2012

NHI Training in Action

Improving the Performance of the Transportation Industry Through Training

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U.S. Department of Transportation
Federal Highway Administration

Office of Technical Services

NHI
NATIONAL HIGHWAY INSTITUTE

About NHI

The National Highway Institute (NHI) is the training and education arm of the Federal Highway Administration (FHWA). NHI's team of talented Federal and contract employees are housed within FHWA's Office of Technical Services (OTS). NHI provides leadership and resources to guide the development and delivery of transportation-related training in many formats, including both classroom-based and distance learning. NHI is authorized to award continuing education units (CEUs) through the International Association of Continuing Education and Training (IACET).

For more information, please visit the NHI Web site at **www.nhi.fhwa.dot.gov** or contact the NHI Training Team at nhitraining@dot.gov.

NHI Course Categories


Asset Management


Financial Management


Pavements and Materials


Business, Public Administration & Quality


Freight and Transportation Logistics


Real Estate


Communications


Geotechnical


Structures


Construction and Maintenance


Highway Safety


Transportation Planning


Design and Traffic Operations


Hydraulics


Environment


Intelligent Transportation Systems (ITS)

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Web-Based Training Opens Doors

UDOT's Rod McDaniels credits NHI with helping him stand out from the crowd

The National Highway Institute (NHI) has been providing continuing education opportunities to transportation professionals for more than four decades. Over the years, in their course evaluations, customers have acknowledged the quality of NHI courses and the benefits of learning from leading experts in their respective fields. More recently, customers have expressed their appreciation of NHI's wide variety of Web-based trainings (WBTs), which they can easily fit into their demanding schedules.

Responding to this feedback, NHI has expanded its WBT program to more than 100 courses, offering training opportunities to even more transportation professionals. NHI training participant Rod McDaniels recently shared how an NHI WBT session helped get him where he is today.

During his professional career, McDaniels has worked in a number of different industries and vocations with various organizations, ranging from the City of North Las Vegas to the United Parcel Service (UPS) to an Alaskan fishery. However, in 2011, he accepted his current position with the Utah Department of Transportation (UDOT) as the program manager for outdoor advertising control. In this capacity, McDaniels ensures the effective control of outdoor advertising in Utah through the Federal and State regulations related to the Highway Beautification Act. "I play an oversight, communication, and coordination role for our many talented field professionals who are dispersed within UDOT's four regional field offices," he says.

McDaniels applied for the UDOT position in summer 2011. After learning that he cleared the initial employment screenings, he began conducting indepth research to familiarize himself with UDOT's achievements within the national and international transportation communities. "While researching to prepare for the interview, I actually stumbled across a reference to NHI by sheer fortune and great luck," says McDaniels. "As I was reading information about Federal laws and regulations, references to FHWA kept popping up. After reviewing the FHWA Web site, I was led directly to NHI's Web-based training portal. It was a bit of a serendipitous moment, in that I was doing the right thing, in the right place, at the right time."

Rod McDaniels, shown here, credits NHI training with helping him land a new job with the Utah Department of Transportation.

