported embankment and load transfer platform. Photo provided by North Dakota DOT

This technology consists of installing deep foundation elements, which transfer the embankment loads through the soft soil to a competent foundation layer. The LTP is used to efficiently transfer the loads to the deep foundation elements by optimizing the spacing of the foundation elements, thickness of the LTP, and the strength and number of geosynthetic reinforcement layers.

The project design included the use of a 48-inch thick LTP that was comprised of select aggregate backfill, reinforced with four layers of biaxial geogrids, and deep foundation elements consisting of H-piles. The H-pile section, spacing, and length varied depending on the height of the embankment, proximity to the abutment, and specific geometric considerations.

To date, the column supported embankment has performed as intended with little to no settlements of the embankment.

### **Future work**

Due to traffic control staging requirements, the embankment is being constructed in two phases. The column supported embankment for the first phase was completed in December of 2006. Construction of the column supported embankment for the second phase will begin after removal of the existing bridge.

For additional information on column supported embankments, contact:

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North Dakota DOT  
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maintenance and operations from surrounding States of Colorado, Iowa, Kansas, Missouri, South Dakota, and Wyoming are encouraged to attend as well.

The event agenda includes:

- A simulated demonstration of Colorado DOT's MDSS
- A simulated demonstration of City of Denver's MDSS
- A simulated demonstration of Nebraska's local agencies' MDSS

For more information contact:

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We are currently in the development stages of showcases on ACS Lite and Roundabouts.

For more information on these showcases contact:

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FHWA Resource Center  
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[mark.sandifer@dot.gov](mailto:mark.sandifer@dot.gov)

## 2008 Priority Market Ready Technologies Unveiled

The Federal Highway Administration's (FHWA) Research & Technology Leadership Team endorsed **four new** priority, market-ready technologies and innovations (T&Is). This list continues to fulfill our Agency commitment established in the FHWA *Corporate Master Plan for Research and Deployment of Technology & Innovation to identify market-ready T&Is.*

### CONSTRUCTION & PROJECT MANAGEMENT

#### Accelerated Construction Technology

**Transfer (ACTT)\*** - This undertaking promotes creative technologies to reduce construction time and enhance quality and safety. Contact: Jim Sorenson at (202) 366-1333/james.sorenson@dot.gov, or Jerry Blanding at (410) 962-2253/jerry.blanding@dot.gov.

#### **Construction Analysis for Pavement Rehabilitation Strategies (CA4PRS)\*** -

This software identifies optimal rehabilitation strategies to balance the construction schedule with inconvenience to drivers and transportation agency costs. Contact: Jim Sorenson at (202) 366-1333/james.sorenson@dot.gov.

### FINANCE

**Asset Management Guide** - This guide illustrates asset management principles and identifies techniques and methods for adopting the decisionmaking framework in transportation agencies. Contact: Stephen Gaj at (202) 366-1336/stephen.gaj@dot.gov, or Thay Bishop at (404) 562-3695/thay.bishop@dot.gov.

### GEOTECHNICAL & HYDRAULICS

#### **Continuous Flight Augered (CFA) Piles** -

This technology is characterized by the drilling of a hollow-stem auger into the ground, pumping grout or concrete into the hole, and installing reinforcement in the pile. This eliminates the need for a temporary casting. Contact: Silas Nichols at (404) 562-3930/silas.nichols@dot.gov.

**Expanded Polystyrene (EPS) Geofoam** - This lightweight material can be used as fill behind walls and other support structures. Contact: Silas Nichols at (404) 562-3930/silas.nichols@dot.gov.

### OPERATIONS

**511 Traveler Information** - This easy-to-remember, three-digit telephone number is available to State and local transportation agencies nationwide so that they can provide information readily about highway and transit conditions to travelers by telephone. Contact: Robert Rupert at (202) 366-2194/robert.rupert@dot.gov, or Mac Lister at (708) 283-3532/mac.lister@dot.gov.

 **Adaptive Control Software Lite (ACS-Lite)** - This cost effective technology improves efficiency and prolongs the effectiveness of traffic signal timing by updating critical timing parameters in responses to current traffic conditions. Contact: Eddie Curtis at (404) 562-3920/eddie.curtis@dot.gov.