Credit: Rod McDaniels

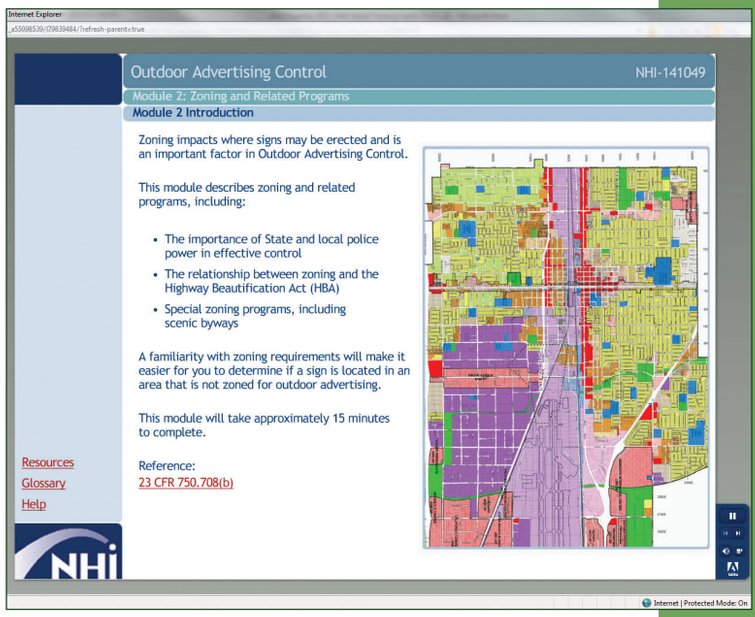
McDaniels could not believe his luck when he discovered that NHI offered a course specifically related to the position he was seeking. "In all my years of experience I have never discovered an opportunity where I could actually take a multihour interactive course specifically related to the position I was about to interview for," he says. He also was amazed by the number of WBTs NHI offers, most of which are free to participants. "The WBT component makes 24/7 accessibility a reality, which is another great benefit for today's busy professionals. The training I took, Outdoor Advertising Control: Non-Bonus States (141049), gave me the ability to take my time and study the highly interactive content. So when I took the exam, I scored 100 percent. When I finished the exam, I received completion results/scores as well as a professional course completion certificate."

McDaniels also had only praise for NHI's customer service, which he used to help him resolve a technical issue he experienced while accessing his certificate of completion. "NHI's WBT personnel have established an excellent customer service and support system," he says. "Any technical glitches are quickly resolved by competent, responsive, and caring technical representatives." With the help of NHI's customer service representative, McDaniels was able to access his certificate of completion, which he presented during his interview along with his perfect exam score. "I used my certificate and perfect score as an example of my research, preparation, and competencies during my first interview. This action led to a second interview, which eventually led to a job offer!"

Because of his positive experience with NHI training, McDaniels plans to continue participating in NHI courses to grow his competencies and learn about new regulations and technologies in his field. "In today's highly competitive job market, even the most viable candidates need to present a sound differentiation strategy to impress hiring managers and make themselves stand out from the masses," McDaniels says. "In my case, there is zero doubt that NHI's WBT helped me accomplish this goal. To that end, I am truly grateful for NHI and all the people that labored for untold hours to make NHI's WBT a strong educational resource aimed at improving vocational knowledge and marketable job skills."

Have NHI courses helped you with your career or improved your job skills and competencies? Share your story by contacting NHI Marketing at nhimarketing@dot.gov.

To browse all of NHI's WBT offerings covering a wide range of transportation-related topics, visit the NHI Web site at www.nhi.fhwa.dot.gov.



Screen shots from the NHI course Outdoor Advertising Control: Non-Bonus States (141049).

Credit: NHI

Every Day Counts

NHI training helps shorten project delivery time and improve the environment

New transportation innovations and technologies are crucial to preserving the Nation's roadways and ensuring the safety of all those who travel on them. Recognizing the importance of continual improvement, in 2009, the Federal Highway Administration (FHWA) launched the Every Day Counts (EDC) initiative to identify and deploy innovations, enhance roadway safety, and protect the environment. The three primary goals of EDC are shortening project delivery, accelerating technology and innovation deployment, and supporting FHWA's Going Greener initiative.

Typically, it can take more than 13 years to complete major transportation projects, far too long for Americans to have to wait for delivery of much needed infrastructure improvements. EDC's focus on shortening project delivery, therefore, attempts to cut this time in half through expanded use of two construction project delivery techniques: accelerated project delivery methods and a shortening project delivery toolkit. The accelerated project delivery methods include two key contracting approaches—design-build and construction manager/general contractor—that are proven to help State departments of transportation (DOTs) deliver projects 50 percent quicker than the traditional design-bid-build method.

The design-build model combines the design and construction phases of a project into one contract, which reduces errors and delays. Through this method, the design-build contractor can develop creative methods for construction activities and take on additional responsibilities for the project. Similarly, the construction manager/general contractor method requires the project partners to coordinate with each other to plan, design, and develop pricing for a construction project. This method enables the project team to identify risks early, which helps reduce costs down the line. Both the design-build and construction manager/general contractor methods allow project owners to choose contactors based on the highest quality and best value selection criteria, instead of selecting them solely on the basis of a low bid.

The second EDC approach for accelerating project delivery time is a toolkit of strategies that FHWA has compiled to address what FHWA and State DOTs have found to be frequent problem areas. Addressing these problem areas early in a construction project can help the project run smoothly, reduce delays, and minimize costs. Specifically, the toolkit consists of eight approaches to help State DOTs, metropolitan planning organizations, and contractors deliver projects faster: planning and environmental linkages, legal sufficiency enhancements, expanded use of programmatic agreements, use of in-lieu fees and mitigation banking, clarification of the scope of preliminary design, flexibilities in right-of-way, flexibilities in utility accommodation and relocation, and enhanced technical assistance on ongoing environmental impact statements.

The second major goal of EDC, accelerating technology deployment and innovation, focuses on identifying new technologies and innovations that can be integrated into transportation projects. FHWA identified five key innovations deemed to be the most effective and market-ready solutions to improve safety, reduce environmental impacts, and provide cost savings. These technologies are adaptive signal control, geosynthetic reinforced soil integrated bridge systems, prefabricated bridges, the Safety Edge, and warm-mix asphalt (WMA).

The National Highway Institute (NHI) worked with the FHWA Resource Center and other offices within FHWA to develop training on WMA in an effort to assist State and local agencies in using the new technology. WMA combines a number of technologies that lower the temperatures at which the materials are mixed before placement on a

road. The traditional hot-mix asphalt (HMA) uses high amounts of energy because it requires asphalt to be mixed at upwards of 300 degrees Fahrenheit. In the past, higher temperatures were needed to ensure that the asphalt binder fluid was less sticky while it was being mixed. With WMA, however, water, water-bearing minerals, chemicals, waxes, and organic additives can be added to the binder at lower temperatures, which allows WMA to remain fluid and workable during hauling, placement, and compaction. As a result, WMA helps reduce energy consumption and greenhouse gas emissions associated with paving projects.

The NHI course, Special Mixture Design Considerations and Methods for Warm-Mix Asphalt (131137), provides pavement and construction personnel with an understanding of how design procedures for WMA differ from traditional HMA. The training presents modifications to the current Superpave volumetric design procedure, as described in the American Association of State Highway and Transportation Officials' specification AASHTO R35, that are needed to complete a WMA mixture design.

"Special Mixture Design Considerations and Methods for Warm-Mix Asphalt meets the initial need to help HMA design mix engineers understand the differences between the two technologies so that they can adjust their design mixes to utilize warm-mix asphalt," says Marty Ross, NHI training program manager for pavements and materials.

The third major goal of EDC is supporting FHWA's Going Greener initiative and reducing the environmental footprint of transportation projects. Although NHI did not develop the course Practical Conflict Management for Environmental Issues (142060) under the EDC initiative, the course nevertheless complements the initiative and employs many of the same principles described in the EDC toolkit for shortening project delivery. The primary objective of the course is to equip transportation professionals and their counterparts from local government, tribal entities, and environmental organizations with critical interpersonal skills and the mutual understanding needed to work efficiently and effectively with all the stakeholders in the arena of transportation planning and project development. Understanding and mitigating the environmental impacts of transportation projects can minimize project delays and provide employment opportunities in the construction industry.

"Lessons learned from this new course can lead to collaborative transportation decisions and help to streamline the transportation project development process," says Mila Plosky, training program manager for the subject areas of environment and transportation planning.