**DYNASMART-P** - This traffic analysis tool integrates travel demand models into the planning process. The tool also evaluates intelligent transportation system (ITS) technologies and provide traffic operations data for air quality analysis. Contact: Henry Lieu at (202) 493-3272/henry.lieu@dot.gov, or John Tolle at (708) 283-3541/john.tolle@dot.gov.

**Intelligent Transportation System Deployment Analysis System (IDAS)** - This tool can predict the costs and benefits of ITS investments and provide data and information to enable agencies to analyze ITS operation improvements. Contact: John Tolle at (708) 283-3541/john.tolle@dot.gov.

See MRTs on page 8

## PAVEMENT & MATERIALS

**Air Void Analyzer (AVA)\*** - This technology provides real-time evaluation for measuring air content, specific surface, and the spacing factor of fresh portland cement concrete. Contact: Gary Crawford at (202) 366-1286/gary.crawford@dot.gov, or Angel Correa at (404) 562-3907/angel.correa@dot.gov.

**Pavement Smoothness Methodologies** - The new pavement smoothness specification encompasses smoothness test methods, smoothness equipment specifications, and equipment certification programs. Contact: Mark Swanlund at (202) 366-1323/mark.swanlund@dot.gov, or Robert Orthmeyer at (708) 283-3533/robert.orthmeyer@dot.gov.

## PLANNING

**Highway Economic Requirements System, State Version (HERS-ST)** - This software model evaluates the implications of alternative programs and policies on the condition, performance, and user cost level associated with highway systems. Contact: Robert Mooney at (202) 366-4657/robert.mooney@dot.gov.

**Improved Decisionmaking Using Geographic Information Systems** - This software program enables manipulation, analysis, and display of geographically referenced data. Contact: Mark Sarmiento at (202) 366-4828/mark.sarmiento@dot.gov, or Ben Williams at (404) 562-3671/ben.williams@dot.gov.

**Transportation Economics and Land Use System (TELUS)** - This information-management and decision-support system helps State transportation departments and metropolitan planning organizations prepare their annual transportation improvement programs and statewide transportation improvement programs. Contact: Robert Ritter at (202) 366-8870/robert.ritter@dot.gov, or Lisa Randall at (720) 963-3209/lisa.randall@dot.gov.

## SAFETY

**Cable Median Barriers\*** - These barriers are effective mechanisms for preventing fatal and disabling crashes and are more forgiving than traditional concrete and metal beam barriers. Contact: Frank Julian at (404) 562-3689/frank.julian@dot.gov.

**PEDSAFE** - This online, interactive system enables users to “diagnose” a pedestrian-related issue based on site characteristics and formulate potential solutions that improve conditions for pedestrians within the public right-of-way. Contact: Rudolph Umbs at (708) 283-3548/rudolph.umbs@dot.gov.

**Road Safety Audits (RSA)\*** - RSAs improve transportation safety by using an independent audit team to conduct a formal safety performance examination of an existing or future road or intersection. Contact: Craig Allred at (720) 963-3236/craig.allred@dot.gov.

**Roundabouts** - This design treatment is a circular intersection that requires entering vehicles to yield to existing traffic in the circulatory roadway. Contact: Mark Doctor at (404) 562-3732/mark.doctor@dot.gov.

**Rumble Strips** - Shoulder rumble strips are continuously grooved indentions in roadway shoulders that provide audible warnings and physical vibrations to alert drivers when their vehicles are leaving the roadway. Contact: Frank Julian at (404) 562-3689/frank.julian@dot.gov.

**New! USLIMITS** - This is a web-based expert advisor system designed to assist practitioners in determining appropriate speed limits in speed zones. Contact: Davey Warren at (202) 366-4668/davey.warren@dot.gov, or Rudolph Umbs at (708) 283-3548/rudolph.umbs@dot.gov.

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## STRUCTURES

**New!** **Bridge and Tunnel Security** - This assessment tool provides resources to help owners make their critical bridges and tunnels more secure. Contact: Shay Burrows at (410) 962-6791/ shay.burrows@dot.gov.