NHI also has delivered two webinars related to the EDC initiative. One is the NHI Real Solutions Seminar Making Every Day Count: Addressing Uniform Act Requirements for Local Transportation Projects. The other is a seminar on prefabricated bridges. Plus, many other existing NHI courses complement the strategies encapsulated in the EDC initiative. (See the table for details.) Look for more NHI training opportunities highlighting aspects of the EDC initiative in the future.

For more on EDC and its various innovations, technologies, and strategies, visit www.fhwa.dot.gov/everydaycounts/index.cfm. If you would like to enroll in NHI training, please go to www.nhi.fhwa.dot.gov.

Examples of NHI Courses That Support EDC Goals

Course Title	Course Number
Leap Not Creep: Accelerating Innovation Implementation	134073
Environmental Factors in Construction and Maintenance	134080
Value Engineering Workshop	134005
Basic Relocation under the Uniform Act	141029
Advanced Relocation under the Uniform Act	141030
Business Relocation under the Uniform Act	141031
Introduction to Federal-Aid Right of Way Requirements for Local Public Agencies	141050
NEPA and Transportation Decisionmaking	142005
Advanced Seminar on Transportation Project Development: Navigating the NEPA Maze	142055

Applying the *Highway Safety Manual*

Several NHI courses highlight how to use the HSM to make roadways safer

In 2007, the American Association of State Highway and Transportation Officials (AASHTO) adopted the goal of halving traffic fatalities in two decades. One way AASHTO committed to meeting that goal was by publishing the *Highway Safety Manual* (HSM) in June 2010. The HSM is the first nationally recognized resource for quantifying and predicting the safety performance of roadway elements considered in planning, design, construction, maintenance, and operations. The manual provides a data-driven technical approach that takes the guesswork out of safety analysis, enabling planners to determine the expected impacts of infrastructure decisions on safety performance.

The National Highway Institute (NHI) offers a suite of courses to acquaint practitioners with HSM methodologies and tools, as well as how and when to use them. Transportation professionals ranging from planners and designers to engineers and project managers can use the HSM to increase the effectiveness of planning and prevent traffic injuries and fatalities. Almost all of NHI's highway safety courses incorporate some aspects of the HSM, but eight specifically address HSM themes. And, several more related courses are in development.

Prior to the release of the HSM, much of the available quantitative safety information was conflicting. Planners relied heavily on their own knowledge and experience to decide what data or methods to use and had few resources available to help defend their decisions. "The HSM provides the best factual information currently available by providing analytical tools and techniques to quantify the potential safety impacts of proposed work," explains Thomas Elliott, NHI's training program manager for highway safety. "Because the HSM provides quantitative measures, agencies can better integrate safety into the decisionmaking processes."

The HSM gives highway engineers the tools to identify sites with the greatest potential for safety improvements, to evaluate the economic impact of potential improvements, and to prioritize highway projects. The manual is organized into four parts outlining the tools and techniques. Part A describes the scope and purpose, explaining the relationship of the methodology to planning, design, operations, and maintenance activities. Part B includes steps to identify sites for improvement, select applicable countermeasures, and conduct appraisal, prioritization, and evaluation. Part C presents the predictive method for estimating the

NHI's *Highway Safety Manual*-Based Courses

Course Title	Course Number
HSM Practitioners Guide for Geometric Design Features	380070
HSM Practitioners Guide for Two-Lane Rural Highways	380070A
HSM Practitioners Guide for Multilane Highways	380070B
Interactive Highway Safety Design Model	380071
Using IHSDM	380100
New Approaches to Highway Safety Analysis	380075
HSM Practitioners Guide for Horizontal Curves	380088
Application of Crash Modification Factors	380093
Science of Crash Modification Factors (coming soon)	380094
HSM Practitioners Guide for Intersections	380105

Training participants in Ames, IA, complete an exercise during a session of the NHI course HSM Practitioners Guide for Two-Lane Rural Highways.
Credit: Hillary Isebrands, FHWA

expected crash frequency, and Part D provides the crash modification factors for predicting the change in expected crash frequency.

NHI recently redesigned several courses, including the popular Highway Safety Manual Practitioners Guide for Geometric Design Features (380070). The course presents the application of HSM crash prediction methodology using safety performance functions and crash modification factors for roadway segments and intersections. The intended audience is practitioners directly involved in applying crash prediction models to estimate crash frequency for roadway projects. During the training, participants complete a series of hands-on exercises based on actual case studies from Illinois and Iowa.

The 2-day Geometric Design Features course can be presented as two separate 1-day courses, one focusing on two-lane rural highways (380070A) and one on multilane highways (380070B). Together, these courses are the most popular HSM-related offerings, representing more than two-thirds of the 33 instructor-led sessions held in fiscal year 2011. Many have rated the courses highly in their evaluations, praising the instructors and the relevance of the material. One reviewer lauded "the use of real examples and explanation of difficult concepts" and another appreciated having "documentation to make better decisions."

NHI is developing several new courses, including an HSM overview. "The workshop provides an overview of all four parts of the HSM without getting into too much detail," says Gene Amparano, a safety engineer with the FHWA Resource Center. "The target audiences are those who want to become familiar with the HSM content prior to deciding whether to implement the crash prediction methodology and those who are not directly involved in applying the methodology." NHI held pilot sessions of the new course in Massachusetts in September 2011 and Kentucky in October 2011. After making any necessary revisions based on the feedback from these pilots, NHI will add the course to its HSM training offerings.

From June to August 2010, NHI held a series of 12 HSM webinars to supplement its instructor-led trainings, which require a minimum of 20 participants. Each webinar focused on a specific HSM topic area, such as applications to roadway segments on two-lane rural roads, urban/suburban highways, rural multilane highways, and roadway departure crashes. The webinars were recorded and are available at www.highwaysafetymanual.org/Pages/FHWAResourceCenterHSMWebinarSeries.aspx. The Federal Highway Administration is developing more HSM-related Web-based training that will be available on NHI's Web site in 2012.

For more information about the HSM, visit www.highwaysafetymanual.org. To view NHI's training catalog, visit www.nhi.fhwa.dot.gov.

Instructors of Excellence and Team Administrative Awards

Honoring NHI's top trainers

Knowledgeable instructors with years of real-world experience are the backbone of the training program at the National Highway Institute (NHI). Whether they are employees of the Federal Highway Administration (FHWA) or contractor staff, NHI's instructors consistently deliver the highest quality training to the Nation's transportation workforce.

Of the more than 300 trainers and their administrative teams, some have gone above and beyond in their commitment to quality instruction. To these top performers, NHI is pleased to present its 2010 Instructors of Excellence and Team Administrative Awards.

"This has been an exceptional year for NHI and the Instructors of Excellence program," says NHI Training Director Rick Barnaby. "For 2010 to recognize 66 instructors and 7 administrative teams is phenomenal. They have set a new level of excellence for NHI training delivery. We could not be more proud of them."

> *"I can honestly say that this is one of the most important acknowledgments I can receive in my professional career. I sincerely admire the commitment NHI demonstrates to adult learning, and I appreciate how much I have learned over the last several years while working with NHI."*
>
> —Instructor of Excellence Award Winner Lisa Barnes
>
> Vice President, O. R. Colan Associates/ORC Training, LLC

To earn this distinction, instructors must consistently achieve rankings of 4.5 or above (on a 5-point scale), be approved by an NHI training program manager, attend and pass the NHI Instructor Development course, and achieve or be in the process of achieving NHI Instructor Certification.

Evaluations completed by training participants at the end of each course reveal just what makes 2010's Instructors of Excellence so successful:

- "Knowledgeable on subject, very good at instruction and keeping the topic interesting."
- "Engaged the group and facilitated open discussion."
- "Provided frequent real-world examples to reinforce topics."
- "Always available for questions after the modules and during breaks."
- "Upbeat, great flow made subject fun."