**Fiber-Reinforced Polymer (FRP)\*** - This material repairs cracks in overhead sign supports by wrapping the support with fiber-reinforced material. Contact: Lou Triandafilou (410) 962-3648/lou.triandafilou@dot.gov.

**Load and Resistance Factor Design and Rating (LRFD and LRFR) of Structures** - The American Association of State Highway and Transportation Officials' (AASHTO) Load and Resistance Factor Design and Rating (LRFD and LRFR) of bridge specification provides for more uniform levels of safety, which should lead to superior serviceability and long-term maintainability. Contact: Firas Ibrahim at (202) 366-4598/firas.ibrahim@dot.gov, or Tom Saad at (708) 283-3521/thomas.saad@dot.gov.

**Prefabricated Bridge Elements and Systems (PBES)\*** - These systems minimize traffic impacts of bridge construction, improve work zone safety, and make construction less disruptive by minimizing the necessary lane closures, detours, and narrow lane uses. Contact: Vasant Mistry at (202) 366-4599/visant.mistry@dot.gov.

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\* Denotes an AASHTO Technology Implementation Group approved technology.

### Removed from the list:

- Dispute Resolution Guidance for Environmental Streamlining
- Maintenance Decision Support System (MDSS)
- QuickZone
- Red Light Cameras

## Additional Technology Resources

FHWA Corporate Research & Technology (R&T) website:  
[www.fhwa.dot.gov/crt](http://www.fhwa.dot.gov/crt)

FHWA Resource Center website:  
[www.fhwa.dot.gov/resourcecenter](http://www.fhwa.dot.gov/resourcecenter)

AASHTO Technology Implementation Group website  
<http://tig.transporation.org>

*Need technical assistance, technology deployment, and/or training in any of the following technical specialty areas? Contact the FHWA Resource Center Team Leaders:*

- **Air Quality:**  
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- **Civil Rights:**  
**Teresa Banks (404) 562-3593**
- **Construction & Project Management:**  
**Rob Elliott (404) 562-3941**
- **Environment:**  
**Don Cote (720) 963-3210**
- **Finance Services:**  
**Robert Clark (410) 962-0104**
- **Geotech & Hydraulic Engineering:**  
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- **Information & Management:**  
**Anne Leudders (720) 963-3237**
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- **Marketing & Communications:**  
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- **Structures:**  
**Shoukry Elnahal (410) 962-2362**

## 33rd SW Geotechnical Engineers Conference April 21-24, 2008 - Corpus Christi, Texas

The Federal Highway Administration (FHWA), in partnership with the Texas Department of Transportation, is privileged to co-host the 33rd meeting of the **Southwest Geotechnical Engineers Conference**, which will be held April 21-24, 2008, in Corpus Christi, Texas.

The conference provides a forum for Federal, State, and local engineers and geologists to exchange information on geotechnical engineering issues, case studies, and innovations. Geotechnical engineers from State departments of transportation (DOTs), the FHWA, as well as consulting firms and suppliers from around the country will be presenting their case studies on engineering practices. Sessions from past conferences have included investigation and testing methods for soils and rock; design, construction, and testing of structure foundations; design and construction of retaining walls; slope stability; and overviews of upcoming training courses and new software.

This is a unique opportunity for engineers and geologists who specialize in geotechnical engineering to learn from each other and share information and knowledge. It also provides a rare opportunity for geotechnical engineers and geologists to network with other professionals in this highly specialized discipline. All are encouraged to take advantage of this unmatched opportunity to hear and discuss many topics you will find interesting, educational, timely, and useful to your daily work.

For additional information on this year's agenda (as it is finalized) and to register on-line, please visit: <http://tti.tamu.edu/conferences/geo08/>.

For more information on the 2008 SGEC, contact:

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## FHWA and the U.S. Institute for Conflict Resolution Work To Enhance Collaboration

The FHWA Resource Center's Environmental Technical Service Team and its Headquarters colleagues are teaming up with the U.S. Institute for Environmental Conflict Resolution to promote collaboration skills development.

The Institute, based in Tucson, AZ, has an interagency agreement with the FHWA to provide training and assistance to prevent and manage environmental conflicts and foster collaboration during environmental decisionmaking.

The Institute has developed a training curriculum centered on collaboration and dispute resolution. Part of this effort is promotion of the new Council on Environmental Quality guidance document entitled, "*Collaboration in NEPA: A Handbook for Practitioners.*"

The handbook, released in October 2007, was authored by an interagency team that included Ruth Rentch of the FHWA Office of Planning and Environment. The Institute also played a key role in development of the handbook.

The training curriculum and handbook will be featured in articles in the next FHWA *Environmental Quarterly* newsletter, to be issued in March 2008.

For more information on the project, contact:

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If you are interested in receiving future issues of the *Environmental Quarterly* newsletter, contact:

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## FHWA Offers Internal Staff 'Planning on the Web' (POW) Seminars

To help support the FHWA planning discipline and promote continuous professional development of the agency's planning staff, the FHWA Resource Center (RC) Planning Technical Service Team (TST) is offering a series of web-based training seminars through an initiative known as **Planning on the Web** (POW). These POW training sessions are being offered to FHWA staff only and will generally be 90 minutes to 2 hours in length.

This new web-based training initiative (POW) was designed in response to requests from several division offices for additional, short, focused training for agency staff on key planning topics. Organizers believe this format and approach will meet that need.

In addition, the new POW training series complements other efforts designed to promote dialogue and collaboration within the FHWA Planning discipline. The Let's Talk Planning series is designed to foster exchange amongst peers on different planning topics as well as offer an opportunity to receive critical and timely updates on planning topics from FHWA Headquarters.

Future POW webinars will be offered during the months of February, April, May, July and August in FY 2008. To date, POW webinars are scheduled for the 3<sup>rd</sup> Monday of the month at 1pm Eastern, during the months of the Let's Talk Planning sessions. Below are topics for subsequent months:

- February 25: Transportation Data 101 for Field Planners
- April 21: Public Private Partnerships
- May 19: Public Participation Plans/ Public Involvement



If you cannot attend the POW session for a particular month, the presentations and other resources are available on the RC internal website as well as the Planning CoP.

RC Planning team intranet site:

<http://rc.fhwa.dot.gov/planning/powpresentations/index.cfm>

Planning COP:

POW presentations:

<http://knowledge.fhwa.dot.gov/cops/tdx.nsf/home?OpenForm&Community=Planning>

Organizers hope to "see" you at future sessions and to hear your feedback on the session as well as future POW topics.

If you have a topic that you think would be valuable to offer as a POW web based training seminar, please contact:

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## Documentary Chronicles Rehab of Glacier National Park's Historic Going-to-the-Sun Road

When the Federal Highway Administration's Western Federal Lands Highway Division (WFLHD) and the National Park Service (NPS) began work a few years ago on rehabilitating the historic Going-to-the-Sun Road in Montana's Glacier National Park, both agencies wanted to ensure such a monumental and historic event got properly documented. The two agencies took a major stride toward accomplishing this goal by recently finishing production on a documentary DVD about the enormous effort now under way to preserve this national treasure for generations to come.

The Sun Road, as the highway is nicknamed, is a 50-mile-long two-lane highway that winds through the heart of Glacier. The road, built mostly between 1921 and 1932, is considered an engineering marvel by virtue of its designation as a National Civil Engineering Landmark and National Historic Landmark. Most of the 12-mile alpine section over Logan Pass was built into the sides of near-vertical cliffs through a network of elegantly designed stone-masonry bridges, tunnels, and arches. Today, the Sun Road is one of the most visited features in the park, carrying about 3,500 vehicles per day during the peak summer season.

But decades of pounding rockslides and avalanches, severe weather, heavy traffic, and inadequate maintenance left the road in urgent need of major rehabilitation. The project involves rehabilitating the entire roadway itself and making the most critical and complex repairs of historic structures along the 12-mile alpine section. Amazingly, the work is being done while the road remains open during the normal tourist season. In most work zones, traffic is reduced to one lane, but summertime, daytime delays are kept to 5-10 minutes each. The Sun Road is the largest road rehabilitation project ever undertaken by the NPS and WFLHD.