Recipients of the Team Administrative Awards are judged according to criteria including timely and accurate submission of session administrative packages, all instructors in the group maintain a minimum ranking of 4.5, instructors have completed the Instructor Development course, and instructors have achieved or are in the process of achieving NHI Instructor Certification.

"I congratulate each of our 2010 Instructors of Excellence and Team Administrative Award winners," says NHI Instructor Liaison Carolyn Eberhard. "The hallmark of NHI training is the superior subject matter expertise of our instructors and the critical value they add to the training they deliver. With limited resources, the NHI team provides the technical training to keep the transportation infrastructure viable and our economy strong."

For more information, visit the NHI Web site at www.nhi.fhwa.dot.gov, or contact Carolyn Eberhard at (703) 235-0952 or carolyn.eberhard@dot.gov.

Ted Pluta, NHI 2010 Instructor of Excellence, shown here hiking in Palm Springs, CA.

Credit: Ted Pluta

Instructor Profile: Ted Pluta

For more than two decades as an NHI instructor, Ted Pluta of O. R. Colan Associates has been training right-of-way contractors and specialists in Federal, State, and local governments. For the last 4 years, in fact since NHI began officially recognizing its trainers for excellence, he has ranked among the top-rated, award-winning instructors.

Pluta teaches NHI's courses on Basic, Advanced, and Business Relocation under the Uniform Act, delivering as many as 10 sessions per year. "I love the interaction with the attendees and meeting new people," he says. "It's a different experience everyplace we go, so it is never boring!"

At its core, NHI training stresses the value of learner-oriented education. The challenge of helping participants address their real-world problems is one that Pluta relishes in his role as an NHI instructor. "We always find the time to discuss the real-life problems, whether we weave them into the curriculum or discuss them over lunch or dinner," he says. "The most rewarding part is when training participants contact me after the class is over and say that we really helped them in their jobs. Also, I field many calls and emails from participants wanting to see if they are approaching the problem in the right way, or looking for input on how to solve the relocation problem."

What does it take to excel as an NHI instructor? "First and foremost," Pluta says, "you really have to enjoy what you are doing. It is also essential to have a thorough understanding of the subject matter and a solid background in field work and hands-on experience. We definitely have to be quick on our feet, as participants always have questions about how the regulations apply to specific circumstances."

He offers this advice to other instructors: "Be prepared and definitely enjoy the moment. The people and wide range of experience in each class are what make these sessions so enjoyable."

Ted Pluta on a glacier in Alaska with his wife, Beth.

Credit: Ted Pluta

Between project work and instructing NHI courses, Pluta has been on the road for nearly 26 years, "so business travel is pretty much an accepted part of my life," he says. But when he's not on a plane or in front of a class, you might find him teeing off at a nearby golf course, strolling on the beach, or hiking with his wife, Beth. "Anything outdoors and I am pretty much game!"

NHI congratulates Pluta for his many years of quality instruction and for being honored with an Instructor of Excellence Award 4 years and counting.

2010 List of Awardees

Instructors of Excellence	
Instructors	**Organization**
Stephen Seeds	Applied Pavement Technology, Inc.
Blair Barnhardt	Asphalt Institute
Pete Lagassee, James Ruff, Johnny Morris, James Schall, Jerry Richardson	Ayres Associates, Inc.
Thomas Collins	Collins Engineers, Inc.