A project of this magnitude requires a comprehensive mitigation program to minimize impacts to the park and its visitors. How to keep a steady stream of vehicles moving through a major construction zone on such a narrow, steep mountain road without causing



*Going to the Sun Road in Glacier National Park.*

gridlock became one of the NPS and FHWA's biggest challenges. One solution during the busy summer season, when the park receives nearly 2 million visitors, was to develop a new voluntary shuttle bus system, which gives park visitors the option of leaving their vehicles at one of two transit centers and taking regularly scheduled shuttle buses to the Sun Road's most popular destinations.

To get the word out about the new shuttle bus system and other project mitigation efforts, the NPS has implemented a comprehensive public information program. The public is getting information about the rehabilitation through two project websites at [www.nps.gov/glac](http://www.nps.gov/glac) and [www.GTSRProject.com](http://www.GTSRProject.com), as well as travel and tourism guides and magazines, the news media, brochures and signs, park concessionaires, gateway tourism and travel businesses, outreach training, public service announcements, and the project documentary video.

The project documentary involved the making of three separate productions, each designed for a specific purpose and audience. All three productions are featured on the DVD. The first version, called *Preserving a Landmark in the Sky*, runs

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## **GTSR from page 12**

about 13 minutes and will be shown to park visitors in Glacier's St. Mary Visitor Center auditorium beginning in summer 2008. *Preserving a Landmark in the Sky* features segments on the history of the Sun Road's original construction in the late 1920s and early 1930s and chronicles the planning and execution of the Sun Road rehabilitation itself, including detailed information about how WFLHD and NPS are minimizing impacts to the park and its visitors throughout the entire multi-year project.

The second version, titled *Transportation Options at Glacier National Park*, is a shorter 5-minute version of *Preserving a Landmark in the Sky* and is posted on the previously mentioned Sun Road rehabilitation project Web sites. The Web-site version is for those who want information about Glacier's various transportation options, including the historic red buses, the Blackfeet Indian-operated Sun Tours and the new voluntary shuttle bus system.

The first and second versions of the documentary are narrated by Peter A. Thomas, the renowned television, radio and film voiceover narrator who's best known for his work on the television shows *Nova* and *Forensic Files*. The documentary music score is provided by Chip Davis, the founder, producer and arranger of Mannheim Steamroller and Fresh Aire.

The third version, titled *Path to Partnership: Rehabilitation of the Going-to-the-Sun Road*, is a longer 25-minute version of *Preserving a Landmark in*

*the Sky* and focuses on how the Sun Road rehabilitation would not be possible without the long-standing partnership between the FHWA and the NPS. Like the visitor-center version, *Path to Partnership* takes viewers back to the original Sun Road construction, when in January 1926 the National Park Service and FHWA's predecessor, the Bureau of Public Roads, signed a memorandum of agreement that outlined how the two agencies would cooperate on the Going-to-the-Sun Road. The 1926 agreement became the model for virtually all future national park road building and became the basis for today's Park Roads and Parkways program, a joint NPS and FHWA initiative that develops and maintains roads throughout the entire national park system. *Path to Partnership* goes on to chronicle the strong partnership that WFLHD and NPS have maintained throughout the entire project, starting with social, economic and engineering studies developed for the Going-to-the-Sun Road Citizen Advisory Committee in the early 2000s and subsequent development of the project environmental impact statement and the comprehensive mitigation program to minimize impacts to the park and its visitors.

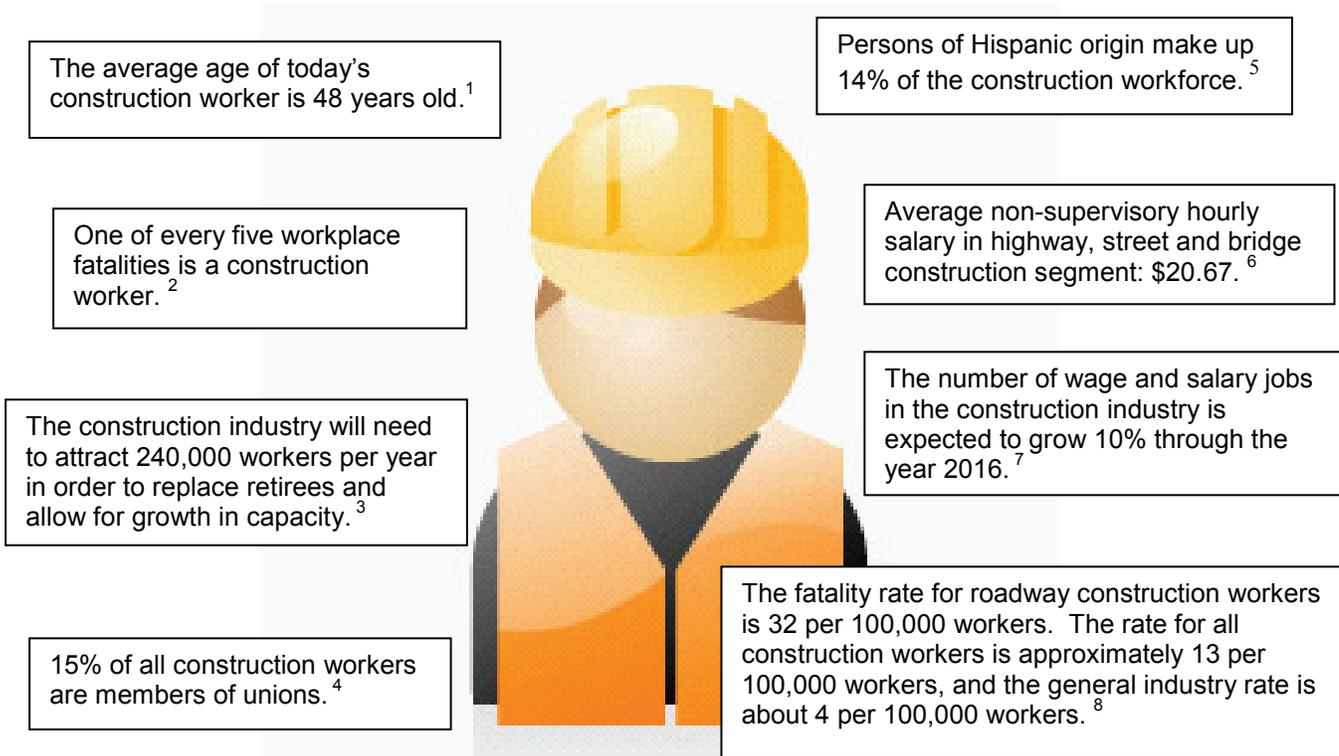
You can obtain a DVD of the documentary by contacting Amit Armstrong, a technology deployment engineer at WFLHD, at 360-619-7668 or [amit.armstrong@dot.gov](mailto:amit.armstrong@dot.gov).

**For more information on the  
Going-to-the-Sun Road,  
visit the National Park Service's  
Project Information Site at:**

**[www.nps.gov/archive/glac/gtsr/advisory/index.html](http://www.nps.gov/archive/glac/gtsr/advisory/index.html)**

## The Anatomy of a Construction Worker: Today's Construction Workforce

Spring will be here before we know it. With it comes the start of construction season in most of the United States. Consequently, we thought it was an appropriate time to examine some characteristics of the fine men and women who will be engaged in the work of building and repairing the roads we rely on so much. The statistics here provide insight into both the need to continue to develop this workforce, as well as the need to consider safety issues in road construction projects.



Sources:

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<sup>2</sup> OSHA Construction eTool, "Preventing Fatalities", U.S. Department of Labor. <http://www.osha.gov/SLTC/etools/construction/index.html> (as of January 5, 2008).

<sup>3</sup> Howe, Michael. "Construction Purchasing." *The Aging Workforce*. October 2007. *Construction Purchasing* magazine. [http://www.construction-purchasing.com/site/archives/working\\_right/Howe\\_100207\\_AgingWorkforce.php](http://www.construction-purchasing.com/site/archives/working_right/Howe_100207_AgingWorkforce.php) (as of January 10, 2008).

<sup>4,6,7</sup> Bureau of Labor Statistics, U.S. Department of Labor, *Career Guide to Industries, 2008-09 Edition*, Construction, on the Internet at <http://www.bls.gov/oco/cg/cgs003.htm> (as of January 10, 2008).