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Instructors of Excellence		
Instructors		**Organization**
Richard Albin	Mark Doctor	FHWA
Adam Alexander	Michael Duman	
Craig Alred	David Grachen	
Catherine Batey	Kreig Larson	
Dan Brown	John McFadden	
Eric Brown	George Merritt	
Richard Denny	Marshall Wainwright	
Stewart Stein		GKY & Associates, Inc.
Gregg Hostetler	Jeffery Rowe	Infrastructure Engineers, Inc.
David R. Reser	Andrew Young	
Christopher Huffman	Eric Tripi	ITERIS, Inc.
A. Tamim Atayee	Roger Kilgore	Kilgore Consulting
Joseph Buckovetsky	Stephen Nieman	McCormick Taylor
Brennan Collier		
Darrell Burnett		Metric Engineering
Milo Cress	William (Ron) Gardner	Michael Baker, Jr., Inc.
Jerry Ellerman	J. Eric Mann	
Andrew Fickett	Thomas Ryan	
Phil Fish	John Wackerly	
Lisa Barnes	Ted Pluta	O. R. Colan Associates
Robert Merryman		
Dennis Jackson		Pavement Solutions
Dennis Eckhart	Maurice Masliah	Perform Tech, Inc.
William Fitzgerald	Charles O'Connell	
LeAngela Ingram	Nancy Rosenshine	
Dane Ismart	Dee Spann	
Gerald Kennedy	Gary Thomas	
Joseph A. Caliendo	Robert Bachus	Ryan R. Berg and Associates, Inc.
Patrick Hannigan		
Bruce Landis	Theodore Petritsch	Sprinkle Consulting, Inc.
Mark Nagata	Bryce Nahas	Trauner Consulting Services, Inc.
Frank Brewer		University of Tennessee
Paula Dowell		Wilbur Smith Associates

Team Administrative Awards		
Instructors		**Organization**
John Hunt	James Ruff	Ayres Associates, Inc.
Pete Lagassee	James Schall	
Thomas Collins	Terence Browne	Collins Engineers, Inc.
David R. Reser		Infrastructure Engineers, Inc.
Gary B. Thomas	Eric Tripi	ITERIS, Inc.
Lisa Barnes	Robert Merryman	O. R. Colan Associates
William Fitzgerald	Charles O'Connell	Perform Tech, Inc.
Mark Nagata	Geoff Page	Trauner Consulting Services, Inc.

2011 IBC Engineering Excellence Award

FHWA and NHI receive special recognition for steel bridge manual

Each year, the International Bridge Conference® (IBC), sponsored by the Engineers' Society of Western Pennsylvania, recognizes individuals and recent projects that have made significant contributions to the bridge engineering and design industry. In 2011, the IBC Executive Committee selected one nominee for special distinction beyond the traditional medal categories. The IBC Engineering Excellence Award went to the Federal Highway Administration (FHWA) for its reference manual *Analysis and Design of Skewed and Curved Steel Bridges with LRFD*.

The 1,470-page manual is the first comprehensive reference document focused on applying the principles of load and resistance factor design (LRFD) to the analysis and design of skewed and horizontally curved steel bridges. *Analysis and Design of Skewed and Curved Steel Bridges with LRFD* was developed through the National Highway Institute (NHI) under the technical direction of Dr. Firas I. Sheikh Ibrahim, team leader of infrastructure management in FHWA's Office of Infrastructure Research and Development. Ibrahim and his development team produced the manual to meet an industry-wide need for detailed guidance and practical information for design engineers and owners of steel bridges with curved girders and skewed supports.

"This document puts to paper decades of practical experience and research efforts, and converts a highly technical, complex subject into simple, easy-to-understand, and easy-to-apply guidance and procedures," Ibrahim says.

"It is a document worthy of the award and will be used for decades," says Herbert M. Mandel, P.E., a member of the IBC Executive Committee.

Based on the American Association of State Highway and Transportation Officials' *AASHTO LRFD Bridge Design Specifications* (5th Edition), the manual consists of five chapters:

1. A general overview of curved girder bridge design
2. A description of the structural analysis required for skewed and curved steel girder bridges
3. A discussion of design decisions and details
4. A discussion of fabrication and construction considerations unique to skewed and curved bridges
5. Comprehensive step-by-step design examples for skewed and curved I-girder and tub girder bridges

Over the past 15 years, FHWA and its training arm, NHI, have provided a comprehensive LRFD training program that addresses the many challenges facing State agencies as they seek full LRFD implementation. *Analysis and Design of Skewed and Curved Steel Bridges with LRFD* supports three of NHI's LRFD courses, LRFD and Analysis of Curved Steel Highway Bridges (130095), Fundamental and Structural Analysis for Curved and Skewed Steel Bridges (130095A), and Design and Fabrication of Curved and Skewed Steel Bridges (130095B). In fact, portions of the manual form the foundation of these courses, and members of the development team also instruct the training. According to Ibrahim, this is what makes the courses the best educational package deals available to States and the bridge engineering community.