<sup>5</sup> James, Susan Donaldson. ABC News, "Construction Worker Deaths Spike", January 2008, <http://abcnews.go.com/US/Story?id=4139502&page=1> (as of January 18, 2008).

<sup>8</sup> AASHTO Strategic Highway Safety Plan, NCHRP Work Zones, <http://safety.transportation.org/htmlguides/work/Section03.htm> (as of January 8, 2008).

## CENTERED ON RESULTS

### FHWA Resource Center Welcomes New Staff



**Amy Lucero**  
Operations Manager  
FHWA Resource Center  
(720) 963-3250

#### *New Operations Manager joins the Resource Center*

Amy Lucero was recently selected to fill the Operations Manager position for the FHWA Resource Center, after the retirement of Gary White, which took place on January 3, 2008. Lucero comes to the Resource Center from the Headquarters Office of Federal Lands, where she had worked since April of 2004.

She has held a variety of positions prior to that in the Central Federal Lands Office in Lakewood. Prior to joining the Federal Highway Administration, Lucero also worked for a consulting firm out of Albuquerque, New Mexico. Lucero has a master's degree in Public Administration from the University of Colorado and two bachelor's degrees -- one in Business and one in Civil Engineering -- from the University of New Mexico. Lucero will be working out of the Lakewood, CO, office of the Resource Center.



## Geotech and Hydraulics TST

**Scott Anderson**  
Team Leader  
Geotech & Hydraulcis TST  
(720) 963-3244

#### *New Team Leader for the Geotech & Hydraulics Technical Service Team Arrives*

Scott Anderson has more than 23 years of experience in the transportation community most recently working in the FHWA's Central Federal Lands Office, serving as the Geotechnical Functional Discipline Leader. In that capacity, he was charged with overseeing the work of numerous FHWA engineers in three offices as well as many A/E consultants. He has also been involved in a great deal of technology deployment both in the United States and abroad. Anderson led the effort to develop a web-based technical guidance manual addressing the balance of standards and context sensitive solutions. He has also helped develop numerous NHI courses and provided technical assistance on key projects across the country. Anderson has a bachelor's and master's degree in Geology and a doctorate in Civil Engineering. He is also a registered Professional Engineer.

## CALENDAR OF EVENTS

Starting with this issue, we will be offering a *Calendar of Events* to highlight upcoming conferences, workshops, and other special dates of interest to the transportation community.

**February 17-23, - National Engineers Week**  
[www.eweek.org/](http://www.eweek.org/)

March 9 - **Daylight Saving Time begins**

March 30-April 2 - **ITE Technical Conference and Exhibit**, Miami, FL  
[www.ite.org/Conference/default.asp](http://www.ite.org/Conference/default.asp)

**April 7-11 - National Work Zone Awareness Week**  
[http://safety.fhwa.dot.gov/wz/wz\\_awareness.htm](http://safety.fhwa.dot.gov/wz/wz_awareness.htm) or  
[www.workzonesafety.org/](http://www.workzonesafety.org/)

April 8 - **National Take Affirmative Action Day**

April 16-18 - **TRANSPO 2008 Design-Build In Transportation Conference**, Louisville, KY  
[www.designbuildtransportation.com/](http://www.designbuildtransportation.com/)

April 21-23 - **NACE Annual Meeting**, Portland, OR  
[www.countyengineers.org/](http://www.countyengineers.org/)

**April 22 - Earth Day**

April 23 - **Administrative Professionals Day**

May 4-7 - **Concrete Bridge Conference**, St. Louis, MO, [www.concrete.org](http://www.concrete.org)

**May 11-17 - National Transportation Week**  
[www.ntweek.org/](http://www.ntweek.org/)

May 18-21 - **TRB National Roundabout Conference**, Kansas City, MO, <http://trb.org/conferences/2008/Roundabout/Call.pdf>

**May 18-24 - National Public Works Week**  
[www.apwa.net/About/NPWW/](http://www.apwa.net/About/NPWW/)

June 2-4 - **International Bridge Conference**, Pittsburgh, PA, [www.ibc.org](http://www.ibc.org)

June 24-28 - **7th International Conference on Managing Pavement Assets: Investing in the Future**, Calgary, CANADA, [www.icmpa2008.com](http://www.icmpa2008.com)

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