Dr. Firas I. Sheikh Ibrahim (left) and Louisa Ward accept the 2011 IBC Engineering Excellence Award.

"This award is an affirmation of NHI's commitment to excellence in timely educational opportunities for the transportation workforce," says Louisa Ward, NHI training program manager for structures, geotechnical, and hydraulics programs and lead facilitator for the project. "It's an honor to be recognized by industry professionals who see the value of this manual and can use it on a daily basis."

Ward, Ibrahim, and the other members of the development team accepted individual awards for their unique contributions at a ceremony during the 28th Annual International Bridge Conference® on June 7, 2011, in Pittsburgh, PA.

The manual is provided to participants of the LRFD and Analysis of Curved Steel Highway Bridges course and also is available for purchase in CD-ROM format from the NHI Store at www.nhi.fhwa.dot.gov/training/nhistore

New and Updated Courses Launched in 2011

NHI is continuously developing and delivering new and updated courses to ensure the highest quality training and help improve the transportation industry. Listed below are just a few examples of the courses NHI launched or updated in 2011.

Instructor-Led Training	
Course Title	**Course Number**
Pavement Smoothness: Use of Inertial Profiler Measurements for Construction Quality Control	131100
Introduction to Federal-Aid Right of Way (ROW) Requirements for Local Public Agencies (LPAs)	141050
Modern Roundabouts: Intersections Designed for Safety	380096
An Overview of the Railroad-Highway Grade Crossing Improvement Program	380097
Highway Safety Manual Practitioners Guide for Intersections	380105

Web-Based Training	
Course Title	**Course Number**
TCCC Superpave Mix Design Process and Analysis	131131
TCCC Chip Seal Best Practices	131132
TCCC Roller Compacted Concrete Pavements	131133
TCCC Superpave for Construction	131134
TCCC Aggregate Sampling Basics	131135
TCCC Materials Testing: Reducing Aggregate Samples	131136
Special Mixture Design Considerations and Methods for Warm-Mix Asphalt	131137
TCCC Earthwork Series: Earth Materials as Engineering Materials	132089
TCCC Earthwork Series: Site Preparation	132090
TCCC Pipe Installation, Inspection, and Quality	134105
Maintenance Training Series	134109
Maintenance Series: Pavement Preservation Program	134109A
Maintenance Series: Shaping and Shoulders	134109B
Maintenance Series: Thin HMA Overlays and Leveling	134109C
Maintenance Series: Base and Subbase Stabilization and Repair	134109D
Maintenance Series: Drainage	134109E
Maintenance Series: Outdoor Advertising and Litter Control	134109F
Maintenance Series: Roadside Vegetation Management	134109G
Maintenance Series: Weather-Related Operations	134109H
Maintenance Series: Basics of Work Zone Traffic Control	134109I
Maintenance Series: Underground Storage Tanks	134109J
Maintenance Series: Cultural and Historic Preservation	134109K
TCCC Change Orders, Claims, and Dispute Resolutions	134110
TCCC Bridge Construction Inspection: Inspector Safety	134111
Administrative Record	142062
Highway Traffic Noise: Basic Acoustics	142063
FHWA Planning and Research Grants: History, Sources, and Regulations	151046
FHWA Planning and Research Grants: Common Grant Rule	151047
FHWA Planning and Research Grants: Audits	151049
TCCC Maintenance of Drainage Features for Safety	380108
TCCC PPE and High Visibility Garments	381007

Web-Conference Training	
Course Title	**Course Number**
Implementation of LRFD Geotechnical Design for Bridge Foundations	132083
Using IHSDM	380100

Contact Us

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